ELECTRIC PROGRAM INDIVIDUAL PROJECT SUBMITTAL

Redacted

Budget Submittal Form

Submission Date: January 12, 2024

Business Sponsor: Brianna Peak
Prepared By: Ben Yager

First Year of 5-Year Budget Period: 2025
Budget Category: _11
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: **Dashville #1 Major Overhaul**
Work Order #: -
Funding Project Description: Hydro Projects
Funding Project Number: 1-1122-00-18
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2024 **In-Service:** 12/31/2025

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
None

Describe the project objective and scope of work:
The objective is to bring the unit that has reached the end of its life back to near OEM specification. Complete overhaul of wet section (including new runner) and minor generator work of the hydroelectric generating unit.

Describe specific scope exclusions, assumptions and constraints:
This project scope excludes a major overhaul of the generator. The full scope of the work cannot be determined until the unit is disassembled and a detailed investigation is performed.

See attached Dashville Planning Study (EP2021-013)

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
See attached Dashville Planning Study (EP2021-013)

Why was the proposed project scope chosen over other alternatives?
See attached Dashville Planning Study (EP2021-013)

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Growth Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Economic

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
See attached Dashville Planning Study (EP2021-013)

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
See attached Dashville Planning Study (EP2021-013)

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? Earnings (Net Income)
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: Maybe - Requires further scope development
Is complete Sustainability status achieved by this project?* **Maybe - Requires further scope development**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?
N/A

Why do we need to complete this project in the period requested?
See attached Dashville Planning Study (EP2021-013)

What are the risks and consequences of not completing this project?
See attached Dashville Planning Study (EP2021-013)

Is this Project in Central Hudson's current approved rate case? Yes
2020 Rate Case
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
See attached Dashville Planning Study (EP2021-013)
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Increased production
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
See attached Dashville Planning Study (EP2021-013)
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Improved Trip Circuit

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $5,240,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	361,870	25,870	336,000					
	Labor (Monthly Payroll)	65,910	6,910	59,000					
	Stock Materials	0							
	A/P Non-Stock Material	0							
	A/P Contractors & Other	4,196,480	326,480	3,870,000					
	Overheads & Other	403,740	52,740	351,000					
	AFUDC*	127,000		127,000					
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**5,155,000**	**412,000**	**4,743,000**	**0**	**0**	**0**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	41,000		41,000					
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	24,000		24,000					
	A/P Contractors	20,000		20,000					
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**85,000**	**0**	**85,000**	**0**	**0**	**0**	**0**	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Preliminary
Cost Estimate Confidence: **(that final cost will be within +/-20% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Cost estimate developed based on anticipated work scope. Actual work scope cannot be determined until the unit is completely disassembled.

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: January 12, 2024

Business Sponsor: Brianna Peak
Prepared By: Ben Yager

First Year of 5-Year Budget Period: 2025
Budget Category: _11
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: **Dashville #2 Major Overhaul**
Work Order #: -
Funding Project Description: Hydro Projects
Funding Project Number: 1-1122-00-18
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 7/1/2024 **In-Service:** 12/31/2026

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
None

Describe the project objective and scope of work:
The objective is to bring the unit that has reached the end of its life back to near OEM specification. Complete overhaul of wet section (including new runner) and minor generator work of the hydroelectric generating unit.

Describe specific scope exclusions, assumptions and constraints:
This project scope excludes a major overhaul of the generator. The full scope of the work cannot be determined until the unit is disassembled and a detailed investigation is performed.

See attached Dashville Planning Study (EP2021-013)

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
See attached Dashville Planning Study (EP2021-013)

Why was the proposed project scope chosen over other alternatives?
See attached Dashville Planning Study (EP2021-013)

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Growth Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Economic

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
See attached Dashville Planning Study (EP2021-013)

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
See attached Dashville Planning Study (EP2021-013)

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? Earnings (Net Income)
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?
N/A

Why do we need to complete this project in the period requested?
See attached Dashville Planning Study (EP2021-013)

What are the risks and consequences of not completing this project?
See attached Dashville Planning Study (EP2021-013)

Is this Project in Central Hudson's current approved rate case? Yes
2020 Rate Case
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
See attached Dashville Planning Study (EP2021-013)
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
See attached Dashville Planning Study (EP2021-013)
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
See attached Dashville Planning Study (EP2021-013)
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Improved Trip Circuit

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $5,555,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	348,000		70,000	278,000				
	Labor (Monthly Payroll)	90,000	11,000	7,000	72,000				
	Stock Materials	0							
	A/P Non-Stock Material	0							
	A/P Contractors & Other	4,474,000	17,000	425,000	4,032,000				
	Overheads & Other	398,000		37,000	361,000				
	AFUDC*	158,000		16,000	142,000				
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**5,468,000**	**28,000**	**555,000**	**4,885,000**	**0**	**0**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	41,000			41,000				
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	25,000			25,000				
	A/P Contractors	21,000			21,000				
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**87,000**	**0**	**0**	**87,000**	**0**	**0**	**0**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Preliminary
Cost Estimate Confidence: **(that final cost will be within +/-20% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Cost estimate developed based on anticipated work scope. Actual work scope cannot be determined until the unit is completely disassembled.

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 29, 2024

Business Sponsor: Brianna Peak
Prepared By: Ben Yager

First Year of 5-Year Budget Period: 2025
Budget Category: _11
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: High Falls Facility Camera System
Work Order #: -
Funding Project Description: Hydro Projects
Funding Project Number: 1-1122-00-18
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2028 **In-Service:** 12/31/2028

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
None

Describe the project objective and scope of work:
The objective is to provide a higher level of safety, and with this project expanded, increased security can also be achieved. This facility is regulated by the NYS DEC Dam Safety and FERC, who priorities dam monitoring for public safety and security. To support this effort, additional lighting and a camera system will enhance our ability to immediately, 24x7, monitor the facility for dam failure and security.

Describe specific scope exclusions, assumptions and constraints:
The assumption is we will continue to reduce staffing levels for production, so this project is necessary because we still need to monitor our hydro dams. The more staff is eliminated the more of a priority this project becomes. With the implementation of this project, we will be able to remotely verify pond low level indications (dam failure), be able to remotely verify it is safe to remotely start the unit by visually making sure the tailrace and intake area is clear of any people, and get visual conformation if facility security is being violated.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
Do nothing

Why was the proposed project scope chosen over other alternatives?
Our High Falls facility curently is monitored on rotation by a contract survailance company. These contractor costs can be reduced along with the remote verification of pond levels, visual clearance for remotely starting , and security enhancements.

C. JUSTIFICATION

Load Based/Infrastructure: Other
Discretion Level: System Enhancements
Growth/Sustaining/Retirement: Growth Sustaining
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Risk Reduction

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? Yes

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Currently personnel must be dispatched to the dam to verify a dam failure has occurred or is occurring. Cameras and additional lighting will allow System Operators to verify remotely from South Road. Also, with the upcoming plant automation projects, remote verification that people are clear from the headwork and tailrace areas of the facility would enhance the safety of remote starting. Lastly this will add in security of the facility.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
This adds to public safety and the mitigation of potential lawsuits.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve safety and security culture
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? Earnings (Net Income)
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: No
Governance Component: Yes
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
This is not required to be completed in this time frame but should be done as soon as possible to enhancing public safety.

What are the risks and consequences of not completing this project?
Lag in warning the public of a dam failure. This facility is classified as low High Hazard. Financially, if a failure were to occur and someone or property was impacted, lawsuits will likely ensue.

Is this Project in Central Hudson's current approved rate case? No

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
mitigation of potential lawsuits, protection of invested assets
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
capability for remote starting increasing production for customers
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
indentifying malicous people on site, feedback for potential dam failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
site monitored 24/7 from central hub

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,007,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan					*All future year cost estimates should include applicable adjustments for inflation.*		
ADDITIONS	Labor (Weekly Payroll)	13,000					13,000		
	Labor (Monthly Payroll)	13,000					13,000		
	Stock Materials	0							
	A/P Non-Stock Material	0							
	A/P Contractors & Other	943,000					943,000		
	Overheads & Other	0							
	AFUDC*	38,000					38,000		
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**1,007,000**	**0**	**0**	**0**	**0**	**1,007,000**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Not included in current PSC-approved budget plan

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Low Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Dollars based of previous estimates. Technology prices have deacreased. An updated estimate and work scope is required for this project.

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
Estimate was based on the layout of facility, current lack support infrastructure, and general discussion with in-house staff and vendors. The two biggest drivers in the cost estimate is the required lighting (e.g. amount needed, adequate power source, conduit run lengths, and support structures) and the communication equipment & link.

Budget Submittal Form

Submission Date: April 29, 2024

Business Sponsor: Brianna Peak
Prepared By: Ben Yager

First Year of 5-Year Budget Period: 2025
Budget Category: _11
Budget Group: Electric
Current Life-Cycle Phase: 0 Identified; Not Started

A. GENERAL

Project/Program Name: Miscelaneous Minor Hydro Projects
Work Order #: -
Funding Project Description: Hydro Minor Projects
Funding Project Number: 1-1121-00-18
Is this a Specific Project, Program or Blanket? Blanket
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
The purpose of this funding project number is to plan for emergent projects at the Hproduction facilities as well as cover small capital projects that are chosen every year to improve the operation, safety, and reliability of our plants.

Describe specific scope exclusions, assumptions and constraints:
scope of work is not defined as the projects are emergent in need.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
go over budget to complete necessary work or not comlete required project that arise.

Why was the proposed project scope chosen over other alternatives?
Not completing the projects would result in substantial increases in downtime, decreased production for our customers, and a decrease in site safety. Going over budget cuts funding to other areas where capital project spend is required to maintain systems safety and reliability.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Growth Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? Yes

Needs Assessment: Infrastructure
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Projects will be justified once identified

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? Earnings (Net Income)
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Maybe - Requires further scope development
Social Component: Maybe - Requires further scope development
Governance Component: Maybe - Requires further scope development
Is complete Sustainability status achieved by this project?* **Maybe - Requires further scope development**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
To be determined

What are the risks and consequences of not completing this project?
Not completing the projects would result in substantial increases in downtime, decreased production for our customers, and a decrease in site safety. Going overbudget cuts funding to other areas where capital project spend is required to maintain systems safety and reliability.

Is this Project in Central Hudson's current approved rate case? Yes
Captured as Misc. Minor Hydro
Is this Project tied to a regulatory requirement? Yes
Sometimes
Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Sometimes
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Sometimes
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Sometimes
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Sometimes

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY

Budget Submittal Form

D. COST ESTIMATE

Capital Estimate Summary $1,028,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	Stock Materials	0							
	A/P Non-Stock Material	0							
	A/P Contractors & Other	999,000		153,000	157,000	218,000	229,000	242,000	
	Overheads & Other	0							
	AFUDC*	29,000		4,000	4,000	6,000	9,000	6,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**1,028,000**	**0**	**157,000**	**161,000**	**224,000**	**238,000**	**248,000**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
scope of projects can fluctuate as well as the cost of doing buisiness.

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: January 12, 2024

Business Sponsor: Brianna Peak

Prepared By: Ben Yager

First Year of 5-Year Budget Period: 2025

Budget Category: _11

Budget Group: Electric

Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Sturgeon Pool Relay Protection / Breakers

Work Order #: -

Funding Project Description: Hydro Projects

Funding Project Number: 1-1122-00-18

Is this a Specific Project, Program or Blanket? Specific

Target Schedule - Start: 1/1/2027

In-Service: 12/1/2028

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
None

Describe the project objective and scope of work:
Upgrade Breakers and protective devices to protect the major electrical components in the plant.

Describe specific scope exclusions, assumptions and constraints:
Conductor can be reutilized, and all components can be spec'd as a replacement in kind.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
The only alternative explored was to not move forward with this investment.

Why was the proposed project scope chosen over other alternatives?
Due to the potential hazards of oil breakers and increased protection provided to the generators.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Growth Sustaining
Discretion Level: System Enhancements
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
The plant still utilizes the protection system put in place during initial installation in the 20's and has oil filled breakers. Upgrading these components will help to protect our investments put into the generators.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
Non-toxic and non-flammable

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? Earnings (Net Income)
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*

Was this project included in a prior 5-year forecast? No

If No, why should this project be completed instead of a planned project?

This project should be completed in addition to previously planned projects. Recent unit rebuilds created insight to upgrades needed in protection before other system components can be upgraded.

Why do we need to complete this project in the period requested?

Risk reduction.

What are the risks and consequences of not completing this project?

Generator damage, fire/explosion, PCB Hazards

Is this Project in Central Hudson's current approved rate case? No

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Scheduled outage vs. forced outage

Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Improved Technology

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Modern equipment has better safety protections

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,837,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	128,000				70,000	58,000		
	Labor (Monthly Payroll)	36,000				20,000	16,000		
	Stock Materials	48,000				24,000	24,000		
	A/P Non-Stock Material	0							
	A/P Contractors & Other	1,501,000				909,000	592,000		
	Overheads & Other	19,000				5,000	14,000		
	AFUDC*	56,000				29,000	27,000		
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**1,788,000**	**0**	**0**	**0**	**1,057,000**	**731,000**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	49,000				38,000	11,000		
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**49,000**	**0**	**0**	**0**	**38,000**	**11,000**	**0**	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Not included in current PSC-approved budget plan

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Equipment pricing has not been quoted

Basis for estimate: Historical Unit Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: January 12, 2024

Business Sponsor: Brianna Peak

Prepared By: Ben Yager

First Year of 5-Year Budget Period: 2025

Budget Category: _11

Budget Group: Electric

Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Sturgeon Pool Replace Toe of Dam

Work Order #: -

Funding Project Description: Hydro Projects

Funding Project Number: 1-1122-00-18

Is this a Specific Project, Program or Blanket? Specific

Target Schedule - Start: 3/1/2028 **In-Service:** 12/1/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
None

Describe the project objective and scope of work:
Fill in erosion downstream of the dam before it works its way under the toe.

Describe specific scope exclusions, assumptions and constraints:
Rifton bank is structurally sound. During the summer the toe fully dries up. Minimal rock removal is necessary.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
Do Nothing

Why was the proposed project scope chosen over other alternatives?
Will become a regulatory issue if not tended to

C. JUSTIFICATION

Load Based/Infrastructure: Load-Based
Growth/Sustaining/Retirement: Growth Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? No
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
The Toe of the Dam is key for stability. The toe is a typically one of the first parts of a dam to erode. The toe is nearing the end of its useful life and must be replaced before erosion gets under the dam.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
Important for dams' structural stability. Not yet a regulatory requirement from inspections but soon will be.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve safety and security culture
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? Earnings (Net Income)
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*

Was this project included in a prior 5-year forecast? No

If No, why should this project be completed instead of a planned project?

This project should be completed in addition to previously planned projects. This project was not previously included as it is planned for 2028-2029.

Why do we need to complete this project in the period requested?

An engineering study will be completed to determine current condition and project timeline requirements.

What are the risks and consequences of not completing this project?

Regulatory action, compromised dam.

Is this Project in Central Hudson's current approved rate case? No

Is this Project tied to a regulatory requirement? Yes

This will become a regulatory requirement for dam safety eventually

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Cheaper to repair now

Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Dam Infrastructure

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Dam safety

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,268,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan					*All future year cost estimates should include applicable adjustments for inflation.*		
ADDITIONS	Labor (Weekly Payroll)	55,000					55,000		
	Labor (Monthly Payroll)	22,000					22,000		
	Stock Materials	0							
	A/P Non-Stock Material	332,000					332,000		
	A/P Contractors & Other	747,000					747,000		
	Overheads & Other	65,000					65,000		
	AFUDC*	47,000					47,000		
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**1,268,000**	**0**	**0**	**0**	**0**	**1,268,000**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Not included in current PSC-approved budget plan

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Volume has to be fully calculated.

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: January 12, 2024

Business Sponsor: Brianna Peak

Prepared By: Ben Yager

First Year of 5-Year Budget Period: 2025

Budget Category: _11

Budget Group: Electric

Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: **Sturgeon Pool Retaining Wall Penstock**

Work Order #: -

Funding Project Description: Hydro Projects

Funding Project Number: 1-1122-00-18

Is this a Specific Project, Program or Blanket? Specific

Target Schedule - Start: 1/1/2028 **In-Service:** 11/1/2028

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
None

Describe the project objective and scope of work:
Secure the rock face adjacent to the penstocks to avoid rock debris hitting the pipes

Describe specific scope exclusions, assumptions and constraints:
Engineering required due to proximity to dam. Assumed that some rock material can be removed.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
Do Nothing

Why was the proposed project scope chosen over other alternatives?
It is important to protect the infrastructure that we have in place.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: System Enhancements
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
This project is important for the integrity of the Penstocks, as rocks have broken free from the hillside and come close to hitting the penstock.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
This is a cost avoidance project as a broken penstock could be hundreds of thousands in damages and repair costs.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Transform Safety Culture
Which *Team Goal* does project most align with? Earnings (Net Income)
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*

Was this project included in a prior 5-year forecast? No

If No, why should this project be completed instead of a planned project?

This project should be completed in addition to previously planned projects. This project was not previously included as ut us planned for 2028.

Why do we need to complete this project in the period requested?

Hillside is eroding more with each freeze cycle.

What are the risks and consequences of not completing this project?

Damage to infrastructure.

Is this Project in Central Hudson's current approved rate case? No

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Allow for better maintenance of hillside rock / vegitation

Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Limit falling rocks onto penstock.

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Much safer hillside for personnel

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,864,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan					*All future year cost estimates should include applicable adjustments for inflation.*		
ADDITIONS	Labor (Weekly Payroll)	35,000					35,000		
	Labor (Monthly Payroll)	17,000					17,000		
	Stock Materials	0							
	A/P Non-Stock Material	18,000					18,000		
	A/P Contractors & Other	1,714,000					1,714,000		
	Overheads & Other	11,000					11,000		
	AFUDC*	69,000					69,000		
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**1,864,000**	**0**	**0**	**0**	**0**	**1,864,000**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Not included in current PSC-approved budget plan

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Amount of loose rock during removal will greatly affect price.

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: January 12, 2024

Business Sponsor: Brianna Peak
Prepared By: Ben Yager

First Year of 5-Year Budget Period: 2025
Budget Category: _11
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Sturgeon Pool Remote Start
Work Order #: -
Funding Project Description: Hydro Projects
Funding Project Number: 1-1122-00-18
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2026 **In-Service:** 12/31/2027

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
This project is linked to bringing the Dashville units back to OEM specification, this option is the most beneficial under this scenario.

Describe the project objective and scope of work:
The objective is to increase the energy produced at the plant, while not increasing staff or the power output of the units (which would trigger a FERC review). This project will add the ability to remote start the units. This will allow the unit to start and stop automatically to maximize the usage of the available water 24x7. See attached Sturgeon Pool Planning Study (EP2021-002) at: https://contentcentral.cenhud.com/otcs/cs.exe/link/34273840.

Describe specific scope exclusions, assumptions and constraints:
See attached Sturgeon Pool Planning Study (EP2021-002) at: https://centralhudson.sharepoint.com/:b:/r/sites/GasMech/Production%20Facilities/2-%20HYDRO/Sturgeon%20Pool/Sturgeon%20Pool%20Planning%20Study%202020/EP2021-002%20Sturgeon%20Pool%20Hydroelectric%20Planning%20Study.pdf?csf=1&web=1&e=wG4WBg

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
See attached Sturgeon Pool Planning Study (EP2021-002)

Why was the proposed project scope chosen over other alternatives?
See attached Sturgeon Pool Planning Study (EP2021-002)

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Growth Sustaining
Discretion Level: System Enhancements
Investment Type: Daily Operations
Is there an Innovation Component? No

Needs Assessment: Economic

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

See attached Sturgeon Pool Planning Study (EP2021-002) at: https://centralhudson.sharepoint.com/:b:/r/sites/GasMech/Production%20Facilities/2-%20HYDRO/Sturgeon%20Pool/Sturgeon%20Pool%20Planning%20Study%202020/EP2021-002%20Sturgeon%20Pool%20Hydroelectric%20Planning%20Study.pdf?csf=1&web=1&e=wG4WBg

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

See attached Sturgeon Pool Planning Study (EP2021-002)

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? Earnings (Net Income)
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

N/A

Why do we need to complete this project in the period requested?

See attached Sturgeon Pool Planning Study (EP2021-002)

What are the risks and consequences of not completing this project?

See attached Sturgeon Pool Planning Study (EP2021-002)

Is this Project in Central Hudson's current approved rate case? No

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Increased run time / decreased call outs

Does this Project enhance Central Hudson's customer experience or service delivery? Yes

Increased cost avoidance

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? No

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Increased surveillance

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,288,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	13,000				13,000			
	Labor (Monthly Payroll)	30,000		10,000	10,000	10,000			
	Stock Materials	0							
	A/P Non-Stock Material	0							
	A/P Contractors & Other	1,087,000		25,000	14,000	1,048,000			
	Overheads & Other	122,000		5,000	3,000	114,000			
	AFUDC*	36,000		1,000	1,000	34,000			
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**1,288,000**	**0**	**41,000**	**28,000**	**1,219,000**	**0**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
It is not known what controls equipment will be still supported at the start of the project. Still defining scope.

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: January 12, 2024

Business Sponsor: Brianna Peak
Prepared By: Ben Yager

First Year of 5-Year Budget Period: 2025
Budget Category: _11
Budget Group: Electric
Current Life-Cycle Phase: 0 Identified; Not Started

A. GENERAL

Project/Program Name: Sturgeon Pool Tailrace Gates
Work Order #: -
Funding Project Description: Hydro Projects
Funding Project Number: 1-1122-00-18
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2029 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
NA

Describe the project objective and scope of work:
The objective is to install a tailrace gate to minimize water entering the tailrace that could potentially flood the building during storm events. The scope would be to either install tailrace gates or a stoplog system.

Describe specific scope exclusions, assumptions and constraints:
Assuming that the concrete below the waterline is still in an acceptable condition to facilitate the installation of hydraulic engineering control elements. Weather will allow the area to be drained for work to be preformed.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
Do Nothing.

Why was the proposed project scope chosen over other alternatives?
Concerns have been raised by operation services. Weather/ flooding events are becoming more common. It is becoming essential that we protect our assets. The tailrace gates can also be utilized during unit runaway conditions to stop flow though the unit. Concerns have been raised by operations.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Growth Sustaining
Discretion Level: System Enhancements
Investment Type: Infrastructure
Is there an Innovation Component? Yes

Needs Assessment: Infrastructure

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Flooding events are gaining in frequency with the global climate changes observed. Several storms in history have flooded the plant. These gates could prevent damage to the plant infrastructure.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The gates would limit the cost incurred by flood damages. In addition, flooding is a safety hazard for the crew members working at the plant that are required to be on site for high water events as outlined in the Emergency Action Plan. This could ballpark $800,000 per event.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve safety and security culture
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? All Injury Frequency Rate (AIFR)
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

This project was originally slated for 2027 but was deferred to 2029 for other higher priority projects.

Why do we need to complete this project in the period requested?

The Concrete is eroding in the tailrace. Storms increasing in frequency. Project can be shifted to match financial needs.

What are the risks and consequences of not completing this project?

Risk in contingent upon weather events.

Is this Project in Central Hudson's current approved rate case? No

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Cost avoidance from storm damages.

Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Flood Risk

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

RMO safety during manning the plant 24-7 in event of high water.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $2,328,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	Stock Materials	0							
	A/P Non-Stock Material	0							
	A/P Contractors & Other	2,205,000						2,205,000	
	Overheads & Other	0							
	AFUDC*	57,000						57,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**2,262,000**	**0**	**0**	**0**	**0**	**0**	**2,262,000**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	66,000						66,000	
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**66,000**	**0**	**0**	**0**	**0**	**0**	**66,000**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Not included in current PSC-approved budget plan

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Low Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** 1,000,000 **Maximum ($):** 3,000,000

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Material costs could be significantly higher in 2029 than anticipated.Scope has not been fully identified.

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: January 12, 2024

Business Sponsor: Brianna Peak
Prepared By: Ben Yager

First Year of 5-Year Budget Period: 2025
Budget Category: _11
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Sturgeon Pool Southern Wall Foundation Reinforcement
Work Order #: -
Funding Project Description: Hydro Projects
Funding Project Number: 1-1122-00-18
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 2/1/2027
In-Service: 12/1/2027

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
None

Describe the project objective and scope of work:
Replacement of floor section at sturgeon pool. Voids were created below during a historical equipment failure (historic issue resolved/ floor still to be fixed).

Describe specific scope exclusions, assumptions and constraints:
Assumed that damage is isolated to one area and that there has been no damage due to the void.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
Do Nothing

Why was the proposed project scope chosen over other alternatives?
The cost to fully verify that the void is an isolated occurrence would be very similar to resolving the issue.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Growth Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? No
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
An engineering study discovered voids under a section of the foundation. The building is stable however, repairs should be made.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
Repair allows for the inspection of below grade penstock areas.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve safety and security culture
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? Earnings (Net Income)
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Maybe - Requires further scope development
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*

Was this project included in a prior 5-year forecast? No

If No, why should this project be completed instead of a planned project?

This project should be completed in addition to previously planned projects.

Why do we need to complete this project in the period requested?

To confirm the void is isolated and will not cause settling issues.

What are the risks and consequences of not completing this project?

Setting of the plant foundation putting the units out of alignment.

Is this Project in Central Hudson's current approved rate case? No

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Could allow building to settle disrupting units alignments

Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Building structural stability

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

building safety

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,190,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	109,000				109,000			
	Labor (Monthly Payroll)	18,000				18,000			
	Stock Materials	0							
	A/P Non-Stock Material	0							
	A/P Contractors & Other	932,000				932,000			
	Overheads & Other	93,000				93,000			
	AFUDC*	33,000				33,000			
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**1,185,000**	**0**	**0**	**0**	**1,185,000**	**0**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	5,000				5,000			
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**5,000**	**0**	**0**	**0**	**5,000**	**0**	**0**	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Not included in current PSC-approved budget plan

Cost Estimate Level: Preliminary
Cost Estimate Confidence: **(that final cost will be within +/-20% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Full scope is not determinable until areas are exposed.

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 5, 2024

Business Sponsor: Harold Tuner
Prepared By: Kyle Bragg

First Year of 5-Year Budget Period: 2025
Budget Category: _12
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: 115kV 5 Line Rebuild
Work Order #: -
Funding Project Description: Funding Project Not Yet Assigned
Funding Project Number: to be determined
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 6/1/2023 **In-Service:** 3/1/2027

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
The Rebuild of Central Hudson's 2.87-mile portion the 5 Line is intended to address significant infrastructure issues identified on the line as part of the company's routine inspection cycle. The line was originally constructed in the 1910's and runs to CHG&E's North Catskill Substation to an interconnection with the National Grid owned section of the line. Inspection results have shown that 57% of the structures on the line are in need of replacement with an additional 36% requiring some level of repair.

Describe specific scope exclusions, assumptions and constraints:
Detailed design and permitting work has not been completed. Estimates to date do not account for specific conditions related to matting, access, permitting, outage constraints, etc…

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
Replacement in-kind of the existing structures showing actionable conditions was considered although given the high percentage of issues on the line overall and the use of a non-standard conductor which makes replacements in this manner more complex, a more comprehensive rebuild was decided upon.

Why was the proposed project scope chosen over other alternatives?
The one-for-one replacement of structures on the 5 line is not an efficient approach given the number of dead-end structures. This combined with the need to install a standard conductor type makes rebuilding the line the most efficient option for mitigation.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Compliance; Infrastructure; Reliability

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? Yes

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

This project is needed to mitigate the conditions found on the line in order to maintain reliability. Please reference ETD Memo "ETD2023-002" for a preliminary Engineering justification for the project. A Transmission Planning memo will be forethcoming to further detail the project.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

Replacement of the line will reduce the risk of an in-service failure and resulting unplanned emergency repair work at a premium cost.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

PSL Part 102 with municipal approval(s); Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*

Was this project included in a prior 5-year forecast? No

If No, why should this project be completed instead of a planned project?

The 5 Line was an emergent project that was identified after the prior-year budget cycle. In the interest of reducing risk, this project was prioritized over others given the complex nature and potentially long duration associated with constructing spot replacements and/or repairs.

Why do we need to complete this project in the period requested?

Given the conditions identified as part fo the inspection process, it is important to complete the project to reduce the risk of an in-service failure.

What are the risks and consequences of not completing this project?

Delaying the project would increase the risk of an unplanned outage and subsequent repair.

Is this Project in Central Hudson's current approved rate case? Yes

The project is currently approved in the current rate case.

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Project will result in cost avoidance of emergency replacement costs associated with unplanned outages

Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Project reduces the risk of unplanned outages that may affect the reliability of the electric system or result in damages.

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Replacement of aged assets with new facilities designed to updated standards will help enhance safety.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $10,106,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	798,300	25,000	40,000	150,000	583,300			
	Stock Materials	0							
	A/P Non-Stock Material	1,995,750	62,500	100,000	375,000	1,458,250			
	A/P Contractors & Other	5,627,950	162,500	269,000	1,040,000	4,156,450			
	Overheads	0							
	AFUDC*	533,000		23,000	114,000	396,000			
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**8,955,000**	**250,000**	**432,000**	**1,679,000**	**6,594,000**	**0**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	108,700			18,700	90,000			
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	978,300			168,300	810,000			
	Inflation	64,000			8,000	56,000			
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**1,151,000**	**0**	**0**	**195,000**	**956,000**	**0**	**0**	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Not included in current PSC-approved budget plan

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 6,934,200 **Maximum ($):** 12,877,800

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Permitting, material and construction costs may vary causing a potential variance in the pro-forma estimate. A more accurate estimate will be created upon completion of preliminary design work.

Basis for estimate: Historical Proforma Pricing; Historical Data + Job Specific Adjustments

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
The cost breakdown provided is estimated based on an averaged historical percentage split per project of Materials Costs, Accounts Payable / AA and Internal Labor of 25%, 65% and 10% respectively. Removals were split based on a 90%/10% split of Contractor (AP) and Monthly Labor respectively. Installation "AFUDC" Row captures AFUDC and Inflation and the Removal "Overheads" Row captures Inflation.

People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY

Project Cost Estimate

Note: Except where data entries are permitted, this spreadsheet is locked in order to prevent users from accidentally deleting important formulas. If user needs to add/delete rows, or make other edits, the passwork "Estimate" may be used to unlock the spreadsheet. Caution should be used in order to keep the integrity of the spreadsheet.

Project Name: 5 Line Rebuild - Part 102 115kV
Prepared By: Sam Pozorski
Cost Estimate Level: Conceptual Estimate
Date: 12/6/2022
Revision(s): 0
WO #:
+/-30% Accuracy… There is a general scope but few details available. Little or no design work completed yet.

Rebuild Length
2.87 miles

Part 1: Additions

* All unit and total cost figures should be "raw costs", without any overhead markups. Markups are generated at the end of the estimate.

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	Monthly Payroll* MH	Monthly Payroll* Cost/MH	Monthly Payroll* Cost	Weekly Payroll* Production MH/Unit	Weekly Payroll* MH	Weekly Payroll* Cost/MH	Weekly Payroll* Cost	Stock Materials* Cost/Unit	Stock Materials* Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Non-Stock Materials* (A/P Taxable) Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Contractors & Fees* (A/P Tax-Exempt) Cost	Notes
A	PLANNING & ENGINEERING																		
A.1	Engineering Design -121	3	miles		348.4	1,000	60.00	60,016		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.2	Engineering Supervision; Project Sponsor -	3	miles		6.5	19	60.00	1,127		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.3	Drafting - 132	3	miles			0		0	49.7	143	60.00	8,555		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.4	ESP - 125	3	miles		5.7	16	60.00	985		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.5	Planning - 126	3	miles		18.4	53	60.00	3,164		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.6	Misc Internal Support	3	miles		4.7	14	60.00	815		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.7	LIDAR	3	miles			0		0		0		0		0		0	2,400.00	6,890	pre/post project LIDAR flights
A.8	Engineering and Related Contractors	3	miles			0		0		0		0		0		0	22,512.60	64,633	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.9						0		0		0		0		0		0		0	
B	PROJECT MANAGEMENT, ENVIRONMENTAL & SUPPORT SERVICES																		
B.1	Environmental Consultant	3	miles			0		0		0		0		0		0	40,409.60	116,016	Avg of G, CL, TV, KM. EF, HF ignored due to short length and high cost. H&SB and A&C ignored due to Article VII. +10%
B.2	Legal Consultant	3	miles			0		0		0		0		0		0	57,532.20	165,174	Avg of G, TV, KM. +10%. CL, EF, HF ignored due to lack of signficant legal costs. Varies signficantly with PMO approach and municipalities.
B.3	Project Manager - 110	3	miles		202.3	581	60.00	34,843		0		0		0		0		0	Avg of G, EF, HF, CL, TV, KM $/mile to hrs/mile +10%
B.4	Environmental - 726	3	miles		55.5	159	60.00	9,556		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
B.5	Real Property Services - 124	3	miles		48.2	138	60.00	8,309		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
B.6	System Ops - 330	3	miles		13.6	39	60.00	2,350	18.6	53	60.00	3,201		0		0		0	Avg of G, EF, HF, CL, TV. +10%
B.7						0		0		0		0		0		0		0	
C	GENERAL CONDITIONS																		
C.1	Surveying/Staking	3	miles			0		0		0		0		0		0	22,647.90	65,022	Avg of G, EF, HF, CL, TV. +10%
C.2	Easements/Access Right/Laydown Yards	3	miles			0		0		0		0		0		0	21,116.70	60,626	Avg of G, EF, HF, CL, TV, KM, H&SB, A&C. +10%
C.3						0		0		0		0		0		0		0	
C.4	Filing Fees	3	miles			0		0		0		0		0		0	6,279.90	18,030	Avg of G, EF, HF, CL, TV, KM. +10%
C.5	Misc AP (ecluding material)	3	miles			0		0		0		0		0		0	9,227.90	26,493	Avg of G, EF, HF, CL, TV. +10%
C.6						0		0		0		0		0		0		0	
D	MAJOR EQUIPMENT & MATERIALS																		
D.1	Conductor 795 Drake ACSR (30-50-180)	47,750	FT			0		0		0		0	4.55	217,264		0		0	Adjusted CME Quote 11/21/22. $/FT for 1033.5 Ortloan
D.2	OPGW (30-50-205)	16,372	FT			0		0		0		0	3.34	54,722		0		0	MMS price as of 12/5/22
D.3	Poles	1	33 Poles			0		0		0		0		0	543,082.10	543,082		0	SB PO#91505: 85' H4 Tangent Davit Item #5, 85' H4 for 2-Pole Item #19 +10% for additional 5' (no example)
D.4	Major Engineered Structures	2	Str			0		0		0		0		0	85,000.00	170,000		0	
D.5	Moderate Engineered Structures	1	Str			0		0		0		0		0	42,500.00	42,500		0	
D.6	115kV Tangent Davit Structure	22	Str			0		0		0		0	1,311.56	28,854		0		0	SS Cost as of 11/4/22
D.7	115kV Swing Angle Structure	4	Str			0		0		0		0	3,262.87	13,051		0		0	SS Cost as of 11/4/22
D.8	115kV Deadend Structure	4	Str			0		0		0		0	9,155.63	36,623		0		0	SS Cost as of 11/4/22
D.9	Crossarms and X-Braces for 2-poles	5	Str			0		0		0		0	1,238.00	6,190	1,850.00	9,250		0	34-79-006,008,009 MMS $ as of 117/22
D.10	Misc Material	30	str			0		0		0		0	500.00	15,000	250.00	7,500		0	
D.10						0		0		0		0		0		0		0	
E	CONSTRUCTION																		
E.1	Line Construction	3	miles			0		0		0		0		0		0	414,439.30	1,189,851	Avg of recent Part 102s (EF/HF/CL/TV). +15% for 115kV
E.2	Major Drilled Pier Foundations	2	Str			0		0		0		0		0		0	375,000.00	750,000	
E.3	Moderate Drilled Pier Foundations	1	Str			0		0		0		0		0		0	187,500.00	187,500	
E.4	Drilling / Site Work / Matting / Access / Trimming / Restoration / etc.	3	miles			0		0		0		0		0		0	518,171.60	1,487,665	Avg of Part 102s (G/EF/HF/CL/TV). Combined all associated costs because of overlap between contractors. +15% for 115kV Upgrade
E.5	Equipment Moves/Rentals	3	miles			0		0		0		0		0		0	6,747.40	19,372	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.6	T&D Foreman - 215	3	miles			0		0	485.0	1,392	60.00	83,547		0		0		0	Avg of recent Part 102s (CL/TV) with foreman more soley dedicated to project. +10%
E.7	T&D Engineer, Planner, Director - 215	3	miles		130.5	375	60.00	22,476		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.8	OS Foreman - 221	3	miles			0		0	6.8	19	60.00	1,165		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.9	Storekeepers - 223	3	miles			0		0	2.1	6	60.00	354		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.10	Mechanics - 224	3	miles			0		0	29.8	86	60.00	5,132		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.11	Electricians - 225	3	miles			0		0	40.1	115	60.00	6,913		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.12	Substation Technicians - 226	3	miles			0		0	90.5	260	60.00	15,588		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%

Part 2: Removals

* All unit and total cost figures should be "raw costs", without any overhead markups. All markups are generated at the end of the estimate.

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Weekly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Stock Materials* Cost/Unit	Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Cost	Notes
	Line Construction	3	miles			0		0		0		0		0		0	98,726.10	283,442	Avg of Part 102s (EF/HF/CL/TV). +10%
	Drilling / Site Work / Matting / Access / Trimming / Restoration / etc.	3	miles			0		0		0		0		0		0	73,480.00	210,960	Avg of Part 102s (G/EF/HF/CL/TV). Combined all associated costs because of overlap between contractors. +10%
	Equipment Moves/Rentals	3	miles			0		0		0		0		0		0	1,276.00	3,663	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Misc AP (Including Dumpsters)	3	miles			0		0		0		0		0		0	4,041.40	11,603	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Transmission Foreman - 215	3	miles			0		0	36.7	105	60.00	6,319		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Mechanics - 224	3	miles			0		0	2.1	6	60.00	363		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Electricians - 225	3	miles			0		0	3.6	10	60.00	613		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	District Line Crews	3	miles			0		0	0.9	3	60.00	152		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Misc WP	3	miles			0		0	0.8	2	60.00	142		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Project Management - 110	3	miles		21.7	62	60.00	3,733		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM). +10%
	Additional Allowance for Tower Removal	26.5	str		10.0	265	60.00	15,900	16.0	424	60.00	25,440		0		0	10,000.00	265,000	-3 for pole structures, -0.5 for shared tower with 2 Line
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
				0		327		19,633		550		33,029		0		0		774,668	

Manhours Monthly Payroll

Manhours Weekly Payroll

Part 3: Cost Estimate Summary

ADDITIONS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0	
Overhead Costs Incurred To-Date:		*This figure must be manually entered if applicable*
AFUDC Costs Incurred To-Date:		*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	$0	
Estimated Future Raw Costs:	$5,573,083	
Estimated Future Overheads:	$671,894	
Estimated Future AFUDC:	$407,332	
Subtotal Future Costs:	$6,652,309	
Contingency Applied:	$1,330,462	20.0% *Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL ADDITIONS:	**$7,982,770**	

REMOVALS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0	
Overhead Costs Incurred To-Date:	$0	*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	**$0**	
Estimated Future Raw Costs:	$827,330	
Estimated Future Overheads:	$78,593	
Subtotal Future Costs:	**$905,923**	
Contingency Applied:	$181,185	20.0% *Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL REMOVALS:	**$1,087,108**	

GRAND TOTAL ADDITIONS + REMOVALS:	**$9,069,878**

Assumptions, Notes, Clarifications, etc.:

Budget Submittal Form

Submission Date: April 5, 2024

Business Sponsor: Harold Turner
Prepared By: Kyle Bragg

First Year of 5-Year Budget Period: 2025
Budget Category: _12
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: 69kV GM Line: Retirement of Clinton Avenue Tap Section
Work Order #: -
Funding Project Description: Funding Project Not Yet Assigned
Funding Project Number: to be determined
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2025
In-Service: 12/31/2025

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
There will potentially be other Cat#13 and Cat#15 Work Orders required to re-route the exisitng distribution circuits being fed from Clinton Avenue and to retire the Substation. This would also include upgrades to the Greenfield Road Substation.

Describe the project objective and scope of work:
Central Hudson's 69kV GM Line currently runs between the Honk Falls and Greenfield Road Substations with a 1.75 mile long tap section that provides service to the Clinton Avenue Substation. The Clinton Avenue Substation was constructed in the late 1950's and has reached the end of it's useful life. Planning is evaluating a project to retire the Clinton Avenue Substation and transfer the relevant load to other local distribution circuits. This project will cover the removal of the transmission tap section.

Describe specific scope exclusions, assumptions and constraints:
Conceptual Project assumptions do not assume special provisions for access, matting, environmental controls or permitting.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
Please see Planning memo for alternatives considered.

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Reliability; Risk Reduction; Compliance

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? Yes

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

The project is needed to remove existing assets that are no longer in use and have reached the end of their useful life. Please reference Planning Memo "EP-2019-006" for more details.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

Please reference EP Memo above. Removal of the aged GM Line Tap Section to Clinton Avenue will help to reduce any operational costs associated with unplanned outages as a result of an in-service failure.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Local municipality (1); Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

N/A

Why do we need to complete this project in the period requested?

Please see planning memo for alternatives considered.

What are the risks and consequences of not completing this project?

N/A

Is this Project in Central Hudson's current approved rate case? Yes

Project is approved in the current rate case

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Removal of aged infrastructure will potentially reduce the risk of costly emergency repair mobilizations.

Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Project reduces the risk of having an in-service failure by removing aged infrastructure that may be more prone to failure

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Project enhances safety of the line through the removal of aged assets.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $668,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	5,700		5,700					
	Stock Materials	0							
	A/P Non-Stock Material	14,250		14,250					
	A/P Contractors & Other	37,050		37,050					
	Overheads	0							
	AFUDC*	5,000		5,000					
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**62,000**	**0**	**62,000**	**0**	**0**	**0**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	59,300		59,300					
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	533,700		533,700					
	Inflation	13,000		13,000					
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**606,000**	**0**	**606,000**	**0**	**0**	**0**	**0**	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Specific project details relevant to the removal of the structures is still unknown such as environmental and access constraints and local permitting.

Basis for estimate: Historical Data + Job Specific Adjustments; Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
Estimates assumes a 90/10 split for AP and internal labor charges related to the removal of the line. For the installation of the new structure, an averaged historical percentage split per project of Materials Costs, Accounts Payable / AA and Internal Labor of 25%, 65% and 10% respectively was used. Conceptual Project Cost Estimate assumes a proforma of approximately $300K per mile for the removal of the tap line and in the installation of (1) new structure at the connection of the tap with the remaining portion of the 69kV GM Line. Installation "AFUDC" Row captures AFUDC and Inflation and the Removal "Overheads" Row captures Inflation.

Budget Submittal Form

Submission Date: April 5, 2024

Business Sponsor: Harold Turner

Prepared By: Kyle Bragg

First Year of 5-Year Budget Period: 2025

Budget Category: _12

Budget Group: Electric

Current Life-Cycle Phase: 2 Design

A. GENERAL

Project/Program Name: 69kV HG Line Rebuild - (Honk Falls - Neversink) - Part102

Work Order #: -

Funding Project Description: HG Line 69kV Rebuild (Honk Falls -

Funding Project Number: 10261

Is this a Specific Project, Program or Blanket? Specific

Target Schedule - Start: 6/1/2020

In-Service: 6/1/2028

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Portions of the existing HG-Line include an electric distribution underbuild that will require an associated rebuild and/or relocation and connection work orders. Project may require OPGW fiber terminations in the substations.

Describe the project objective and scope of work:

Rebuild the 16.25-mile 69kV HG-Line located in both Neversink and Wawarsing. Approximately 54% of the existing strcutures on the line have been identified as part of the company's comprehensive inspection program as having conditions warranting replacement. While various maintance projects have been completed on the line, a majority of the infrastructure is exhibiting advanced age and has reached the end of its useful life. Comprehensive rebuild of the line including conductors, poles, static wires, etc.. is needed.

Describe specific scope exclusions, assumptions and constraints:

This rebuild project is early in its planning stage and the need and/or scope of the following project components have not yet been well quantified and/or defined: access improvements including any significant earthwork; easement deficiencies; encroachments; FAA lighting; constraints related to protection of sensitive environmental resources.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?

Repair of the existing assests or other transmission system upgrades are considered in the early design and planning memo process, in this case a comprehensive rebuild was chosen as the best option given the age of the assets. Localized re-routes, alternate structure configurations and material types are considered as part of detailed planning, design and permitting processes.

Why was the proposed project scope chosen over other alternatives?

Rebuild of the majority of the line on existing ROW proved to be the most cost effective option.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Compliance; Infrastructure; Reliability; Resilience; Risk Reduction

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? Yes

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

This project is needed to address the aging transmission infrastructure present on the HG Line consistent with Planning Memo "EP2018-009".

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

Given the age of existing pole structures and the fact that they have generally reached the end of their useful life, the rebuild will result in operational cost savings and cost avoidance (new structures will require less planned and emergency repair work for years/decades to come).

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

PSL Part 102 with municipal approval(s); Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: Yes
Is complete Sustainability status achieved by this project?* **Yes**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
If the project is not completed in the identified timeframe there is a heighted risk of in-service failure of the existing infrastructure prompting uplanned and costly repairs as well as impacts to the local hyro-generation facilities procluding them from being able to generate.

What are the risks and consequences of not completing this project?
Due to the age and condition of existing structures and conductor, the most significant risk of not completing the project are increased outages due to component failures. The consequences include negative impacts to both SAIFI and CAIDI metrics.

Is this Project in Central Hudson's current approved rate case? Yes
The project is currently in CHG&Es approved rate case
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Project will result in cost avoidance of higher-than-average emergency replacement costs associated with unplanned outages
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Completion of the project should greatly help to improve customer reliability in the area of the line.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Project reduces the risk of unplanned outages that may affect the reliability of the electric system.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Replacement of aged assets with new facilities designed to updated standards will help enhance safety.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $41,333,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan		*All future year cost estimates should include applicable adjustments for inflation.*					
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	3,357,800	67,800	480,000	1,000,000	1,000,000	810,000		
	Stock Materials	0							
	A/P Non-Stock Material	8,395,500	169,500	1,200,000	2,500,000	2,500,000	2,026,000		
	A/P Contractors & Other	23,655,700	440,700	3,222,000	6,928,000	7,126,000	5,939,000		
	Overheads	0							
	AFUDC*	2,432,000		276,000	763,000	679,000	714,000		
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**37,841,000**	**678,000**	**5,178,000**	**11,191,000**	**11,305,000**	**9,489,000**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	331,400		25,000	135,000	134,900	36,500		
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	2,982,600		225,000	1,215,000	1,214,100	328,500		
	Inflation	178,000		5,000	58,000	85,000	30,000		
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**3,492,000**	**0**	**255,000**	**1,408,000**	**1,434,000**	**395,000**	**0**	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 28,291,900 **Maximum ($):** 52,542,100

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Data + Job Specific Adjustments

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
Total project cost estimate is based on the total conceptual project cost detailed in the provided estimate. The cost breakdown provided above is displayed based on an averaged historical percentage split of project Materials Costs, Accounts Payable / AA and Internal Labor of 25%, 65% and 10% respectively. Removals are similarly split 90/10 by Contractor AP charges and Internal Labor respectively. This historical split has also been applied to the prior year actuals / projections column as well. Installation "AFUDC" Row captures AFUDC and Inflation and the Removal "Overheads" Row captures Inflation.

People. Power. Possibilities. Central Hudson A FORTIS COMPANY

Project Cost Estimate

Note: Except where data entries are permitted, this spreadsheet is locked in order to prevent users from accidentally deleting important formulas. If user needs to add/delete rows, or make other edits, the passwork "Estimate" may be used to unlock the spreadsheet. Caution should be used in order to keep the integrity of the spreadsheet.

Project Name: HG Line Rebuild - Part 102 69kV
Prepared By: Sam Pozorski
Cost Estimate Level: Conceptual Estimate
Date: 1/6/2023
Revision(s): 1
WO #:
+/-30% Accuracy… There is a general scope but few details available. Little or no design work completed yet.

Rebuild Length
16.138 miles

Part 1: Additions

* All unit and total cost figures should be "raw costs", without any overhead markups. Markups are generated at the end of the estimate.

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	Monthly Payroll* MH	Monthly Payroll* Cost/MH	Monthly Payroll* Cost	Weekly Payroll* Production MH/Unit	Weekly Payroll* MH	Weekly Payroll* Cost/MH	Weekly Payroll* Cost	Stock Materials* Cost/Unit	Stock Materials* Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Non-Stock Materials* (A/P Taxable) Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Contractors & Fees* (A/P Tax-Exempt) Cost	Notes
A	PLANNING & ENGINEERING																		
A.1	Engineering Design -121	16	miles		348.4	5,623	60.00	337,355		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.2	Engineering Supervision; Project Sponsor -	16	miles		6.5	106	60.00	6,337		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.3	Drafting - 132	16	miles			0		0	49.7	801	60.00	48,090		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.4	ESP - 125	16	miles		7.8	126	60.00	7,553		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +50% for multiple substations
A.5	Planning - 126	16	miles		18.4	296	60.00	17,787		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.6	Misc Internal Support	16	miles		4.7	76	60.00	4,580		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.7	LIDAR	16	miles			0		0		0		0		0		0	2,400.00	38,731	pre/post project LIDAR flights
A.8	Engineering and Related Contractors	16	miles			0		0		0		0		0		0	22,512.60	363,308	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.9						0		0		0		0		0		0		0	
B	PROJECT MANAGEMENT, ENVIRONMENTAL & SUPPORT SERVICES																		
B.1	Environmental Consultant	16	miles			0		0		0		0		0		0	40,409.60	652,130	Avg of G, CL, TV, KM. EF, HF ignored due to short length and high cost. H&SB and A&C ignored due to Article VII. +10%
B.2	Legal Consultant	16	miles			0		0		0		0		0		0	57,532.20	928,455	Avg of G, TV, KM. +10%. CL, EF, HF ignored due to lack of signficant legal costs. Varies signficantly with PMO approach and municipalities.
B.3	Project Manager - 110	16	miles		202.3	3,264	60.00	195,856		0		0		0		0		0	Avg of G, EF, HF, CL, TV, KM $/mile to hrs/mile +10%
B.4	Environmental - 726	16	miles		55.5	895	60.00	53,717		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
B.5	Real Property Services - 124	16	miles		48.2	778	60.00	46,705		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
B.6	System Ops - 330	16	miles		15.5	250	60.00	15,008	18.6	300	60.00	17,994		0		0		0	Avg of G, EF, HF, CL, TV. +25% for multiple substations
B.7						0		0		0		0		0		0		0	
C	GENERAL CONDITIONS																		
C.1	Surveying/Staking	16	miles			0		0		0		0		0		0	22,647.90	365,492	Avg of G, EF, HF, CL, TV. +10%
C.2	Easements/Access Right/Laydown Yards	16	miles			0		0		0		0		0		0	21,116.70	340,781	Avg of G, EF, HF, CL, TV, KM, H&SB, A&C. +10%
C.3						0		0		0		0		0		0		0	
C.4	Filing Fees	16	miles			0		0		0		0		0		0	6,279.90	101,345	Avg of G, EF, HF, CL, TV, KM. +10%
C.5	Misc AP (ecluding material)	16	miles			0		0		0		0		0		0	9,227.90	148,920	Avg of G, EF, HF, CL, TV. +10%
C.6						0		0		0		0		0		0		0	
D	MAJOR EQUIPMENT & MATERIALS																		
D.1	Conductor 397 ACSR Ibis (30-50-134)	268,407	FT			0		0		0		0	1.90	510,721		0		0	Adjusted CME Quote 11/21/22. $/FT for 1033.5 Ortloan * (Ibis X-Sect Area/Ortolan X-Sect Area)
D.2	OPGW (30-50-205)	92,025	FT			0		0		0		0	3.34	307,595		0		0	MMS price as of 12/5/22
D.3	Poles	1	314			0		0		0		0		0	4,372,000.00	4,372,000		0	SB PO#91505: 80' H4 Tangent Davit Item #3 - 20% for 69kV post, , +1 for each 2-pole structure. +1 for each swing angle. - Engineered Structures
D.4	Major Engineered Structures		Str			0		0		0		0		0	75,000.00	0		0	
D.5	Moderate Engineered Structures	4	Str			0		0		0		0		0	37,500.00	150,000		0	
D.6	69kV Inline post Structure	230	Str			0		0		0		0	1,152.79	265,142		0		0	SS Cost as of 11/4/22
D.7	69kV Swing Angle Structure	20	Str			0		0		0		0	3,104.10	62,082		0		0	SS Cost as of 11/4/22
D.8	69kV Deadend Structure	30	Str			0		0		0		0	8,521.36	255,641		0		0	SS Cost as of 11/4/22
D.9	Crossarms and X-Braces for 2-poles	46	Str			0		0		0		0	1,238.00	56,948	1,850.00	85,100		0	34-79-006,008,009 MMS $ as of 117/22
D.10	Misc Material	280	str			0		0		0		0	500.00	140,000	250.00	70,000		0	
D.10						0		0		0		0		0		0		0	
E	CONSTRUCTION																		
E.1	Line Construction	16	miles			0		0		0		0		0		0	396,420.20	6,397,429	Avg of recent Part 102s (EF/HF/CL/TV). +10%
E.2	Major Drilled Pier Foundations	0	Str			0		0		0		0		0		0	350,000.00	0	
E.3	Moderate Drilled Pier Foundations	4	Str			0		0		0		0		0		0	175,000.00	700,000	
E.4	Drilling / Site Work / Matting / Access / Trimming / Restoration / etc.	16	miles			0		0		0		0		0		0	495,642.40	7,998,677	Avg of Part 102s (G/EF/HF/CL/TV). Combined all associated costs because of overlap between contractors. +10%
E.5	Equipment Moves/Rentals	16	miles			0		0		0		0		0		0	6,747.40	108,890	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.6	T&D Foreman - 215	16	miles			0		0	485.0	7,827	60.00	469,624		0		0		0	Avg of recent Part 102s (CL/TV) with foreman more soley dedicated to project. +10%
E.7	T&D Engineer, Planner, Director - 215	16	miles		130.5	2,106	60.00	126,340		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.8	OS Foreman - 221	16	miles			0		0	6.8	109	60.00	6,550		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.9	Storekeepers - 223	16	miles			0		0	2.1	33	60.00	1,988		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.10	Mechanics - 224	16	miles			0		0	29.8	481	60.00	28,847		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%

				Costs Incurred To-Date*	Monthly Payroll*				Weekly Payroll*				Stock Materials*		Non-Stock Materials* (A/P Taxable)		Contractors & Fees* (A/P Tax-Exempt)		Notes
#	Work Breakdown Structure (WBS)	Quantity	Units	through xx/xx/xx	Production MH/Unit	MH	Cost/MH	Cost	Production MH/Unit	MH	Cost/MH	Cost	Cost/Unit	Cost	Cost/Unit	Cost	Cost/Unit	Cost	
E.11	Electricians - 225	16	miles			0		0	45.6	736	60.00	44,158		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +25% for multiple substations
E.12	Substation Technicians - 226	16	miles			0		0	90.5	1,460	60.00	87,623		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.13	District Line Crews	16	miles			0		0	19.8	319	60.00	19,154		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.14	Misc WP	16	miles			0		0	1.6	25	60.00	1,509		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
				0				811,238				725,536		1,598,128		4,677,100		18,144,158	
						13,521				12,092									
					Manhours Monthly Payroll				Manhours Weekly Payroll										

Part 2: Removals

* All unit and total cost figures should be "raw costs", without any overhead markups. All markups are generated at the end of the estimate.

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	Monthly Payroll* MH	Monthly Payroll* Cost/MH	Monthly Payroll* Cost	Weekly Payroll* Production MH/Unit	Weekly Payroll* MH	Weekly Payroll* Cost/MH	Weekly Payroll* Cost	Stock Materials* Cost/Unit	Stock Materials* Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Non-Stock Materials* (A/P Taxable) Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Contractors & Fees* (A/P Tax-Exempt) Cost	Notes
	Line Construction	16	miles			0		0		0		0		0		0	98,726.10	1,593,242	Avg of Part 102s (EF/HF/CL/TV). +10%
	Drilling / Site Work / Matting / Access / Trimming / Restoration / etc.	16	miles			0		0		0		0		0		0	73,480.00	1,185,820	Avg of Part 102s (G/EF/HF/CL/TV). Combined all associated costs because of overlap between contractors. +10%
	Equipment Moves/Rentals	16	miles			0		0		0		0		0		0	1,276.00	20,592	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Misc AP (Including Dumpsters)	16	miles			0		0		0		0		0		0	4,041.40	65,220	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Transmission Foreman - 215	16	miles			0		0	36.7	592	60.00	35,521		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Mechanics - 224	16	miles			0		0	2.1	34	60.00	2,041		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Electricians - 225	16	miles			0		0	3.6	57	60.00	3,444		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	District Line Crews	16	miles			0		0	0.9	14	60.00	852		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Misc WP	16	miles			0		0	0.8	13	60.00	799		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Project Management - 110	16	miles		21.7	350	60.00	20,983		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM). +10%
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
				0				20,983				42,658		0		0		2,864,874	
						350				711									
						Manhours Monthly Payroll				Manhours Weekly Payroll									

Part 3: Cost Estimate Summary

ADDITIONS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0	
Overhead Costs Incurred To-Date:		*This figure must be manually entered if applicable*
AFUDC Costs Incurred To-Date:		*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	$0	
Estimated Future Raw Costs:	$25,956,160	
Estimated Future Overheads:	$2,692,280	
Estimated Future AFUDC:	$1,880,402	
Subtotal Future Costs:	$30,528,843	
Contingency Applied:	$3,052,884	10.0% *Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL ADDITIONS:	**$33,581,727**	

REMOVALS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0	
Overhead Costs Incurred To-Date:	$0	*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	**$0**	
Estimated Future Raw Costs:	$2,928,514	
Estimated Future Overheads:	$84,370	
Subtotal Future Costs:	**$3,012,885**	
Contingency Applied:	$301,288	10.0% *Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL REMOVALS:	**$3,314,173**	

GRAND TOTAL ADDITIONS + REMOVALS:	**$36,895,901**

Assumptions, Notes, Clarifications, etc.:

Budget Submittal Form

Submission Date: April 5, 2024

Business Sponsor: Harold Turner
Prepared By: Kyle Bragg

First Year of 5-Year Budget Period: 2025
Budget Category: _12
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: 115kV DW line - West Balmville WN / 4012 Underbuild
Work Order #: -
Funding Project Description: High Priority Replacements
Funding Project Number: 1-1221-90-18
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2024
In-Service: 12/31/2026

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
There will be the potential for future Cat#13 and Cat#15 work orders associated with this project to provide for a new transmission line connection into West Balmville as well as the installation of new distirbution underbuild on the replaced DW Line Structures.

Describe the project objective and scope of work:
This project is being proposed to replace (5) DW Line structures in a 0.3 mile stretch of line adjacent to the West Balmville Substation in support of the replacement of (2) existing underbuilt distribution circuits.

Describe specific scope exclusions, assumptions and constraints:
Detailed design and permitting work has not been completed. Estimates to date do not account for specific conditions related to matting, access, permitting, outage constraints, etc… Timeframe has been delayed due to schedule adjustment by Eversource.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
Reconductoring the distribution circuits on the existing towers was considered as well as moving/rebuilding the distribution circuits onto the adjacent roadway and off of the towers.

Why was the proposed project scope chosen over other alternatives?
Rebuilding the (5) DW Line structures as well as the underbuilt distribution in the same configuration will provide more resilient and reliable structures that are designed to current-day standards and current working distances for effective maintenance of the circuits underneath the active transmission line. There is no space on the adjacent roadway due to the presence of several other distirbtuion circuits making the on-road option not feasible.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Reliability; Risk Reduction

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? No

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Existing towers are vintage and require replacement to support the new distribution circuit installations.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
Replacement of the lines will reduce the risk of an in-service failure and resulting unplanned emergency repair work at a premium cost. This will also proclude the need to find an alternate route for the proposed distribution circuit replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: Maybe - Requires further scope development
Is complete Sustainability status achieved by this project?* **Maybe - Requires further scope development**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
It is important to complete the project in the proposed timeframe to help reduce the risk of an in-service failure on the distribution. The work must also be done in conjunction with the replacement of the (2) underbuilt circuits.

What are the risks and consequences of not completing this project?
Delaying the project would increase the risk of an unplanned outage and subsequent repair and potentially affect the distribution replacement schedule and/or reliability.

Is this Project in Central Hudson's current approved rate case? Yes
Project is included in the rate case
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Will support new distribution assets and potentially avoid costs associated with alternate routes. Will provide ability to serve additional customers.
Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Project will reduce risk of failure through replacement of aged assets and improve resiliency by utilizing updated designs.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Installation of new structures will reduce the risk of in-service failures and bring structures up to current-day standards

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,936,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	166,200		6,200	160,000				
	Stock Materials	0							
	A/P Non-Stock Material	415,500		15,500	400,000				
	A/P Contractors & Other	1,150,300		41,300	1,109,000				
	Overheads	0							
	AFUDC*	120,000		4,000	116,000				
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**1,852,000**	**0**	**67,000**	**1,785,000**	**0**	**0**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	8,100			8,100				
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	72,900			72,900				
	Inflation	3,000			3,000				
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**84,000**	**0**	**0**	**84,000**	**0**	**0**	**0**	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Not included in current PSC-approved budget plan

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 1,323,700 **Maximum ($):** 2,458,300

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Permitting, material and construction costs may vary causing a potential variance in the pro-forma estimate. A more accurate estimate will be created upon completion of preliminary design work.

Basis for estimate: Historical Proforma Pricing; Historical Data + Job Specific Adjustments

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
The cost breakdown provided is estimated based on an averaged historical percentage split per project of Materials Costs, Accounts Payable / AA and Internal Labor of 25%, 65% and 10% respectively. Removals were split based on a 90%/10% split of Contractor (AP) and Monthly Labor respectively. Installation "AFUDC" Row captures AFUDC and Inflation and the Removal "Overheads" Row captures Inflation.

People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY

Project Cost Estimate

Note: Except where data entries are permitted, this spreadsheet is locked in order to prevent users from accidentally deleting important formulas. If user needs to add/delete rows, or make other edits, the passwork "Estimate" may be used to unlock the spreadsheet. Caution should be used in order to keep the integrity of the spreadsheet.

Project Name: DW Line - West Balmville Tower Replacements with D
Prepared By: Evan Gally
Cost Estimate Level:
Date: xxx
Revision(s): xxx
WO #: xxx

Part 1: Additions

* All unit and total cost figures should be "raw costs", without any overhead markups. Markups are generated at the end of the estimate.

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	Monthly Payroll* MH	Monthly Payroll* Cost/MH	Monthly Payroll* Cost	Weekly Payroll* Production MH/Unit	Weekly Payroll* MH	Weekly Payroll* Cost/MH	Weekly Payroll* Cost	Stock Materials* Cost/Unit	Stock Materials* Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Non-Stock Materials* (A/P Taxable) Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Contractors & Fees* (A/P Tax-Exempt) Cost	Notes
A	PLANNING & ENGINEERING																		
A.1	Engineering Design	100	Hours		1.0	100	71.00	7,100		0		0		0		0		0	
A.2	Engineering Supervision; Project Sponsor	25	Hours		1.0	25	71.00	1,775		0		0		0		0		0	
A.3	Engineering Drafting	25	Hours			0		0	1.0	25	65.00	1,625		0		0		0	
A.4	Surveyors / Structure Stakeout	1	Units			0		0		0		0		0		0	5,000.00	5,000	
A.5	Consultant Engineering	1	Units			0		0		0		0		0		0	20,000.00	20,000	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
B	PROJECT MANAGEMENT, ENVIRONMENTAL & SUPPORT SERVICES																		
B.1	Environmental Services	25	Hours		1.0	25	71.00	1,775		0		0		0		0		0	
B.2	Real Properties	25	Hours		1.0	25	71.00	1,775		0		0		0		0		0	
B.3	T&D Supervision	100	Hours		1.0	100	71.00	7,100		0		0		0		0		0	
B.4						0		0		0		0		0		0		0	
B.5						0		0		0		0		0		0		0	
B.6						0		0		0		0		0		0		0	
B.7						0		0		0		0		0		0		0	
B.8						0		0		0		0		0		0		0	
B.9						0		0		0		0		0		0		0	
B.10						0		0		0		0		0		0		0	
C	GENERAL CONDITIONS																		
C.1	Matting					0		0		0		0		0		0	75,000.00	0	
C.2	Environmental Controls/ Restoration					0		0		0		0		0		0	25,000.00	0	
C.3						0		0		0		0		0		0		0	
C.4						0		0		0		0		0		0		0	
C.5						0		0		0		0		0		0		0	
C.6						0		0		0		0		0		0		0	
C.7						0		0		0		0		0		0		0	
C.8						0		0		0		0		0		0		0	
C.9						0		0		0		0		0		0		0	
C.10						0		0		0		0		0		0		0	
D	MAJOR EQUIPMENT & MATERIALS																		

				Costs Incurred To-Date*	Monthly Payroll*				Weekly Payroll*				Stock Materials*		Non-Stock Materials* (A/P Taxable)		Contractors & Fees* (A/P Tax-Exempt)		Notes
#	Work Breakdown Structure (WBS)	Quantity	Units	through xx/xx/xx	Production MH/Unit	MH	Cost/MH	Cost	Production MH/Unit	MH	Cost/MH	Cost	Cost/Unit	Cost	Cost/Unit	Cost	Cost/Unit	Cost	
D.1	Engineered Pole / Hardware	5	Units			0		0		0		0		0	40,000.00	200,000		0	SB Line Rebuild Phase 1
D.2						0		0		0		0		0		0		0	
D.3						0		0		0		0		0		0		0	
D.4						0		0		0		0		0		0		0	
D.5						0		0		0		0		0		0		0	
D.6						0		0		0		0		0		0		0	
D.7						0		0		0		0		0		0		0	
D.8						0		0		0		0		0		0		0	
D.9						0		0		0		0		0		0		0	
D.10						0		0		0		0		0		0		0	
E	CONSTRUCTION																		
E.1	Line Construction	15	Days			0		0		0		0		0		0	10,800.00	162,000	
E.2	Foundation	5	Units			0		0		0		0		0		0	125,000.00	625,000	
E.3	ROW Improvements / Gates	1	Unit			0		0		0		0		0		0		0	
E.4	Showup / Dumpsters	1	Unit			0		0		0		0		0		0	1,600.00	1,600	
E.5	Construction Moves	1	Unit			0		0		0		0		0		0	2,250.00	2,250	
E.6	Foreman / Field Supervision	150	Hours		1.0	150	71.00	10,650		0		0		0		0		0	
E.7	Field Clerks / Electricians / Riggers	50	Hours			0		0		0		0		0		0		0	
E.8						0		0		0		0		0		0		0	
E.9						0		0		0		0		0		0		0	
E.10						0		0		0		0		0		0		0	
				0				30,175				1,625		0		200,000		815,850	
						425				25									
					Manhours Monthly Payroll				Manhours Weekly Payroll										

Part 2: Removals

* All unit and total cost figures should be "raw costs", without any overhead markups. All markups are generated at the end of the estimate.

				Costs Incurred To-Date*	Monthly Payroll*				Weekly Payroll*				Stock Materials*		Non-Stock Materials* (A/P Taxable)		Contractors & Fees* (A/P Tax-Exempt)		Notes
#	Work Breakdown Structure (WBS)	Quantity	Units	through xx/xx/xx	Production MH/Unit	MH	Cost/MH	Cost	Production MH/Unit	MH	Cost/MH	Cost	Cost/Unit	Cost	Cost/Unit	Cost	Cost/Unit	Cost	
F.1	Line Construction	15	Days			0		0		0		0		0		0	2,700.00	40,500	
F.2	Showup / Dumpsters	1	Unit			0		0		0		0		0		0	6,000.00	6,000	
F.3	ROW Improvements / Gates	1	Unit			0		0		0		0		0		0		0	
F.4	Foreman	50	Hours		1.0	50	71.00	3,550		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
				0				3,550				0		0		0		46,500	
						50				0									
					Manhours Monthly Payroll				Manhours Weekly Payroll										

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	Monthly Payroll* MH	Monthly Payroll* Cost/MH	Monthly Payroll* Cost	Weekly Payroll* Production MH/Unit	Weekly Payroll* MH	Weekly Payroll* Cost/MH	Weekly Payroll* Cost	Stock Materials* Cost/Unit	Stock Materials* Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Non-Stock Materials* (A/P Taxable) Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Contractors & Fees* (A/P Tax-Exempt) Cost	Notes

Part 3: Cost Estimate Summary

ADDITIONS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0		
Overhead Costs Incurred To-Date:			*This figure must be manually entered if applicable*
AFUDC Costs Incurred To-Date:			*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	$0		
Estimated Future Raw Costs:	$1,047,650		
Estimated Future Overheads:	$230,546		
Estimated Future AFUDC:	$0		
Subtotal Future Costs:	$1,278,196		
Contingency Applied:	$383,459	30.0%	*Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL ADDITIONS:	**$1,661,655**		

REMOVALS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0		
Overhead Costs Incurred To-Date:	$0		*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	**$0**		
Estimated Future Raw Costs:	$50,050		
Estimated Future Overheads:	$12,232		
Subtotal Future Costs:	**$62,282**		
Contingency Applied:	$18,685	30.0%	*Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL REMOVALS:	**$80,967**		

GRAND TOTAL ADDITIONS + REMOVALS:	**$1,742,622**

Assumptions, Notes, Clarifications, etc.:

Replacement of (5) existing 115kV DW Line Structures with Engineered mono-poles with concrete caisson foundations. Poles to be sized appropriately to carry up to (3) underbuilt distribution circuits.

Budget Submittal Form

Submission Date: April 5, 2024

Business Sponsor: Harold Turner
Prepared By: Kyle Bragg

First Year of 5-Year Budget Period: 2025
Budget Category: _12
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Electric Transmission Structure Coating Program
Work Order #: -
Funding Project Description: Funding Project Not Yet Assigned
Funding Project Number: to be determined
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 7/1/2025
In-Service: 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
There may be other Cat#12 work orders associated with the High Priority Replacement Program that could be initiated in conjunction with this work to take advantage of any access efficiencies.

Describe the project objective and scope of work:
This project will involve the installation of new coating systems on existing Electric Transmission Structures in an effort to extend their useful life. The program involves the coating of approximately 574 electric transmission structures over the entire course of the program.

Describe specific scope exclusions, assumptions and constraints:
Progam estimates are based on conceptual one-for-one structure replacement estimates and does not inlcude provisions for scope-specific needs like matting, erosion and sediment control, drilling, access agreements, etc…

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
Replacement of the structures was considered as an alternative to coating.

Why was the proposed project scope chosen over other alternatives?
Coating the structures provides the ability to address any corrosion-based defects while both extending the useful life of the structures and defering the need for a signficantly higher-cost capital project.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Risk Reduction; Regulatory

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? Yes

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Please see the provided documentation and cost benefit analysis comparing the capital costs associated with coating Vs. replacement.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
Benefit of extending the useful life of the asset by coating to defer the need for a larger capital investment if replaced.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: Maybe - Requires further scope development
Is complete Sustainability status achieved by this project?* **Maybe - Requires further scope development**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*

Was this project included in a prior 5-year forecast? No

If No, why should this project be completed instead of a planned project?

Project was inlcuded in the originally requested 2024-2028 forecast. Per DPS Staff's recommendation, while agreeing with the program in concept, it was defered to the next rate case. It is now proposed as part of the 2025-2029 capex forecast with emphasis on the structures of most priority within the 5-year forecast to mitigate rate pressure.

Why do we need to complete this project in the period requested?

Completing the program in the proposed timeline is important to ensure that structures with more advanced coating or corrosion conditions will be mitigated in order to realize the greatest life-extension possible from application of the new coatings.

What are the risks and consequences of not completing this project?

If the project is not completed, coatings and corrosion on existing structures will continue to advance to a point when applications of new coatings will no longer be able to meaningfully extend the life of the asset and a more substantial and costly capital replacement project will be needed.

Is this Project in Central Hudson's current approved rate case? No

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Project will result in deferment of larger capex projects through the refurbishment of existing assets.

Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

The Project will reduce risk of unplanned outages throguh the refurbishment of existing assets.

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Project will enhance safety by reducing the risk of premature failure

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $3,978,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan		*All future year cost estimates should include applicable adjustments for inflation.*					
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	354,400		125,000	104,300	41,700	41,700	41,700	
	Stock Materials	0							
	A/P Non-Stock Material	886,000		312,500	260,750	104,250	104,250	104,250	
	A/P Contractors & Other	2,479,600		839,500	722,950	298,050	305,050	314,050	
	Overheads	0							
	AFUDC*	258,000		84,000	64,000	27,000	37,000	46,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**3,978,000**	**0**	**1,361,000**	**1,152,000**	**471,000**	**488,000**	**506,000**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	**0**							

Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Not included in current PSC-approved budget plan

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Estimate is based on single per-structure replacement estimates. Definitive costs could vary based on actual scope, access, erosion and sediment controls, matting, contractor selection, permitting requirements, etc...

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
The cost breakdown provided is estimated based on an averaged historical percentage split per project of Materials Costs, Accounts Payable / AA and Internal Labor of 25%, 65% and 10% respectively. Installation "AFUDC" Row captures AFUDC and Inflation.

Line	# of Structure Type	Structure Type	Tangent Structures	Deadend Structures	Total Coating Estimate	Total Replacement Estimate	Program Year
303	22	Pole	13	9	$1,252,360.00	$24,080,000.00	2025
301	18	Pole	12	6	$1,042,840.00	$18,720,000.00	2026
311	7	Pole	5	2	$416,660.00	$7,040,000.00	2027
PX	30	Tower	10	20	$410,100.00	$5,767,868.85	2028
PX	31	Tower	11	20	$423,760.00	$5,960,131.15	2029
D/J/CW	53	Tower	18	35	$724,480.00	$10,421,000.00	2030
DW	71	Tower	47	24	$970,560.00	$12,816,000.00	2031
E	2	Pole	0	2	$63,820.00	$740,000.00	2030
E/G	18	Towers	10	8	$245,980.00	$3,409,000.00	2030
I	24	Tower	7	17	$328,040.00	$8,567,700.00	2032
I	1	Pole	1	0	$35,160.00	$275,000.00	2031
M	2	Tower	0	2	$27,320.00	$410,000.00	2031
N/O Line	52	Tower	31	21	$710,820.00	$9,777,500.00	2032
E	85	Tower	49	36	$1,161,900.00	$15,612,627.12	2033
E	33	Tower	19	14	$451,080.00	$6,061,372.88	2034
2	16	Tower	12	4	$218,660.00	$2,836,000.00	2034
C	1	Tower	0	1	$13,660.00	$205,000.00	2034
DB	1	Tower	0	1	$13,660.00	$205,000.00	2034
DR	1	Tower	0	1	$13,660.00	$205,000.00	2034
DR/DB	15	Tower	7	8	$205,000.00	$4,715,000.00	2034
FT/WF	5	Poles	4	1	$153,300.00	$1,470,000.00	2034
EM	10	Tower	7	3	$136,700.00	$1,999,891.30	2034
EM	36	Tower	27	9	$492,060.00	$7,199,608.70	2035
OR	33	Tower	26	7	$451,080.00	$5,803,000.00	2035
301	1	Tower	0	1	$41,540.00	$1,520,000.00	2035
303	6	Tower	5	1	$249,240.00	$5,520,000.00	2035
				Totals	$10,253,440.00	$161,336,700.00	

Confidential Exhibit __ (ECOP-9)

Central Hudson Gas Electric Corporation
Case 24-E-____ and 24-G-____

Electric Transmission Coating Program NPV Summary

Year Coated	Station	Net NPV	Vintage
2025	303 Poles	$6,977,317.14	1972
2026	301 Poles	$5,034,151.54	1972
2027	311	$1,758,757.08	1972
2028/2029	PX	$2,854,833.41	1924

Budget Submittal Form

Submission Date: April 5, 2024

Business Sponsor: Harold Turner
Prepared By: Kyle Bragg

First Year of 5-Year Budget Period: 2025
Budget Category: _12
Budget Group: Electric
Current Life-Cycle Phase: 4 Construction

A. GENERAL

Project/Program Name: **H Line Rebuild (69kV to 115kV) Article VII**
Work Order #: -
Funding Project Description: NEW 115KV LINE-KGN/SAUG-NEAR SB LIN
Funding Project Number: 1-1232-67-05
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 9/1/2005
In-Service: 6/1/2026

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
H-Line Rebuild #0853-D; H-Line Re-Route Easement #2553-I; Land Purchase on SB-Line 40.5-acres Town of Ulster, #5036-H; future work order for gas line AC induction mitigtion system; SB-Line / I-Line rebuild Rail Trail Section, #s 8799-J / 8946-J Respectively; distribution underbuild w/ I-Line for

Describe the project objective and scope of work:
Rebuild the electric transmission H-Line, which is a subset of the overall H&SB-Lines Rebuild project. The H-Line runs from Saugerties Substation to the Catskill Substation, with an approximate length of 12.0-miles. The rebuild includes an upgrade from 69kV to 115kV, and requires Article VII submission and respective Certificate of Need from the Public Service Commission. The scope also includes access improvements including the procurement of permanent off-ROW rights, and an approximate 0.7-mile reroute around the Great Vly Wildlife Management Area.

Describe specific scope exclusions, assumptions and constraints:
The project is constrained by all the Conditions specifically setforth in the Certificate of Need issued by The Public Service Commission (PSC), effective August 14, 2020. The project will also be bound by the Environmental Management and Construction Plan (EM&CP), approved by PSC on August 11th, 2022. It is assumed that the Lines will remain operating at 69-kV for the foreseeable future, so substation upgrades for 115kV operation are not being considered at this time.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
Reference Article VII Exhibit 3 "Alternatives", revised version dated 5/25/2018.

Why was the proposed project scope chosen over other alternatives?
Reference Article VII Exhibit 3 "Alternatives", revised version dated 5/25/2018.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Compliance; Infrastructure; Reliability

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? Yes

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Reference Planning Study "EP-2015-003" dated 8/4/2015 and Article VII Application Exhibit E-4 "Engineering Justification" submitted 12/29/2017.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
Given the age of existing lattice structures and the fact that they have generally reached the end of their useful life, the rebuild will result in operational cost savings and cost avoidance (new structures will require less planned and emergency repair work for years/decades to come).

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
Article VII - Electric; Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: Yes
Is complete Sustainability status achieved by this project?* **Yes**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
The H Line was constructed in the early 1900's and the majority of the structures and conductors have reached the end of their useful life. The existing infrastructures are need of replacement to mitigate the increased risk of failure due to advanced age.

What are the risks and consequences of not completing this project?
Due to the age and condition of existing structures and conductor, the most significant risk of not completing the project is increased outages due to component failures. The consequences include negative impacts to both SAIFI and CAIDI metrics.

Is this Project in Central Hudson's current approved rate case? Yes
The Project is approved in the current rate case
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Replacement of aged assets will reduce the potenital for emergency repair or replacement costs associated with unplanned outages.
Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Project reduces risk through the replacement of aged assets that are more likely to fail and affect the reliability of the electric system.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
New assets will be designed to updated standards and will enhance safety

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $38,176,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	3,109,000	1,212,200	1,350,000	546,800				
	Stock Materials	0							
	A/P Non-Stock Material	7,772,500	3,030,500	3,375,000	1,367,000				
	A/P Contractors & Other	20,731,500	7,879,300	9,064,000	3,788,200				
	Overheads	0							
	AFUDC*	1,265,000		775,000	490,000				
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**32,878,000**	**12,122,000**	**14,564,000**	**6,192,000**	0	0	0	0
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	516,000	70,900	245,100	200,000				
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	4,644,000	638,100	2,205,900	1,800,000				
	Inflation	138,000		52,000	86,000				
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**5,298,000**	**709,000**	**2,503,000**	**2,086,000**	0	0	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Preliminary
Cost Estimate Confidence: **(that final cost will be within +/-20% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 28,693,600 **Maximum ($):** 43,040,400

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

A detailed quantity takeoff has not yet occurred; we have noticed a significant increase in both materials and contractor pricing over last several years (COVID pandemic years) which has cast some uncertainty in the unit-cost historical pricing we are using to help derive the preliminary cost estimate.

Basis for estimate: Historical Data + Job Specific Adjustments; Historical Unit Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
Reference Certificate of Need "Order Adopting Joint Proposal" effective August 14, 2020 and Environmental Management & Construction Plan (EM&CP) approved by the Public Service Commission (PSC) on August 11, 2022 (multiple files, all on record in ECM and on NYS DPS public DMM system).The cost breakdown provided above is displayed based on an averaged historical percentage split of project Materials Costs, Accounts Payable / AA and Internal Labor of 25%, 65% and 10% respectively. This historical split has also been applied to the prior year actuals / projections column as well. Installation "AFUDC" Row captures AFUDC and Inflation and the Removal "Overheads" Row captures Inflation.

BEFORE THE
NEW YORK STATE
PUBLIC SERVICE COMMISSION

In the Matter of the Application of Central Hudson Gas & Electric Corporation For a Certificate of Environmental Compatibility and Public Need Pursuant to Article VII of the Public Service Law to Rebuild the H and SB Lines of Approximately 23.6 miles from 69 kilovolts to 115 kilovolt standards in the City of Kingston and Towns of Ulster and Saugerties in Ulster County, and the Town of Catskill and Village of Catskill in Greene County.

Case No.: 17-T-_____

CENTRAL HUDSON GAS & ELECTRIC CORPORATION
H AND SB ELECTRIC TRANSMISSION LINES REBUILD PROJECT

EXHIBIT E-4
ENGINEERING JUSTIFICATION

EXHIBIT E-4 – ENGINEERING JUSTIFICATION

This section addresses the requirements of 16 NYCRR §88.4.

E-4.0 Introduction

Central Hudson Gas & Electric Corporation (CHG&E or the Applicant) is proposing to rebuild the existing 69 kilovolt (kV) H and SB transmission lines (H and SB Lines) to 115 kV requirements located between Kingston in Ulster County and Catskill in Greene County, New York (the Project). Approximately 1.2 miles of the H Line route is proposed to be relocated to avoid a sensitive environmental resource area designated by the New York State Department of Environmental Conservation (NYSDEC) as the Great Vly Wildlife Management Area (WMA). The proposed reroute conditions are detailed in Alternatives (Exhibit 3).

E-4.1 Need for the Proposed Project

While the lines will be designed and constructed for 115 kV operation, they will continue to be operated at 69 kV in the near term. Future operation at 115 kV would be needed for any of the following: sudden load growth that cannot be mitigated with non-wires alternative projects; increased UPNY-SENY flow resulting in overload conditions on the 115 kV Feura Bush (National Grid) to North Catskill line; and a need to increase hosting capacity for photovoltaic and storage projects. Given what the Applicant considers to be reasonably likely scenarios, rebuilding for just 69 kV use would be short sighted and not cost efficient. Future modifications at the three substations and one tap station would be required prior to 115kV operation as detailed in Exhibit E-2 Other Facilities.

Moreover, in addition to being the sole transmission supply for the 35-40 MWs of peak distribution load currently served from the Saugerties and Woodstock Substations, the H and SB Lines provide an important input to the system in the northwest portion of Central Hudson's franchise area (Northwest Area). The H Line also is the sole supply for the Lehigh Cement Co. in the Towns of Saugerties and Catskill. Historic and forecast area loads are provided below in Table E-4.1.

Table E-4.1 Historic and Forecast Area Loads

	Year	Coincident Peak (MW)				Weather Normalized (MW)[1]	
		Date	System Peak	Saugerties	Woodstock	Saugerties	Woodstock
Historic	2006	August 2	1295	24.7	19.4		
	2007	August 8	1185	23.8	17.1		
	2008	June 10	1187	22.4	17.9		
	2009	August 17	1107	24.7	16.9		
	2010	July 6	1229	19.8	18.7		
	2011	July 22	1225	22.9	19.6		15.9
	2012	July 17	1168	21.7	17.6		18.2
	2013	July 18	1202	22.5	18.6	23.6	18.7
	2014	July 23	1060	20.8	15.9	23.7	18.8
	2015	July 29	1059	20.5	16.3	23.4	18.5
	2016	August 13	1088	21.2	18.0		
	2017	July 20	1034	20.4	16.1		
Forecast	2018					23.0	19.0
	2019					22.9	19.2
	2020					22.7	19.5
	2021					22.6	19.8

The existing 69 kV H and SB Lines originally were installed in 1928 as double circuit steel lattice structures using 1/0 Cu conductor for each of the circuits; the double circuits subsequently were converted to single circuits with two 1/0 Cu conductors per phase. Some of the steel lattice structures have been replaced with wood poles through the years. An assessment of the condition of the structures was conducted in 2015 and revealed that 32.0% of the lines' structures were in need of replacement or the addition of mid-span poles to correct sag issues; an additional 35.5% of structures are in need of maintenance repairs. Issues found include: damage to numerous tower legs; many insulators in need of replacement; tower foundation issues; woodpecker damage to wood poles; and need for mid-span structures to correct sag issues. In addition, the installation of mid-span structures most likely would result in the need to replace adjacent tangent structures. Some identified issues found were severe enough to prompt replacements of eight (8) structures in 2017-2018.

E-4.2 Project Benefits

The proposed rebuild will have both reliability and economy benefits for CHG&E and its interconnected network.

Reliability benefits are twofold: increased reliability to the Saugerties and Woodstock substations; and a more reliable source to CHG&E's Northwest Area. This increased reliability would be in the form of fewer line trips associated with

[1] Central Hudson Gas & Electric Corporation, "Central Hudson Initial Distributed System Implementation Plan," June 30, 2017. Table VI-7.

new construction and the increased clearances for 115 kV design. For example, for the period 2013-October 2017 the H and SB Lines experienced 27 line trips (1.16 / mile) as compared to 37 line trips for all of CHG&E's approximately 230 miles of 115 kV lines (0.16 / mile).

Economy benefits would result from the increase in conductor size (i.e., from two 1/0 Cu to 795 ACSR) which will lower the circuit resistance by approximately 55% with an associated reduction in electrical (I^2R) losses. Based on 2016 hourly flows and NYISO Zone G LBMPs[2], we estimate an annual reduction in losses of approximately 4,100 MWhr for an annual energy cost reduction of approximately $130,000.

This project will not increase the load serving capabilities of the Saugerties or Woodstock stations. Those load serving capabilities are approximately 50 MVA and 20 MVA, respectively.

E-4.3 Proposed Completion Date and Impact of Schedule Delays

The proposed completion of work (in-service) is by December 2022. If work is not completed by this date, the higher risk of a system failure due to the aging infrastructure will remain or even be exacerbated. Extended delays will result in the continued deterioration of existing facilities that could result in either reduced reliability or a need to repair or replace individual structures and conductor sections; these new structures or spans may require subsequent replacement when the lines are rebuilt. Should the lines deteriorate to a state where they are unusable, the Applicant would need to find an alternate source for the load currently supplied from Saugerties and Woodstock substations.

E-4.4 System Studies

CHG&E's load flow analyses indicated that this project would increase the UPNY-SENY transfer limit by less than 25 MW. Based on that analysis, on October 31, 2015, NYISO Staff indicated that since this project is not expected to impact interface transfer limits by more than 25 MW, no System Impact Study would be required. As a result, the Applicant will include in its Motion for Waivers, the requirement that it comply with 16 NYCRR § 88.4(a)(4).

[2] LBMP: Locational Based Marginal Price

BEFORE THE
NEW YORK STATE
PUBLIC SERVICE COMMISSION

In the Matter of the Application of Central Hudson Gas & Electric Corporation For a Certificate of Environmental Compatibility and Public Need Pursuant to Article VII of the Public Service Law to Rebuild the H and SB Lines of Approximately 23.6 miles from 69 kilovolts to 115 kilovolt standards in the City of Kingston and Towns of Ulster and Saugerties in Ulster County, and the Town of Catskill and Village of Catskill in Greene County.	Case No.: 17-T- 0816

CENTRAL HUDSON GAS & ELECTRIC CORPORATION
H AND SB ELECTRIC TRANSMISSION LINES REBUILD PROJECT

EXHIBIT 3
ALTERNATIVES

Revised May 25, 2018	Add Table of Contents; Add Footer; Edit Section 3.4.1; Add Section 3.4.2; Renumber 3.4.3; Edit Section 3.5.2; Add Attachment 1; Renumber Attachment 2

TABLE OF CONTENTS

TABLES

ATTACHMENTS

EXHIBIT 3 - ALTERNATIVES

This section addresses the requirements of 16 NYCRR §86.4.

3.1 Introduction

Central Hudson Gas & Electric Corporation (CHG&E or the Applicant) is proposing to rebuild and re-conductor (to 115 kV standards) the existing 69 kV H and SB transmission lines located between the Hurley Avenue Substation in the Town of Ulster, Ulster County and the North Catskill Substation in the Town of Catskill, Greene County, New York (the Project). The Project as designed and proposed is located within the existing right-of-way (ROW), with the exception of one reroute noted below, and spans approximately 23.6 miles through five municipalities; the Town of Ulster, City of Kingston, Town of Saugerties, Village of Catskill and Town of Catskill. The existing ROW has been used for transmission purposes since 1928 and includes both the H and SB transmission lines (H and SB Lines), which are carried primarily on steel lattice structures with an average height of 70 feet above ground. The existing corridor is well-maintained in early successional vegetation (i.e., old field herbaceous and shrub species), and it traverses a variety of landscapes from undeveloped forest land and agricultural fields, to areas of medium density residential development. A more detailed description of the Project is contained in Exhibit 2 Location of Facilities.

The Project as designed and proposed is to replace most of the structures and all of the conductors within the existing ROW. The rebuild will utilize single-pole, davit arm steel structures with some two-pole and three-pole swing angle and strain dead end structures. The new structure heights vary but average approximately 77 feet tall (above ground). This height increase is for an improved shielding angle and increased ground clearance. CHG&E intends to reuse several H and SB Lines structures that are deemed to be in good serviceable condition and meet the proposed loading criteria of the new conductor and static wire. The design replaces the one existing static wire (0. 349" dia.) with one Optical Ground Wire (OPGW) (0.699" dia.) and the six existing copper conductor wires (0.368" dia.) with three larger ACSR conductor wires (1.063" dia.).

The majority of the Project will utilize the existing CHG&E ROW. However, the Project as designed and proposed includes a 1.2 mile reroute around the Great Vly ("Vly"), an environmentally sensitive wetland designated by the New York State Department of Environmental Conservation (NYS DEC) as a Wildlife Management Area. Potential alternatives that can meet Project goals include the use of different equipment and/or pole structures, and different construction techniques. Other alternatives considered that do not meet these goals are alternative routes (except one) and leaving the H and SB Lines in their current state (the no-action alternative). These alternatives are discussed below.

3.2 Alternative Equipment

The alternative equipment options that could be used to fulfill the goals of the proposed Project involve the use of different types of transmission structures. Alternative transmission structures considered are single pole double circuit structures and H-frame two-pole structures.

3.2.1 Double Circuit Construction

The H and SB Lines were originally built as a double circuit utilizing 6 conductors and one shield wire. These 6 conductors currently are jumpered together in such a manner that they electrically function as 3 single phase conductors. It is beneficial to look at the double circuit construction option; because this option would increase flexibility for potential future upgrades and also increases capacity. There are a number of factors that make the double circuit construction significantly more expensive, including the need for two shield wires rather than one in order to meet the necessary shielding angle. The double circuit structures would need to be higher and incorporate more components to accommodate the vertical 6 wire construction. Also, the structures would need to be stronger to hold up the additional weight. CHG&E's analysis shows that the majority of structures in this design would need to have engineered concrete caisson foundations, resulting in a design that would increase the overall project cost by approximately 60% over the current design.

3.2.2 H-Frame Structures

Some other CHG&E lines utilize wooden H–frame structures. CHG&E considered potentially replacing the existing lines with new H-frame structures. The H-frame replacement structures would range from approximately 60 to 65 feet tall and would be constructed out of Corten (self-weathering) steel, including the crossarm and x-bracing members. Approximately 230 replacement structures would be required for the proposed Project. Just like the proposed single pole structures, the majority of the H-frame structures would be placed near the existing structures and would be installed via direct burial, resulting in few new foundations for the rebuilt H and SB Lines. It is likely that in some areas the relative visual impact for this option would be reduced due to the decreased height of the H-frame structures as compared to the single pole structures. However, in many areas, visual impacts would likely increase due to the additional poles and structure width. Also, due to each structure having multiple poles, this alternative would result in a larger structure footprint, leading to more soil disturbance and environmental impact. The increased footprints would impact agricultural fields by infringing upon the ability of the farmers to maximize their crop production. This design would require the use of two static wires as opposed to the single static wire in the current plan. This design would also increase the chances of reliability issues from tree fall-in due to the conductor being closer the edge of ROW. Comparing the installed cost of

these two structure types shows that the H-frame alternative would cost approximately 20% over the current design.

3.3 Underground Alternative

CHG&E considered the potential for burial of portions of the electrical transmission lines. Areas considered for burial were sections along the ROW within the vicinity of high to medium density residential and commercial land uses. Areas adjacent to agricultural, forested, industrial, or other low density development would be constructed as overhead single-pole structures as per current design. While this alternative may reduce visual impacts in portions of the Project area, it would require a considerable amount of additional soil disturbance and have a larger potential for adverse impacts to water resources. For example, this alternative would require the trenching of wetlands and or stream channels within the ROW that would be crossed by the buried line. Due to these direct impacts and the greater potential for indirect impacts from soil erosion, this was considered to be the least environmentally sensitive alternative. Also, the H and SB Lines share ROW with other utility lines, both electric and gas, in many of the high to medium density residential and commercial areas. In these locations, installing the H and SB Lines underground would not eliminate the visual impacts from the other transmission lines that are not planned for underground construction. Additionally, the cost of burial of even small portions of the electric transmission lines would be approximately 5 to 10 times the cost of the preferred alternative. This alternative could also result in a longer restoration times during power outages or line failure within the buried portions of the electric transmission lines.

3.4 Alternative Routes

3.4.1 General

Alternative routes are not a viable or sensible option for the vast majority of the proposed Project. The current H and SB Lines are within a CHG&E maintained ROW. Additionally, the H and SB Lines must both meet at the Saugerties Substation. Therefore, any alternate routes would require the lines to return to the Saugerties Substation. Alternative routes would result in the purchasing of land or obtaining easements for a new ROW which is not an economically viable option. Additionally, it is reasonable to assume a new ROW would require vegetation clearing as well as the construction of access roads along the ROW. It would also introduce transmission line structures into views where they currently are not present. Utilizing the existing ROW avoids the need for such additional environmental impacts. Therefore, in most locations, alternative routes are not an economical or environmentally viable alternative. It is important to consider that the existing transmission lines supply electricity to several distribution areas along the ROW. An alternative route, or even the co-location of the transmission lines within other CHG&E leased ROW's, has the potential to eliminate the supply of power to these distribution areas, unless there is substantial modification to the distribution areas and/or their point of

connection with the transmission system. This would result in additional construction and disturbance to the communities served by the H and SB Lines. Therefore, a major routing alternative is not considered to be practical.

CHG&E has explored one alternative route as detailed in sections 3.4.2 – 3.4.4. This is an alternative to nearly the entire existing route. In addition, CHG&E has chosen to endorse and plan for one smaller, localized reroute at the Great Vly (DEC Wildlife Management Area) on the H-Line, which is detailed in section 3.4.5.

3.4.2 Alternative Route Description

The H and SB Lines originate and terminate at three substations (Hurley Avenue at the south end, Saugerties near the middle, and North Catskill at the north end). In addition, one customer (Lehigh Portland Cement Co., or "Quarry") is served with a 69kV tap off the H-Line. In looking for an alternative route, these are the constraints that must be considered. In choosing an alternative route, CHG&E looked for nearby roadways as well as existing ROWs for other utility facilities that the new alternative route could "follow", or co-exist with. Given the existence, quantity and proximity of these existing roads and ROWs, this became the logical approach to come up with a conceptual alternative route.

The alternative route for the Lines can be seen in Attachment 1, sheets 1 and 2. Generally, most of the route follows existing roads and ROWs. Due to the conceptual nature of this route, there is no discernment as to which side of the road or ROW that the new Line would be installed on. There are also several areas where the alternative route does not follow an existing road or ROW. Additionally, in order to provide 69kV service to the Quarry, a tap line needs to be run from the H-Line alternative route to the existing tap station within the Quarry.

The alternative route for the SB-Line can be described as follows:

> Starting from the Hurley Avenue Substation at the southernmost point of the SB-Line, exit the substation and follow the existing ROW northward that is occupied by the 345 kV 301-Line and 115 kV HP-Line. Where the existing lines diverge 2.3 miles from the substation, follow the 301-Line ROW northward for an additional 8.8 miles until it intersects the existing 69 kV SR-Line. At this intersection, turn eastward and follow the SR-Line for 1.7 miles all the way to the Saugerties Substation.

The alternative route for the H-Line can be described as follows:

> Starting from the Saugerties Substation at the southernmost point of the H-Line, exit the substation and then head directly west for 0.2 miles until reaching the New York State Thruway. This segment does not follow any existing road or ROW. Upon reaching the Thruway, turn northward and follow the Thruway for 9.9 miles (of which ~4.5 miles are along the AH gas transmission line) until it intersects the existing 69 kV CL-Line. Turn eastward and

follow the CL-Line for 2.7 miles all the way to the North Catskill Substation.

The quarry tap line that would be necessary from the alternative H-Line can be described as follows:

Where the New York State Thruway crosses West Camp Road, tap off the alternative H-Line with a 69 kV feed to the Quarry. Follow West Camp Road southeastward for 0.8 miles until reaching the current H-Line ROW. Turn northward and follow the current H-Line ROW north for 0.1 miles until reaching the Project's re-route around the Great Vly. Follow the Project's re-route path for 1.2 miles until reaching the existing tap station.

3.4.3 Alternative Route Analysis

The entire alternative route, including the necessary tap line to the quarry, is approximately 27.7 miles in length. This is 4.1 miles longer in length than the proposed, existing route. A comparison of the mileage can be seen in Table 3.4.3.a Alternative Route Length Comparison.

Table 3.4.3.a Alternative Route Length Comparison

In miles	Existing/Proposed Rebuild Route	Alternative Route	Variance *(Increase for alternative route)*
SB-Line:	11.4	12.8	+1.4
H-Line:	12.2*	12.8	+0.6
69kV Service to Quarry:	0	2.1	+2.0
Total:	23.6	27.7	+4.1 miles (17% increase)

**Difference between existing route and the proposed rebuild with the reroute at Great Vly is negligible (0.02 miles).*

There have been no detailed studies performed on the alternative route. In order to decide whether or not such studies would be beneficial, the alternative route can first be analyzed on a more conceptual level to determine if the route is even potentially viable. If the alternative route were to be found potentially viable, then further studies could then be conducted.

In order for CHG&E to determine the viability of this alternative route, a pros and cons analysis was performed. The analysis follows in Table 3.4.3.b Pros and Cons Analysis for Alternative Route.

Table 3.4.3.b Pros and Cons Analysis for Alternative Route

PROS	CONS
P1. The removal of the line from its current location would eliminate most all long term impacts that the line has had on nearby residences, landowners, businesses and visitors since its original construction. Current visual impacts would be eliminated, land use restrictions from easements would be eliminated, vegetation clearing would be eliminated, etc. This would likely be welcomed by residences, landowners, businesses and visitors along the existing route.	C1. The relocation of the line to an alternative route would create permanent impacts to nearby residences, landowners, businesses and visitors that had not existed before. Constructing the line where it had not existed before would have negative visual impact. Significant tree and vegetation clearing would be required, creating both visual and environmental impacts. Necessary easements would restrict land uses near the line. This would likely be unwelcomed by residences landowners, businesses and visitors along the alternative route.
P.2 Constructing the new line away from the existing line would eliminate most special outage considerations during construction. The existing lines could easily stay energized for most of the construction period, which would eliminate some unplanned outage risk during the work.	C.2 Including the necessary tap line to the quarry, the alternative route is nearly 4-miles longer than the existing route (17% longer). This would equate to higher construction costs for the line, as well as increased long-term maintenance costs of the line (such as routine inspection work, routine vegetation management, etc.)
	C.3 Since in many locations the new line would coexist with other existing power lines, that means a catastrophic event at the ROW would potentially take down multiple sources of power at a time. This essentially is a threat to the system's redundancy, and the risk to outage frequencies and durations would increase.
	C.4 CHG&E does not have easement rights for an alternative route. Even in locations where the alternative route is proposed to follow (co-exist) with existing line(s), the existing easement would need to be widened. It is unlikely that CHG&E could obtain all necessary easements without having to make a case for condemnation in various locations. Not only would the new easements be costly, but legal matters pertaining to condemnation would also be costly.
	C.5 The project timeline (schedule) would need to be lengthened, likely by several years. This would be the result of easements purchases and likely litigation, the performance of all additional environmental studies, and the likely time impact a new route would have on the permitting process. Lengthening the schedule only increases the risk of future outages because of the condition of the existing line.
	C.6 Construction on an alternative route would nearly double the short-term environmental impacts. This is because not only would construction be occurring in the new ROW, but the old structures would need to be removed from the existing ROW. These demolition activities in the old ROW would have nearly the same environmental impacts as what is expected for the new construction in the existing ROW.

Table 3.4.3.b Pros and Cons Analysis for Alternative Route

PROS	CONS
	C.7 The alternative route would significantly increase project costs. It is conceptually estimated that project costs could double to nearly $80-million. Significant contributions to the cost increase include: the need to access, work on and restore more than 2-times the length of ROW than if rebuilding on same route (constructing on one ROW, removing on the other); the alternative route is 17% longer than existing route; need to purchase easements along the alternative route, along with all corresponding legal costs; clearing costs; inflation, extended overheads and financing costs due to lengthened schedule.
	C.8 Due to the cons already described above, the alternative route would likely result in a negative reception from the general public. This could create significant unwanted public outcry against the project and have related permitting impacts.

3.4.4 Alternative Route Conclusions

Upon completing the pros and cons analysis for the alternative route, CHG&E has concluded that the alternative route is not a viable option, and that rebuilding the line in its current location is a sensible choice (with the exception of a smaller, localized reroute at the Great Vly as discussed in section 3.4.5). Although there are two pros identified that favor an alternative route, the analysis also identifies eight cons that, in the view of CHG&E, clearly outweigh the pros. Perhaps the most significant con is the cost, which is conceptually estimated to be nearly double the current project estimate.

CHG&E believes that no further studies are warranted on the alternative route because it is unlikely that any of the studies would significantly impact what has already been identified in the pros and cons analysis. In addition, it is likely that any other alternative routes or variations thereof would result in a similar analysis and conclusion.

3.4.5 The Great Vly Reroute

There is currently a 0.6 mile section of the H Line that crosses the Great Vly, an environmentally sensitive wetland designated by the NYS DEC as a Wildlife Management Area. This area presents some unique challenges to the Project, of which the most problematic is access. Much of the ROW in the Vly is submerged wetland, which requires extensive use of timber or floating mats for access. Access from the eastern upland area is extremely limited due to terrain, so travel route is generally parallel to the line in the Vly. Additionally,

environmental impacts during construction are a concern for this area. In order to minimize the Project's impact to the Vly and its habitat, and to improve future access to the line, the Project as designed and proposed relocates this portion of the H Line further east on the Lehigh quarry property. Reference Attachment 2 for a general map showing the reroute, and also reference the EM&CP drawings (Appendix A.1) for further detail. The total length of the new route is approximately 1.2 miles, which is nearly equal to the old route that will be eliminated.

To plan the reroute around the Vly, CHG&E worked with Lehigh quarry personnel to identify a route most agreeable to them that also serves the needs of the Project, reduces environmental impact, and allows long-term access. It must be further noted that, as of the time of this Project filing to the Public Service Commission, an easement agreement with Lehigh is not yet in place. An easement agreement would be contingent upon Applicant's receipt of Certificate of Environmental Compatibility and Public Need.

The Great Vly reroute has been incorporated into the Project design, and therefore an evaluation of the environmental setting, including potential cultural resources, has been included in Exhibit 4 Environmental Impact, as has a discussion of any impacts and required mitigation. Moreover, the EM&CP contains specific construction techniques and mitigation for construction of the Project, including the Vly reroute.

A simple Pros and Cons Analysis (Table 3.4.3) shows why the reroute is in the best interest of the Project and that the alternative of reconstructing the line through the Vly is not a preferred option.

Table 3.4.5 Pros and Cons Analysis for H-Line Reroute Around Great Vly

Pros and Cons Analysis for H-Line Reroute Around Great Vly	
PROS	CONS
Reduces temporary environmental impacts to the wetland and associated habitat (shorter time to just remove existing structures as opposed to removing and replacing; no excavations in the wetland required).	Requires the clearing of approximately 13 acres of forested area.
Eliminate all future environmental impacts to the wetland and associated habitat since the line would be removed from this area.	Initial (short-term) cost of obtaining easement from landowner (Lehigh).
No significant visual impact (reference Visual Impact Assessment, Appendix I).	Initial (short-term) cost of clearing the new ROW (approximately 13-acres).
By improving access to the line, improve response time for both planned and unplanned future maintenance.	
Significantly reduce cost of future maintenance (need for matting is eliminated).	

In summary, the cons of the reroute are the tree clearing and the initial short-term costs involved in obtaining the easement and performing the clearing. However, these initial costs are significantly outweighed by the long-term maintenance savings, most notably eliminating the need for future matting across the wetland. Despite the initial costs, there is long-term economic and environmental benefit.

3.5 Alternate Methods to Fulfill Energy Requirements

3.5.1 No Action Alternative

The conductor on the H and SB Lines is nearing the end of its useful in-service life and requires replacement. In order to ensure stability and reliability in the electric grid that services the communities and businesses in this area, the line must be rebuilt to carry the new conductor safely. A no action (no build) alternative would result in further degradation of the existing facilities and reduced system reliability. This would have a direct negative impact on the electrical service being provided to residents and business in the vicinity of the project. Should the lines deteriorate to a state where they are unusable, CHG&E would need to find an alternate source for the load currently supplied from the Hurley Avenue Substation. In order to ensure a stable and reliable electric service to the surrounding communities, CHG&E must rebuild the H and SB Lines, thus the no action alternative is not a

viable option.

3.5.2 Energy Efficiency, Demand-Side Management and Distributed Generation

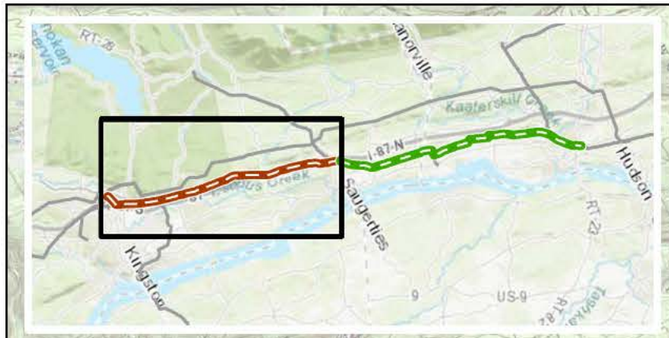
As discussed in Exhibit E-4 - Engineering Justification, the proposed rebuilding of the existing 69 kV H (North Catskill – Saugerties Substations) and SB (Saugerties – Hurley Avenue Substations) transmission lines is based on infrastructure issues associated with the physical transmission line plant. The transmission lines were constructed in 1928 and a condition assessment identified that a significant number of structures require replacement. In addition a number of mid-span poles are required to correct sag issues and there are a significant number of structures that are in need of maintenance repairs. Issues identified during the assessment included: damage to numerous tower legs; many insulators in need of replacement; tower foundation issues; woodpecker damage to wood poles; and need for mid-span structures to correct sag issues. Some identified issues found were severe enough to prompt replacements of eight (8) structures in 2017-2018. The original/existing H and SB Lines were installed using 1/0 7 Strand Copper conductor. Even though copper conductor has very good resistance to corrosion, the 1/0 7 Strand Copper on this line and others of similar vintage have been showing signs of deterioration.

Energy efficiency measures, demand-side management, and distributed generation are all viable methods to reduce load and alleviate potential overload situations during peak load. However, they do not address reliability and infrastructure concerns. As indicated, the Project is needed to replace structures and conductors that have reached the end of their useful life and are in disrepair. As a result, energy efficiency measures, demand-side management, and distributed generation are not considered viable alternatives to the proposed Project.

The CHG&E Non-Wires Alternative (NWA) Suitability Criteria Matrix (reference Appendix 1: CHG&E Integrated Planning Process with NWA Suitability Analysis of the Joint Utilities'- Supplemental Information on the Non-Wires Alternatives Identification and Sourcing Process and Notification Practices, in Cases 16-M-0411 and 14-M-0101) indicates that project types suitable for NWA solutions include Load Relief and Reliability based projects. Reliability projects entail projects for remote single source regions or customer requested enhanced reliability projects (i.e., redundant supplies). As indicated above, the H and SB rebuild project is an infrastructure based project that is not conducive to a NWA solution. Any alternative solution would be required to obviate the need for the transmission line by offsetting local area load at both the Saugerties (~ 22 MW peak) and Woodstock (~ 22 MW peak) Substations. Since this project does not meet the suitability criteria, the use of a NWA solution in this application is not practical and CHG&E eliminated a NWA as a viable alternative method that would fulfill the energy requirements with comparable costs.

CENTRAL HUDSON GAS & ELECTRIC CORPORATION
H AND SB ELECTRIC TRANSMISSION LINES REBUILD PROJECT

ATTACHMENT 1
EXHIBIT 3 ALTERNATIVES
Figure 3-1: Alternative Route



Co-location with SR Line

Co-location with 301 Line

Co-location with HP Line and 301 Line

301

SR

SB

HP

OR

303

Hurley Ave

Converse St

Lincoln Park

LR

Saugerties

Alternative Route	Mileage
SB	12.78
H	12.76
Tap line to Quarry	2.1

Alternative

Substation Location (CHG&E)

Existing Overhead Transmission Line (CHG&E)

Gas Transmission Pipeline [AH] (CHG&E)

CHG&E Existing Centerlines

H Line (12.2 miles)

SB Line (11.4 miles)

3,600 1,800 0 3,600 Feet

Sources: Background: USGS Topographic 1:24,000 Quads (Cementon, Hudson South, Kingston West, Saugerties, Woodstock).

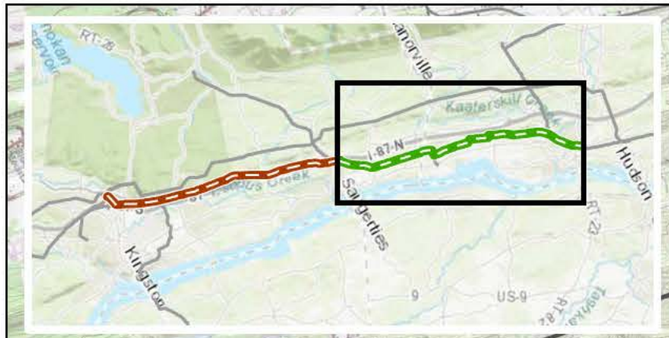
Path: \\NYALDATA\projects\29317.00 CHGE - H-SB Rebuild\GIS\Project\Alternatives\Deficiency_SB_Alt.mxd

Central Hudson Gas & Electric Corp.
H and SB Electric Transmission Lines Rebuild Project

Exhibit 3 Alternatives
Figure 3-1: Sheet 1
SB-Line Alternative Route
May 18, 2018

vhb

People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY



301

Co-location with CL Line

CL

Co-location with AH Gas Transmission Pipeline along NYS Thruway

Along side of NYS Thruway

H

Tap line to Quarry

Saugerties

Existing Tap Station at Quarry

Co-location with AH Gas Transmission Pipeline along existing H Line

NC

North Catskill

HUDSON RIVER

HUDSON

Alternative Route	Mileage
SB	12.78
H	12.76
Tap line to Quarry	2.1

Alternative

Substation Location (CHG&E)

Existing Overhead Transmission Line (CHG&E)

Gas Transmission Pipeline [AH] (CHG&E)

CHG&E Existing Centerlines

H Line (12.2 miles)

SB Line (11.4 miles)

3,700 1,850 0 3,700 Feet

Sources: Background: USGS Topographic 1:24,000 Quads (Cementon, Hudson South, Kingston West, Saugerties, Woodstock).

Central Hudson Gas & Electric Corp.
H and SB Electric Transmission Lines Rebuild Project

Exhibit 3 Alternatives
Figure 3-1: Sheet 2
H-Line Alternative Route
May 18, 2018

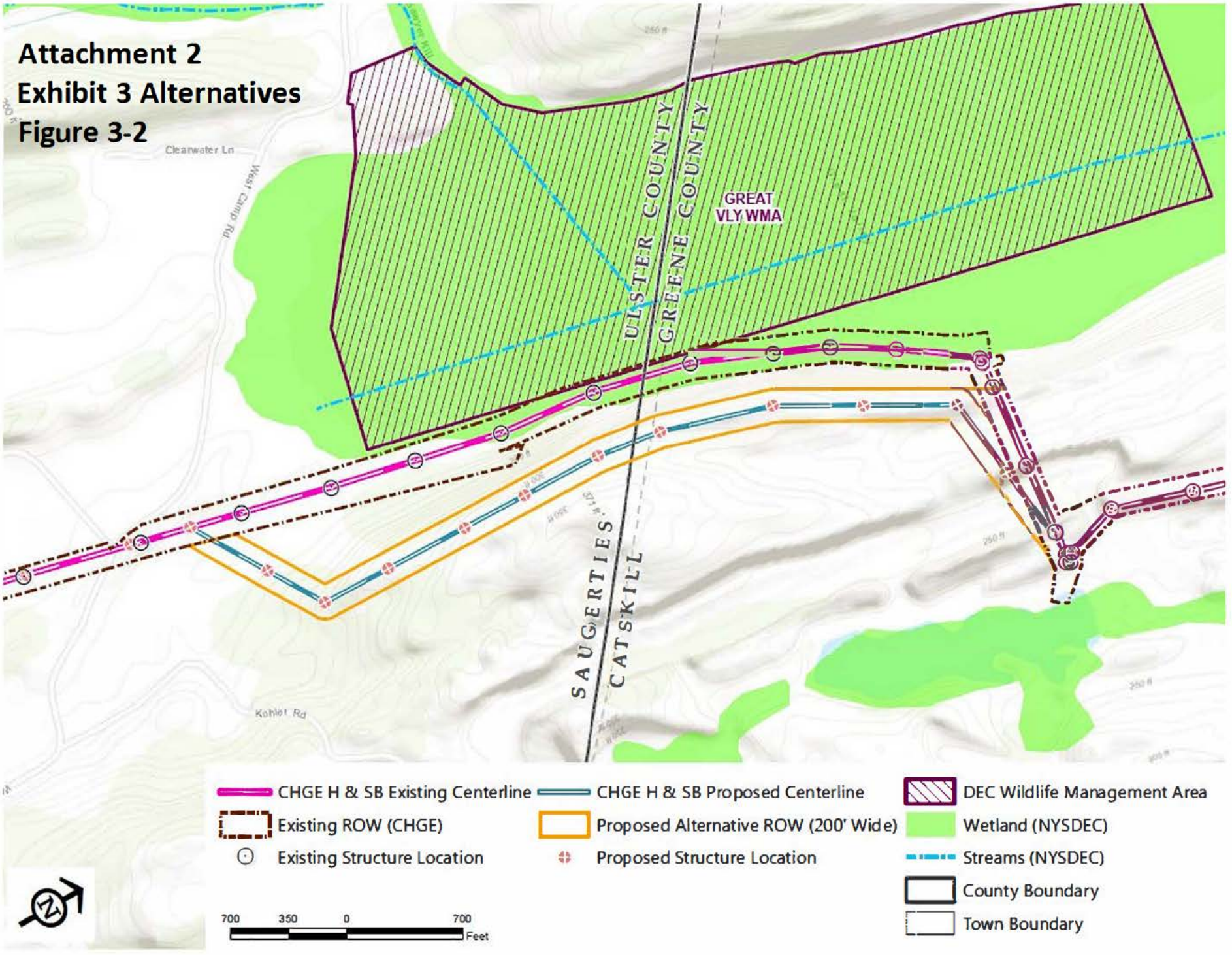
vhb

People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY

Path: \\NYALDATA\projects\29317.00 CHGE - H-SB Rebuild\GIS\Project\Alternatives\Deficiency_H_Alt.mxd

CENTRAL HUDSON GAS & ELECTRIC CORPORATION
H AND SB ELECTRIC TRANSMISSION LINES REBUILD PROJECT

ATTACHMENT 2
EXHIBIT 3 ALTERNATIVES
The Great Vly Reroute


Attachment 2
Exhibit 3 Alternatives
Figure 3-2
ULSTER COUNTY
GREENE COUNTY
SAUGERTIES
CATSKILL
GREAT VLY WMA
Clearwater Ln
West Camp Rd
Kohler Rd
CHGE H & SB Existing Centerline
CHGE H & SB Proposed Centerline
DEC Wildlife Management Area
Existing ROW (CHGE)
Proposed Alternative ROW (200' Wide)
Wetland (NYSDEC)
Existing Structure Location
Proposed Structure Location
Streams (NYSDEC)
County Boundary
Town Boundary
700 350 0 700
Feet

Budget Submittal Form

Submission Date: April 5, 2024

Business Sponsor: Harold Turner
Prepared By: Kyle Bragg

First Year of 5-Year Budget Period: 2025
Budget Category: _12
Budget Group: Electric
Current Life-Cycle Phase: 4 Construction

A. GENERAL

Project/Program Name: High Priority Replacement Program
Work Order #: -
Funding Project Description: High Priority Replacements
Funding Project Number: 1-1221-90-18
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
There are no other specific work orders associate with the HPR Program. On occasion, in order to take advantage of mobilization and construction synergies, other projects will be done in conjunction with HPR projects.

Describe the project objective and scope of work:
Transmission lines are inspected on a cyclical basis with varying methods ranging from aerial patrols to comprehensive ground patrols. Inspection results are stored in a searchable database, currently CASCADE. This database contains data recorded from all types of inspection methods including aerial patrol, comprehensive aerial inspection, comprehensive ground inspection, ground line testing and treatment, climbing inspection, corona camera inspection, infrared inspection, etc... Inspection data is recorded for all transmission assets including poles, insulators, guy wires and

Describe specific scope exclusions, assumptions and constraints:
Program scopes are based on a majority of identified findings being mitigated through the replacement of structures. If other alternate mitigation methods are utilized it will affect the programs's project mix by allowing additional projects to be completed. It does not take into account emergent work that can be discovered through the scoping and design processes and/or unforseen environmental and access improvements, land agreements or permits.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
Various condition mitigation options are considered through the project scoping process such as repair or replacement of individual structure components as opposed to the replacement of an entire structure.

Why was the proposed project scope chosen over other alternatives?
Project Engineers evaluate various mitigation methods for each individual project and identified condition based on a variety of factors such as access difficulty, proximity to environmentally sensitive areas, overall condition of the structure / component, etc. In conjunction with the other internal CHG&E stakeholders, they then develop the project scope based on the best balance of the inputs and concerns.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Risk Reduction; Reliability; Regulatory; Safety

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? Yes

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Identified severity 4, 5 or 6 conditions discovered as part of Central Hudson's comprehensive inspection program represent a risk to the overall safe operation and reliability of the Electric Transmission System. Conditions found as part of the 5-year comprehensive inspection cycle are reported to the PSC and have mitigation timeframes associated with them based on the date of identification.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The replacement of the structures in the scope will improve reliability and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Conditions identified in the comprehensive inspection cycle have the potential to represent risk to the safety and reliability of the electric transmission system and need to be addressed consistent with the timeframes specified by both the PSC and our internal severity rating criteria.

What are the risks and consequences of not completing this project?
There is a heightened possibility of failure if identified conditions are not repaired in-timeframe leading to the need for unplanned emergency repair and/or replacement work at elevated cost.

Is this Project in Central Hudson's current approved rate case? Yes
This Program is included in the current rate case to support mitigation of inspection findings
Is this Project tied to a regulatory requirement? Yes
Inspection finding mitigation is prioritized based on timeframes provided by Staff
Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Mitigation of findings before premature failure will result in the avoidance of increased construction costs associated with emergency work
Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
The Program will reduce the risk of unplanned equipment failures and outages
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Replacing aged infrastructure will improve safety by reducing the risk of unanticipated failures

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $35,487,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan		*All future year cost estimates should include applicable adjustments for inflation.*					
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	2,641,500		528,300	528,300	528,300	528,300	528,300	
	Stock Materials	0							
	A/P Non-Stock Material	6,603,750		1,320,750	1,320,750	1,320,750	1,320,750	1,320,750	
	A/P Contractors & Other	17,169,750		3,433,950	3,433,950	3,433,950	3,433,950	3,433,950	
	Overheads	1,647,000		113,000	226,000	330,000	438,000	540,000	
	AFUDC*	2,113,000		303,000	403,000	359,000	465,000	583,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**30,175,000**	**0**	**5,699,000**	**5,912,000**	**5,972,000**	**6,186,000**	**6,406,000**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	500,000		100,000	100,000	100,000	100,000	100,000	
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	4,500,000		900,000	900,000	900,000	900,000	900,000	
	Inflation	312,000		21,000	43,000	63,000	83,000	102,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**5,312,000**	**0**	**1,021,000**	**1,043,000**	**1,063,000**	**1,083,000**	**1,102,000**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
The following could affect final annual HPR Program costs: Infationary costs related to materials and labor, size of final project scopes, environmental conditions requiring costly permitting and/or access improvements, use of alternative and more costly structure types in final project designs,

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
Cost Estimate breakdown is based on a conceptual pro-forma per single pole structure. The cost breakdown provided is estimated based on an averaged historical percentage split per project of Materials Costs, Accounts Payable / AA and Internal Labor of 25%, 65% and 10% respectively. Installation "AFUDC" Row captures AFUDC and Inflation and the Removal "Overheads" Row captures Inflation.

Actual *** Estimated (Avg. of 2023-2025)

Analysis	2023	2024 1st half	2024 2nd half	2025 1st half	2025 2nd half	2026	2027	2028	2029
Conditions Due	106	46	47	59	59	105	105	105	105
Assumed # of Replacements	53	23	24	29	30	53	53	53	53
"A" Costs	4,399,000	1,909,000	1,992,000	2,407,000	2,490,000	4,399,000	4,399,000	4,399,000	4,399,000
"R" Costs	954,000	414,000	432,000	522,000	540,000	954,000	954,000	954,000	954,000
Assumed # of Capital Modifications	53	23	23	30	29	52	52	52	52
"A" Costs	901,000	391,000	391,000	510,000	493,000	884,000	884,000	884,000	884,000
TOTAL "A"	***5,300,000***	***2,300,000***	***2,383,000***	***2,917,000***	***2,983,000***	***5,283,000***	***5,283,000***	***5,283,000***	***5,283,000***
TOTAL "R"	***954,000***	***414,000***	***432,000***	***522,000***	***540,000***	***954,000***	***954,000***	***954,000***	***954,000***

	"A"	"R"
Average Cost Per Structure	83,000	18,000
Replacement Rate	50%	
Average Cost Mod.	17,000	
Capital Reinforcement Rate	50%	

Requested Funding	2023	2024 1st half	2024 2nd half	2025 1st half	2025 2nd half	2026	2027	2028	2029
Conditions Due *	106	53	53	53	52	105	105	105	105
Assumed # of Replacements	53	27	26	27	26	53	53	53	53
"A" Costs	4,399,000	2,241,000	2,158,000	2,241,000	2,158,000	4,399,000	4,399,000	4,399,000	4,399,000
"R" Costs	954,000	486,000	468,000	486,000	468,000	954,000	954,000	954,000	954,000
Assumed # of Capital Modifications	53	26	27	26	26	52	52	52	52
"A" Costs	901,000	442,000	459,000	442,000	442,000	884,000	884,000	884,000	884,000
TOTAL "A"	***5,300,000***	***2,683,000***	***2,617,000***	***2,683,000***	***2,600,000***	***5,283,000***	***5,283,000***	***5,283,000***	***5,283,000***
TOTAL "R"	***954,000***	***486,000***	***468,000***	***486,000***	***468,000***	***954,000***	***954,000***	***954,000***	***954,000***

	"A"	"R"
Average Cost Per Structure	83,000	18,000
Replacement Rate	50%	
Average Cost Mod.	17,000	
Capital Reinforcement Rate	50%	

Notes **** Replacements based on assumed replacement Rate of 50% - Remaining Structure to be addressed via Capital Reinforcements***

***** Conditions due for 2024 and 2025 levelized. Some 2025 conditions pulled up into 2024 in funding request***

******Actual number of conditions due based on last completed inspection cycle (2022)***

Conditions Due By-Line

2024 Line	2024 Conditions	2025 Line	2025 Conditions
CF	1	301	28
E	3	303	29
FW	14	311	8
GE	2	CW_D	3
GM	8	CW_J	3
I	1	CW	5
LR	2	D_J	12
N_O	1	DW	15
NC	3	E_G	1
PX	2	EF	1
R2	2	EM	2
SR	7	E	2
WH	3	FV_GE	1
HG	44	J	7
		N_O	1
	93		118

Budget Submittal Form

Submission Date: April 5, 2025

Business Sponsor: Harold Turner
Prepared By: Kyle Bragg

First Year of 5-Year Budget Period: 2025
Budget Category: _12
Budget Group: Electric
Current Life-Cycle Phase: 4 Construction

A. GENERAL

Project/Program Name: **Retirement of O&OB Line Section from Dasville to Ohioville**
Work Order #: [ ][ ][ ][ ][-][ ]
Funding Project Description: O / OB Line Removal
Funding Project Number: 1-1212-02-18
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2022
In-Service: 12/31/2025

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
There will potentially be other Cat#12 and Cat#13 Work Orders to retire the old Ohioville Substation as part of this project, re-route and remove the transmission lines immeadiately outside of the existing Ohioville Substation and make modifications to the station as required to remove the lines.

Describe the project objective and scope of work:
In 2016, Central Hudson's new 115kV Sturgeon Pool Substation was put into service. This will ultimately allow the upgrade of the existing 69kV "P", "FK", "HK", "MG", "MK" and "GK" Lines to 115kV. As a consequence of these upgrades, Central Hudson will be retiring approximately 6.2 Miles (60 Towers) of the existing 69kV "O" and "OB" Lines from "O/OB" Tower 131 heading south to the Ohioville Substation.

Describe specific scope exclusions, assumptions and constraints:
Conceptual Project assumptions and estimates do not assume special provisions for access, matting, environmental controls or permitting.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
Please see EP Memo

Why was the proposed project scope chosen over other alternatives?
Please see EP Memo

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Risk Reduction

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? No

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

The project is needed to remove existing assets that are no longer in use and have reached the end of their useful life. Please also see EP Memo "EP2012-015" for further justification and details associated with the removal of the line.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? DOES NOT ALIGN WITH ANY TEAM GOAL
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?

Completing the project in the requested timeframe will reduce the risk of an aged asset failing unexpectedly and causing damage to private property.

What are the risks and consequences of not completing this project?

The longer the old assets remain in place, the greater risk of failure.

Is this Project in Central Hudson's current approved rate case? Yes

This project is in the approved rate case.

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Project avoids emergency response costs that may result from an unplanned failure

Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Project reduces the risk of having an unplanned failure of an aged asset that potentially causes other damages

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Project enhances safety by reomving aged infrastructure that is more prone to failure

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,737,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	Stock Materials	0							
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Overheads	0							
	AFUDC*	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	0	0	0	0	0	0	0	0
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	172,900	137,000	35,900					
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	1,556,100	1,233,000	323,100					
	Inflation	8,000		8,000					
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	1,737,000	1,370,000	367,000	0	0	0	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 1,227,100 **Maximum ($):** 2,278,900

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Data + Job Specific Adjustments

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
Estimate assumes a 90/10 split for AP and internal labor charges. This split was also applied to prior year / projections column. Conceptual estimate for the removal of approximately 60 towers from 2023-2025 is based on a per tower removal cost of $18K per tower plus $11K per tower for span removals. Prior year spending accounts for actuals associated with removal of the conductors.

Budget Submittal Form

Submission Date: April 5, 2024

Business Sponsor: Harold Turner
Prepared By: Kyle Bragg

First Year of 5-Year Budget Period: 2025
Budget Category: _12
Budget Group: Electric
Current Life-Cycle Phase: 2 Design

A. GENERAL

Project/Program Name: Q Line Electric Transmission Rebuild
Work Order #: -
Funding Project Description: Q Line 69kV Rebuild (Pleasant Valle
Funding Project Number: 10260
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 5/1/2020 **In-Service:** 12/30/2030

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
Project will require OPGW fiber terminations in the substations as well as various other improvements. More extensive upgrades to other substation equipment may be required if the line is energized to 115kV.

Describe the project objective and scope of work:
The Q line is 20.5 miles in length traversing from Pleasant Valley to Rhinebeck. The line was originally constructed in the 1950's and based on results from Central Hudson's 5-year comprehensive inspections, approximately 65% of the structures are in need of replacement with numerous others exhibiting an array of minor defect. Due to the condition of the line, Central Hudson is evaluating a more comprehensive approach to mitigation and developing recommendations to rebuild the line at 115kV.

Describe specific scope exclusions, assumptions and constraints:
This rebuild project is early in its planning stage and the need and/or scope of the following project components have not yet been well quantified and/or defined: access improvements including any significant earthwork; easement deficiencies; encroachments; FAA lighting; constraints related to protection of sensitive environmental resources. Discussions are still staking place regarding the potential to build the line to 115kV which would affect the required scope and permitting requirements through NYS DPS.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
The repairing of defective structures (over 65% of existing line) was considered but would not be able to meaningfully extend the life of the structures given their age and current condition. Spot replacement of each structure individually was also considered but creates other long-term operational constraints for the line moving forward as opposed to a more comprehensive rebuild.

Why was the proposed project scope chosen over other alternatives?
Repairing defective structures (over 65% of existing line) will not prove to be cost effective over time and will make design and construction difficult when trying to meet current NEC and CHG&E standards. Repairs would also limit the ability to enhance/improve the structure locations to create better access or to avoid sensitive environmental resources.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Compliance; Infrastructure; Reliability; Resilience; Risk Reduction

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? Yes

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Despite conducting numerous maintenance projects on the line, inspection findings indicate that approximately 65% of the wood pole line section is still in need of replacement or repair as a results of aging infrastructure and poor overall condition. In addition to the required structure work, Central Hudson has also experienced several in-service failures of the static wire which has resulted in outages. A Planning Memo is being drafted.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

Given the age of existing structures and the fact that they have generally reached the end of their useful life, the rebuild will result in operational cost savings and cost avoidance (new structures will require less planned and emergency repair work for years/decades to come).

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Article VII - Electric; Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: Yes
Is complete Sustainability status achieved by this project?* **Yes**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
The majority of the structures and conductors on the Q Line have reached the end of their useful life. The existing infrastructure is in need of replacement to mitigate the increased risk of failure due to advanced age.

What are the risks and consequences of not completing this project?
Due to the age and condition of existing structures and conductor, the most sugnificant risk of not completing the project are increased outages due to component failures. The consequences include negative impacts to both SAIFI and CAIDI metrics.

Is this Project in Central Hudson's current approved rate case? Yes
This project is approved in the current rate case
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Replacement of aged assets will result in cost avoidance of emergency repair work associated with unplanned failures and resulting outages.
Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Project will reduce the risk of unplanned outages that may affect the reliability of the electric system.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Installation of new assets designed to modern standards will enhance the safety of the line.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $69,088,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	5,670,000	73,200	60,000	60,000	840,000	1,400,000	1,400,000	1,836,800
	Stock Materials	0							
	A/P Non-Stock Material	14,175,000	183,000	150,000	150,000	2,100,000	3,500,000	3,500,000	4,592,000
	A/P Contractors & Other	40,012,000	475,800	403,000	415,000	5,986,000	10,260,000	10,533,000	11,939,200
	Overheads	0							
	AFUDC*	3,427,000		34,000	46,000	570,000	1,233,000	1,544,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**63,284,000**	**732,000**	**647,000**	**671,000**	**9,496,000**	**16,393,000**	**16,977,000**	**18,368,000**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	544,000				50,000	180,000	180,000	134,000
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	4,896,000				450,000	1,620,000	1,620,000	1,206,000
	Inflation	364,000				31,000	149,000	184,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**5,804,000**	**0**	**0**	**0**	**531,000**	**1,949,000**	**1,984,000**	**1,340,000**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 46,454,100 **Maximum ($):** 86,271,900

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Data + Job Specific Adjustments

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
Cost Estimate breakdown is based on the total conceptual project cost provided and detailed in the provided estimate. The cost breakdown provided above is displayed based on an averaged historical percentage split of project Materials Costs, Accounts Payable / AA and Internal Labor of 25%, 65% and 10% respectively. This historical split has also been applied to the prior year actuals / projections column as well. Removals are split between Accounts Payable / AA and Internal Labor at a rate of 90% and 10% respectively. Installation "AFUDC" Row captures AFUDC and Inflation and the Removal "Overheads" Row captures Inflation.

People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY

Project Cost Estimate

Note: Except where data entries are permitted, this spreadsheet is locked in order to prevent users from accidentally deleting important formulas. If user needs to add/delete rows, or make other edits, the passwork "Estimate" may be used to unlock the spreadsheet. Caution should be used in order to keep the integrity of the spreadsheet.

Project Name: X Line Tower Section (Q/X) 115kV Rebuild
Date: 6/21/2023
WO #: TBD
Prepared By: Sam Pozorski
Revision(s): 0
Cost Estimate Level: Conceptual Estimate
+/-30% Accuracy… There is a general scope but few details available. Little or no design work completed yet.

Part 1: Additions

* All unit and total cost figures should be "raw costs", without any overhead markups. Markups are generated at the end of the estimate.

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	Monthly Payroll* MH	Monthly Payroll* Cost/MH	Monthly Payroll* Cost	Weekly Payroll* Production MH/Unit	Weekly Payroll* MH	Weekly Payroll* Cost/MH	Weekly Payroll* Cost	Stock Materials* Cost/Unit	Stock Materials* Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Non-Stock Materials* (A/P Taxable) Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Contractors & Fees* (A/P Tax-Exempt) Cost	Notes
A	PLANNING & ENGINEERING																		
A.1	Engineering Design	2.86			4,357.2	12,449	1.00	12,449		0		0		0		0		0	
A.2	Engineering Supervision; Project Sponsor (H.	2.86				0		0		0		0		0		0		0	
	Drafting	2.86				0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
B	PROJECT MANAGEMENT, ENVIRONMENTAL & SUPPORT SERVICES																		
B.1	Project Management	2.86			671.1	1,917	1.00	1,917		0		0		0		0		0	
B.2	NYS DEC	2.86				0		0		0		0		0		0		0	
B.3	Environmental Services	2.86				0		0		0		0		0		0		0	
B.4						0		0		0		0		0		0		0	
B.5						0		0		0		0		0		0		0	
C	GENERAL CONDITIONS																		
C.1	Misc (Expense statements, etc.)	2.86				0		0		0		0		0		0		0	
C.2	Environmental Cons (EDR)	2.86				0		0		0		0		0		0		0	
C.3	Legal (Bond Schoeneck & King)	2.86				0		0		0		0		0		0		0	
C.4	VHB Eng & Surveying	2.86				0		0		0		0		0		0		0	
C.5	Colliers Eng & Design	2.86				0		0		0		0		0		0	28,861.18	82,461	
C.6	Ethan Allen Personnel Group	2.86				0		0		0		0		0		0	876.64	2,505	
C.7	Valley Courier & Delivery Services	2.86				0		0		0		0		0		0		0	
C.8	JVs/AP Estimates	2.86				0		0		0		0		0		0	62,908.95	179,740	
C.9	Independent helicopters	2.86				0		0		0		0		0		0	5,147.50	14,707	
C.10						0		0		0		0		0		0		0	
D	MAJOR EQUIPMENT & MATERIALS																		
D.1	Standard Stock	2.86				0		0		0		0		0	43,188.57	123,396		0	
D.2	Poles (Sabre)	2.86				0		0		0		0		0	213,404.76	609,728		0	
D.3	Misc Nonstock (Irby, Connector Products etc.)	2.86				0		0		0		0		0	1,830.01	5,229		0	
D.4						0		0		0		0		0		0		0	
D.5						0		0		0		0		0		0		0	

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Weekly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Stock Materials* Cost/Unit	Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Cost	Notes
E	CONSTRUCTION																		
E.1	Line Construcion (Hawkeye)	2.86				0		0		0		0		0		0	1,025,346.97	2,929,563	
E.2	Out on a Limb	2.86				0		0		0		0		0		0	11,178.20	31,938	
E.3	NY Crushing & Recycling	2.86				0		0		0		0		0		0	820.68	2,345	
E.4	Transmission Foreman	2.86				0		0	45,846.1	130,989	1.00	130,989		0		0		0	
E.5	T&D General Supervision	2.86			12,120.6	34,630	1.00	34,630		0		0		0		0		0	
E.6	CMR	2.86				0		0		0		0		0		0		0	
E.7	Area 225	2.86				0		0		0		0		0		0		0	
E.8	Area 330	2.86				0		0	1,212.6	3,465	1.00	3,465		0		0		0	
E.9	Area 460	2.86				0		0		0		0		0		0		0	
E.10	Area 522	2.86				0		0		0		0		0		0		0	
E.11	Duncan Properties	2.86				0		0		0		0		0		0	1,600.00	4,571	
E.12	Misc (Adirondack Env Services)	2.86				0		0		0		0		0		0		0	
E.13						0		0		0		0		0		0		0	
E.14						0		0		0		0		0		0		0	
				0				48,997				134,453		0		738,352		3,247,829	
						48,997				134,453									
					Manhours Monthly Payroll				Manhours Weekly Payroll										

Part 2: Removals

* All unit and total cost figures should be "raw costs", without any overhead markups. All markups are generated at the end of the estimate.

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Weekly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Stock Materials* Cost/Unit	Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Cost	Notes
	Engineering	2.86				0		0		0		0		0		0		0	
	Hawkeye	2.86				0		0		0		0		0		0	182,104.42	520,298	
	Recyle Depot	2.86				0		0		0		0		0	9,835.00	28,100		0	
	Out on a Limb	2.86				0		0		0		0		0		0	2,794.55	7,984	
	NY Crushing & Recycling	2.86				0		0		0		0		0		0	205.17	586	
	Duncan Properties	2.86				0		0		0		0		0		0	400.00	1,143	
	JVs/AP Estimates	2.86				0		0		0		0		0		0	17,084.05	48,812	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
				0				0				0		0		28,100		578,823	
						0				0									
					Manhours Monthly Payroll				Manhours Weekly Payroll										

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Weekly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Stock Materials* Cost/Unit	Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Cost	Notes

Part 3: Cost Estimate Summary

ADDITIONS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0		
Overhead Costs Incurred To-Date:			*This figure must be manually entered if applicable*
AFUDC Costs Incurred To-Date:			*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	$0		
Estimated Future Raw Costs:	$4,169,631		
Estimated Future Overheads:	$437,037		
Estimated Future AFUDC:	$211,068		
Subtotal Future Costs:	$4,817,736		
Contingency Applied:	$481,774	10.0%	*Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL ADDITIONS:	**$5,299,510**		

REMOVALS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0		
Overhead Costs Incurred To-Date:	$0		*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	**$0**		
Estimated Future Raw Costs:	$606,923		
Estimated Future Overheads:	$30,237		
Subtotal Future Costs:	**$637,160**		
Contingency Applied:	$63,716	10.0%	*Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL REMOVALS:	**$700,876**		

GRAND TOTAL ADDITIONS + REMOVALS:	**$6,000,386**

Assumptions, Notes, Clarifications, etc.:

Directly factored I Line Rail Trail Section Rebuild by number of structures, based on actual WO#8946AR-J charges as of 6/21/23.

People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY

Project Cost Estimate

Note: Except where data entries are permitted, this spreadsheet is locked in order to prevent users from accidentally deleting important formulas. If user needs to add/delete rows, or make other edits, the passwork "Estimate" may be used to unlock the spreadsheet. Caution should be used in order to keep the integrity of the spreadsheet.

Project Name: Q Line Tower Section (Q/X) 115kV Rebuild
Date: 6/21/2023
WO #: TBD
Prepared By: Sam Pozorski
Revision(s): 0
Cost Estimate Level: Conceptual Estimate
+/-30% Accuracy… There is a general scope but few details available. Little or no design work completed yet.

Part 1: Additions

* All unit and total cost figures should be "raw costs", without any overhead markups. Markups are generated at the end of the estimate.

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll*				Weekly Payroll*				Stock Materials*		Non-Stock Materials* (A/P Taxable)		Contractors & Fees* (A/P Tax-Exempt)		Notes
					Production MH/Unit	MH	Cost/MH	Cost	Production MH/Unit	MH	Cost/MH	Cost	Cost/Unit	Cost	Cost/Unit	Cost	Cost/Unit	Cost	
A	PLANNING & ENGINEERING																		
A.1	Engineering Design	2.86			40,547.5	115,850	1.00	115,850		0		0		0		0		0	
A.2	Engineering Supervision; Project Sponsor (H.	2.86			87.6	250	1.00	250		0		0		0		0		0	
A.3	Drafting	2.86			423.0	1,209	1.00	1,209		0		0		0		0		0	
A.4						0		0		0		0		0		0		0	
A.5						0		0		0		0		0		0		0	
A.6						0		0		0		0		0		0		0	
B	PROJECT MANAGEMENT, ENVIRONMENTAL & SUPPORT SERVICES																		
B.1	Project Management	2.86			8,704.2	24,869	1.00	24,869		0		0		0		0		0	
B.2	NYS DEC	2.86				0		0		0		0		0	110.00	314		0	
B.3	Environmental Services	2.86			22,070.4	63,058	1.00	63,058		0		0		0		0		0	
B.4						0		0		0		0		0		0		0	
B.5						0		0		0		0		0		0		0	
C	GENERAL CONDITIONS																		
C.1	Misc (Expense statements, etc.)	2.86				0		0		0		0		0		0	266.07	760	
C.2	Environmental Cons (EDR)	2.86				0		0		0		0		0		0	94,041.88	268,691	
C.3	Legal (Bond Schoeneck & King)	2.86				0		0		0		0		0		0	65.43	187	
C.4	VHB Eng & Surveying	2.86				0		0		0		0		0		0	243.53	696	
C.5	Colliers Eng & Design	2.86				0		0		0		0		0		0	28,861.20	82,461	
C.6	Ethan Allen Personnel Group	2.86				0		0		0		0		0		0	894.36	2,555	
C.7	Valley Courier & Delivery Services	2.86				0		0		0		0		0		0	136.89	391	
C.8	JVs/AP Estimates	2.86				0		0		0		0		0		0	502,823.00	1,436,637	
C.9						0		0		0		0		0		0		0	
D	MAJOR EQUIPMENT & MATERIALS																		
D.1	Standard Stock	2.86				0		0		0		0	91,796.24	262,275		0		0	
D.2	Poles (Sabre)	2.86				0		0		0		0		0	329,370.24	941,058		0	
D.3	Custom Arms/Braces - Dutchess Metal	2.86				0		0		0		0		0	2,255.00	6,443		0	
D.4	Misc Nonstock (Irby, Connector Products etc.)	2.86				0		0		0		0		0	1,996.13	5,703		0	
D.5						0		0		0		0		0		0		0	
D.6						0		0		0		0		0		0		0	

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Weekly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Stock Materials* Cost/Unit	Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Cost	Notes
E	CONSTRUCTION																		
E.1	Line Construcion (Hawkeye)	2.86				0		0		0		0		0		0	1,209,241.83	3,454,977	
E.2	Out on a Limb	2.86				0		0		0		0		0		0	11,178.20	31,938	
E.3	NY Crushing & Recycling	2.86				0		0		0		0		0		0	820.69	2,345	
E.4	Transmission Foreman	2.86				0		0	93,915.2	268,329	1.00	268,329		0		0		0	
E.5	T&D General Supervision	2.86				0		0	17,665.7	50,474	1.00	50,474		0		0		0	
E.6	CMR	2.86				0		0	13,857.6	39,593	1.00	39,593		0		0		0	Areas 221, 223, 224
E.7	Area 225	2.86				0		0	210.5	601	1.00	601		0		0		0	
E.8	Area 330	2.86				0		0	569.2	1,626	1.00	1,626		0		0		0	
E.9	Area 460	2.86				0		0	107.5	307	1.00	307		0		0		0	
E.10	Area 522	2.86				0		0	91.4	261	1.00	261		0		0		0	
E.11	Duncan Properties	2.86				0		0		0		0		0		0	1,600.00	4,571	
E.12	Misc (Adirondack Env Services)	2.86				0		0		0		0		0		0	40.00	114	
E.13						0		0		0		0		0		0		0	
				0				205,236				361,191		262,275		953,518		5,286,323	
						205,236				361,191									
						Manhours Monthly Payroll				Manhours Weekly Payroll									

Part 2: Removals

* All unit and total cost figures should be "raw costs", without any overhead markups. All markups are generated at the end of the estimate.

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Weekly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Stock Materials* Cost/Unit	Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Cost	Notes
	Engineering	2.86			2,252.4	6,436	1.00	6,436		0		0		0		0		0	
	Hawkeye	2.86				0		0		0		0		0		0	214,556.44	613,018	
	Recyle Depot	2.86				0		0		0		0		0	9,835.00	28,100		0	
	Out on a Limb	2.86				0		0		0		0		0		0	2,794.55	7,984	
	NY Crushing & Recycling	2.86				0		0		0		0		0		0	205.17	586	
	Duncan Properties	2.86				0		0		0		0		0		0	400.00	1,143	
	JVs/AP Estimates	2.86				0		0		0		0		0		0	34,554.71	98,728	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
				0				6,436				0		0		28,100		721,460	
						6,436				0									
						Manhours Monthly Payroll				Manhours Weekly Payroll									

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Weekly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Stock Materials* Cost/Unit	Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Cost	Notes

Part 3: Cost Estimate Summary

ADDITIONS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0		
Overhead Costs Incurred To-Date:			*This figure must be manually entered if applicable*
AFUDC Costs Incurred To-Date:			*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	$0		
Estimated Future Raw Costs:	$7,068,543		
Estimated Future Overheads:	$947,676		
Estimated Future AFUDC:	$368,140		
Subtotal Future Costs:	$8,384,359		
Contingency Applied:	$838,436	10.0%	*Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL ADDITIONS:	**$9,222,795**		

REMOVALS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0		
Overhead Costs Incurred To-Date:	$0		*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	**$0**		
Estimated Future Raw Costs:	$755,995		
Estimated Future Overheads:	$27,529		
Subtotal Future Costs:	**$783,524**		
Contingency Applied:	$78,352	10.0%	*Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL REMOVALS:	**$861,877**		

GRAND TOTAL ADDITIONS + REMOVALS:	**$10,084,672**

Assumptions, Notes, Clarifications, etc.:

Directly factored SB Line Rail Trail Section Rebuild by number of structures, based on actual WO#8799AR-J charges as of 6/21/23.

People. Power. Possibilities. Central Hudson A FORTIS COMPANY

Project Cost Estimate

Note: Except where data entries are permitted, this spreadsheet is locked in order to prevent users from accidentally deleting important formulas. If user needs to add/delete rows, or make other edits, the passwork "Estimate" may be used to unlock the spreadsheet. Caution should be used in order to keep the integrity of the spreadsheet.

Project Name: Q Line Rebuild - Article VII 115kV | Date: 11/7/2022 | WO #: 2002A/R-H | Rebuild Ler 16.681

Prepared By: Sam Pozorski | Revision(s): 1

Cost Estimate Level: Conceptual Estimate | +/-30% Accuracy… There is a general scope but few details available. Little or no design work completed yet.

Part 1: Additions

* All unit and total cost figures should be "raw costs", without any overhead markups. Markups are generated at the end of the estimate.

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Weekly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Stock Materials* Cost/Unit	Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Cost	Notes
A	PLANNING & ENGINEERING																		
A.1	Engineering Design -121	17	miles		395.9	6,604	60.00	396,257		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +25%
A.2	Engineering Supervision; Project Sponsor -310	17	miles		7.4	124	60.00	7,444		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM)
A.3	Drafting - 132	17	miles			0		0	45.2	753	60.00	45,189		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM)
A.4	ESP - 125	17	miles		10.4	173	60.00	10,409		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) x2 for multiple sub
A.5	Planning - 126	17	miles		33.4	557	60.00	33,429		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) x2 for multiple sub
A.6	Misc Internal Support	17	miles		5.4	90	60.00	5,380		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +25%
A.7	LIDAR	17	miles			0		0		0		0		0		0	2,400.00	40,034	pre/post project LIDAR flights
A.8	Engineering and Related Contractors	17	miles			0		0		0		0		0		0	25,565.00	426,450	Avg of G/EF/HF/CL/TV/KM/H&SB/A&C +25%
A.9						0		0		0		0		0		0		0	
B	PROJECT MANAGEMENT, ENVIRONMENTAL & SUPPORT SERVICES																		
B.1	Environmental Consultant	17	miles			0		0		0		0		0		0	110,239.00	1,838,897	H&SB as of 11/4/22 +$30k/mile for during construction
B.2	Legal Consultant	17	miles			0		0		0		0		0		0	30,000.00	500,430	Typical cost per mile for Article VII. Assumed lower legal c
B.3	Project Manager - 110	17	miles		321.7	5,366	60.00	321,943		0		0		0		0		0	Avg of A&C, H&SB $/mile to hrs/mile +25% for continued
B.4	Environmental - 726	17	miles		158.7	2,648	60.00	158,866		0		0		0		0		0	Avg of A&C, H&SB $/mile to hrs/mile +25% for continued
B.5	Real Property Services - 124	17	miles		80.7	1,346	60.00	80,761		0		0		0		0		0	Avg of A&C, H&SB $/mile to hrs/mile +15% for continued
B.6	System Ops - 330	17	miles		15.5	259	60.00	15,513	18.6	310	60.00	18,599		0		0		0	Avg of G, EF, HF, CL, TV. +25% for multiple substations
B.7						0		0		0		0		0		0		0	
C	GENERAL CONDITIONS																		
C.1	Surveying/Staking	17	miles			0		0		0		0		0		0	40,884.53	681,995	Avg of H&SB+50% and A&C, +10%
C.2	Easements/Access Right/Laydown Yards	17	miles			0		0		0		0		0		0	58,276.05	972,103	H&SB +5% for minor continued charges
C.3						0		0		0		0		0		0		0	
C.4	Filing Fees	17	miles			0		0		0		0		0		0	680.90	11,358	Avg of H&SB, A&C +10%
C.5	Misc AP (ecluding material)	17	miles			0		0		0		0		0		0	10,748.40	179,294	Avg of G, EF, HF, CL, TV, A&C. +20% for Art VII
C.6						0		0		0		0		0		0		0	
D	MAJOR EQUIPMENT & MATERIALS																		
D.1	Conductor 795 Drake ACSR (30-50-180)	277,438	FT			0		0		0		0	3.81	1,057,121		0		0	Adjusted CME Quote 11/21/22. $/FT for 1033.5 Ortloan *
D.2	OPGW (30-50-205)	95,122	FT			0		0		0		0	3.34	317,944		0		0	MMS price as of 12/5/22
D.3	Poles	1	235 Poles			0		0		0		0		0	3,657,977.00	3,657,977		0	SB PO#91505: 85' H4 Tangent Davit Item #5, 85' H4 for 2
D.4	Major Engineered Structures	4	Str			0		0		0		0		0	85,000.00	340,000		0	
D.5	Moderate Engineered Structures	14	Str			0		0		0		0		0	42,500.00	595,000		0	
D.6	115kV Tangent Davit Structure	169	Str			0		0		0		0	1,311.56	221,654		0		0	SS Cost as of 11/4/22
D.7	115kV Swing Angle Structure	30	Str			0		0		0		0	3,262.87	97,886		0		0	SS Cost as of 11/4/22
D.8	115kV Deadend Structure	13	Str			0		0		0		0	9,155.63	119,023		0		0	SS Cost as of 11/4/22
D.9	Crossarms and X-Braces for 2-poles	41	Str			0		0		0		0	1,238.00	50,758	1,850.00	75,850		0	34-79-006,008,009 MMS $ as of 117/22
D.10	Misc Material	212	str			0		0		0		0	500.00	106,000	250.00	53,000		0	
D.10						0		0		0		0		0		0		0	
E	CONSTRUCTION																		
E.1	Line Construction	17	miles			0		0		0		0		0		0	432,458.40	7,213,839	Avg of recent Part 102s (EF/HF/CL/TV). +20% for Art VII
E.2	Major Drilled Pier Foundations	4	Str			0		0		0		0		0		0	375,000.00	1,500,000	
E.3	Moderate Drilled Pier Foundations	14	Str														50,000.00	700,000	
E.4	Drilling / Site Work / Matting / Access / Trimming / Restoration / etc.	17	miles			0		0		0		0		0		0	585,759.20	9,771,049	Avg of Part 102s (G/EF/HF/CL/TV). Combined all associa
E.5	Equipment Moves/Rentals	17	miles			0		0		0		0		0		0	7,360.80	122,786	Avg of Part 102s (G/EF/HF/CL/TV). +20%
E.6	T&D Foreman - 215	17	miles			0		0	661.4	11,032	60.00	661,944		0		0		0	Avg of recent Part 102s (CL/TV) with foreman more soley
E.7	T&D Engineer, Planner, Director - 215	17	miles		177.9	2,968	60.00	178,078		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +50% for Article VII p
E.8	OS Foreman - 221	17	miles			0		0	6.8	113	60.00	6,771		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.9	Storekeepers - 223	17	miles			0		0	9.3	156	60.00	9,341		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). x5 for Article VII
E.10	Riggers/Mechanics - 224	17	miles			0		0	33.9	565	60.00	33,883		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +25%
E.11	Electricians - 225	17	miles			0		0	45.6	761	60.00	45,643		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +25% for multiple sul
E.12	Substation Technicians - 226	17	miles			0		0	90.5	1,510	60.00	90,571		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.13	District Line Crews	17	miles			0		0	19.8	330	60.00	19,799		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.14	Misc WP	17	miles			0		0	1.6	26	60.00	1,560		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
				0		20,135		1,208,080		15,555		933,300		1,970,386		4,721,827		23,958,234	

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Weekly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Stock Materials* Cost/Unit	Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Cost	Notes
					Manhours Monthly Payroll				Manhours Weekly Payroll										

Part 2: Removals

* All unit and total cost figures should be "raw costs", without any overhead markups. All markups are generated at the end of the estimate.

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Weekly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Stock Materials* Cost/Unit	Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Cost	Notes
	Line Construction	17	miles			0		0		0		0		0		0	107,701.20	1,796,564	Avg of recent Part 102s (EF/HF/CL/TV). +20% for Art VII
	Drilling / Site Work / Matting / Access / Trimming / Restoration / etc.	17	miles			0		0		0		0		0		0	86,840.00	1,448,578	Avg of Part 102s (G/EF/HF/CL/TV). Combined all associa
	Equipment Moves/Rentals	17	miles			0		0		0		0		0		0	1,276.00	21,285	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Misc AP (Including Dumpsters)	17	miles			0		0		0		0		0		0	4,041.40	67,415	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Transmission Foreman - 215	17	miles			0		0	50.0	834	60.00	50,068		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). Allocation to R is inco
	Mechanics - 224	17	miles			0		0	0.8	14	60.00	817		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Electricians - 225	17	miles			0		0	4.0	67	60.00	4,045		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +25% for multiple sul
	District Line Crews	17	miles			0		0	0.9	15	60.00	881		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Misc WP	17	miles			0		0	0.8	14	60.00	826		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Project Management - 110	17	miles		29.6	493	60.00	29,575		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM). +50% (No Art VII
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
				0		493		29,575		944		56,637		0		0		3,333,841	
					Manhours Monthly Payroll				Manhours Weekly Payroll										

Part 3: Cost Estimate Summary

ADDITIONS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0	
Overhead Costs Incurred To-Date:		*This figure must be manually entered if applicable*
AFUDC Costs Incurred To-Date:		*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	$0	
Estimated Future Raw Costs:	$32,791,827	
Estimated Future Overheads:	$3,373,127	
Estimated Future AFUDC:	$2,374,628	
Subtotal Future Costs:	$38,539,582	
Contingency Applied:	$3,853,958	10.0% *Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL ADDITIONS:	**$42,393,540**	

REMOVALS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0	
Overhead Costs Incurred To-Date:	$0	*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	**$0**	
Estimated Future Raw Costs:	$3,420,054	
Estimated Future Overheads:	$104,247	
Subtotal Future Costs:	**$3,524,301**	
Contingency Applied:	$352,430	10.0% *Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL REMOVALS:	**$3,876,731**	

GRAND TOTAL ADDITIONS + REMOVALS:	**$46,270,272**

Assumptions, Notes, Clarifications, etc.:

Scope of work includes a rebuild of the existing pole section of the line from the East Park Tap to the Rhinebeck Substation (16.7 miles) via the East Park and Staatsburg Substations. Line configuration to be monopole davit tangent structures with 2-pole swing angle and deadend structures. Poles to be predominately direct-embedded weathering steel, with 795 ACSR conductors and AC-34/56/669 OPGW static wire. Line to be rebuilt on existing ROW, with access and easement deficiencies consistent with recent example projects. Line to be rebuilt at 115kV and permitted as an Article VII project. Assumes a continuous outage and typical construction practices and sequencing.

Quantities of "major" and "moderate" sized custom engineered structures w/ foundations as assumed based on conceptual line review. Final number will be refined as design is developed and permitting progresses.

Structures 69408 to 69412 are built on what look to be manmade pennisulas into a dammed up portion of the Fall Kill near Creek Rd in Poughkeepsie, with very limited on and off ROW access. This section may require significant access improvements, easement acquisitions, and/or a line re-route. This has been excluded from specific estimate line items until options are developed. The allowance for engineered structures mentioned above should account for the likely need for these style structures in this location if an alternative route is not acquired.

1 new structure to be installed between 69455-69456 and East Park.

Budget Submittal Form

Submission Date: April 5, 2024

Business Sponsor: Harold Turner
Prepared By: Kyle Bragg

First Year of 5-Year Budget Period: 2025
Budget Category: _12
Budget Group: Electric
Current Life-Cycle Phase: 4 Construction

A. GENERAL

Project/Program Name: ROW Repair Project (Deficiencies)
Work Order #: -
Funding Project Description: ROW Repair Project (Deficiencies)
Funding Project Number: 1-1232-00-18
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
This program is comprised of various work orders identified and opened annually based on the upcoming capital project schedule.

Describe the project objective and scope of work:
Central Hudson had committed voluntarily to obtain additional right of way as follow up to the Northeast Blackout of 2003. The report to the PSC stated that we would identify easements that were deficient in width from the standard of 100 foot on 69kV and 115kV lines and 150 foot on 345kV lines. Central Hudson is identifying easement deficiencies along its 69kV, 115kV and 345kV transmission line corridors. The adjacent property owners are being identified and, if not already, will be contacted in an attempt to acquire the additional ROW as needed to mitigate the deficiencies. A vendor will

Describe specific scope exclusions, assumptions and constraints:
Individual line deficiency scopes will vary depending on the number of R.O.W. deficiencies identified as well as the rate of acquisition.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
In some cases, line relocation can serve as an alternative to acquiring additional Easement to mitigate deficiencies. This can be an effective option for small stretches of line where property owner negotiation does not prove successful or on a complete project rebuilds where there is more design flexibility.

Why was the proposed project scope chosen over other alternatives?
In most cases where the line in question does not require rebuild, and the deficiency is isolated to a single or small location, the most cost effective option is to pursue the additional easement rights. Depending on the extent of the deficiency, acquiring a complete corridor in either case is preferred.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Compliance
Is there an Innovation Component? No

Needs Assessment: Reliability; Risk Reduction

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? No

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

The projected is needed to help reduce risk by securing adequate rights along our existing electric transmission corridors to ensure safe operation and maintenance.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The acquisition of additional access and easement rights in our transmission corridors will increase our ability to access our structures in emergencies and for maintenance projects thereby reducing costs. It could also reduce the risk of costly claims or payouts to customers for access or restoration.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: Yes
Governance Component: Yes
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
The lines being surveyed and analyzed for deficiency acquisition opportunities are one that have upcoming capital projects that will benefit from the additional rights. It is important to continue to pursue the additional rights in advance of project construction.

What are the risks and consequences of not completing this project?
If additional rights are not acquired, it could inhibit our ability to access and maintain our lines as well as affect reliability by not affording us the ability to completely trim our corridors to the greatest extent possible or respond to emergencies.

Is this Project in Central Hudson's current approved rate case? Yes
The program is currently approved as part of the rate case
Is this Project tied to a regulatory requirement? Yes
The Company has committed to acquiring the desired R.O.W. widths per voltage.
Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Securing sufficient land rights ensures timely access to our lines and avoided cost associated with delays, temporary agreements or improvements.
Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Project reduces risk of not being able to operate, access and maintain our lines effectively and efficiently.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Securing sufficient rights will help ensure more comprehensive control of our corridors and reduce encroachments.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $2,285,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan		*All future year cost estimates should include applicable adjustments for inflation.*					
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	200,000		40,000	40,000	40,000	40,000	40,000	
	Stock Materials	0							
	A/P Non-Stock Material	0							
	A/P Contractors & Other	1,925,000		369,000	377,000	385,000	393,000	401,000	
	Overheads	0							
	AFUDC*	160,000		23,000	31,000	27,000	35,000	44,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**2,285,000**	**0**	**432,000**	**448,000**	**452,000**	**468,000**	**485,000**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Cost estimate is based on a placeholder for the ROW Deficiency Program of $400K. Actual expenditures may vary depending on the length of the lines surveyed, number and extent of deficiencies found and response of landowners to offer requests.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
Estimates are split 90/10 Contractor AP and Internal Labor respectively. Installation "AFUDC" Row captures AFUDC and Inflation

Budget Submittal Form

Submission Date: April 5, 2024

Business Sponsor: Harold Turner
Prepared By: Kyle Bragg

First Year of 5-Year Budget Period: 2025
Budget Category: _12
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: **Removal of SD/SJ and WM Tap Lines**
Work Order #: -
Funding Project Description: Funding Project Not Yet Assigned
Funding Project Number: to be determined
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 6/1/2023 **In-Service:** 12/31/3025

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
N/A

Describe the project objective and scope of work:
These lines were constructed in the early 1900's as a tie between Central Hudson and neighboring New Jersey Power & Light and Orange & Rockland Utilities. These lines are currently used to reserve New Jersey load post-contingency and for maintenance conditions and provide no benefit to Central Hudson's transmission system. Given their age these lines are scheduled to be decommissioned and retired.

Describe specific scope exclusions, assumptions and constraints:
Conceptual Project assumptions do not assume special provisions for access, matting, environmental controls or permitting.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
Central Hudson is currently in the process of creating an RFP of Sale for the SD & SJ Lines. Once finalized, these line will then be either sold or retired. Central Hudson is also in discussion with Orange & Rockland Utilities regarding the timeline for retirement of the WM Line Tap pending completion of system improvements at the Blooming Grove Substation. Exact schedule will be determined as part of those discussions.

Why was the proposed project scope chosen over other alternatives?
Retirement or sale of the lines is based on current and/or future need and discussions with the neighboring interconnected utility that they serve. As these lines serve no benefit to Central Hudson Customers rebuilding them would be based mostly on the needs of the interconnected utility.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Reliability; Risk Reduction; Compliance

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

The project is needed to remove existing assets that are no longer in use and have reached the end of their useful life.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

Planned retirement of the aged assets will eliminate the potential for unplanned repairs due to failures which can be time consuming and costly.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Local municipalities (>1); Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Compelting the project in the requested timeframe will reduce the risk of an aged asset failing unexpectedly and potentially causing damage to private property and/or requiring a costly unplanned repair.

What are the risks and consequences of not completing this project?
The longer the old assets remain in place, the more elevated risk of failure

Is this Project in Central Hudson's current approved rate case? Yes
The project is approved in the current rate case
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Removal of the aged assets will reduce potential for emergent costs related to emeregency restoration
Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Removal of aged infrastructure will reduce the risk of an in-service failure and potential resulting damages
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Removal of the aged assets will enhance safety by eliminating risk of potential damage that could be caused by an in-service failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $2,822,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	Stock Materials	0							
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Overheads	0							
	AFUDC*	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	279,000	130,000	149,000					
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	2,511,000	1,170,000	1,341,000					
	Inflation	32,000		32,000					
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**2,822,000**	**1,300,000**	**1,522,000**	**0**	**0**	**0**	**0**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Specific project details relevant to the removal of the structures is still unknown such as environmental and access constraints and local permitting.

Basis for estimate: Historical Unit Pricing; Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
Estimate assumes a 90/10 split for AP and internal labor charges. Base estimate for the removal of the towers in 2023-2025 is based on the removal of 155 structures (88 on the SD/SJ and 67 on the WM Tap) at a per structure Pro-Forma removal cost of $18K which includes provisions for internal labor, permitting approvals, etc....

Budget Submittal Form

Submission Date: April 5, 2024

Business Sponsor: Harold Turner
Prepared By: Kyle Bragg

First Year of 5-Year Budget Period: 2025
Budget Category: _12
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: 115kV SK Line Rebuild
Work Order #: -
Funding Project Description: CAT 12 SK Line Rebuild - 115Kv
Funding Project Number: 10400
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 6/1/2022 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
There may be other supporting Cat#13 work orders related to connection work at both the Knapp's Corners and Spackenkill Substations associated with the rebuild of the transmission line.

Describe the project objective and scope of work:
Field inspection findings on the 2.4 mile 115kV "SK" Line (Knapp's Corners Substation - Spackenkill Road Substation) showed that over 75% of the existing structure plant would require replacement due to component defects with an additional 5% of structures exhibiting significant defects. Recent Right-of-Way deficiency surveys have also indicated that the line is currently offset within the existing 100ft-wide easement corridor creating a deficiency to one side. Given the level of replacement needed to repair the identified component defects, as well as the need to address the identified

Describe specific scope exclusions, assumptions and constraints:
Detailed design and permitting work has not been completed. Estimates to date do not account for specific conditions related to matting, access, permitting, outage constraints, etc…

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
Direct replacement of the existing structures showing actionable conditions was considered initially. However, the results of a ROW deficiency study showed a general lack of easement on one side of the line and a surplus on the other. In an attempt to solve both issues, rebuilding the line in the center of the existing corridor was chosen as the prefered option to mitigate both the infrastructure and ROW related deficiencies.

Why was the proposed project scope chosen over other alternatives?
The rebuild was chosen as it was unlikely without the use of condemnation to acquire the level of ROW required along the entire length of the line. When also considering the overall vintage of the line along with the ROW issues, the rebuild option proved to be a better option.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Compliance; Infrastructure; Reliability

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? Yes

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

This project is needed to mitigate the conditions found on the line in order to maintain reliability. Please reference EP Memo "EP#2020-001".

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

Replacement of the line will reduce the risk of an in-service failure and resulting unplanned emergency repair work at a premium cost.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

PSL Part 102 with municipal approval(s); Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

N/A

Why do we need to complete this project in the period requested?

Direct replacement of the existing structures showing actionable conditions was considered initially. However, the results of a ROW deficiency study showed a general lack of easement on one side of the line and a surplus on the other. In an attempt to solve both issues, rebuilding the line in the center of the existing corridor was chosen as the prefered option to mitigate both the infrastructure and ROW related deficiencies.

What are the risks and consequences of not completing this project?

The rebuild was chosen as it was unlikely without the use of condemnation to acquire the level of ROW required along the entire length of the line. When also considering the overall vintage of the line along with the ROW issues, the rebuild option proved to be the better option.

Is this Project in Central Hudson's current approved rate case? Yes

The project is currently approved in the current rate case.

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Project will result in cost avoidance of emergency replacement costs associated with unplanned outages

Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Project reduces the risk of unplanned outages that may affect the reliability of the electric system or result in damages.

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Replacement of aged assets with new facilities designed to updated standards will help enhance safety.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $7,139,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	546,600	500		10,000	20,000	20,000	496,100	
	Stock Materials	0							
	A/P Non-Stock Material	1,366,500	1,250		25,000	50,000	50,000	1,240,250	
	A/P Contractors & Other	4,092,900	3,250		69,000	142,000	146,000	3,732,650	
	Overheads	0							
	AFUDC*	587,000			8,000	14,000	18,000	547,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**6,593,000**	**5,000**	**0**	**112,000**	**226,000**	**234,000**	**6,016,000**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	49,500						49,500	
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	445,500						445,500	
	Inflation	51,000						51,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**546,000**	**0**	**0**	**0**	**0**	**0**	**546,000**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 4,215,400 **Maximum ($):** 7,828,600

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Permitting, material and construction costs may vary causing a potential variance in the pro-forma estimate. A more accurate estimate will be created upon completion of preliminary design work.

Basis for estimate: Historical Proforma Pricing; Historical Data + Job Specific Adjustments

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
The cost breakdown provided is estimated based on an averaged historical percentage split per project of Materials Costs, Accounts Payable / AA and Internal Labor of 25%, 65% and 10% respectively. Removals were split based on a 90%/10% split of Contractor (AP) and Monthly Labor respectively. Installation "AFUDC" Row captures AFUDC and Inflation and the Removal "Overheads" Row captures Inflation.

People. Power. Possibilities. Central Hudson A FORTIS COMPANY

Project Cost Estimate

Note: Except where data entries are permitted, this spreadsheet is locked in order to prevent users from accidentally deleting important formulas. If user needs to add/delete rows, or make other edits, the passwork "Estimate" may be used to unlock the spreadsheet. Caution should be used in order to keep the integrity of the spreadsheet.

Project Name: SK Line Rebuild - Part 102 115kV
Prepared By: John Dittmann
Cost Estimate Level: Preliminary Estimate
Date: 01/03/2023
Revision(s): 0
WO #: 1491-K

Rebuild Length
2.3 miles

+/-20% accuracy… design underway but not yet complete. Still lacking some significant details.

Part 1: Additions

* All unit and total cost figures should be "raw costs", without any overhead markups. Markups are generated at the end of the estimate.

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Weekly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Stock Materials* Cost/Unit	Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Cost	Notes
A	PLANNING & ENGINEERING																		
A.1	Engineering Design -121	2	miles		348.4	801	71.00	56,895		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.2	Engineering Supervision; Project Sponsor -310	2	miles		6.5	15	71.00	1,069		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.3	Drafting - 132	2	miles			0		0	49.7	114	71.00	8,110		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.4	ESP - 125	2	miles		7.8	18	71.00	1,274		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) x1.5 for 115kV upgrade
A.5	Planning - 126	2	miles		25.1	58	71.00	4,091		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) x1.5 for 115kV upgrade
A.6	Misc Internal Support	2	miles		4.7	11	71.00	772		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.7	LIDAR	2	miles			0		0		0		0		0		0	2,400.00	5,520	pre/post project LIDAR flights
A.8	Engineering and Related Contractors	2	miles			0		0		0		0		0		0	22,512.60	51,779	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
A.9						0		0		0		0		0		0		0	
B	PROJECT MANAGEMENT, ENVIRONMENTAL & SUPPORT SERVICES																		
B.1	Environmental Consultant	2	miles			0		0		0		0		0		0	40,409.60	92,942	Avg of G, CL, TV, KM. EF, HF ignored due to short length and high cost. H&SB and A&C ignored due to Article VII. +10%
B.2	Legal Consultant	2	miles			0		0		0		0		0		0	57,532.20	132,324	Avg of G, TV, KM. +10% CL, EF, HF ignored due to lack of signficant legal costs. Varies signficantly with PMO approach and municipalities.
B.3	Project Manager - 110	2	miles		202.3	465	71.00	33,031		0		0		0		0		0	Avg of G, EF, HF, CL, TV, KM $/mile to hrs/mile +10%
B.4	Environmental - 726	2	miles		55.5	128	71.00	9,059		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
B.5	Real Property Services - 124	2	miles		48.2	111	71.00	7,877		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM) +10%
B.6	System Ops - 330	2	miles		13.6	31	71.00	2,227	18.6	43	71.00	3,035		0		0		0	Avg of G, EF, HF, CL, TV. +10%
B.7						0		0		0		0		0		0		0	
C	GENERAL CONDITIONS																		
C.1	Surveying/Staking	2	miles			0		0		0		0		0		0	22,647.90	52,090	Avg of G, EF, HF, CL, TV. +10%
C.2	Easements/Access Right/Laydown Yards	2	miles			0		0		0		0		0		0	21,116.70	48,568	Avg of G, EF, HF, CL, TV, KM, H&SB, A&C. +10%
C.3	Filing Fees	2	miles			0		0		0		0		0		0	6,279.90	14,444	Avg of G, EF, HF, CL, TV, KM. +10%
C.4	Misc AP (ecluding material)	2	miles			0		0		0		0		0		0	9,227.90	21,224	Avg of G, EF, HF, CL, TV. +10%
C.5																			
C.6						0		0		0		0		0		0		0	
D	MAJOR EQUIPMENT & MATERIALS																		
D.1	Conductor 1033.5 Ortolan ACSR (30-50-164)	38,254	FT			0		0		0		0	4.55	174,054		0		0	CME Quote 11/21/22. $/FT for 1033.5 Ortloan.
D.2	OPGW (30-50-205)	13,116	FT			0		0		0		0	3.34	43,839		0		0	MMS price as of 12/5/22
D.3	Direct Embed Poles	1	34 Poles			0		0		0		0		0	611,196.40	611,196		0	SB PO#91505: 85' H4 Tangent Davit Item #5, 85' H4 for 2-Pole Item #19 +10% for additional 5' (no example)
D.4	Moderate Engineered Structures	1	Str			0		0		0		0		0	42,500.00	42,500		0	
D.5	115kV Tangent Braced Post Structure	30	Str			0		0		0		0	2,000.00	60,000		0		0	Estimated, HF-$1,600
D.6	115kV Swing Angle Structure	2	Str			0		0		0		0	3,262.87	6,526		0		0	SS Cost as of 11/4/22
D.7	115kV Deadend Structure	3	Str			0		0		0		0	9,155.63	27,467		0		0	SS Cost as of 11/4/22
D.8	Crossarms and X-Braces for 2-poles	2	Str			0		0		0		0	1,238.00	2,476	1,850.00	3,700		0	34-79-006,008,009 MMS $ as of 117/22
D.9	Misc Material	36	str			0		0		0		0	500.00	18,000	250.00	9,000		0	
E	CONSTRUCTION																		
E.1	Line Construction	2	miles			0		0		0		0		0		0	414,439.30	953,210	Avg of recent Part 102s (EF/HF/CL/TV). +15% for 115kV Upgrade
E.2	Moderate Drilled Pier Foundations	1	Str			0		0		0		0		0		0	187,500.00	187,500	
E.3	Drilling / Site Work / Matting / Access / Trimming / Restoration / etc.	2	miles			0		0		0		0		0		0	518,171.60	1,191,795	Avg of Part 102s (G/EF/HF/CL/TV). Combined all associated costs because of overlap between contractors. +15% for 115kV Upgrade
E.4	Equipment Moves/Rentals	2	miles			0		0		0		0		0		0	6,747.40	15,519	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.5	T&D Foreman - 215	2	miles			0		0	485.0	1,116	71.00	79,202		0		0		0	Avg of recent Part 102s (CL/TV) with foreman more soley dedicated to project. +10%
E.6	T&D Engineer, Planner, Director - 215	2	miles		130.5	300	71.00	21,307		0	0.00	0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.7	OS Foreman - 221	2	miles			0		0	6.8	16	71.00	1,105		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.8	Storekeepers - 223	2	miles			0		0	2.1	5	71.00	335		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.9	Mechanics - 224	2	miles			0		0	29.8	69	71.00	4,865		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.10	Electricians - 225	2	miles			0		0	40.1	92	71.00	6,554		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.11	Substation Technicians - 226	2	miles			0		0	90.5	208	71.00	14,778		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.12	District Line Crews	2	miles			0		0	19.8	45	71.00	3,230		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
E.13	Misc WP	2	miles			0		0	1.6	4	71.00	254		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
				0		1,938		137,602		1,711		121,468		332,361		666,396		2,766,916	

Manhours Monthly Payroll

Manhours Weekly Payroll

Part 2: Removals

* All unit and total cost figures should be "raw costs", without any overhead markups. All markups are generated at the end of the estimate.

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Weekly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Stock Materials* Cost/Unit	Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Cost	Notes
	Line Construction	2	miles			0		0		0		0		0		0	98,726.10	227,070	Avg of Part 102s (EF/HF/CL/TV). +10%
	Drilling / Site Work / Matting / Access / Trimming / Restoration / etc.	2	miles			0		0		0		0		0		0	73,480.00	169,004	Avg of Part 102s (G/EF/HF/CL/TV). Combined all associated costs because of overlap between contractors. +10%
	Equipment Moves/Rentals	2	miles			0		0		0		0		0		0	1,276.00	2,935	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Misc AP (Including Dumpsters)	2	miles			0		0		0		0		0		0	4,041.40	9,295	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Transmission Foreman - 215	2	miles			0		0	36.7	84	71.00	5,991		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Mechanics - 224	2	miles			0		0	2.1	5	71.00	344		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Electricians - 225	2	miles			0		0	3.6	8	71.00	581		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	District Line Crews	2	miles			0		0	0.9	2	71.00	144		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Misc WP	2	miles			0		0	0.8	2	71.00	135		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV). +10%
	Project Management - 110	2	miles		21.7	50	71.00	3,539		0		0		0		0		0	Avg of Part 102s (G/EF/HF/CL/TV/KM). +10%
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
				0		50		3,539		101		7,194		0		0		408,304	

Manhours Monthly Payroll — Manhours Weekly Payroll

Part 3: Cost Estimate Summary

ADDITIONS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0	
Overhead Costs Incurred To-Date:		*This figure must be manually entered if applicable*
AFUDC Costs Incurred To-Date:		*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	$0	
Estimated Future Raw Costs:	$4,024,743	
Estimated Future Overheads:	$640,424	
Estimated Future AFUDC:	$303,456	
Subtotal Future Costs:	$4,968,623	
Contingency Applied:	$496,862	10.0% *Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL ADDITIONS:	**$5,465,486**	

REMOVALS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0	
Overhead Costs Incurred To-Date:	$0	*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	**$0**	
Estimated Future Raw Costs:	$419,037	
Estimated Future Overheads:	$31,213	
Subtotal Future Costs:	**$450,250**	
Contingency Applied:	$45,025	10.0% *Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL REMOVALS:	**$495,275**	

GRAND TOTAL ADDITIONS + REMOVALS:	**$5,960,760**

Assumptions, Notes, Clarifications, etc.:

People. Power. Possibilities. Central Hudson A FORTIS COMPANY

Project Cost Estimate

Note: Except where data entries are permitted, this spreadsheet is locked in order to prevent users from accidentally deleting important formulas. If user needs to add/delete rows, or make other edits, the password "Estimate" may be used to unlock the spreadsheet. Caution should be used in order to keep the integrity of the spreadsheet.

Project Name: SK Line Rebuild Conceptual Estimate 795 ACSR | Date: 11/13/2019 | WO #: Attachment #4

Prepared By: Bo DuBois | Revision(s): 00

Cost Estimate Level: Conceptual Estimate | +/-30% Accuracy… There is a general scope but few details available. Little or no design work completed yet.

Part 1: Additions

* All unit and total cost figures should be "raw costs", without any overhead markups. Markups are generated at the end of the estimate.

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll*				Weekly Payroll*				Stock Materials*		Non-Stock Materials* (A/P Taxable)		Contractors & Fees* (A/P Tax-Exempt)		Notes
					Production MH/Unit	MH	Cost/MH	Cost	Production MH/Unit	MH	Cost/MH	Cost	Cost/Unit	Cost	Cost/Unit	Cost	Cost/Unit	Cost	
A	PLANNING & ENGINEERING																		
A.1	Transmission Design	900	Hours		1.0	900	60.00	54,000		0		0		0		0		0	
A.2	Drafting	200	Hours			0		0	1.0	200	50.00	10,000		0		0		0	
A.3	Planning Time		Hours			0	60.00	0		0		0		0		0		0	
A.4	LiDAR	3	Mile			0		0		0		0		0		0	1,200.00	3,240	Closeout
A.5						0		0		0		0		0		0		0	
A.6						0		0		0		0		0		0		0	
A.7						0		0		0		0		0		0		0	
A.8						0		0		0		0		0		0		0	
A.9						0		0		0		0		0		0		0	
A.10						0		0		0		0		0		0		0	
B	PROJECT MANAGEMENT, ENVIRONMENTAL & SUPPORT SERVICES																		
B.1	Project Management	900	Hour		1.0	900	60.00	54,000		0		0		0		0		0	
B.2	Environmental	250	Hour		1.0	250	60.00	15,000		0		0		0		0		0	
B.3	Real Property	300	Hour		1.0	300	60.00	18,000		0		0		0		0		0	
B.4	Environmental Consultant/Part 102c	1	Contract			0		0		0		0		0		0	125,000.00	125,000	Based on HF Line EDR Bid
B.5	Legal Consultant	1	Contract			0		0		0		0		0		0	50,000.00	50,000	
B.6						0		0		0		0		0		0		0	
B.7						0		0		0		0		0		0		0	
B.8						0		0		0		0		0		0		0	
B.9						0		0		0		0		0		0		0	
B.10						0		0		0		0		0		0		0	
C	GENERAL CONDITIONS																		
C.1	Construction Staking	2.7	Miles			0		0		0		0		0		0	20,000.00	54,000	Based off of WH1&2 Costs
C.2	Construction Trailers	5.0	Months			0		0		0		0		0		0	1,000.00	5,000	
C.3	Temporary Toilet Facilities	5.0	Months			0		0		0		0		0		0	250.00	1,250	
C.4	Staging Area	7.0	Months			0		0		0		0		0		0	3,000.00	21,000	Contract
C.6	Tree Clearing	4.0	Section			0		0	200.0	800	50.00	40,000		0		0		0	
C.7	SWPP Inspections	4.0	Months			0		0		0		0		0		0	18,750.00	75,000	Based off of WH1&2 Costs
C.9						0		0		0		0		0		0		0	
C.10						0		0		0		0		0		0		0	
D	MAJOR EQUIPMENT & MATERIALS																		
D.1	Light Duty Steel Poles	37.0	Each			0		0		0		0		0	8,346.00	308,802		0	CL Line Quote for 70' H3
D.2	Engineered Steel Poles	1.0	Each			0		0		0		0		0	20,000.00	20,000		0	Based off of G-Line Structure G2
D.3	Engineered Foundations	1.0	Each			0		0		0		0		0	50,000.00	50,000		0	Estimated (Structure G2)
D.4	Conductor (795 ACSR TERN)	38,000.0	Feet			0		0		0		0	2.00	75,913		0		0	MMS Stock Avg Cost
D.5	Static (OPGW)	13,000.0	Feet			0		0		0		0	3.34	43,469		0		0	MMS Stock Avg Cost
D.6	Standard Stock Material- Tangent	32.0	Structure			0		0		0		0	250.00	8,000		0		0	MMS Stock Avg Cost
D.7	Standard stock material - Dead End	2.0	Structure			0		0		0		0	2,000.00	4,000		0		0	MMS Stock Avg Cost
D.8	Non-Stock Insulators	32.0	Structure			0		0		0		0	953.00	30,496		0		0	Quoted Price
D.9	Crane Service	1.0	Location			0		0		0		0		0	4,000.00	4,000		0	Estimated
D.10	Equipment Moves	2.7	Mile			0		0		0		0		0	12,000.00	32,400		0	Estimated
E	CONSTRUCTION																		

				Costs Incurred To-Date*	Monthly Payroll*				Weekly Payroll*				Stock Materials*		Non-Stock Materials* (A/P Taxable)		Contractors & Fees* (A/P Tax-Exempt)		Notes
#	Work Breakdown Structure (WBS)	Quantity	Units	through xx/xx/xx	Production MH/Unit	MH	Cost/MH	Cost	Production MH/Unit	MH	Cost/MH	Cost	Cost/Unit	Cost	Cost/Unit	Cost	Cost/Unit	Cost	
E.1	Environmental/Restoration Contractor	2.7	Mile			0		0		0		0		0		0	97,852.40	264,201	Based on HF Line Estimate R.O.W. Improvements - Access (Building / Upgrading Roads, Culverts, etc...) Erosion/Sediment Control Installation
E.2	Install R.O.W. Access Controls (Gates, etc…)	2.7	Mile			0		0		0		0		0		0	5,000.00	13,500	
E.4	R.O.W. Improvements - Matting	1,500.0	Feet			0		0		0		0		0		0	60.00	90,000	
E.5	R.O.W. Improvements - Trimming	0.0	Mile			0		0		0		0		0		0		0	
E.6	Drill Pole Holes - Soil (Contract)	18.0	Line			0		0		0		0		0		0	3,000.00	54,000	Soil Hole and Grounding
E.7	Drill Pole Holes - Rock (Contract)	19.0	Line			0		0		0		0		0		0	6,000.00	114,000	Rock Hole and Grounding
E.8	Off Load Pole Delivery	4.0	Per Truck			0		0	16.0	64	55.00	3,520		0		0		0	
E.9	Line Construction (Contract)	2.7	Mile			0		0		0		0		0		0	489,262.00	1,321,007	Based off of HF Line Bid
E.10	Supervision - Foreman	4.0	Month			0		0	160.0	640	65.00	41,600		0		0		0	
E.11	Install OPGW Splice Locations	3.0	Per Site			0		0						0	1,000.00	3,000	1,000.00	3,000	
				0				141,000				95,120		161,878		418,202		2,194,199	
						2,350				1,704									
					Man-hours Monthly Payroll				Man-hours Weekly Payroll										

Part 2: Removals

* All unit and total cost figures should be "raw costs", without any overhead markups. All markups are generated at the end of the estimate.

				Costs Incurred To-Date*	Monthly Payroll*				Weekly Payroll*				Stock Materials*		Non-Stock Materials* (A/P Taxable)		Contractors & Fees* (A/P Tax-Exempt)		Notes
#	Work Breakdown Structure (WBS)	Quantity	Units	through xx/xx/xx	Production MH/Unit	MH	Cost/MH	Cost	Production MH/Unit	MH	Cost/MH	Cost	Cost/Unit	Cost	Cost/Unit	Cost	Cost/Unit	Cost	
	Pole Removals	2.7	Mile			0		0		0		0		0		0	66,717.50	180,137	Based off of HF Line Bid
	Environmental/Restoration Contractor	2.7	Mile			0		0		0		0		0		0	13,343.50	36,027	Based on HF Line Estimate R.O.W. Restoration Erosion/Sediment Control Removal
	R.O.W. Improvements - Matting	1,500.0	Feet			0		0		0		0		0		0	15.00	22,500	
	Supervision - Foreman	4.0	Month			0		0	20.0	80	65.00	5,200		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
				0				0				5,200		0		0		238,665	
						0				80									
					Man-hours Monthly Payroll				Man-hours Weekly Payroll										

				Costs Incurred To-Date*	Monthly Payroll*				Weekly Payroll*				Stock Materials*		Non-Stock Materials* (A/P Taxable)		Contractors & Fees* (A/P Tax-Exempt)		Notes
#	Work Breakdown Structure (WBS)	Quantity	Units	through xx/xx/xx	Production MH/Unit	MH	Cost/MH	Cost	Production MH/Unit	MH	Cost/MH	Cost	Cost/Unit	Cost	Cost/Unit	Cost	Cost/Unit	Cost	

Part 3: Cost Estimate Summary

ADDITIONS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0		
Overhead Costs Incurred To-Date:			*This figure must be manually entered if applicable*
AFUDC Costs Incurred To-Date:			*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	$0		
Estimated Future Raw Costs:	$3,010,399		
Estimated Future Overheads:	$367,105		
Estimated Future AFUDC:	$111,647		
Subtotal Future Costs:	$3,489,151		
Contingency Applied:	$1,046,745	30.0%	*Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL ADDITIONS:	**$4,535,896**		

REMOVALS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0		
Overhead Costs Incurred To-Date:	$0		*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	**$0**		
Estimated Future Raw Costs:	$243,865		
Estimated Future Overheads:	$11,501		
Subtotal Future Costs:	**$255,366**		
Contingency Applied:	$76,610	30.0%	*Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL REMOVALS:	**$331,975**		

GRAND TOTAL ADDITIONS + REMOVALS:	**$4,867,871**

Assumptions, Notes, Clarifications, etc.:

Estimated 3 months to complete Estimate represents cost to construct & assumed Part 102c filing only permitting. Assume local site plan approval. 30% contingency applied.

People. Power. Possibilities. Central Hudson A FORTIS COMPANY

Project Cost Estimate

Note: Except where data entries are permitted, this spreadsheet is locked in order to prevent users from accidentally deleting important formulas. If user needs to add/delete rows, or make other edits, the password "Estimate" may be used to unlock the spreadsheet. Caution should be used in order to keep the integrity of the spreadsheet.

Project Name: SK Line Rebuild Conceptual Estimate 1033 ACSR
Prepared By: Bo DuBois
Cost Estimate Level: Conceptual Estimate
Date: 11/13/2019
Revision(s): 00
WO #: Attachment #5
+/-30% Accuracy… There is a general scope but few details available. Little or no design work completed yet.

Part 1: Additions

* All unit and total cost figures should be "raw costs", without any overhead markups. Markups are generated at the end of the estimate.

				Costs Incurred To-Date*	Monthly Payroll*				Weekly Payroll*				Stock Materials*		Non-Stock Materials* (A/P Taxable)		Contractors & Fees* (A/P Tax-Exempt)		Notes
#	Work Breakdown Structure (WBS)	Quantity	Units	through xx/xx/xx	Production MH/Unit	MH	Cost/MH	Cost	Production MH/Unit	MH	Cost/MH	Cost	Cost/Unit	Cost	Cost/Unit	Cost	Cost/Unit	Cost	
A	PLANNING & ENGINEERING																		
A.1	Transmission Design	900	Hours		1.0	900	60.00	54,000		0		0		0		0		0	
A.2	Drafting	200	Hours			0		0	1.0	200	50.00	10,000		0		0		0	
A.3	Planning Time		Hours			0	60.00	0		0		0		0		0		0	
A.4	LiDAR	3	Mile			0		0		0		0		0		0	1,200.00	3,240	Closeout
A.5						0		0		0		0		0		0		0	
A.6						0		0		0		0		0		0		0	
A.7						0		0		0		0		0		0		0	
A.8						0		0		0		0		0		0		0	
A.9						0		0		0		0		0		0		0	
A.10						0		0		0		0		0		0		0	
B	PROJECT MANAGEMENT, ENVIRONMENTAL & SUPPORT SERVICES																		
B.1	Project Management	900	Hour		1.0	900	60.00	54,000		0		0		0		0		0	
B.2	Environmental	250	Hour		1.0	250	60.00	15,000		0		0		0		0		0	
B.3	Real Property	300	Hour		1.0	300	60.00	18,000		0		0		0		0		0	
B.4	Environmental Consultant	1	Contract			0		0		0		0		0		0	125,000.00	125,000	Based on HF Line EDR Bid
B.5	Legal Consultant	1	Contract			0		0		0		0		0		0	50,000.00	50,000	
B.6						0		0		0		0		0		0		0	
B.7						0		0		0		0		0		0		0	
B.8						0		0		0		0		0		0		0	
B.9						0		0		0		0		0		0		0	
B.10						0		0		0		0		0		0		0	
C	GENERAL CONDITIONS																		
C.1	Construction Staking	2.7	Miles			0		0		0		0		0		0	20,000.00	54,000	Based off of WH1&2 Costs
C.2	Construction Trailers	5.0	Months			0		0		0		0		0		0	1,000.00	5,000	
C.3	Temporary Toilet Facilities	5.0	Months			0		0		0		0		0		0	250.00	1,250	
C.4	Staging Area	7.0	Months			0		0		0		0		0		0	3,000.00	21,000	Contract
C.6	Tree Clearing	4.0	Section			0		0	200.0	800	50.00	40,000		0		0		0	
C.7	SWPP Inspections	4.0	Months			0		0		0		0		0		0	18,750.00	75,000	Based off of WH1&2 Costs
C.9						0		0		0		0		0		0		0	
C.10						0		0		0		0		0		0		0	
D	MAJOR EQUIPMENT & MATERIALS																		
D.1	Light Duty Steel Poles	37.0	Each			0		0		0		0		0	8,986.00	332,482		0	HF Line Quote for 70' H4
D.2	Engineered Steel Poles	1.0	Each			0		0		0		0		0	20,000.00	20,000		0	Based off of G-Line Structure G2
D.3	Engineered Foundations	1.0	Each			0		0		0		0		0	50,000.00	50,000		0	Estimated (Structure G2)
D.4	Conductor (1033 ACSR Ortolan)	38,000.0	Feet			0		0		0		0	2.08	79,040		0		0	MMS Stock Avg Cost
D.5	Static (OPGW)	13,000.0	Feet			0		0		0		0	3.34	43,469		0		0	MMS Stock Avg Cost
D.6	Standard Stock Material- Tangent	32.0	Structure			0		0		0		0	250.00	8,000		0		0	MMS Stock Avg Cost
D.7	Standard stock material - Dead End	2.0	Structure			0		0		0		0	2,000.00	4,000		0		0	MMS Stock Avg Cost
D.8	Non-Stock Insulators	32.0	Structure			0		0		0		0	953.00	30,496		0		0	Quoted Price
D.9	Crane Service	1.0	Location			0		0		0		0		0	4,000.00	4,000		0	Estimated
D.10	Equipment Moves	2.7	Mile			0		0		0		0		0	12,000.00	32,400		0	Estimated
E	CONSTRUCTION																		
E.1	Environmental/Restoration Contractor	2.7	Mile			0		0		0		0		0		0	97,852.40	264,201	Based on HF Line Estimate R.O.W. Improvements - Access (Building / Upgrading Roads, Culverts, etc...) Erosion/Sediment Control Installation

				Costs Incurred To-Date*	Monthly Payroll*				Weekly Payroll*				Stock Materials*		Non-Stock Materials* (A/P Taxable)		Contractors & Fees* (A/P Tax-Exempt)		Notes
#	Work Breakdown Structure (WBS)	Quantity	Units	through xx/xx/xx	Production MH/Unit	MH	Cost/MH	Cost	Production MH/Unit	MH	Cost/MH	Cost	Cost/Unit	Cost	Cost/Unit	Cost	Cost/Unit	Cost	
E.2	Install R.O.W. Access Controls (Gates, etc…)	2.7	Mile			0		0		0		0		0		0	5,000.00	13,500	
E.4	R.O.W. Improvements - Matting	1,500.0	Feet			0		0		0		0		0		0	60.00	90,000	
E.5	R.O.W. Improvements - Trimming	0.0	Mile			0		0		0		0		0		0		0	
E.6	Drill Pole Holes - Soil (Contract)	18.0	Line			0		0		0		0		0		0	3,000.00	54,000	Soil Hole and Grounding
E.7	Drill Pole Holes - Rock (Contract)	19.0	Line			0		0		0		0		0		0	6,000.00	114,000	Rock Hole and Grounding
E.8	Off Load Pole Delivery	4.0	Per Truck			0		0	16.0	64	55.00	3,520		0		0		0	
E.9	Line Construction (Contract)	2.7	Mile			0		0		0		0		0		0	489,262.00	1,321,007	Based off of HF Line Bid
E.10	Supervision - Foreman	4.0	Month			0		0	160.0	640	65.00	41,600		0		0		0	
E.11	Install OPGW Splice Locations	3.0	Per Site			0		0						0	1,000.00	3,000	1,000.00	3,000	
				0		2,350		141,000		1,704		95,120		165,005		441,882		2,194,199	
						Man-hours Monthly Payroll				Man-hours Weekly Payroll									

Part 2: Removals

* All unit and total cost figures should be "raw costs", without any overhead markups. All markups are generated at the end of the estimate.

				Costs Incurred To-Date*	Monthly Payroll*				Weekly Payroll*				Stock Materials*		Non-Stock Materials* (A/P Taxable)		Contractors & Fees* (A/P Tax-Exempt)		Notes
#	Work Breakdown Structure (WBS)	Quantity	Units	through xx/xx/xx	Production MH/Unit	MH	Cost/MH	Cost	Production MH/Unit	MH	Cost/MH	Cost	Cost/Unit	Cost	Cost/Unit	Cost	Cost/Unit	Cost	
	Pole Removals	2.7	Mile			0		0		0		0		0		0	66,717.50	180,137	Based off of HF Line Bid
	Environmental/Restoration Contractor	2.7	Mile			0		0		0		0		0		0	13,343.50	36,027	Based on HF Line Estimate R.O.W. Restoration Erosion/Sediment Control Removal
	R.O.W. Improvements - Matting	1,500.0	Feet			0		0		0		0		0		0	15.00	22,500	
	Supervision - Foreman	4.0	Month			0		0	20.0	80	65.00	5,200		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
						0		0		0		0		0		0		0	
				0		0		0		80		5,200		0		0		238,665	
						Man-hours Monthly Payroll				Man-hours Weekly Payroll									

#	Work Breakdown Structure (WBS)	Quantity	Units	Costs Incurred To-Date* through xx/xx/xx	Monthly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Weekly Payroll* Production MH/Unit	MH	Cost/MH	Cost	Stock Materials* Cost/Unit	Cost	Non-Stock Materials* (A/P Taxable) Cost/Unit	Cost	Contractors & Fees* (A/P Tax-Exempt) Cost/Unit	Cost	Notes

Part 3: Cost Estimate Summary

ADDITIONS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0		
Overhead Costs Incurred To-Date:			*This figure must be manually entered if applicable*
AFUDC Costs Incurred To-Date:			*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	$0		
Estimated Future Raw Costs:	$3,037,206		
Estimated Future Overheads:	$370,336		
Estimated Future AFUDC:	$112,649		
Subtotal Future Costs:	$3,520,191		
Contingency Applied:	$1,056,057	30.0%	*Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL ADDITIONS:	**$4,576,249**		

REMOVALS SUMMARY:

Incurred To-Date:

Raw Costs Incurred To-Date:	$0		
Overhead Costs Incurred To-Date:	$0		*This figure must be manually entered if applicable*
Subtotal Costs To-Date:	**$0**		
Estimated Future Raw Costs:	$243,865		
Estimated Future Overheads:	$11,501		
Subtotal Future Costs:	**$255,366**		
Contingency Applied:	$76,610	30.0%	*Contingency factor from Overheads & AFUDC Calculator (optional). Contingency will be factored on top of future costs only.*
GRAND TOTAL REMOVALS:	**$331,975**		

GRAND TOTAL ADDITIONS + REMOVALS:	**$4,908,224**

Assumptions, Notes, Clarifications, etc.:

Estimated 3 months to complete Estimate represents cost to construct & assumed Part 102c filing only permitting. Assume local site plan approval. 30% contingency applied. Although local permitting for installing 1033 instead of 795 could result in increased legal/environmental consultant fees due to public opposition to EMF, aesthetics, etc. the additional costs are difficult to estimate and therefore not included in this estimate. Cost estimate increase over 795 ACSR is based on incremental cost of wire and increasing pole class from H3 to H4 based on conceptual design for deflection criteria.

Budget Submittal Form

Submission Date: April 5, 2024

Business Sponsor: Harold Turner
Prepared By: Kyle Bragg

First Year of 5-Year Budget Period: 2025
Budget Category: _12
Budget Group: Electric
Current Life-Cycle Phase: 4 Construction

A. GENERAL

Project/Program Name: Transmission Minors Project
Work Order #: -
Funding Project Description: Transmission Minor Projects
Funding Project Number: 1-1211-00-18
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
There are no specific Work Orders associated with this project overall. If possible, the work identified in Transmission Minors may be constructed in conjunction with other projects (HPR, etc…) to take advantage of potential synergies with regards to access, mobilizations, etc...

Describe the project objective and scope of work:
The Minor Transmission Projects Program is intended to cover small emergent projects that arise during the course of the year due to the discovery of priority inspection findings or are prompted by the failure of a transmission line component (Insulator, Conductor, pole, structure component, etc...). Projects covered under this funding project include the repair and/or replacement of existing equipment not specifically tied to a major project.

Describe specific scope exclusions, assumptions and constraints:
Specific project constraints related to access, matting, drilling and environmental controls would be unknown until the jobs are identified which could represent a significant portion of the project costs. These projects are typically of an emergency nature and may be subject to additional costs related to the unplanned nature of the work.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
Repairs to damaged assets are always considered against replacement of the asset or structure on a project-by-project basis.

Why was the proposed project scope chosen over other alternatives?
Scopes will be dictated on a project-by-project basis related to the specific nature of the failed component and/or the critical condition that is identified.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Non-Discretionary
Investment Type: Daily Operations
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Reliability; Risk Reduction

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? No

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

As transmission line equipment is identified as being failed or that failure is deemed inevitable, these components, structures and/or conductors must be replaced in a timely manner in order to maintain the integrity of the electric transmission system to the greatest extent possible.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

Avoiding component failure due to pre-emptive replacement will be much less costly than addressing an in-service failure. If in-service failure occurs, promptly replacing the failed asset and placing the transmission line back into service is critical to ensuring system integrity and continued reliability.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC CAIDI Outage Duration
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Any critical finding or failed component must be addressed promptly to ensure system integrity and reliability.

What are the risks and consequences of not completing this project?
If projects are not completed in a timely manner there is an enhanced risk for a decrease in the reliability of the electric transmission system.

Is this Project in Central Hudson's current approved rate case? Yes
Program is currently approved
Is this Project tied to a regulatory requirement? Yes
Program is compliance-related with regard to maintaining service and mitigating priority issues within the PSC timeframes
Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Planned repair of a priority emergent finding prior to an in-service failure will result in cost avoidance of emergency response
Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Program reduces the risk of an un-planned in-service failure
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Reducing the risk of in-service failures would enhance safety for employees, contractors and the general public.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,465,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	100,000		20,000	20,000	20,000	20,000	20,000	
	Stock Materials	0							
	A/P Non-Stock Material	245,000		49,000	49,000	49,000	49,000	49,000	
	A/P Contractors & Other	697,000		131,000	135,000	140,000	144,000	147,000	
	Overheads	0							
	AFUDC*	78,000		11,000	15,000	13,000	17,000	22,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**1,120,000**	**0**	**211,000**	**219,000**	**222,000**	**230,000**	**238,000**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	35,000		7,000	7,000	7,000	7,000	7,000	
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	290,000		58,000	58,000	58,000	58,000	58,000	
	Inflation	20,000		1,000	3,000	4,000	5,000	7,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**345,000**	**0**	**66,000**	**68,000**	**69,000**	**70,000**	**72,000**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Costs can vary significanty from Project to Project depending on the nature of the repair or replacement that is needed as well as other factors such as access, environmental controls, etc…

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
Cost Estimate breakdown is based on a conceptual pro-forma per single pole structure. The cost breakdown provided is estimated based on an averaged historical percentage split per project of Materials Costs, Accounts Payable / AA and Internal Labor of 25%, 65% and 10% respectively. Removals are split 90/10 by Contractors(AP) / Internal Labor respectively. Installation "AFUDC" Row captures AFUDC and Inflation and the Removal "Overheads" Row captures Inflation.

Budget Submittal Form

Submission Date: April 5, 2024

Business Sponsor: Harold Turner
Prepared By: Kyle Bragg

First Year of 5-Year Budget Period: 2025
Budget Category: _12
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: **Trap Rock Substation Tie-In and Retirement of 69kV TR Line**
Work Order #: -
Funding Project Description: Funding Project Not Yet Assigned
Funding Project Number: to be determined
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2024
In-Service: 12/31/2027

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
There will potentially be other Cat#13 Work Orders required to support the installation of a new Substation on Tilcon's property and the retirement / removal of the existing Knapp's Corners Substation.

Describe the project objective and scope of work:
The TR Line is a 69 kV line approximately 2.4 miles long, connecting the Knapps Corners Substation to the Tilcon Quarry. The majority of the line has 1/0 Copper conductor from 1929 and older wood structures that have reached the end of thier useful life. Given the existing right-of-way constraints of the "TR" Line corridor, Central Hudson is currently investigating the feasibility of installing a small substation and 115/69kV transformer at the existing intersection of the 69kV "TR" Line and 115kV "SC" Line to allow for the retirement of all but 0.4 Miles of the existing "TR" Line and its removal through

Describe specific scope exclusions, assumptions and constraints:
Conceptual Project assumptions do not assume special provisions for access, matting, environmental controls or permitting.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
A complete rebuild of the existing 69kV TR Line was considered as an alternative to the "SC" Line Substation option.

Why was the proposed project scope chosen over other alternatives?
The installation of the proposed "SC" Line substation on the Tilcon Quarry property would shorten the length of the TR Line, remove a portion of the line that traverses several heavy residential areas and confine it to Tilcon's property while providing the ability to retire the existing line assets in all residential and commerical areas near Route 9. It would also allow for the retirement and removal of the existing Knapp's Corners Substation 69kV

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Reliability; Compliance

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? No

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

The project is needed to remove existing assets that have reached the end of their useful life.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The retirement and removal of the line from the existing residential areas will reduce the need for costly access and restoration during maintenance projects and reduce overall risk by removing the facilities from a high-density residential area.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Completing the project in the requested timeframe will reduce the risk of an aged asset failing unexpectedly and causing damage to private property and requiring a costly unplanned repair.

What are the risks and consequences of not completing this project?
The longer the old assets remain in place, there is an elevated risk of failure.

Is this Project in Central Hudson's current approved rate case? Yes
This project is included in the current rate case.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Removal of aged assets will reduce the risk of an uplanned in-service failure and need to replace the line within a heavy residential area.
Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Removing the TR line from a residential area will reduce risk of an unplanned failure occuring that could result in damages.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
The project improves safety my removing aged assets with increased risk of failure and confining the line to an industrial quarry parcel.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,896,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	98,800	12,900			85,900			
	Stock Materials	0							
	A/P Non-Stock Material	247,000	32,250			214,750			
	A/P Contractors & Other	642,200	83,850			558,350			
	Overheads	0							
	AFUDC*	112,000				112,000			
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**1,100,000**	**129,000**	**0**	**0**	**971,000**	**0**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	75,000	1,700			73,300			
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	675,000	15,300			659,700			
	Inflation	46,000				46,000			
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**796,000**	**17,000**	**0**	**0**	**779,000**	**0**	**0**	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Specific project details relevant to the removal of the structures is still unknown such as environmental and access constraints and local permitting. Plans for the new SC Line Substation also need to be finalized pending negotiations with Tilcon.

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
Estimates assumes a 90/10 split for AP and internal labor charges related to the removal of the line. For the installation of the new structure, an averaged historical percentage split per project of Materials Costs, Accounts Payable / AA and Internal Labor of 25%, 65% and 10% respectively was used. These splits were generally applied to Prior Year Actuals / 2024 Projections. Conceptual Transmission cost estimates to support the substation option were based on the removal of (40) single pole wood structures and associated conductor at $18k per structure (includes wire removal) and the installation of (10) new single pole steel structures at approx. $90k per structure to account for permitting and potential ROW acquisition costs. Installation "AFUDC" Row captures AFUDC and Inflation and the Removal "Overheads" Row captures Inflation.

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Substation Minor Projects
Work Order #: -
Funding Project Description: Substation Minor Projects
Funding Project Number: 1-1311-00-18
Is this a Specific Project, Program or Blanket? Blanket
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
Minor Substation projects are completed throughout the year based on failures and equipment condition assessments. These are smaller scale projects and typically based on the need to update/replace substation equipment including:
Battery Chargers, Meters, Controls, Communications, Other Equipment that fails and is unrepairable.

Describe specific scope exclusions, assumptions and constraints:
Install new and update existing equipment as required during the course of a year that is not specifically tied to a major project upgrade.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A: Infrastructure Replacements

Why was the proposed project scope chosen over other alternatives?
N/A: Infrastructure Replacements

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Non-Discretionary
Investment Type: Daily Operations
Is there an Innovation Component? No

Needs Assessment: Infrastructure

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Risk Reduction; Replacement of equipment failures throughout the year.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the failed equipment or equipment in disrepair will improve reliability and mitigate further risk as well as avoid the cost of further potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates' N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Maybe - Requires further scope development
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Infrastruxture Replacements as required

What are the risks and consequences of not completing this project?
Failed equipment would not be replaced possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $5,628,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	335,000	45,000	46,000	47,000	48,000	49,000	50,000	50,000
	Labor (Monthly Payroll)	210,000	30,000	29,000	29,000	30,000	30,000	31,000	31,000
	Stock Materials	135,000	15,000	17,000	18,000	18,000	18,000	19,000	30,000
	A/P Non-Stock Material	2,079,000	285,000	287,000	293,000	299,000	305,000	310,000	300,000
	A/P Contractors & Other	963,000	130,000	132,000	135,000	138,000	140,000	143,000	145,000
	Overheads & Other	186,000	60,000	11,000	12,000	10,000	12,000	11,000	70,000
	AFUDC*	242,000	35,000	38,000	27,000	33,000	50,000	29,000	30,000
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**4,150,000**	**600,000**	**560,000**	**561,000**	**576,000**	**604,000**	**593,000**	**656,000**
RETIREMENTS	Labor (Weekly Payroll)	584,000	80,000	80,000	103,000	105,000	107,000	109,000	0
	Labor (Monthly Payroll)	448,000	60,000	62,000	79,000	81,000	82,000	84,000	0
	A/P Non-Labor (dumpsters, etc.)	68,000	10,000	9,000	12,000	12,000	12,000	13,000	0
	A/P Contractors	149,000	20,000	21,000	26,000	27,000	27,000	28,000	0
	Overheads & Other	229,000	30,000	32,000	41,000	41,000	43,000	42,000	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**1,478,000**	**200,000**	**204,000**	**261,000**	**266,000**	**271,000**	**276,000**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 6,071,800 **Maximum ($):** 11,276,200

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Coxsackie DEC Peaker Regulation Project
Work Order #: 0 2 8 0 - L
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2023 **In-Service:** 12/31/2025

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
The New Baltimore and South Cairo DEC Peaker Regulation Projects will also be designed and constructed parallel with the Coxsackie DEC Peaker Project in order to ensure the South Cairo and Coxsackie Gas Turbines can be reitred by 2025.

Describe the project objective and scope of work:
New York State DEC has passed a stricter emissions standard over the next few years. In preparation for this standard, Central Hudson has determined to retire the Gas Turbines at Coxsackie and South Cairo Substations while adding necessary equipment to compensate for the Gas turbine retirements.

Describe specific scope exclusions, assumptions and constraints:
A second transformer will be added to both South Cairo and Coxsackie Substations in order to make them half breaker stations. Dynamic Volt-Amp Reactive (D-VAR) Compensation Solutions will also be installed at South Cairo and New Baltimore Substations to provide stability and regulate voltage and power factor by injecting leading or lagging reactive power at opportune times.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? Yes

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
EP2022-001 Local Transmission Plan for Replacement of Westerlo Loop Combustion Turbines.pdf

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
Retirement of the South Cairo and Coxsackie Gas Turbines in order to meet enhanced emissions regulations.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Required retirements of the South Cairo and Coxsackie Gas Turbines by 2025.

What are the risks and consequences of not completing this project?
There would be no system stability and voltage regulation on the system due to the retirement of the South Cairo and Coxsackie Gas Turbines.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? Yes
Project is tied to retirement of Gas Turbines at South Cairo & Coxsackie Substations.
Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Provides load stability in the Northwest section of Central Hudson service territory.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $3,242,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	94,000	10,000	84,000	0	0	0	0	0
	Labor (Monthly Payroll)	152,000	100,000	52,000	0	0	0	0	0
	Stock Materials	81,000	50,000	31,000	0	0	0	0	0
	A/P Non-Stock Material	2,122,000	1,600,000	522,000	0	0	0	0	0
	A/P Contractors & Other	290,000	50,000	240,000	0	0	0	0	0
	Inflation	221,000	200,000	21,000	0	0	0	0	0
	AFUDC*	282,000	200,000	82,000	0	0	0	0	0
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**3,242,000**	**2,210,000**	**1,032,000**	**0**	**0**	**0**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0	0	0	0	0	0	0	0
	Labor (Monthly Payroll)	0	0	0	0	0	0	0	0
	A/P Non-Labor (dumpsters, etc.)	0	0	0	0	0	0	0	0
	A/P Contractors	0	0	0	0	0	0	0	0
	Overheads & Other	0	0	0	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	0	0	0	0	0	0	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Preliminary
Cost Estimate Confidence: **(that final cost will be within +/-20% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 2,593,600 **Maximum ($):** 3,890,400

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Greenfield Road Substation Upgrade
Work Order #: 0 4 0 4 - H
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2023 **In-Service:** 12/1/2025

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
As part of the ongoing review of the substation power transformer fleet, Operations Services completes a condition-based assessment of those transformers that are 55 years old or greater. This assessment is based on routine testing and monitoring to determine an overall condition and condition-trend of the transformer. Based on this assessment, the existing 69-4.16kV Greenfield Road Substation transformers have reached the end of their useful life and require replacement.

Describe specific scope exclusions, assumptions and constraints:
Retire all of the 4 kV equipment including Transformers #1 and #3 and all other associated equipment. Two existing 69-13.8kV three phase transformers will be utilized (current plans are to use the Modena Substation spare and the retired Kerhonkson Substation transformers). The MG Line from Modena to Galeville must be converted to 115 kV prior to the removal of the Transformer at Modena to be used at Greenfield Road.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
EP2016-012 Spare 10_12MVA Transformer Relocations.pdf

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates' N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
To replace obsolete equipment before failure.

What are the risks and consequences of not completing this project?
Risks of power transformer failure possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $2,742,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	94,000	10,000	84,000	0	0	0	0	0
	Labor (Monthly Payroll)	202,000	150,000	52,000	0	0	0	0	0
	Stock Materials	31,000	0	31,000	0	0	0	0	0
	A/P Non-Stock Material	1,522,000	1,000,000	522,000	0	0	0	0	0
	A/P Contractors & Other	440,000	200,000	240,000	0	0	0	0	0
	Inflation	171,000	150,000	21,000	0	0	0	0	0
	AFUDC*	282,000	200,000	82,000	0	0	0	0	0
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**2,742,000**	**1,710,000**	**1,032,000**	**0**	**0**	**0**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0	0	0	0	0	0	0	0
	Labor (Monthly Payroll)	0	0	0	0	0	0	0	0
	A/P Non-Labor (dumpsters, etc.)	0	0	0	0	0	0	0	0
	A/P Contractors	0	0	0	0	0	0	0	0
	Overheads & Other	0	0	0	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Preliminary
Cost Estimate Confidence: **(that final cost will be within +/-20% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 1,553,600 **Maximum ($):** 2,330,400

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: New Baltimore DEC Peaker Regulation Project
Work Order #: 2167 - K
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2023
In-Service: 12/31/2025

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
The New Baltimore Upgrade will also be designed and constructed alongside the DEC Peaker Project.

Describe the project objective and scope of work:
New York State DEC has passed a stricter emissions standard over the next few years. In preparation for this standard, Central Hudson has determined to retire the Gas Turbines at Coxsackie and South Cairo Substations while adding necessary equipment to compensate for the Gas turbine retirements.

Describe specific scope exclusions, assumptions and constraints:
A second transformer will be added to both South Cairo and Coxsackie Substations in order to make them half breaker stations. Dynamic Volt-Amp Reactive (D-VAR) Compensation Solutions will also be installed at South Cairo and New Baltimore Substations to provide stability and regulate voltage and power factor by injecting leading or lagging reactive power at opportune times.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? Yes

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
EP2022-001 Local Transmission Plan for Replacement of Westerlo Loop Combustion Turbines.pdf

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
Retirement of the South Cairo and Coxsackie Gas Turbines in order to meet enhanced emissions regulations.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

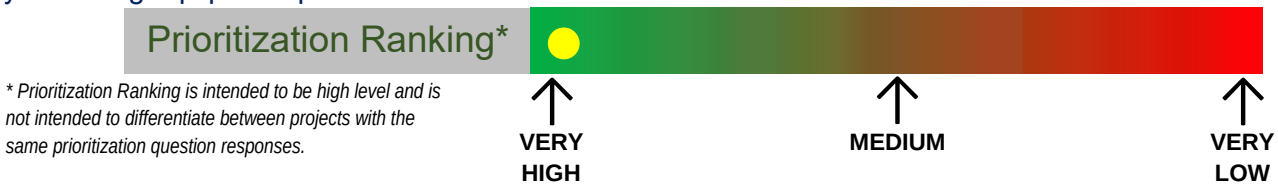
Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Required retirements of the South Cairo and Coxsackie Gas Turbines by 2025.

What are the risks and consequences of not completing this project?
There would be no system stability and voltage regulation on the system due to the retirement of the South Cairo and Coxsackie Gas Turbines.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? Yes
Project is tied to retirement of Gas Turbines at South Cairo & Coxsackie Substations.
Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Provides load stability in the Northwest section of Central Hudson service territory.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.



** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary			*Year 1 = 1st year of the 5-year budget plan*		*All future year cost estimates should include applicable adjustments for inflation.*			
$8,414,000	**TOTAL**	**Prior Years Actuals + Projections**	**Year 1 2025**	**Year 2 2026**	**Year 3 2027**	**Year 4 2028**	**Year 5 2029**	**Future Years**
ADDITIONS: Labor (Weekly Payroll)	217,000	50,000	167,000	0	0	0	0	0
ADDITIONS: Labor (Monthly Payroll)	404,000	300,000	104,000	0	0	0	0	0
ADDITIONS: Stock Materials	113,000	50,000	63,000	0	0	0	0	0
ADDITIONS: A/P Non-Stock Material	6,345,000	5,300,000	1,045,000	0	0	0	0	0
ADDITIONS: A/P Contractors & Other	781,000	300,000	481,000	0	0	0	0	0
ADDITIONS: Inflation	190,000	150,000	40,000	0	0	0	0	0
ADDITIONS: AFUDC*	364,000	200,000	164,000	0	0	0	0	0
ADDITIONS: Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
ADDITIONS: CIAC Payments CREDIT	0	0	0	0	0	0	0	0
ADDITIONS: Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
TOTAL ADDITIONS:	8,414,000	6,350,000	2,064,000	0	0	0	0	0
RETIREMENTS: Labor (Weekly Payroll)	0	0	0	0	0	0	0	0
RETIREMENTS: Labor (Monthly Payroll)	0	0	0	0	0	0	0	0
RETIREMENTS: A/P Non-Labor (dumpsters, etc.)	0	0	0	0	0	0	0	0
RETIREMENTS: A/P Contractors	0	0	0	0	0	0	0	0
RETIREMENTS: Overheads	0	0	0	0	0	0	0	0
RETIREMENTS: Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
RETIREMENTS: Salvage CREDIT	0	0	0	0	0	0	0	0
RETIREMENTS: CIAC Payments CREDIT	0	0	0	0	0	0	0	0
RETIREMENTS: Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
TOTAL REMOVALS:	0	0	0	0	0	0	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Preliminary
Cost Estimate Confidence: **(that final cost will be within +/-20% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 6,731,200 **Maximum ($):** 10,096,800

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: South Cairo DEC Peaker Regulation Project
Work Order #: 4484 - K
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2023
In-Service: 12/31/2025

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
The South Cairo DEC Peaker Regulation Project will also be designed and constructed alongside the DEC Peaker Projects at Coxsackie and New Baltimore Substations.

Describe the project objective and scope of work:
New York State DEC has passed a stricter emissions standard over the next few years. In preparation for this standard, Central Hudson has determined to retire the Gas Turbines at Coxsackie and South Cairo Substations while adding necessary equipment to compensate for the Gas turbine retirements.

Describe specific scope exclusions, assumptions and constraints:
A second transformer will be added to both South Cairo and Coxsackie Substations in order to make them half breaker stations. Dynamic Volt-Amp Reactive (D-VAR) Compensation Solutions will also be installed at South Cairo and New Baltimore Substations to provide stability and regulate voltage and power factor by injecting leading or lagging reactive power at opportune times.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? Yes

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
EP2022-001 Local Transmission Plan for Replacement of Westerlo Loop Combustion Turbines.pdf

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
Retirement of the South Cairo and Coxsackie Gas Turbines in order to meet enhanced emissions regulations.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

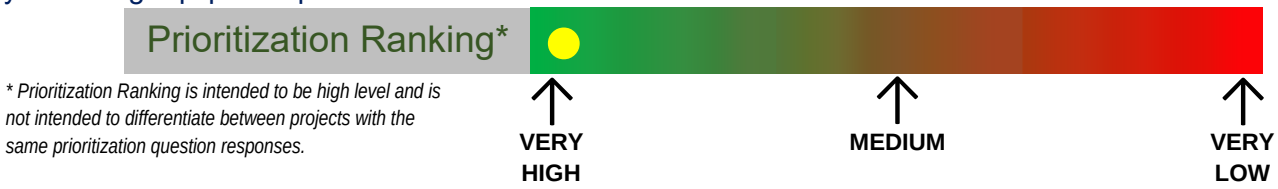
Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Required retirements of the South Cairo and Coxsackie Gas Turbines by 2025.

What are the risks and consequences of not completing this project?
There would be no system stability and voltage regulation on the system due to the retirement of the South Cairo and Coxsackie Gas Turbines.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? Yes
Project is tied to retirement of Gas Turbines at South Cairo & Coxsackie Substations.
Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Provides load stability in the Northwest section of Central Hudson service territory.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.



** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $9,176,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	301,000	50,000	251,000	0	0	0	0	0
	Labor (Monthly Payroll)	457,000	300,000	157,000	0	0	0	0	0
	Stock Materials	144,000	50,000	94,000	0	0	0	0	0
	A/P Non-Stock Material	6,867,000	5,300,000	1,567,000	0	0	0	0	0
	A/P Contractors & Other	751,000	30,000	721,000	0	0	0	0	0
	Inflation	210,000	150,000	60,000	0	0	0	0	0
	AFUDC*	446,000	200,000	246,000	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	9,176,000	6,080,000	3,096,000	0	0	0	0	0
RETIREMENTS	Labor (Weekly Payroll)	0	0	0	0	0	0	0	0
	Labor (Monthly Payroll)	0	0	0	0	0	0	0	0
	A/P Non-Labor (dumpsters, etc.)	0	0	0	0	0	0	0	0
	A/P Contractors	0	0	0	0	0	0	0	0
	Overheads	0	0	0	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	0	0	0	0	0	0	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Preliminary
Cost Estimate Confidence: **(that final cost will be within +/-20% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 7,340,800 **Maximum ($):** 11,011,200

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Milan PLC Replacement
Work Order #: 6 2 4 8 - K
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2024
In-Service: 12/1/2025

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
The first and second generation Programmable Logic Controllers (PLC's) require more extensive maintenance due to age-related component failures. Many of these PLC's are now unsupported by the manufacturers and have limited or no parts availability for maintenance and repair.

Describe specific scope exclusions, assumptions and constraints:
Planned replacement of PLC located at Milan substation.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A: Replacement of obsolete PLC equipment

Why was the proposed project scope chosen over other alternatives?
N/A: Replacement of obsolete PLC equipment

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Replacing obsolete PLC equipment in order to optimize control and communications in Electric Substations.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?

To replace obsolete equipment before failure

What are the risks and consequences of not completing this project?

Lack of Supervisory control and information in the substation possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes

Yes

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Cost avoidance by minimizing maintenance costs.

Does this Project enhance Central Hudson's customer experience or service delivery? Yes

Minimizes substation outages.

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Reduces risk of equipment failure.

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
$2,022,000									
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	175,000	50,000	125,000	0	0	0	0	0
	Labor (Monthly Payroll)	178,000	100,000	78,000	0	0	0	0	0
	Stock Materials	47,000	0	47,000	0	0	0	0	0
	A/P Non-Stock Material	934,000	150,000	784,000	0	0	0	0	0
	A/P Contractors &Other	361,000	0	361,000	0	0	0	0	0
	Inflation	80,000	50,000	30,000	0	0	0	0	0
	AFUDC*	145,000	50,000	95,000	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	1,920,000	400,000	1,520,000	0	0	0	0	0
RETIREMENTS	Labor (Weekly Payroll)	42,000	0	42,000	0	0	0	0	0
	Labor (Monthly Payroll)	31,000	0	31,000	0	0	0	0	0
	A/P Non-Labor (dumpsters, etc.)	5,000	0	5,000	0	0	0	0	0
	A/P Contractors	10,000	0	10,000	0	0	0	0	0
	Overheads & Other	14,000	0	14,000	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	-102,000	0	-102,000	0	0	0	0	0
		** AFUDC may require adjustment after Finance Department review.*							
Expense $ (if applicable):		0							
Current Approved Rate Case Funding ($):		n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 1,415,400 **Maximum ($):** 2,628,600

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Mobile Switchgear
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2024 **In-Service:** 12/31/2025

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
With all of the switchgear replacements along with long term maintenance of existing switchgears, a new mobile switchgear will be purchased to offload existing circuits in order to provide reliable work practices.

Describe specific scope exclusions, assumptions and constraints:
New Mobile Switchgear will need to be available for maintenance or new construction for every substation.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

N/A: Infrastructure Replacements

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

A mobile switchgear will allow the replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?
N/A: Infrastructure Replacements

Is this Project in Central Hudson's current approved rate case? No

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,520,095		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	125,000	0	125,000	0	0	0	0	0
	Labor (Monthly Payroll)	78,050	50	78,000	0	0	0	0	0
	Stock Materials	47,000	0	47,000	0	0	0	0	0
	A/P Non-Stock Material	784,000	0	784,000	0	0	0	0	0
	A/P Contractors & Other	361,000	0	361,000	0	0	0	0	0
	Inflation	30,040	40	30,000	0	0	0	0	0
	AFUDC*	95,005	5	95,000	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**1,520,095**	**95**	**1,520,000**	**0**	**0**	**0**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0	0	0	0	0	0	0	0
	Labor (Monthly Payroll)	0	0	0	0	0	0	0	0
	A/P Non-Labor (dumpsters, etc.)	0	0	0	0	0	0	0	0
	A/P Contractors	0	0	0	0	0	0	0	0
	Overheads	0	0	0	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	0	0	0	0	0	0	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Not included in current PSC-approved budget plan

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 710,500 **Maximum ($):** 1,319,500

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Grid Modernization
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2023 **In-Service:** 12/1/2026

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
The Central Hudson Grid Modernization Program is comprised of six critical projects: Distribution Automation, Distribution Management System, Distribution System Operations, Geographic Information System (GIS) Model, Network Strategy, and Substation Metering Infrastructure.

Describe the project objective and scope of work:
Installation of substation feeder metering upgrades for per phase metering and fault data reporting. This includes electric and gas customer metering upgrades to provide remote monitoring and control. These infrastructures will be leveraged for remote metering, outage reporting, and energy savings. Installations include upgraded transformer LTC controllers and distribution circuit relaying upgrades at multiple substations.

Describe specific scope exclusions, assumptions and constraints:
A systematic approach installing Grid Modernization equipment within substations has taken place. The Poughkeepsie and Fishkill Districts will be completed first, followed by Newburgh, Kingston, and Catskill Districts, respectively.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? Yes

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Grid Modernization Charter Final_Signed.pdf

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*
Was this project included in a prior 5-year forecast? No
If No, why should this project be completed instead of a planned project?
Grid Modernization aligns with our Corporate Goals by improving customer reliability.

Why do we need to complete this project in the period requested?
Grid Modernization projects are a key Central Hudson initiative that will help create a smarter grid that will meet the changing energy landscape and prepare for the operating needs of the future.

What are the risks and consequences of not completing this project?
Risk of decreased reliability possibly increasing SAIFI or CAIDI due to decreased automated restoration.

Is this Project in Central Hudson's current approved rate case? No

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $6,747,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	510,000	330,000	167,000	13,000	0	0	0	0
	Labor (Monthly Payroll)	332,000	220,000	104,000	8,000	0	0	0	0
	Stock Materials	198,000	130,000	63,000	5,000	0	0	0	0
	A/P Non-Stock Material	3,025,000	1,900,000	1,045,000	80,000	0	0	0	0
	A/P Contractors &Other	1,418,000	900,000	481,000	37,000	0	0	0	0
	Inflation	481,000	440,000	39,000	2,000	0	0	0	0
	AFUDC*	431,000	300,000	123,000	8,000	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	6,395,000	4,220,000	2,022,000	153,000	0	0	0	0
RETIREMENTS	Labor (Weekly Payroll)	141,000	120,000	0	21,000	0	0	0	0
	Labor (Monthly Payroll)	106,000	90,000	0	16,000	0	0	0	0
	A/P Non-Labor (dumpsters, etc.)	18,000	15,000	0	3,000	0	0	0	0
	A/P Contractors	35,000	30,000	0	5,000	0	0	0	0
	Overheads & Other	52,000	45,000	0	7,000	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	352,000	300,000	0	52,000	0	0	0	0
	Expense $ (if applicable):	0							
	Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** AFUDC may require adjustment after Finance Department review.*

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Preliminary
Cost Estimate Confidence: **(that final cost will be within +/-20% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 5,397,600 **Maximum ($):** 8,096,400

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Maybrook Transformer Upgrades
Work Order #: 6500-K
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2024 **In-Service:** 12/1/2026

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
Replace existing Maybrook transformers with 22.4/29.8/37.4 MVA transformers with high side circuit switchers, bus work, and connections.

Describe specific scope exclusions, assumptions and constraints:
Property must be obtained adjacent to the Maybrook Substation to allow for future expansion of additional circuits which may require a Power Control Center (PCC) if loading on the Maybrook Substation surpasses 30 MVA.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
EP#2022-007 Maybrook-Montgomery Spot Load Review.pdf

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: Maybe - Requires further scope development
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
To replace obsolete equipment before failure.

What are the risks and consequences of not completing this project?
Risk of power transformer failure possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $14,518,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	1,187,000	256,000	334,000	597,000	0	0	0	0
	Labor (Monthly Payroll)	742,000	160,000	209,000	373,000	0	0	0	0
	Stock Materials	445,000	96,000	125,000	224,000	0	0	0	0
	A/P Non-Stock Material	7,924,000	2,100,000	2,090,000	3,734,000	0	0	0	0
	A/P Contractors & Other	2,679,000	0	961,000	1,718,000	0	0	0	0
	Overheads & Other	612,000	388,000	81,000	143,000	0	0	0	0
	AFUDC*	776,000	200,000	226,000	350,000	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	14,365,000	3,200,000	4,026,000	7,139,000	0	0	0	0
RETIREMENTS	Labor (Weekly Payroll)	60,000	0	60,000	0	0	0	0	0
	Labor (Monthly Payroll)	46,000	0	46,000	0	0	0	0	0
	A/P Non-Labor (dumpsters, etc.)	7,000	0	7,000	0	0	0	0	0
	A/P Contractors	15,000	0	15,000	0	0	0	0	0
	Overheads & Other	25,000	0	25,000	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	153,000	0	153,000	0	0	0	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Preliminary
Cost Estimate Confidence: **(that final cost will be within +/-20% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 11,614,400 **Maximum ($):** 17,421,600

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: North Chelsea PLC Replacement
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2026 **In-Service:** 12/1/2026

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
The first and second generation Programmable Logic Controllers (PLC's) require more extensive maintenance due to age-related component failures. Many of these PLC's are now unsupported by the manufacturers and have limited or no parts availability for maintenance and repair.

Describe specific scope exclusions, assumptions and constraints:
Planned replacement of PLC located at North Chelsea Substation.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A: Replacement of obsolete PLC equipment.

Why was the proposed project scope chosen over other alternatives?
N/A: Replacement of obsolete PLC equipment.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Replacing obsolete PLC equipment in order to optimize control and communications in Electric Substations.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates' N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
To replace obsolete equipment before failure.

What are the risks and consequences of not completing this project?
Lack of Supervisory control and information in the substation possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,687,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	128,000	0	0	128,000	0	0	0	0
	Labor (Monthly Payroll)	80,000	0	0	80,000	0	0	0	0
	Stock Materials	48,000	0	0	48,000	0	0	0	0
	A/P Non-Stock Material	800,000	0	0	800,000	0	0	0	0
	A/P Contractors & Other	368,000	0	0	368,000	0	0	0	0
	Overheads & Other	31,000	0	0	31,000	0	0	0	0
	AFUDC*	76,000	0	0	76,000	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	1,531,000	0	0	1,531,000	0	0	0	0
RETIREMENTS	Labor (Weekly Payroll)	64,000	0	0	64,000	0	0	0	0
	Labor (Monthly Payroll)	48,000	0	0	48,000	0	0	0	0
	A/P Non-Labor (dumpsters, etc.)	8,000	0	0	8,000	0	0	0	0
	A/P Contractors	16,000	0	0	16,000	0	0	0	0
	Overheads & Other	20,000	0	0	20,000	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	156,000	0	0	156,000	0	0	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 990,500 **Maximum ($):** 1,839,500

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
This project was part of the original RTU and PLC Replacement Program that has been separated out by project.

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: **Wiccopee Relay Upgrade**
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2025 **In-Service:** 12/1/2025

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
A variety of equipment exists in Central Hudson substations, including protective relays, meters, recloser controls, and other control & communications equipment such as Remote Terminal Units (RTUs). Each of these components serves an integral role in contribution to the overall, integrated substation protection, control, and monitoring function. This equipment is at the end of its useful life and must be upgraded to current standards.

Describe specific scope exclusions, assumptions and constraints:
Part of the original ESP Infrastructure Replacement Program that has been broken out into individual projects. All electromechanical relays at Wiccopee Substation will be upgraded to current microprocessor relay standards.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Risk Reduction. See files "SR#2011-07 Substation Relays, Meters, Controls and Communications Infrastructure Oppor.pdf" and "EP 2022-015 East Fishkill Area Review.pdf"

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

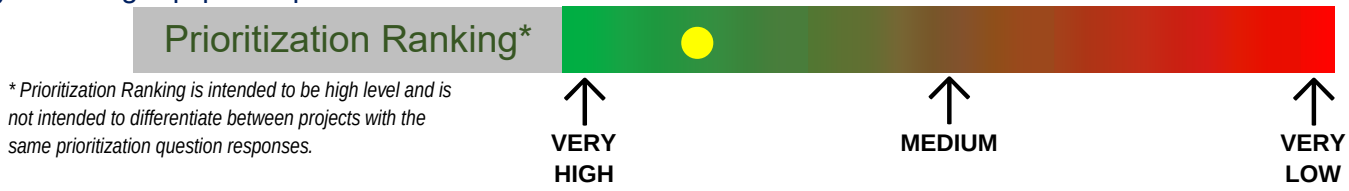
What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?
Risk of equipment failure possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.



** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,307,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	100,000	0	100,000	0	0	0	0	0
	Labor (Monthly Payroll)	63,000	0	63,000	0	0	0	0	0
	Stock Materials	38,000	0	38,000	0	0	0	0	0
	A/P Non-Stock Material	627,000	0	627,000	0	0	0	0	0
	A/P Contractors & Other	288,000	0	288,000	0	0	0	0	0
	Inflation	24,000	0	24,000	0	0	0	0	0
	AFUDC*	65,000	0	65,000	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**1,205,000**	**0**	**1,205,000**	**0**	**0**	**0**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	40,000	0	40,000	0	0	0	0	0
	Labor (Monthly Payroll)	31,000	0	31,000	0	0	0	0	0
	A/P Non-Labor (dumpsters, etc.)	5,000	0	5,000	0	0	0	0	0
	A/P Contractors	10,000	0	10,000	0	0	0	0	0
	Overheads & Other	16,000	0	16,000	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**102,000**	**0**	**102,000**	**0**	**0**	**0**	**0**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 895,300 **Maximum ($):** 1,662,700

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Copy to: Mr. P.E. Haering
Mr. H.W. Turner
Mr. P. Harpolis
Mr. J. M. May
Mr. D. J. Dittmann
S.R. #2011-07

June 24, 2011

Mr. J.J. Borchert

Re: Substation Relays, Meters, Controls and Communications Infrastructure Opportunities

I. Introduction:

A variety of equipment exists in Central Hudson substations, including protective relays, meters, reclosers, and controls and communications instruments such as Remote Terminal Units (RTUs) and Programmable Logic Controllers (PLCs). Each of these components serves an integral role in contribution to the overall, integrated substation protection, control, and monitoring function. Various departments rely on information from these devices in order to perform their jobs, including Operations Services, Customer Services' line forces, Electric Transmission Planning, Distribution Planning, System Operations, Energy Accounting, and Electric System Protection. Brief summaries of these components are included in **Attachments 1 through 4**. The intention of this memo is to identify the concerns with continuing to use the identified outdated equipment, detail the benefits of combining functions when replacing equipment, establishing a policy for substation relaying, control, & monitoring functions, and laying out a plan to incorporate these components into a comprehensive substation renovation program.

Equipment and Functions:

1. Relays – The relays protect the electric transmission and distribution systems and can provide oscillography, targets, and phasor data. Electric System Protection (ESP) uses the relays to gather information on faults, including fault characteristics, fault locations, and phasor data. ESP interprets the oscillography data and then communicates our conclusions to: System Operations as an information point of contact; 2) Customer Services (Line Forces) to aid in fault locating and thereby limiting patrol time and area; 3) Operations Services for cases where there may be equipment issues.

2. Meters – The meters provide AC system quantities that are used to operate safely and to plan effectively for future system needs. The Electric Planning & Reliability area uses meter information for day-to-day operations (e.g., switching) and to aid in identifying and addressing locations requiring system reinforcements. System Operations (Sys Ops) uses meter data to monitor and operate the CH transmission system within the ratings of those facilities.

3. Controls and Communications – The RTUs, PLCs, and data concentrators provide status feedback and remote control capability; they also act as a conduit for meter and relay data. Sys Ops relies on the data provided by the RTUs and PLCs to monitor the status of the system from a centralized location, enabling them to respond quickly to system abnormalities. Also, Sys Ops has the ability to perform control operations through the RTUs and PLCs.

Waste Reduction:

New equipment can be utilized in an integrated fashion to eliminate or minimize the following tasks and unnecessary equipment (Excerpts are taken from the attached memos):

- Reading chart meters and manually entering data into the Meter Database (MDB).
  - Chart meters cost CH at least $275,000 annually in labor expense (1130 man-hours), which can be devoted to other work.
- MV-90 circuits not for revenue or interchange metering purposes.
  - MV-90 circuits from Verizon cost CH approximately $24,000 annually in expense.
- Running fault studies manually to determine fault locations.
  - Manual fault locating costs CH approximately $15,000 annually in labor expenses.
- Metering transducers, auxiliary relays, timing relays, reclosing relays, and coil monitors.

Supporting the Future State:

New equipment, properly implemented and integrated, will better support current functions and create flexibility for added future functions as follows:

- Provide continuous metering data for the entire system, eliminating information "gaps" as a result of non-continuous and non-contiguous metering.
- Provide for robust planning capabilities and switching operations through use of trending and real-time data.
- Enable more accurate forecasting of area loads to increase risk tolerance, possibly resulting in deferral of substation and distribution projects.
- Offer flexibility for Distribution Automation and Smart Grid initiatives.
- Improve reliability and reduce CAIDI through automated event reporting and fault location.

II. Current State:

This section describes the mix of equipment by component, system wide, and the limitations of the non-digital devices.

1. Relays

There are 3500 active protection relays on the system, excluding LORs, SPRs, Regulator Controls, Recloser Controls, and Communication equipment.

Attachment 1

Copy to: Mr. P.E. Haering
Mr. H.W. Turner
Mr. P. Harpolis
Mr. J. M. May
S.R. #2011-03

June 23, 2011

Mr. J.J. Borchert

Re: Transmission & Distribution Protective Relay Review

Introduction:

Protective Relays represent a vital component for the reliable operation of the Central Hudson Electric Transmission and Distribution Systems. CH substations contain a generational mix of protective relay equipment that differs in capability, ease of use, and reliability. Relay technology has advanced; microprocessor-based (digital) relays not only offer numerous protection functions, but they provide metering capability as well in a compact footprint. This memo summarizes the existing transmission and distribution protective relay equipment, as well as recommendation for replacement options.

Discussion:

Relays perform various functions aimed at timely isolation of faulted areas and rapid restoration once the fault has been cleared. Some of the functions that relays provide include zone distance protection, high-speed pilot protection, overcurrent protection, differential protection, and automatic reclosing.

A. Outdated Devices:

The majority of substations contain a group of single-component electromechanical relays for each protected facility; these relays are responsible for protection functions exclusively. At these locations, metering is performed separately, also often in a single-function fashion. There are also stations that have more recent (but still outdated) types of relays, including solid state and early microprocessor relays. These relays have been failing recently, and a replacement program was created last year to address the concern with these relays. The following is a list (in order of decreasing replacement priority) of common relay types found in substations along with the reason that they have been superseded:

- Electromechanical Relays: These relays are obsolete for the reasons previously described (i.e.; physical size, calibration drift, single-function capabilities, etc).

- Solid State Relays: Like electromechanical relays, the relays on the CH system typically are single function. They have advanced technologically past the electromechanical relays, but not quite to the level of digital relays. They monitor current and voltage waveforms through analog circuits, which then are compared through potentiometers to user defined settings. They generally are unsupported, spare parts are hard to locate, and they contain components that deteriorate over time.

- 1st Generation Microprocessor Relays: Please see the 2010 Budget Memo, **Re: Relay Replacement Program for Upgrade of 1st Generation Microprocessor Relays Remaining on the Central Hudson System**, dated July 1, 2010, for the existing program.

- Schweitzer Engineering Laboratories (SEL) 200 Series Relays (SEL-251/ 267/ 279/ 2BFR): These relays are digital, but they make use of early logic processing methods, in which creating settings isn't as user-friendly as in modern digital relays. SEL has discontinued manufacturing parts for most of these relays, and limited service is provided with them.

- Basler BE1-79M Relays: These relays are multi-shot reclosing relays; they only provide the reclosing function. There are more recently developed relays that provide numerous protection functions and also perform reclosing operations and metering functions.

- Basler BE1-851 (H) Relays: These relays are multifunction, digital relays; however, they only receive current inputs. So, the only meter data available is Amps. Multifunction relays exist that receive current and voltage inputs and provide MW & MVAr data as well as a much larger variety of protection options.

B. Retrofit/Replacement Options:

Digital relays offer multiple protection functions as well as metering and substation equipment diagnostics. The use of multifunction digital relays greatly reduces the required panel space. Also, with few moving parts, digital relays do not need recalibration to remain accurate. Additionally, digital relays and digital relay controls offer the ability to have longer durations between maintenance cycles due to the combination of their internal error checking and their constantly monitored alarm outputs to SCADA.

Digital relays can be specified to offer equipment diagnostics for the devices they protect. For example, digital transformer relays have the ability to monitor the through-fault history of the transformers and to make determinations on the required maintenance as a result. The same case is true for feeder breakers protected by distribution relays.

- Digital Relays: A collection of proven products exists by a variety of manufacturers. These relays are microprocessor-based, multi-function relays that provide a large variety of protection, metering, and equipment diagnostic capability; they can be used for various protective functions. Some manufactures include SEL, GE, and Basler*. Electric System Design (ESD) has standardized the design to use SEL as primary protection and either GE or Basler relays for backup protection.

* Basler provides a BE1-951 relay, which conveniently fits into electromechanical relay panel cutouts.

C. Additional Considerations:

- Data Concentrator (SEL-2032): This relay has 16 ports and can act as a data concentrator, a phone switch, and a basic logic processor. The 2032 connects to the RTU, acting as a slave device; it connects to other digital relays, polling them for meter information as a master. Once in the 2032, the meter data can be mathematically manipulated to maintain integrity and precision before it is transferred to a compatible RTU. The 2032 also is connected to a phone line to provide dial-in remote access for trained personnel, enabling event retrieval and relay interrogation.

- Time Synchronization Devices: Various devices exist on the market that provides a means of time synchronization, including satellite clocks. These clocks provide a unified signal based on a sole source located at zero time offset. To avoid confusion between time zones, UTC time is used as a standard. Sequence of events reconstruction truly realizes the value of having all of the station relays linked to a universal source.

Conclusions:

Upgrading to digital relays provides the following benefits:

- They offer a more compact footprint and much more capability than their large, single-function predecessors.

- They provide digital metering capability. With proper SCADA infrastructure in place[1], the digital relays can transfer instantaneously metered values to EMS, and ultimately to the MDB/eDNA with little human intervention.

- The diagnostic capabilities of digital relays should be used to help in the condition assessment of substation equipment.

- They have a proven track record of good quality and high availability, along with excellent manufacturer support for current models.

- They provide oscillography, targets, and phasor data that can be accessed from a remote location through a modem. This capability assists in timely and accurate fault analysis.

- They have lower maintenance costs because they rarely fail and allow for an increased maintenance cycle (i.e. an increase of 50%; from 4 yrs. to 6 yrs.).

Eric A. Loeven

[1] Full integration requires a DNP compatible Remote Terminal Unit described in the "RTU Review" memo.

Attachment 2

Copy to: Mr. P.E. Haering
Mr. H.W. Turner
Mr. P. Harpolis
Mr. J. M. May
Mr. D. J. Dittmann
S.R. #2011-04

June 23, 2011

Mr. J.J. Borchert

Re: Substation Metering Review

Introduction:

Substation metering data is used to plan and operate the Central Hudson Transmission and Distribution Systems. These metering data are necessary for the safe operation of existing facilities as well as the cost effective planning and design of new facilities. Many transmission lines, substation transformers, and distribution circuits have their MW & MVAr flows monitored by the Energy Management System (EMS) and have the resultant data stored in the Meter Data Base (MDB) and Historian (eDNA). Many other circuits either are not metered or utilize local indicating metering, such as graphic charts or drag hands, to register data.

Technology has advanced; there are much more reliable and efficient means of measuring and transmitting metered load data, including by means of digital relays. This memo summarizes the existing meter equipment and the replacement options, as well as provides recommendations on the best option to gain appropriate metering data in the most efficient manner.

Discussion:

A large number of substations contain transducer-based meters, which register and report their data directly to a Remote Terminal Unit (RTU) by means of an analog signal. A handful of other stations contain chart meters, which provide local indication. In the stations that have chart meters, the metering is often registered in single function fashion, with circuit current measured in Amps and transformer load measured in Kilowatts and Kilovars. The meter data that is most useful for planning and operating the system is provided in the form of Watts and Vars. Additionally, the panel space taken up by the charts can be reduced greatly with the installation of digital relays, which offer protection functions as well as metering functions.

Technological advances have led to multi-function, digital relays with the capability to meter accurately. The digital relays can transfer instantaneously metered values to EMS. Once there, the data is stored in the Historian, integrated, and the peak hourly values are calculated and transferred to the MDB with little human intervention.

A. Outdated Devices:

The following is a list of common metering methods used in CH substations along with the reason that they have been superseded:

- Chart Meters: Graphic charts monitor single values such as MW, MVAr, or circuit Amps. These charts rely on diligent maintenance practices to ensure that they function

as designed. Many of the charts run out of ink between maintenance cycles or fail mechanically, leaving "gaps" in data. Even the charts that record properly pose difficulty in capturing their data. The process of going to the substations to collect the charts, reviewing the charts and interpreting the data, and entering the data manually into the MDB is time consuming. Due to the cumbersome nature of the process, the charts are only interpreted for the annual system peaks, which leaves 2-4 data points in the MDB for that circuit or station element to use in planning.

- Other Local Indication Metering: Charts are not the only method of local metering. There are also substation Ammeters, Voltmeters, etc. that are remnants of a time when stations were manned and operated manually. Many of these devices are unsupported and have limited parts available.

- MV-90: An alternative method to metering by charts is to meter through MV-90. MV-90 is a system that uses a recorder to receive metered data directly from the instrument transformers and relies upon a dedicated telephone line to transmit that data to the master station collector; it is used for revenue metering as well as substation metering. Once the master has the data, it is transferred to the MDB. This method requires a dedicated line and the associated expenses.

- No Metering: Locations exist on the system where there are no methods of capturing load data. Some of these locations rely on grouped metering; they do not provide the granularity of individual circuit load data. At other locations, it hasn't been cost justified to install/repair any metering.

- Transducers: The transducers are wired directly to secondary AC quantities from current transformers and potential transformers. They convert the input quantities into an analog output signal, which is wired to the analog inputs of an RTU.

- Load checks: On a heavily loaded day, load checks are performed on circuits without automatic metering by having a worker physically go to a point on a circuit and manually perform a metering check.

B. Retrofit/Replacement Options:

- Digital Relays: Microprocessor-based relays not only offer protection functions; they provide metering capability as well in a compact footprint. The digital metering data provided by the digital relays is extremely accurate and has the ability to be entered into the MDB through Supervisory Control and Data Acquisition (SCADA) automatically once proper infrastructure is in place. The relays offer the ability to register numerous metering values simultaneously and in comm. format so that individual wires aren't needed for each metered point; rather, a single cable can be used to transmit multiple data points. Also, a separate phone line is not required for this method.

- Bitronics Power Meters: These meters provide bi-directional Watt and Var meter values as well as Volt and Amp values. They are capable of transmitting data through analog signal or through communication protocol to an RTU. They are cheaper alternatives, but do not provide any protection functions.

- Grid Sense: These are clip-on meters that report to a nearby data concentrator via radio. The data concentrator is linked to a POTs line outside of the station (no need for a Positron). The newest models provide directional Watt and Var metering, and they have the ability to report data in selectable time increments to the meter database. They represent a lower cost option and provide limited fault recording capabilities, but they do not provide protection functions.

Conclusions:

- Reading chart meters takes a great deal of time, and many of the charts are unsupported and are labor intensive to maintain. Data "gaps" exist when using chart meters, and the meters provide only a few, data points to the MDB each year, which need manual entry. The materials to repair and/or replace the charts are in short supply.

- Digital relays provide digital metering capability. With proper SCADA infrastructure in place, the digital relays can transfer instantaneously metered values to EMS, and ultimately to the MDB with little human intervention.

- The AC quantities that the digital relays require for protection can be used for metering as well; therefore, there is no need for additional wiring from the instrument transformers to meters. Additionally, transducer equipment, which is susceptible to drift and requires regular maintenance, is no longer needed.

- The MV-90 system is a fully functional system, and it is an efficient method of collecting meter data in stations that do not have the relay and/or RTU capability to transmit data. MV-90 metering requires a dedicated phone line to transmit the meter data; this reoccurring expense can be eliminated with digital relaying and a proper RTU.

- Grid Sense meters can be installed relatively inexpensively and quickly to provide stopgap metering data until upgrades can be completed. They require a phone line and the monthly expenses associated with the line.

Eric A. Loeven

Appendix 1: Estimated Costs of Current Methods and Retrofit Options

Current Methods	Time (Manhours)		Cost	
	Field	Eng	TOTAL	
MV-90 yearly (per station on average)			$1,200	
Chart Meter maintenance & data retrieval	1	10	$1,250	Note 1

Note 1: This cost is to retrieve the circular chart, review it, and enter it into the database. This process takes place on a suspected system peak day. At minimum, there are two times a year that this process is performed (Summer Peak and Winter Peak); however, there may be four or more times depending on when the actual peak occurs.

Retrofit Options		Time (Manhours)				Cost: Parts		Cost: Labor	TOTAL
		Tech	Elect	Draft	Eng	Device	Test Sw., Steel, etc.	(w/OH)	
Grid Sense Meter	W / VAr	Hours are for the EOE and the Linemen. Per installation, each meter takes the lineman and the EOE 15 minutes to install. Each data concentrator requires 20 minutes of lineman time and 15 minutes of EOE time. Travel to each site has been assumed to be 1 hour.				$4,775			$5,700
Data Concentrator	1 for every 4 ckts.					$2,272			$2,700
POT Line						$100			$110
Labor (including travel time)	per Station							$430	$430
Site Registration	per D/C					-waived-			
TOTAL GS Installation									$9,000
Bitronics (Comm)		40		40	8	$2,000	$1,000	$11,400	$15,000
Bitronics (HW-W/VAr/V)		40		40	12	$1,100	$1,000	$12,000	$14,500

Attachment 3

Copy to: Mr. P.E. Haering
Mr. H.W. Turner
Mr. P. Harpolis
Mr. J. M. May
Mr. D. J. Dittmann
S.R. #2011-05

June 23, 2011

Mr. J.J. Borchert:

Re: Remote Terminal Unit Review

Introduction:

Real-time control and status feedback are vital components of a properly functioning substation. Without someone at the substation 24/7, a means of providing feedback and control operations is required; that means is a Remote Terminal Unit (RTU). This memo will describe the current state of the RTUs on the system, as well as the opportunity areas for retrofits and justification for the upgrades.

Discussion:

RTUs provide a means of transmitting important data in a substation to a master station via Supervisory Control and Data Acquisition (SCADA). The RTUs collect status and metering data and transmit it to a master station when polled. Also, they perform control operations that are initiated from the master station in a remote location. The RTUs can be dedicated line or dial-up depending on the application. RTUs have evolved with technology; existing CDC RTUs (protocol and provider) have been replaced with new flash ROM RTUs that utilize protocol suites including, but not limited to, CDC and the utility standard, DNP.

A. Outdated Devices:

- CDC 44-500 & CDC 88-90: These are different versions of dedicated line RTUs provided by CDC, a company that no longer exists. Retrofits have been performed to eliminate the CDC RTUs on the system because of the inability to get spare parts and due to their incompatibility with the digital relays. These RTUs utilize CDC protocol, which is an outdated protocol incapable of communicating with digital relays/data concentrators and is unable to receive digital metering data. They rely on analog signals and pulse accumulators sent from transducers to transmit meter information.

- G.E. M-4000: This is a smaller version of the G.E. Harris D20 RTU. It is used mainly in dial-up applications and is polled twice daily for SCADA data. It will report unsolicited if there is a change of status or if a metered point's dead band is exceeded. Based on the frequency that dial-up RTUs are polled, they cannot be used as sources to the meter database. Also, dial-up RTUs are not reliable because they rely on a plain old telephone (POT) line for communication. Due to this lack of reliability, control operations typically are not performed with dial-up RTUs. As a plus, the M-4000 has the capability to communicate through CDC or DNP protocol, and it also can be configured as a dedicated unit.

- G.E. D20: The functionality and hardware of this RTU are consistent with many modern RTUs; however, the configuration software is not user-friendly and uses a complicated, layered architecture. Additionally, with retiring technicians, the available workforce skilled in working with the configuration software is dwindling. This fact is of concern because emergency fixes will take longer to complete.

B. Retrofit/Replacement Options:

- Telvent Sage 2400[1]: Telvent offers an RTU that fits into existing CDC RTU cabinets, and it has peripheral cards that resemble the CDC RTU cards. For these reasons, Telvent is the vendor of choice, providing the most seamless retrofit option. Telvent also offers a protocol suite for communications, including DNP and CDC. The DNP Master protocol allows direct communication with SEL-2020/2030/2032 data concentrators to transfer metering data from numerousdigital relays in a substation.

C. Additional Considerations:

- Radio linked RTUs: As previously stated, the M-4000 can be polled as a dedicated RTU or as a dial-up unit. If there is a nearby, dedicated RTU, it is sometimes possible to install a radio link between the two stations and poll the M-4000 from the other station. In this configuration, there is access to real-time information and the ability to perform control operations at both stations. The need for the Positron Box at the radio-linked station is eliminated, and there is no extra cost incurred by installing a phone line and a Positron Box. The radio links require a clear line of site from one station to the next in order for the signal to be transmitted clearly. As such, the reliability of the circuits is largely dependent upon the terrain. Radio signals are also susceptible to interference from other mobile devices such as CB Radios.

- Positron Boxes: One major cost associated with RTUs, dedicated or dial-up, is the phone company's requirement of a Positron Box to isolate the outside phone line from the electric substation. This requirement is in place to provide a level of comfort for the phone company technician working in our substations, many of the existing stations have been allowed to function without this isolation in a grandfathered manner. However, any time that RTU retrofits are performed at these stations, the installation of a Positron Box is required. They are an expensive piece of equipment and have long lead times that may impact project schedules. There also is continued reliance on the phone company for maintenance and repairs.

[1] Telvent has been chosen as the preferred RTU for retrofits due to ease of configuration/use and the techs' familiarity with the units. All RTU cost estimates in this report are based on using this RTU.

Conclusions:

Upgrading old CDC, M-4000, and D-20 RTUs to Telvent RTUs provides the following benefits:

- Telvent RTUs are reliable and parts are available readily.
- The Telvent configuration software is user-friendly, making configuration and testing faster.
- DNP RTUs, of which Telvent is one, can receive communication-based metering & status and transmit it to the SCADA master.
- The Telvent RTU retrofits for the CDC 44-500's utilize the existing RTU cabinet and high powered tripping relays. The Telvent replaces the equipment susceptible to failure and makes use of the existing equipment that is less prone to failure.
- Using Telvent RTUs provides timesavings through standardization, and the engineers and technicians alike prefer to work with the Telvent for RTU retrofits.

Consideration also should be given to converting dialup RTUs to dedicated line RTUs. Dialup RTUs rely on POT lines, which have notoriously poor reliability; additional steps and equipment are required to perform the control operations safely. In contrast, dedicated line RTUs offer signal reliability, which provides the ability to perform control operations safely without added equipment and procedure steps.

Eric A. Loeven

Attachment 4

Copy to: Mr. P.E. Haering
Mr. H.W.Turner
Mr. P. Harpolis
Mr. D. J. Dittmann
Mr. J. M. May
S.R. #2011-06

June 23, 2011

Mr. J.J. Borchert

Re: Substation Recloser Review

Introduction:

Substation reclosers provide an alternate method of interrupting fault current on distribution and sub-transmission circuits. They are a convenient way to provide circuit protection in locations where it is not cost effective to install a circuit breaker and associated conduit to a control house. One disadvantage of using a recloser rather than a circuit breaker is that the recloser has reduced interrupting capability.

Recloser technology has advanced; hydraulic, oil-filled devices have given way to vacuum-interrupted, microprocessor-based (digital) recloser controls. This memo summarizes the existing substation recloser equipment, as well as replacement options. Also, this memo provides recommendations on the best retrofit options.

Discussion:

"An automatic circuit recloser is a self-contained device, which can sense and interrupt fault currents as well as reclose automatically in an attempt to re-energize a line."* The existing hydraulic reclosers, a kin to electromechanical relays, have single component capability with limited flexibility in setting pickup curves, very little intelligence, and minimal ability to report feedback. New, digital recloser controls provide a wide range of pickup curves, are self-monitoring, grant instant notification of operations, offer desired metering capabilities, and require less frequent routine maintenance.

A. Outdated Devices:

Reclosers were installed in substations as a cost effective alternative to a distribution (15kV) or sub-transmission (34.5kV) circuit breaker combined with a reclosing relay. They can be single-phase or three-phase, be controlled mechanically (hydraulic) or digitally, and they have interrupting mediums of oil or vacuum. They make use of a series of fast and slow curves, providing coordination versatility and protection flexibility. A brief summary of the outdated reclosers on the CH system, specifically the hydraulically controlled type and the oil-interrupted type, is as follows:

- Hydraulically controlled reclosers: These reclosers are self-contained and self-controlled; they have oil or vacuum interrupters. They are outdated due to their

* Page 124. Power Distribution Engineering: Fundamentals and Applications. James J. Burke. 1994.

C. Additional Considerations:

- Telemetric Interface: The Telemetric RTM II device can be installed to provide status and control of the SEL-651R DNP3 points. These data travel via cellular network and are displayed via a secure web interface. In addition, data travel to a SCADA Xchange server and then over frame relay to our SCADA system.

- R-Mag Circuit Breakers: As the most direct comparison to the substation recloser, these circuit breakers are a packaged breaker and relay combination. They are relatively inexpensive to install and there is familiarity with them by the techs, electricians, and engineers alike. These breakers provide a higher interrupting capability than the reclosers.

Conclusions:

Upgrading to vacuum interrupted, digitally controlled Viper reclosers provides the following benefits:

- Vacuum Interruption –
  - The speed of operation on these reclosers is not compromised by temperature.
  - The maintenance on these reclosers is not as labor-intensive as the oil-filled reclosers. They can operate up to 10,000 times before requiring an overhaul, with only the battery requiring simple in-field replacement in the meantime.
- Digital Control –
  - These recloser controls provide a wide range of pickup curves, which makes coordination easier and much more flexible than the hydraulically controlled reclosers.
  - These recloser controls offer digital metering capability and fault notification. The recloser can transmit its information through SCADA if the proper infrastructure is in place, or through Telemetric in stations with under-developed SCADA infrastructure.
  - These recloser controls can be interrogated to gather oscillography, targets, and phasor data from a remote location through a modem. This capability assists in timely and accurate fault analysis.

Some of the lower cost is lost when the recloser is installed in a substation if it is connected to the RTU in the control house, rather than through the Telemetric Unit. In this case, the added cost of conduit, steel work, and/or foundation needs to be considered. Regardless of the method of reporting to SCADA, installing the recloser in a substation comes with the added costs associated with technician time to commission and test the recloser and digital control over the cost of an installation on a distribution circuit.

Eric A. Loeven

Appendix 1: Estimated Costs of Retrofit Options

Retrofit Options	Cost		
	Parts	TOTAL	
Viper Reclosers with control relay and PT (on dist circuit)	$21,000	$33,500	Note 1
Viper Reclosers with control relay (in a substation – Telemetric communication)	$20,500	$33,000	Note 1
Viper Reclosers with control relay (in a substation – RTU communication)	$20,500	$86,000*	Note 2
R-Mag Breaker	$25,000	$90,000	

Note 1: These represent one-time costs. There are additional annual costs for the SCADA Frame relay and the SCADA X-Change to Telemetric. The SCADA Frame Relay costs $5200/yr. The SCADA X-Change to Telemetric costs $2000/yr for 100 devices and $1500 for each 50 devices after that.

Note 2: This cost is estimated based on proposed work to bring the data through the RTU. No installations exist at this time in this manner.

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Accord	4	361 Ckt.	Charts - kW	-----	EM	NONE	-----	Retired as part of P/MK Upgrade
Ancram	13.8	7085 Ckt.	Grid Sense	-----	EM	NONE	-----	Only has a 13.8 Voltage Regulator
Balmville						NONE		
Balmville	4	411 Ckt.	MV-90	-----	EM	-----	-----	
Balmville	4	412 Ckt.	MV-90	-----	EM	-----	-----	
Barnegat						C-300		
Barnegat	115	KB Line	Amps	EM	-----	-----	-----	Metering source?
Barnegat	115	KC Line	None	EM	-----	-----	-----	
Barnegat	115	KB-749-KC BKR	-----	EM	-----	-----	-----	
Barnegat	115/13.8	T1	SCADA	EM	-----	-----	-----	IBM Feeds
Barnegat	115/13.8	T2	SCADA	EM	-----	-----	-----	
Barnegat	13.8	S1	SCADA	-----	EM	-----	-----	IBM Feeds
Barnegat	13.8	S2	SCADA	-----	EM	-----	-----	
Barnegat	13.8	S1-706 BKR	SCADA	-----	EM	-----	-----	IBM Feeds
Barnegat	13.8	S2-734 BKR	SCADA	-----	EM	-----	-----	
Beacon						D-20		
Beacon	13.8	8006 Ckt.	SCADA	-----	EM	-----	-----	
Beacon	13.8	8015 Ckt.	SCADA	-----	EM	-----	-----	Previously 8087A?
Beacon	4	801 Ckt.	SCADA	-----	EM	-----	-----	
Beacon	4	802 Ckt.	SCADA	-----	EM	-----	-----	
Beacon	4	803 Ckt.	SCADA	-----	EM	-----	-----	
Beacon	4	W-414 BKR	SCADA	-----	EM	-----	-----	
Beacon	4	W-463 BKR	SCADA	-----	EM	-----	-----	
Beacon	4	Bus 1	SCADA	-----	-----	-----	-----	
Beacon	4	Bus 2	SCADA	-----	-----	-----	-----	
Beacon	13.8/4	T1	SCADA	-----	EM	-----	-----	
Beacon	13.8/4	T2	SCADA	-----	EM	-----	-----	MDB has an entry with T1+T2 calculated
Beacon	13.8	BF Cable	SCADA	-----	EM	-----	-----	
Beacon	13.8	NM Cable	SCADA	-----	EM	-----	-----	
Beacon	13.8	CM Cable	SCADA	-----	EM	-----	-----	
Beacon	13.8	Bus 1	SCADA	-----	EM	-----	-----	
Beacon	13.8	Bus 2	SCADA	-----	EM	-----	-----	
Bethlehem Rd.						2400		
Bethlehem Rd.	13.8	4091 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Bethlehem Rd.	13.8	4092 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Bethlehem Rd.	13.8	4093 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Bethlehem Rd.	13.8	4094 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Bethlehem Rd.	13.8	4095 Ckt.	MV-90	-----	EM	-----	-----	
Bethlehem Rd.	13.8	4096 Ckt.	MV-90	-----	EM	-----	-----	
Bethlehem Rd.	13.8	4097 Ckt.	MV-90	-----	EM	-----	-----	
Bethlehem Rd.	13.8	4098 Ckt.	MV-90	-----	EM	-----	-----	
Bethlehem Rd.	13.8	Bus 1	EMS	-----	EM	-----	-----	
Bethlehem Rd.	13.8	Bus 2	EMS	-----	EM	-----	-----	
Bethlehem Rd.	115	RD Line	None	EM	-----	-----	-----	
Bethlehem Rd.	115	UB Line	None	EM	-----	-----	-----	
Bethlehem Rd.	115	RD-604-UB BKR	-----	EM	-----	-----	-----	
Bethlehem Rd.	115/13.8	T1	EMS	EM	-----	-----	-----	Metering combined
Bethlehem Rd.	115/13.8	T2	EMS	EM	-----	-----	-----	
Bethlehem Rd.	13.8	W-613 BKR	-----	-----	EM	-----	-----	
Bethlehem Rd.	13.8	W-619 BKR	-----	-----	EM	-----	-----	
Bethlehem Rd.	13.8	W-804 BKR	-----	-----	EM	-----	-----	
Bordman Rd.						NONE		
Bordman Rd.	13.8	6081A Ckt.	-----	-----	EM	-----	-----	
Bordman Rd.	13.8	6082A Ckt.	-----	-----	EM	-----	-----	
Bordman Rd.	13.8	Z-203 Ckt.	-----	-----	EM	-----	-----	
Bordman Rd.	13.8	Z-204 Ckt.	-----	-----	EM	-----	-----	
Bordman Rd.	13.8	Z-205 Ckt.	-----	-----	EM	-----	-----	
Bordman Rd.	13.8	Z-206 Ckt.	-----	-----	EM	-----	-----	
Bordman Rd.	13.8	Z-207 Ckt.	-----	-----	EM	-----	-----	
Bordman Rd.	13.8	Z-208 Ckt.	-----	-----	EM	-----	-----	
Bordman Rd.	13.8	Z-209 Ckt.	-----	-----	EM	-----	-----	

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Boulevard						2100		
Boulevard	69	OB Line	SCADA	uP	-----	-----	-----	
Boulevard	69	N Line	SCADA	uP	-----	-----	-----	
Boulevard	69	I Line	SCADA	uP	-----	-----	-----	Line Amps & W/VAr
Boulevard	13.8	KO Line	SCADA	-----	uP	-----	-----	
Boulevard	13.8	KK Line	SCADA	-----	uP	-----	-----	
Boulevard	13.8	Ckt. 1011	SCADA	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Boulevard	13.8	Ckt. 1012	SCADA	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Boulevard	13.8	Ckt. 1013	SCADA	-----	uP	-----	-----	
Boulevard	13.8	Ckt. 1014	SCADA	-----	EM/uP	-----	-----	
Boulevard	13.8	Bus 1	SCADA	-----	EM	-----	-----	
Boulevard	13.8	Bus 2	SCADA	-----	EM	-----	-----	
Boulevard	69	Bus 1	SCADA	EM		-----	-----	
Boulevard	69	Bus 2	SCADA	EM	-----	-----	-----	
Boulevard	69	Overall	-----	EM	-----	-----	-----	
Boulevard	69/13.8	T1	SCADA	EM	-----	-----	-----	Metering combined
Boulevard	69/13.8	T3	SCADA	EM	-----	-----	-----	
Boulevard	69/13.8	T2	SCADA	EM	-----	-----	-----	
Clinton Ave.						M-4000		
Clinton Ave.	4	395 Ckt.	MV-90	-----	EM	-----	-----	
Clinton Ave.	4	396 Ckt.	MV-90	-----	EM	-----	-----	
Clinton Ave.	4	397 Ckt.	MV-90	-----	EM	-----	-----	
Clinton Ave.	4	Bus	SCADA	-----	-----	-----	-----	
Clinton Ave.	13.8/4	T1	MV-90	-----	Fuse	-----	-----	
Cold Spring						NONE		
Cold Spring	4	871 Ckt.	Charts - kW	-----	EM	-----	-----	**Install a Grid Sense Package for two (2) circuits.**
Cold Spring	4	872 Ckt.	Charts - kW	-----	EM	-----	-----	
Coldenham						D-20		
Coldenham	13.8	4021 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251
Coldenham	13.8	4022 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251
Coldenham	13.8	4023 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251
Coldenham	13.8	4024 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251
Coldenham	13.8	4025 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251
Coldenham	13.8	4026 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251
Coldenham	13.8	4027 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251
Coldenham	13.8	4028 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251
Coldenham	13.8	Bus 1	SCADA	-----	EM	-----	-----	
Coldenham	13.8	Bus 2	SCADA	-----	EM	-----	-----	
Coldenham	13.8	B1-B2 Tie	-----	-----	EM	-----	-----	
Coldenham	115	J Line	SCADA	Gen 1	-----	-----	-----	95P is DLP; 95BU is REL-301; part of replacement program already.
Coldenham	115	CW Line	SCADA	Gen 1	-----	-----	-----	
Coldenham	115/13.8	T1	SCADA	EM	-----	-----	-----	
Coldenham	115/13.8	T2	SCADA	EM	-----	-----	-----	
Coldenham	115	J-19-CW BKR	-----	SS	-----	-----	-----	
Converse St.						NONE		
Converse St.	4	121 Ckt.	MV-90	-----	EM	-----	-----	
Converse St.	4	122 Ckt.	MV-90	-----	EM	-----	-----	
Converse St.	4	123 Ckt.	MV-90	-----	EM	-----	-----	
Conway Place						NONE		
Conway Place	4	881 Ckt.	MV-90	-----	EM	-----	-----	
Conway Place	4	882 Ckt.	MV-90	-----	EM	-----	-----	
Coxsackie						8890		
Coxsackie	13.8	1071 Ckt.	Charts - Amps	-----	EM	-----	-----	
Coxsackie	13.8	1072 Ckt.	SCADA/ Charts - kW	-----	EM	-----	-----	Bitronics for the SCADA portion
Coxsackie	13.8	1074 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Coxsackie	13.8	1076 Ckt.	SCADA/ Charts - kW	-----	EM	-----	-----	Bitronics for the SCADA portion
Coxsackie	13.8	Bus 1 (T1+G1)	SCADA	-----	EM	-----	-----	
Coxsackie	13.8	Bus 2	???	-----	EM	-----	-----	
Coxsackie	69	CN Line	None	uP	-----	-----	-----	Metering data available through relay, but not configured.
Coxsackie	69	NC Line	SCADA	uP	-----	-----	-----	
Coxsackie	69/13.8	T1	Charts - Amps	uP/EM	-----	-----	-----	95P is SEL-587
Coxsackie	13.8	G1	SCADA	-----	-----	-----	-----	

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Danskammer						2100		
Danskammer	115	AC Line	SCADA - Amps	EM	-----	-----	-----	Siemens meters 485 to RTU AI
Danskammer	115	DC Line	SCADA - Amps	EM	-----	-----	-----	Siemens meters 485 to RTU AI
Danskammer	115	DB Line	SCADA - Amps	uP	-----	-----	-----	Siemens meters 485 to RTU AI
Danskammer	115	DR Line	SCADA - Amps	uP	-----	-----	-----	Siemens meters 485 to RTU AI
Danskammer	115	DW Line	SCADA - Amps	uP	-----	-----	-----	Siemens meters 485 to RTU AI
Danskammer	115	RS Line	SCADA - Amps	EM	-----	-----	-----	Siemens meters 485 to RTU AI
Danskammer	115	W - 323 BKR	-----	SS	-----	-----	-----	
Danskammer	115	North Bus	SCADA - Volts	EM	-----	-----	-----	
Danskammer	115	Middle Bus	SCADA - Volts	EM	-----	-----	-----	
Danskammer	115	South Bus	SCADA - Volts	EM	-----	-----	-----	
Danskammer	115	DB-1171 BKR	-----	uP	-----	-----	-----	
Danskammer	115	DR-1421 BKR	-----	uP	-----	-----	-----	
Danskammer	115	DW-1061 BKR	-----	uP	-----	-----	-----	
Danskammer	115	T5&T6	SCADA	EM	-----	-----	-----	
Dashville						2300		
Dashville	4	345 Ckt.	MV-90	-----	EM	-----	V4L	Single Phase; Vac; Hydr
Dashville	6.6	Bus	-----	-----	EM	-----	-----	
Dashville		T1	-----	EM	-----	-----	-----	Fused Transformer w/ CR 67 relay
Dashville		G1-G2	SCADA	-----	-----	-----	-----	
East Fishkill 345kV								
East Fishkill 345kV	345	C9751 Breaker A1 BF	-----	EM	-----	-----	-----	
East Fishkill 345kV	345	C9751 Breaker A2 BF	-----	EM	-----	-----	-----	
East Fishkill 345kV	115	Transformer #1 Alt. 1	SCADA	EM	-----	-----	-----	
East Fishkill 345kV	115	Transformer #1 Alt. 2		EM	-----	-----	-----	
East Fishkill						8890		
East Fishkill	115	EF Line	SCADA	uP*	-----	-----	-----	95P is MDAR; 95BU is Optimho - Replacing with 311C & D60.
East Fishkill	115	HF Line	SCADA	uP*	-----	-----	-----	95BU is Optimho - Replacing with D60.
East Fishkill	115	EF-672 BKR	-----	EM	-----	-----	-----	
East Fishkill	115	EF-679 BKR	-----	EM	-----	-----	-----	
East Fishkill	115	W-640 BKR	-----	EM	-----	-----	-----	
East Fishkill	115	T1	SCADA	see EFB	-----	-----	-----	
East Kingston						Orion		
East Kingston	13.8	Bus 1	SCADA	-----	uP	-----	-----	
East Kingston	13.8	Bus 2	SCADA	-----	uP	-----	-----	
East Kingston	13.8	1021 Ckt.	SCADA	-----	uP	-----	-----	
East Kingston	13.8	1022 Ckt.	SCADA	-----	uP	-----	-----	
East Kingston	13.8	1023 Ckt.	SCADA	-----	uP	-----	-----	
East Kingston	13.8	1024 Ckt.	SCADA	-----	uP	-----	-----	
East Kingston	13.8	1025 Ckt.	SCADA	-----	uP	-----	-----	
East Kingston	13.8	1026 Ckt.	SCADA	-----	uP	-----	-----	
East Kingston	13.8	1027 Ckt.	SCADA	-----	uP	-----	-----	
East Kingston	13.8	1028 Ckt.	SCADA	-----	uP	-----	-----	
East Kingston	115	ER Line	SCADA	uP	-----	-----	-----	
East Kingston	115	LR Line	SCADA	uP	-----	-----	-----	
East Kingston	115	LR-201-ER Breaker	-----	uP	-----	-----	-----	
East Kingston	-----	Com Equipment	-----	-----	-----	-----	-----	Com
East Kingston	115/13.8	T1	SCADA	uP	-----	-----	-----	
East Kingston	115/13.8	T2	SCADA	uP	-----	-----	-----	
East Park						8890		
East Park	13.8	6073 Ckt.	SCADA	-----	EM/uP	-----	-----	BE1-851H as BU and 79
East Park	13.8	6074 Ckt.	SCADA	-----	EM/uP	-----	-----	BE1-851H as BU and 79
East Park	13.8	6075 Ckt.	SCADA	-----	EM	-----	-----	
East Park	69	Q Line	None	EM	-----	-----	-----	
East Park	69/13.8	T1	SCADA	uP/EM	-----	-----	-----	95P is SEL-587

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
East Walden						2400		
East Walden	13.8	5041 Ckt.	Grid Sense	-----	EM/uP	-----	ES	3 phase; oil; electronic; GS not working
East Walden	13.8	5042 Ckt.	Grid Sense	-----	EM/uP	-----	ES	3 phase; oil; electronic; GS not working
East Walden	13.8	5043 Ckt.	Grid Sense	-----	EM	-----	-----	GS not working
East Walden	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
East Walden	13.8	B1	SCADA	-----	uP	-----	-----	
East Walden	115	CW Line	None	Gen1/uP	-----	-----	-----	95P is DLP; part of replacement program already.
East Walden	115	CW -712	-----	EM	-----	-----	-----	
East Walden	115	D Line	None	EM	-----	-----	-----	
East Walden	115	D-722 BKR	-----	EM	-----	-----	-----	
East Walden	115	DW Line	SCADA	uP	-----	-----	-----	
East Walden	115	DW-1071 BKR	-----	uP	-----	-----	-----	
East Walden	115	EM Line	SCADA	uP	-----	-----	-----	
East Walden	115	EM-642 BKR	-----	uP	-----	-----	-----	Amps & Volts
East Walden	69	WM Line	SCADA	uP	-----	-----	-----	
East Walden	115	W-644	-----	EM	-----	-----	-----	
East Walden	115	B1	SCADA	EM	-----	-----	-----	Combine Bus Volts to one point
East Walden	115	B2		EM	-----	-----	-----	
East Walden	69/13.8	T1	SCADA	uP/EM	-----	-----	-----	95P is SEL-587
East Walden	69/13.8	T3	SCADA	EM/uP	-----	-----	-----	95BU is SEL-587
Fishkill Plains						D-20		
Fishkill Plains	13.8	8091 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Fishkill Plains	13.8	8092 Ckt.	MV-90	-----	EM	-----	-----	
Fishkill Plains	13.8	8093 Ckt.	SCADA	-----	uP- 200	-----	-----	SEL-251 Relay; 95BU is SEL-501
Fishkill Plains	13.8	8094 Ckt.	SCADA	-----	uP- 200	-----	-----	SEL-251 Relay; 95BU is SEL-501
Fishkill Plains	13.8	8095 Ckt.	SCADA	-----	uP	-----	-----	
Fishkill Plains	13.8	8096 Ckt.	SCADA	-----	uP	-----	-----	
Fishkill Plains	115	HF Line	SCADA	uP/Gen 1	-----	-----	-----	95BU is Optimho; part of replacement program.
Fishkill Plains	115	HF-703 BKR	-----	EM	-----	-----	-----	
Fishkill Plains	115	NF Line	None	EM	-----	-----	-----	
Fishkill Plains	115	A Line	SCADA	uP	-----	-----	-----	
Fishkill Plains	115	A-1036-FP	-----	uP- 200	-----	-----	-----	279/2BFR relays
Fishkill Plains	115	A-1498	-----	uP- 200	-----	-----	-----	279/2BFR relays
Fishkill Plains	115	Com Equipment	-----	-----	-----	-----	-----	Com
Fishkill Plains	115	FP Line	SCADA	uP/Gen 1	-----	-----	-----	95P is DLP; part of replacement program already; 95BU is SEL-321
Fishkill Plains	115	B1	SCADA	EM	-----	-----	-----	
Fishkill Plains	13.8	B1	SCADA	-----	EM	-----	-----	Combine Bus Volts to one point
Fishkill Plains	13.8	B2		-----	EM	-----	-----	
Fishkill Plains	115/13.8	T1	SCADA	EM/uP	-----	-----	-----	95BU is SEL-587; metering is combined.
Fishkill Plains	115/13.8	T2		EM/uP	-----	-----	-----	
Forgebrook						2300		
Forgebrook	13.8	Bus #1	Charts - kW/kVAr	-----	EM	-----	-----	
Forgebrook	13.8	Bus #2		-----	EM	-----	-----	
Forgebrook	13.8	8011 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79; No chart data
Forgebrook	13.8	8012 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79; No chart data
Forgebrook	13.8	8013 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79; No chart data
Forgebrook	13.8	8014 Ckt.	Charts - kW	-----	uP/EM	-----	-----	BE1-851H as BU and 79; No chart data
Forgebrook	13.8	8015 Ckt.	Charts - kW	-----	EM/uP	-----	-----	No Chart Data
Forgebrook	13.8	8016 Ckt.	Charts - kW	-----	EM	-----	-----	Com
Forgebrook	115	Com Equipment	-----	-----	-----	-----	-----	
Forgebrook	115	FO Line	None	EM	-----	-----	-----	
Forgebrook	115	FO-1430-FT	-----	EM	-----	-----	-----	
Forgebrook	115	FT Line	None	EM	-----	-----	-----	
Forgebrook	115	FT-1432	-----	EM	-----	-----	-----	
Forgebrook	115	FT-882-WF	-----	uP	-----	-----	-----	
Forgebrook	115	WF Line	SCADA	-----	EM	-----	-----	Amps
Forgebrook	13.8	CM Line	None	-----	EM	-----	-----	
Forgebrook	13.8	BF Line	SCADA	-----	EM	-----	-----	
Forgebrook	13.8	W-1486	-----	-----	EM	-----	-----	
Forgebrook	13.8	W-994	-----	-----		-----	-----	Metering combined
Forgebrook	115/13.8	T1	SCADA	EM		-----	-----	
Forgebrook	115/13.8	T2		EM		-----	-----	

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Freehold						M-4000		
Freehold	13.8	2061 Ckt.	Grid Sense	-----	EM/uP	-----	PR-560M	3 phase; oil; electronic; 95BU is BE1-851H; GS not working
Freehold	13.8	2071 Ckt.	Grid Sense	-----	EM/uP	-----	PR-560M	3 phase; oil; electronic; 95BU is BE1-851H; GS not working
Freehold	13.8	W-1155 BKR	-----	-----	-----	-----	PR-560M	3 phase; oil; electronic
Freehold	13.8	T1	Charts - kW/kVAr	fuse	-----	-----	-----	
Freehold	13.8	B1	SCADA	-----	EM	-----	-----	
Freehold	13.8					Orion		
Galeville								
Galeville	13.8	B1	SCADA	-----	uP	-----	-----	
Galeville	13.8	B2	SCADA	-----	uP	-----	-----	
Galeville	13.8	5030 Ckt.	SCADA	-----	uP	-----	-----	
Galeville	13.8	5031 Ckt.	SCADA	-----	uP	-----	-----	
Galeville	13.8	5032 Ckt.	SCADA	-----	uP	-----	-----	
Galeville	13.8	5033 Ckt.	SCADA	-----	uP	-----	-----	
Galeville	13.8	5034 Ckt.	SCADA	-----	uP	-----	-----	
Galeville	13.8	5035 Ckt.	SCADA	-----	uP	-----	-----	
Galeville	-----	Com Equipment	-----	-----	-----	-----	-----	Com
Galeville	69	MG Line	SCADA	uP	-----	-----	-----	
Galeville	69	MG-200-MK BKR	-----	uP	-----	-----	-----	
Galeville	69	MK Line	SCADA	uP	-----	-----	-----	
Galeville	69/13.8	T1	SCADA	uP	-----	-----	-----	
Galeville	69/13.8	T2	SCADA	uP	-----	-----	-----	
Greenfield Rd.						M-4000		
Greenfield Rd.	13.8	3076 Ckt.	Grid Sense	-----	EM/uP	-----	ES	3 phase; oil; electronic; 95BU is BE1-851
Greenfield Rd.	13.8	3078 Ckt.	Grid Sense	-----	EM/uP	-----	ES	3 phase; oil; electronic; 95BU is BE1-851
Greenfield Rd.	4	375-376 Ckt.	Charts - kW	-----	EM	-----	-----	
Greenfield Rd.	4	377-378 Ckt.	Charts - kW	-----	EM	-----	-----	
Greenfield Rd.	13.8	W-1608		-----	EM	-----	ES	3 phase; oil; electronic
Greenfield Rd.	13.8/4	T2	Charts - kW	-----	EM	-----	-----	
Greenfield Rd.	13.8	B1	SCADA	-----	-----	-----	-----	Volts
Greenfield Rd.	4	B1	SCADA	-----	-----	-----	-----	Volts
Greenfield Rd.	4	B3	SCADA	-----	-----	-----	-----	Volts
Grimley Rd.						NONE-Soon to have DNP RTU		
Grimley Rd.	4	385 Ckt.	Grid Sense	-----	EM	-----	Kyle L	Single Phase; Oil; Electronic
Grimley Rd.	4	386 Ckt.	Grid Sense	-----	EM	-----	-----	No DATA
Hibernia						Micro 1C		
Hibernia	13.8	7011 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251; 95BU is SEL-501
Hibernia	13.8	7012 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251; 95BU is SEL-501
Hibernia	13.8	B1	SCADA	-----	EM/uP	-----	-----	95BU is DFP-100
Hibernia	69/13.8	T1	SCADA	EM/uP	-----	-----	-----	95BU is DFP-100
Hibernia	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
High Falls						D-20		
High Falls	13.8	3021 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251; 95BU is SEL-501
High Falls	13.8	3022 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251; 95BU is SEL-501
High Falls	13.8	3023 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251; 95BU is SEL-501
High Falls	13.8	3024 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251; 95BU is SEL-501
High Falls	13.8	3025 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251; 95BU is SEL-501
High Falls	69	HK Line	SCADA	-----	uP	-----	-----	95P is DLP
High Falls	69	HK-696-P BKR.	-----	-----	uP- 200	-----	-----	SEL-279
High Falls	69	P Line	SCADA	-----	uP	-----	-----	95P is DLP
High Falls	13.8	W-998 BKR.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251; 95BU is SEL-501
High Falls	13.8	B1	SCADA	-----	uP/ uP- 200	-----	-----	95BU is SEL-251
High Falls	13.8	B2	SCADA	-----	uP/ uP- 200	-----	-----	95BU is SEL-251
High Falls	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
High Falls	69/13.8	T1	SCADA	uP	-----	-----	-----	95P is SR-745 & 95BU is SEL-587; Volts
High Falls	69/13.8	T2	SCADA	uP	-----	-----	-----	95P is SR-745 & 95BU is SEL-587; Volts

Electric Substation Upg Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Highland						2300		
Highland	13.8	5081 Ckt.	SCADA	-----	EM/uP	-----	-----	95BU is BE1-IPS-100
Highland	13.8	5082 Ckt.	SCADA	-----	EM/uP	-----	-----	95BU is BE1-IPS-100
Highland	13.8	5083 Ckt.	SCADA	-----	EM/uP	-----	-----	95BU is BE1-IPS-100
Highland	13.8	5084 Ckt.	SCADA	-----	uP	-----	-----	
Highland	13.8	5085 Ckt.	SCADA	-----	uP	-----	-----	
Highland	115	HR Line	SCADA	uP	-----	-----	-----	
Highland	115	OR Line	SCADA	uP	-----	-----	-----	
Highland	115	OR-761-HR BKR.	-----	EM	-----	-----	-----	
Highland	13.8	B1	SCADA	-----	EM	-----	-----	
Highland	13.8	B2	SCADA	-----	uP	-----	-----	
Highland	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Highland	115/13.8	T1	SCADA	uP/EM	-----	-----	-----	95BU is SEL-587
Highland	115/13.8	T2	SCADA	uP	-----	-----	-----	
Honk Falls						D-20		
Honk Falls	13.8	3071 Ckt.	SCADA	-----	EM	-----	WE	3 phase; oil; electronic
Honk Falls	13.8	3072 Ckt.	SCADA	-----	EM	-----	WE	3 phase; oil; electronic
Honk Falls	13.8	B1	SCADA	EM	-----	-----	-----	
Honk Falls	69	GM Line	SCADA	EM/uP	-----	-----	-----	79 Relay is EM
Honk Falls	69	HG Line	SCADA	uP	-----	-----	-----	
Honk Falls	69	HK Line	SCADA	uP/EM	-----	-----	-----	79 Relay is EM
Honk Falls	69	MK Line	SCADA	uP	-----	-----	-----	
Honk Falls	69	WH Line	SCADA	uP/EM	-----	-----	-----	79 Relay is EM
Honk Falls	69	overall diff B1+T1	SCADA	EM	-----	-----	-----	
Honk Falls	69/13.8	T1	-----	fuse	-----	-----	-----	
Hunter						M-4000		
Hunter	34.5	Z-666				-----	VR-3S	3 phase; vac; hyd
Hunter	13.8	2081 Ckt.	MV-90	-----	-----	-----	Kyle W	3 phase; oil; hyd
Hunter	13.8	Cap Bank	-----	-----	EM	-----	-----	
Hurley Ave. 345kV						2400		
Hurley Ave. 345kV	345	30151 BKR.	-----	EM	-----	-----	-----	79 Relay is EM
Hurley Ave. 345kV	345	30151 A1 BF	-----	uP	-----	-----	-----	
Hurley Ave. 345kV	345	30152 A2 BF	-----	EM	-----	-----	-----	
Hurley Ave. 345kV	345	301 Line A1	SCADA	uP	-----	-----	-----	
Hurley Ave. 345kV	345	301 Line A2	SCADA	EM	-----	-----	-----	
Hurley Ave. 345kV	345	30353 BKR.	-----	EM*	-----	-----	-----	79 Relay is EM; In process replacement with SEL-451
Hurley Ave. 345kV	345	30353 A1 BF	-----	uP	-----	-----	-----	
Hurley Ave. 345kV	345	30353 A2 BF	-----	EM*	-----	-----	-----	In process replacement with GE C70
Hurley Ave. 345kV	345	30354 BKR.	-----	EM*	-----	-----	-----	79 Relay is EM; In process replacement with SEL-451
Hurley Ave. 345kV	345	30354 A1 BF	-----	EM	-----	-----	-----	
Hurley Ave. 345kV	345	30354 A2 BF	-----	EM*	-----	-----	-----	In process replacement with GE C70
Hurley Ave. 345kV	345	303 Line A1	SCADA	uP	-----	-----	-----	
Hurley Ave. 345kV	345	303 Line A2	SCADA	EM*	-----	-----	-----	In process replacement with GE D90
Hurley Ave. 345kV	345	Bus A1	-----	EM	-----	-----	-----	
Hurley Ave. 345kV	345	Bus A2	-----	EM	-----	-----	-----	
Hurley Ave. 345kV	115	A2451 BKR.	-----	EM	-----	-----	-----	
Hurley Ave. 345kV	115	A2451 A1 BF	-----	EM	-----	-----	-----	
Hurley Ave. 345kV	115	A2451 A2 BF	-----	EM	-----	-----	-----	
Hurley Ave. 345kV	345	T1 A1 Out of Step	-----	EM	-----	-----	-----	
Hurley Ave. 345kV	345	T1 A2 Out of Step	-----	EM	-----	-----	-----	
Hurley Ave. 345kV	345	T1 A1	-----	EM	-----	-----	-----	
Hurley Ave. 345kV	345	T1 A2	-----	EM	-----	-----	-----	
Hurley Ave. 345kV	115	T1 LS	-----	uP	-----	-----	-----	
Hurley Ave. 345kV	115	B1	SCADA	-----	-----	-----	-----	Volts

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Hurley Ave.						2400		
Hurley Ave.	13.8	2091 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Hurley Ave.	13.8	2092 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Hurley Ave.	13.8	2093 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Hurley Ave.	13.8	2094 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Hurley Ave.	115	Cap Bank	-----	EM	-----	-----	-----	
Hurley Ave.	115	HP Line	SCADA	EM	-----	-----	-----	
Hurley Ave.	69	I Line	SCADA	Gen1	-----	-----	-----	Quadramho part of the package; metering is Amp value only
Hurley Ave.	115	OR Line	SCADA	EM	-----	-----	-----	
Hurley Ave.	69	SB Line	SCADA	Gen1	-----	-----	-----	Quadramho part of the package; metering is Amp value only
Hurley Ave.	115	HP-1643 BKR.	-----	EM	-----	-----	-----	
Hurley Ave.	115	OR-1640 BKR.	-----	EM	-----	-----	-----	
Hurley Ave.	69	W-142 BKR.	-----	uP	-----	-----	-----	
Hurley Ave.	13.8	W-1575 BKR.	-----	-----	EM	-----	-----	
Hurley Ave.	115	W-389 BKR.	-----	EM	-----	-----	-----	
Hurley Ave.	115	B1	None	EM	-----	-----	-----	
Hurley Ave.	115	B2	SCADA	EM	-----	-----	-----	Volts
Hurley Ave.	69	B1	SCADA	EM	-----	-----	-----	Volts
Hurley Ave.	13.8	B1	SCADA	-----	EM	-----	-----	Volts
Hurley Ave.	115/69	T3	SCADA	EM	-----	-----	-----	
Hurley Ave.	115/13.8	T4	SCADA	EM	-----	-----	-----	
Hurley Ave.	69/13.8	T5	-----	EM	-----	-----	-----	
Inwood Ave.						3030		
Inwood Ave.	13.8	6061 Ckt.	SCADA	-----	EM/uP	-----	-----	BE1-IPS100 as BU and 79
Inwood Ave.	13.8	6062 Ckt.	SCADA	-----	EM/uP	-----	-----	BE1-IPS100 as BU and 79
Inwood Ave.	13.8	6063 Ckt.	SCADA	-----	EM/uP	-----	-----	BE1-IPS100 as BU and 79
Inwood Ave.	13.8	6064 Ckt.	SCADA	-----	EM/uP	-----	-----	BE1-IPS100 as BU and 79
Inwood Ave.	13.8	6065 Ckt.	SCADA	-----	uP	-----	-----	
Inwood Ave.	13.8	6066 Ckt.	SCADA	-----	uP	-----	-----	
Inwood Ave.	13.8	6067 Ckt.	SCADA	-----	uP	-----	-----	
Inwood Ave.	13.8	6068 Ckt.	SCADA	-----	uP	-----	-----	
Inwood Ave.	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Inwood Ave.	115	IR Line	SCADA	uP	-----	-----	-----	
Inwood Ave.	115	IR-201-X BKR.	-----	uP	-----	-----	-----	
Inwood Ave.	115	X Line	SCADA	uP	-----	-----	-----	
Inwood Ave.	13.8	B1	SCADA	-----	uP	-----	-----	
Inwood Ave.	13.8	B2	SCADA	-----	uP	-----	-----	
Inwood Ave.	115/13.8	T1	SCADA	uP	-----	-----	-----	
Inwood Ave..	115/13.8	T2	SCADA	uP	-----	-----	-----	
Jansen Ave.						M-4000		
Jansen Ave.	13.8	1001 Ckt.	MV-90	-----	uP	-----	-----	
Jansen Ave.	13.8	1002 Ckt.	MV-90	-----	EM	-----	-----	
Jansen Ave.	13.8	1003 Ckt.	MV-90	-----	uP	-----	-----	
Jansen Ave.	13.8	1004 Ckt.	MV-90	-----	EM	-----	-----	
Jansen Ave.	13.8	KL Line	MV-90	-----	EM	-----	-----	
Jansen Ave.	13.8	KO Line	MV-90	-----	EM	-----	-----	
Jansen Ave.	13.8	B1	SCADA	-----	EM	-----	-----	
Jansen Ave.	13.8	B2	SCADA	-----	EM	-----	-----	
Jansen Ave.	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Jansen Ave.	13.8	T - Grounding	MV-90	-----	uP	-----	-----	
Kerhonkson						8890		
Kerhonkson	13.8	3081 Ckt.	Grid Sense	-----	EM	-----	Kyle D	Single phase; oil; hyd; No GS Data
Kerhonkson	13.8	3082 Ckt.	Grid Sense	-----	EM	-----	Kyle D	Single phase; oil; hyd; No GS Data
Kerhonkson	69	MK-929 MOS	-----	EM	-----	-----	-----	
Kerhonkson	69	MK-930 MOS	-----	EM	-----	-----	-----	
Kerhonkson	69/13.8	T1	Charts - kW/kVAr /GS	fuse	-----	-----	-----	Amps for each Transformer
Kerhonkson	69/13.8	T2		fuse	-----	-----	-----	
Kerhonkson	69	HK	SCADA	-----	-----	-----	-----	Volts & Amps
Kerhonkson	69	MK	SCADA	-----	-----	-----	-----	Volts & Amps

Electric Substation Upg... Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Knapps Corners						2100		
Knapps Corners	13.8	8021 Ckt.	Charts - Amps/SCADA		uP	-----	-----	Not sure if charts were removed
Knapps Corners	13.8	8022 Ckt.	Charts - Amps		EM/uP	-----	-----	BE1-851H as BU and 79
Knapps Corners	13.8	8023 Ckt.	Charts - Amps/SCADA		uP/EM	-----	-----	Not sure if charts were removed
Knapps Corners	13.8	8024 Ckt.	Charts - kW		EM/uP	-----	-----	BE1-851H as BU and 79
Knapps Corners	13.8	8025 Ckt.	Charts - kW		EM	-----	-----	
Knapps Corners	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Knapps Corners	115	KB Line	None	EM	-----	-----	-----	
Knapps Corners	115	KB-1558-MC BKR.	-----	uP- 200		-----	-----	SEL-279
Knapps Corners	115	SK Line	SCADA	uP	-----	-----	-----	
Knapps Corners	13.8	KN Line	SCADA*	EM		-----	-----	Amps
Knapps Corners	13.8	KR Line	SCADA*	EM		-----	-----	Amps
Knapps Corners	13.8	KS Line	SCADA*	EM		-----	-----	Amps
Knapps Corners	69	KM Line	SCADA	uP	-----	-----	-----	
Knapps Corners	69	TR Line	SCADA	EM	-----	-----	-----	
Knapps Corners	69	G Line	SCADA	uP	-----	-----	-----	
Knapps Corners	13.8	W-1215 BKR.	-----	-----	EM	-----	-----	
Knapps Corners	69	W-1409 BKR.	-----	uP	-----	-----	-----	
Knapps Corners	13.8	W-1462 BKR.	-----	-----	EM	-----	-----	
Knapps Corners	13.8	B1	SCADA	-----	EM	-----	-----	Combine Bus Volts to one point
Knapps Corners	13.8	B2		-----	EM	-----	-----	
Knapps Corners	13.8	B3		-----	EM	-----	-----	
Knapps Corners	69	69k Bus	SCADA	EM	-----	-----	-----	Volts
Knapps Corners	115/13.8	T1	SCADA	EM	-----	-----	-----	Combine load value
Knapps Corners	115/13.8	T3		EM	-----	-----	-----	
Knapps Corners	115/69	T2	SCADA	uP	-----	-----	-----	
Lawrenceville						M-4000		
Lawrenceville	34.5	2385 Ckt.	Grid Sense	EM/uP	-----	-----	CXE-400A	3 phase; oil; hyd
Lawrenceville	34.5	B1	SCADA*	-----	-----	-----	-----	Volts
Lawrenceville	69/34.5	T1	MV90/Grid Sense/SCADA	EM	-----	-----	-----	Amps.
Lincoln Park						2300		
Lincoln Park	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Lincoln Park	13.8	2011 Ckt.	Charts - Amps	-----	EM	-----	-----	
Lincoln Park	13.8	2012 Ckt.	Charts - kW	-----	EM	-----	-----	
Lincoln Park	13.8	2013 Ckt.	Charts - kW	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Lincoln Park	13.8	2014 Ckt.	Charts - kW	-----	EM	-----	-----	
Lincoln Park	13.8	2015 Ckt.	Charts - kW	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Lincoln Park	13.8	2016 Ckt.	Charts - kW	-----	EM/uP*	-----	-----	GE F60 installed HiZ pilot
Lincoln Park	13.8	2017 Ckt.	Charts - kW	-----	EM	-----	-----	
Lincoln Park	13.8	2018 Ckt.	Charts - kW	-----	EM	-----	-----	
Lincoln Park	13.8	Cap Bank 1	-----	-----	EM	-----	-----	
Lincoln Park	13.8	Cap Bank 2	-----	-----	EM	-----	-----	
Lincoln Park	115	HP Line	None	EM	-----	-----	-----	Relay Replacement Progam in process
Lincoln Park	115	HP-1318 BKR.	-----	EM	-----	-----	-----	
Lincoln Park	13.8	KL Line	Charts - kW/kVAr/SCADA	EM	-----	-----	-----	Amps to SCADA
Lincoln Park	115	LR-1219-HP BKR.	-----	EM	-----	-----	-----	
Lincoln Park	115	LR Line	SCADA	uP	-----	-----	-----	
Lincoln Park	13.8	W -1321 BKR.	-----	-----	EM	-----	-----	
Lincoln Park	13.8	W-45 BKR.	-----	-----	EM	-----	-----	
Lincoln Park	13.8	W-534 BKR.	-----	-----	EM	-----	-----	
Lincoln Park	13.8	W-554 BKR.	-----	-----	EM	-----	-----	
Lincoln Park	13.8	WT-206 BKR.	-----	-----	EM	-----	-----	
Lincoln Park	13.8	WT-207 BKR.	-----	-----	EM	-----	-----	
Lincoln Park	13.8	WT-525 BKR.	-----	-----	EM	-----	-----	
Lincoln Park	13.8	WT-528 BKR.	-----	-----	EM	-----	-----	
Lincoln Park	13.8	B1	SCADA	-----	EM	-----	-----	Combine Bus Volts to one point
Lincoln Park	13.8	B2		-----	EM	-----	-----	Volts
Lincoln Park	13.8	B3	SCADA	-----	EM	-----	-----	
Lincoln Park	13.8	B4	None	-----	EM	-----	-----	Volts
Lincoln Park	115	115k bus	SCADA	EM	-----	-----	-----	Combine load value
Lincoln Park	115/13.8	T1	SCADA	EM	-----	-----	-----	
Lincoln Park	115/13.8	T2		EM	-----	-----	-----	
Lincoln Park	115/13.8	T3	SCADA	EM	-----	-----	-----	

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Manchester						2400		
Manchester	13.8	6091 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Manchester	13.8	6092 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Manchester	13.8	6093 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Manchester	13.8	6094 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Manchester	13.8	6095 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Manchester	13.8	6096 Ckt.	MV-90	-----	EM	-----	-----	
Manchester	13.8	6097 Ckt.	MV-90	-----	EM	-----	-----	
Manchester	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Manchester	115	M Line	None	EM/Gen-1	-----	-----	-----	95BU is REL-301; part of replacement program.
Manchester	115	MC Line	SCADA	uP	-----	-----	-----	
Manchester	13.8	MS Line	SCADA*	-----	EM	-----	-----	Amps
Manchester	13.8	W-1458 BKR.	-----	-----	EM	-----	-----	
Manchester	13.8	W-650 BKR.	-----	-----	EM	-----	-----	
Manchester	13.8	B1	SCADA	-----	EM	-----	-----	Combine Bus Volts to one point
Manchester	13.8	B2		-----	EM	-----	-----	
Manchester	115/13.8	T1	SCADA	EM	-----	-----	-----	Combine load value
Manchester	115/13.8	T2		EM	-----	-----	-----	
Marlboro						8890		????
Marlboro	13.8	5001 Ckt.	SCADA	-----	EM/uP	-----	-----	BE1-IPS100 as BU and 79
Marlboro	13.8	5002 Ckt.	SCADA	-----	EM/uP	-----	-----	BE1-IPS100 as BU and 79
Marlboro	13.8	5003 Ckt.	SCADA	-----	EM/uP	-----	-----	BE1-IPS100 as BU and 79
Marlboro	13.8	5004 Ckt.	SCADA	-----	uP	-----	-----	
Marlboro	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Marlboro	13.8	B1	SCADA	-----	uP	-----	-----	Volts
Marlboro	115/13.8	T1	SCADA	uP/EM*	-----	-----	-----	95P is SEL-587
Marlboro	115/13.8	T2	SCADA	uP	-----	-----	-----	
Maryland Ave.						M-4000		
Maryland Ave.	4	621 Ckt.	Charts - kW	-----	EM	-----	-----	
Maryland Ave.	4	622 Ckt.	Charts - kW	-----	EM	-----	-----	
Maryland Ave.	4	623 Ckt.	Charts - kW	-----	EM	-----	-----	
Maryland Ave.	4	624 Ckt.	Charts - kW	-----	EM	-----	-----	
Maryland Ave.	13.8	MS Line	-----	-----	EM	-----	-----	
Maryland Ave.	13.8	PH-284 BKR.	-----	-----	EM	-----	-----	
Maryland Ave.	13.8	PH-286 BKR.	-----	-----	EM	-----	-----	
Maryland Ave.	4	W-1032 BKR.	-----	-----	EM	-----	-----	
Maryland Ave.	4	W-1033 BKR.	-----	-----	EM	-----	-----	
Maryland Ave.	4	W-1034 BKR.	-----	-----	EM	-----	-----	
Maryland Ave.	13.8	B1	SCADA	-----	EM	-----	-----	Volts
Maryland Ave.	13.8	B2	SCADA	-----	EM	-----	-----	Volts
Maryland Ave.	4	B1	SCADA	-----	EM	-----	-----	Volts
Maryland Ave.	4	B2		-----	EM	-----	-----	
Maryland Ave.	13.8/4	T1	-----	-----	EM	-----	-----	
Maryland Ave.	13.8/4	T2	-----	-----	EM	-----	-----	
Maybrook						M-4000		
Maybrook	13.8	5051 Ckt.	MV-90	-----	EM	-----	RXE	3 phase; oil; electronic
Maybrook	13.8	5052 Ckt.	MV-90	-----	uP	-----	-----	Previously 5081-83?
Maybrook	13.8	5053 Ckt.	MV-90	-----	EM	-----	RXE	3 phase; oil; electronic
Maybrook	13.8	B1	SCADA	-----	-----	-----	-----	Volts
Maybrook	13.8	B2	SCADA	-----	-----	-----	-----	Volts
Maybrook	69/13.8	T1	None	-----	-----	-----	-----	
Maybrook	69/13.8	T2	None	-----	-----	-----	-----	
McKinley St.						NONE		
McKinley St.	4	845 Ckt.	MV-90	-----	EM	-----	-----	

Electric Substation Upg[illegible] Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Merritt Park						BM		
Merritt Park	13.8	8061 Ckt.	SCADA		uP			
Merritt Park	13.8	8062 Ckt.	SCADA		uP			
Merritt Park	13.8	8063 Ckt.	SCADA		uP			
Merritt Park	13.8	8064 Ckt.	SCADA		uP			
Merritt Park	13.8	8065 Ckt.	SCADA		uP			
Merritt Park	13.8	8066 Ckt.	SCADA		uP			
Merritt Park	13.8	8067 Ckt.	SCADA		uP			
Merritt Park	13.8	8068 Ckt.	SCADA	-----	-----	-----	-----	Com
Merritt Park	13.8	Com Equipment	-----	-----	-----	-----	-----	
Merritt Park	115	WF Line	SCADA	uP	-----	-----	-----	
Merritt Park	115	WP Line	SCADA	uP	-----	-----	-----	SEL-279
Merritt Park	115	WF-439-WP BKR.	-----	uP-200	-----	-----	-----	
Merritt Park	13.8	B1	SCADA	-----	uP	-----	-----	
Merritt Park	13.8	B2	SCADA	-----	uP	-----	-----	
Merritt Park	115/13.8	T1	SCADA	uP	-----	-----	-----	
Merritt Park	115/13.8	T2	SCADA	uP	-----	-----	-----	
Milan						BM		
Milan	13.8	7061 Ckt.	SCADA	-----	uP	-----	-----	
Milan	13.8	7062 Ckt.	SCADA	-----	uP	-----	-----	
Milan	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Milan	115	B-4561 Ckt Sw	-----	uP	-----	-----	-----	
Milan	115	MR Line	SCADA	uP	-----	-----	-----	
Milan	115	MR-501 BKR.	SCADA	uP	-----	-----	-----	
Milan	115	RT-7 BKR.	-----	uP	-----	-----	-----	
Milan	115	R-10 BKR.	-----	uP	-----	-----	-----	
Milan	115	T-7 Line	SCADA	uP	-----	-----	-----	
Milan	115	10 Line	SCADA	-----	uP	-----	-----	
Milan	115	B1	SCADA	uP	-----	-----	-----	
Milan	13.8	B1	SCADA	-----	uP	-----	-----	
Milan	115/13.8	T1	SCADA	uP	-----	-----	-----	
Millerton						L&N		
Millerton	13.8	7081 Ckt.	SCADA	-----	EM	-----	-----	
Millerton	69	GE-823 MOS	-----	EM	-----	-----	-----	
Millerton	69/13.8	T1	SCADA	EM	-----	-----	-----	Only one feeder; T1 = 7081 load
Millerton	69	Line to SMI	SCADA	-----	-----	-----	-----	Volts
Millerton	69	Line to PUL	SCADA	-----	-----	-----	-----	Volts
Modena 115kV						BM		
Modena 115kV	13.8	B1	SCADA	-----	uP	-----	-----	
Modena 115kV	13.8	C-1651 BKR.	-----	-----	uP	-----	-----	
Modena 115kV	13.8	5011 Ckt.	SCADA	-----	uP	-----	-----	
Modena 115kV	13.8	5012 Ckt.	SCADA	-----	uP	-----	-----	
Modena 115kV	13.8	5013 Ckt.	SCADA	-----	uP	-----	-----	
Modena 115kV	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Modena 115kV	115	EM Line	SCADA	uP	-----	-----	-----	
Modena 115kV	115	EM-201-PX BKR.	-----	uP	-----	-----	-----	
Modena 115kV	115	PX Line	SCADA	uP	-----	-----	-----	
Modena 115kV	115/13.8	T3	SCADA	uP	-----	-----	-----	Only has one 13.8 bus; T3 = Bus load
Modena 69kV						8890		
Modena 69kV	69	B1	SCADA	EM	-----	-----	-----	volts
Modena 69kV	69	MG Line	SCADA	uP	-----	-----	-----	
Modena 69kV	69	W-941 BKR.	-----	EM	-----	-----	-----	
Modena 69kV	69	MG-380 BKR.	-----	EM	-----	-----	-----	
Modena 69kV	115/69	T1	SCADA	EM/uP	-----	-----	-----	
Modena 69kV	69/13.8	T2	None	Fuse/uP	-----	-----	-----	GE F35 is installed
Montgomery						NONE		
Montgomery	4	571 Ckt.	Charts - kW	-----	EM	-----	V4L	Single phase; Vac; Hyd
Montgomery	4	572 Ckt.	Charts - kW	-----	EM	-----	V4L	Single phase; Vac; Hyd

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Montgomery St.						M-4000		
Montgomery St.	13.8	B1	SCADA	-----	EM	-----	-----	volts
Montgomery St.	13.8	B2	SCADA	-----	EM	-----	-----	Volts
Montgomery St.	13.8	B3	SCADA	-----	EM	-----	-----	volts
Montgomery St.	13.8	B Line	None	-----	EM	-----	-----	
Montgomery St.	13.8	4001 Ckt.	Charts - kW/kVAr	-----	EM	-----	-----	
Montgomery St.	13.8	4002 Ckt.	Charts - kW/kVAr	-----	EM	-----	-----	
Montgomery St.	13.8	4003 Ckt.	Charts - kW/kVAr	-----	EM	-----	-----	
Montgomery St.	4	401 Ckt.	Charts - kW demand	-----	EM	-----	-----	
Montgomery St.	4	402-3 Ckt.	Charts - kW demand	-----	EM	-----	-----	
Montgomery St.	4	404 Ckt.	Charts - kW demand	-----	EM	-----	-----	
Montgomery St.	4	406A/B Ckt.	Charts - kW demand	-----	EM	-----	-----	
Montgomery St.	4	407A/B Ckt.	Charts - kW demand	-----	EM	-----	-----	
Montgomery St.	4	410A/B Ckt.	Charts - kW demand	-----	EM	-----	-----	
Montgomery St.	4	B1	SCADA	-----	EM	-----	-----	Volts
Montgomery St.	4	B2	SCADA	-----	EM	-----	-----	volts
Montgomery St.	13.8	F Line	None	-----	EM	-----	-----	
Montgomery St.	13.8	NB Line	None	-----	EM	-----	-----	
Montgomery St.	13.8	NM Line	None	-----	EM	-----	-----	
Montgomery St.	13.8	R Line	None	-----	EM	-----	-----	
Montgomery St.	13.8	W-507 BKR.	-----	-----	EM	-----	-----	
Montgomery St.	13.8	W-508 BKR.	-----	-----	EM	-----	-----	
Montgomery St.	13.8	W-509 BKR.	-----	-----	EM	-----	-----	
Montgomery St.	13.8	WN Line	None	-----	EM	-----	-----	
Montgomery St.	13.8/4	T1	Charts - kW/kVAr	-----	EM	-----	-----	Combine load value
Montgomery St.	13.8/4	T2		-----	EM	-----	-----	
Myers Corners						44-550		
Myers Corners	13.8	8041 Ckt.	Charts - kW	-----	uP	-----	-----	
Myers Corners	13.8	8043 Ckt.	Charts - kW	-----	EM	-----	-----	
Myers Corners	13.8	8044 Ckt.	Charts - kW	-----	EM	-----	-----	
Myers Corners	13.8	8045 Ckt.	Charts - kW	-----	EM	-----	-----	
Myers Corners	13.8	8046 Ckt.	SCADA	-----	uP	-----	-----	
Myers Corners	69	KM Line	None	EM	-----	-----	-----	
Myers Corners	69	TV Line	None	EM	-----	-----	-----	
Myers Corners	69	TV-399-KM BKR.	-----	EM	-----	-----	-----	
Myers Corners	13.8	W-63 BKR.	-----	-----	EM	-----	-----	
Myers Corners	13.8	W-66 BKR.	-----	-----	EM	-----	-----	
Myers Corners	13.8	Feeder M1-75	-----	-----	EM	-----	-----	
Myers Corners	13.8	Feeder M2-76	-----	-----	EM	-----	-----	
Myers Corners	13.8	Feeder M3-91	-----	-----	EM	-----	-----	
Myers Corners	13.8	Feeder M4-90	-----	-----	EM	-----	-----	
Myers Corners	13.8	B1	SCADA	-----	EM	-----	-----	Combine Bus Volts to one point
Myers Corners	13.8	B2		-----	EM	-----	-----	
Myers Corners	69/13.8	T1	SCADA	EM	-----	-----	-----	Combine load value
Myers Corners	69/13.8	T2		EM	-----	-----	-----	
Neversink						2200		
Neversink	4	391 Ckt.	Charts - kW	-----	EM	-----	-----	
Neversink	13.8	3091 Ckt.	Grid Sense	-----	EM	-----	Kyle W	3 phase; Oil; Hyd
Neversink	69	HG Line	SCADA*	EM	-----	-----	-----	Amps
Neversink	69	WH Line	SCADA*	EM	-----	-----	-----	Amps
Neversink	4	W-1128 BKR.	-----	-----	EM	-----	-----	
Neversink	69	69k Bus	SCADA	uP/EM	-----	-----	-----	Volts
New Baltimore						2300		
New Baltimore	13.8	1081 Ckt.	SCADA*	-----	EM	-----	-----	kW
New Baltimore	13.8	1082 Ckt.	SCADA*	-----	EM	-----	-----	kW
New Baltimore	13.8	1083 Ckt.	SCADA*	-----	EM	-----	-----	kW
New Baltimore	69	Cap Bank	-----	EM/uP	-----	-----	-----	
New Baltimore	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
New Baltimore	69	CN Line	None	uP	-----	-----	-----	
New Baltimore	69	NW Line	None	uP	-----	-----	-----	
New Baltimore	13.8	B1	SCADA	-----	EM	-----	-----	Volts
New Baltimore	69/13.8	T1	SCADA	EM/uP	-----	-----	-----	95P is SEL-587

Electric Substation Up[illegible] Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
New Windsor						NONE		
New Windsor	4	461 Ckt.	Grid Sense	-----	EM	-----	-----	No DATA
New Windsor	4	462 Ckt.	Grid Sense	-----	EM	-----	-----	No DATA
New Windsor	4	463 Ckt.	Grid Sense	-----	EM	-----	-----	No DATA
New Windsor	4	464 Ckt.	Grid Sense	-----	EM	-----	-----	
New Windsor	13.8	UN & UW ATC	None	-----	uP	-----	-----	
New Windsor	13.8/4	T1	Charts - kW/kVAr	-----	uP	-----	-----	Combine load value
New Windsor	13.8/4	T2		-----	uP	-----	-----	
North Catskill						D-20		
North Catskill	13.8	2001A Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251
North Catskill	13.8	2002A Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251
North Catskill	13.8	2003A Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251
North Catskill	13.8	2004 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251
North Catskill	13.8	2005 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251
North Catskill	13.8	2006 Ckt.	SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251
North Catskill	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
North Catskill	115	2 Line	SCADA	EM	-----	-----	-----	
North Catskill	115	R-2 BKR.	-----	EM	-----	-----	-----	
North Catskill	115	RT-7 BKR.	-----	EM	-----	-----	-----	
North Catskill	115	T-7 Line	SCADA*	EM	-----	-----	-----	Amps
North Catskill	69	Cap Bank	-----	EM	-----	-----	-----	
North Catskill	69	CL Line	SCADA	uP	-----	-----	-----	
North Catskill	69	H Line	SCADA	uP	-----	-----	-----	
North Catskill	69	NC Line	SCADA	uP	-----	-----	-----	
North Catskill	69	W-1107 BKR.	-----	EM/uP*	-----	-----	-----	check on TD-5
North Catskill	69	W-269 BKR.	-----	EM/uP*	-----	-----	-----	check on TD-5
North Catskill	115	W-791 BKR.	-----	uP- 200	-----	-----	-----	SEL-2BFR
North Catskill	69	W-269 & W-1107 BKR	-----	-----	EM	-----	-----	IJS
North Catskill	115	B1	SCADA	EM	-----	-----	-----	Volts
North Catskill	69	B1	SCADA	EM/uP	-----	-----	-----	Volts
North Catskill	69	B2	SCADA	EM/uP	-----	-----	-----	Volts
North Catskill	13.8	B1	SCADA	-----	EM/uP	-----	-----	Volts; 95BU is DFP-100
North Catskill	13.8	B2	SCADA	-----	EM/uP	-----	-----	Volts; 95BU is DFP-100
North Catskill	115/69	T4	SCADA	EM/uP*	-----	-----	-----	Check on 64 relay
North Catskill	115/69	T5	SCADA	EM/uP*	-----	-----	-----	Check on 64 relay
North Catskill	115/13.8	T6	SCADA	EM/uP	-----	-----	-----	95BU is DFP-100
North Catskill	115/13.8	T7	SCADA	EM/uP	-----	-----	-----	95BU is DFP-100

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
North Chelsea						BM		
North Chelsea	13.8	8051 Ckt.	SCADA	-----	uP	-----	-----	
North Chelsea	13.8	8052 Ckt.	SCADA	-----	uP	-----	-----	
North Chelsea	13.8	8053 Ckt.	SCADA	-----	uP	-----	-----	
North Chelsea	13.8	8054 Ckt.	SCADA	-----	uP	-----	-----	
North Chelsea	13.8	8055 Ckt.	SCADA	-----	uP	-----	-----	
North Chelsea	13.8	8056 Ckt.	SCADA	-----	uP	-----	-----	
North Chelsea	13.8	8057 Ckt.	SCADA	-----	uP	-----	-----	
North Chelsea	13.8	8058 Ckt.	SCADA	-----	-----	-----	-----	Com
North Chelsea	13.8	Com Equipment	-----	-----	-----	-----	-----	
North Chelsea	115	AC Line	SCADA	uP	-----	-----	-----	
North Chelsea	115	AC-1086 BKR.	-----	uP	-----	-----	-----	
North Chelsea	115	DC Line	SCADA	uP	-----	-----	-----	
North Chelsea	115	DC-1414 BKR.	-----	uP	-----	-----	-----	
North Chelsea	115	FO-1482 BKR.	-----	uP	-----	-----	-----	
North Chelsea	115	FO Line	SCADA	uP	-----	-----	-----	95P is LCB-II
North Chelsea	115	NF Line	SCADA	uP	-----	-----	-----	95P is LCB-II
North Chelsea	115	NF-1116 BKR.	-----	uP	-----	-----	-----	
North Chelsea	115	SC Line	SCADA	uP	-----	-----	-----	
North Chelsea	115	SC-1566 BKR.	-----	uP	-----	-----	-----	
North Chelsea	69	TV Line	SCADA	uP	-----	-----	-----	
North Chelsea	115	B-2651 BKR.	-----	uP	-----	-----	-----	
North Chelsea	115	B-2652 BKR.	-----	uP	-----	-----	-----	
North Chelsea	115	B-2653 BKR.	-----	uP	-----	-----	-----	
North Chelsea	115	W-1572 BKR.	-----	uP	-----	-----	-----	
North Chelsea	115	B1	SCADA	uP	-----	-----	-----	
North Chelsea	13.8	B1	SCADA	-----	uP	-----	-----	
North Chelsea	13.8	B2	SCADA	-----	uP	-----	-----	
North Chelsea	115/69	T1	SCADA	uP	-----	-----	-----	
North Chelsea	115/13.8	T2	SCADA	uP	-----	-----	-----	
North Chelsea	115/13.8	T3	SCADA	uP	-----	-----	-----	Volts
Ohioville						2100		
Ohioville	13.8	5021 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Ohioville	13.8	5022 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Ohioville	13.8	5023 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Ohioville	13.8	5024 Ckt.	Charts - kW	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Ohioville	13.8	5025 Ckt.	SCADA	-----	uP	-----	-----	
Ohioville	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Ohioville	115	Cap Bank	-----	EM	-----	-----	-----	
Ohioville	69	O Line	None	uP	-----	-----	-----	
Ohioville	69	OB Line	None	uP	-----	-----	-----	
Ohioville	115	OR Line	None	EM	-----	-----	-----	
Ohioville	115	OR-1075 BKR.	-----	EM	-----	-----	-----	
Ohioville	115	PX Line	SCADA	EM/uP	-----	-----	-----	
Ohioville	115	PX - 1659 BKR.	-----	uP	-----	-----	-----	
Ohioville	69	W - 1511 BKR.	-----	EM	-----	-----	-----	
Ohioville	13.8	W - 1537 BKR.	-----	-----	EM	-----	-----	
Ohioville	13.8	W - 1600 BKR.	-----	-----	EM	-----	-----	
Ohioville	115	B1	SCADA	EM	-----	-----	-----	Volts
Ohioville	69	69k Bus	SCADA	EM	-----	-----	-----	Volts
Ohioville	13.8	B1	None	-----	EM	-----	-----	
Ohioville	13.8	B2	None	-----	EM	-----	-----	
Ohioville	115/13.8	T1	SCADA	EM	-----	-----	-----	Combine load value
Ohioville	115/13.8	T2		EM	-----	-----	-----	
Ohioville	115/69	T3	SCADA	EM/uP-200	-----	-----	-----	95BU is SEL-251

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Pleasant Valley						2300		
Pleasant Valley	115	8 Line	SCADA**	uP	-----	-----	-----	Grid owns Line
Pleasant Valley	115	10 Line	SCADA	uP	-----	-----	-----	
Pleasant Valley	115	12 Line	SCADA**	uP	-----	-----	-----	Grid owns Line
Pleasant Valley	115	13 Line	SCADA**	uP	-----	-----	-----	Grid owns Line
Pleasant Valley	115	C Line	SCADA	EM/Gen-1	-----	-----	-----	95BU is Optimho; in replacement plan
Pleasant Valley	115	M Line	SCADA	EM	-----	-----	-----	
Pleasant Valley	115	X Line	SCADA	uP	-----	-----	-----	
Pleasant Valley	115	Com Equipment	-----	-----	-----	-----	-----	Com
Pleasant Valley	115	R-12 BKR.	-----	uP- 200	-----	-----	-----	SEL-279
Pleasant Valley	115	R-13 BKR.	-----	uP- 200	-----	-----	-----	SEL-279
Pleasant Valley	115	R-8 BKR.	-----	uP- 200	-----	-----	-----	SEL-279
Pleasant Valley	115	RC-6 BKR.	-----	EM	-----	-----	-----	
Pleasant Valley	115	RM BKR.	-----	EM	-----	-----	-----	
Pleasant Valley	115	RX-4 BKR.	-----	uP	-----	-----	-----	
Pleasant Valley	115	R-61 BKR.	SCADA**	EM	-----	-----	-----	Con Ed owns the Bkr
Pleasant Valley	115	R-62 BKR.	SCADA**	EM	-----	-----	-----	Con Ed owns the Bkr
Pleasant Valley	115	R-643 BKR.	-----	EM	-----	-----	-----	
Pleasant Valley	115	R-81 BKR.	-----	EM	-----	-----	-----	
Pleasant Valley	115	B1	SCADA	EM	-----	-----	-----	Volts
Pleasant Valley	115	B2	SCADA	EM	-----	-----	-----	Volts
Pleasant Valley	69	E Line	SCADA*	uP	-----	-----	-----	kW
Pleasant Valley	69	G Line	SCADA*	uP	-----	-----	-----	kW
Pleasant Valley	69	Q Line	SCADA*	uP	-----	-----	-----	kW
Pleasant Valley	69	B1	SCADA	uP	-----	-----	-----	Volts
Pleasant Valley	13.8	W-387	-----	-----	EM	-----	-----	
Pleasant Valley	345/115	S1	SCADA	-----	-----	-----	-----	Con Ed owns bank and protection
Pleasant Valley	115/69	T10	SCADA	EM	-----	-----	-----	
Pulvers Corners						D-20		
Pulvers Corners	13.8	7091 Ckt.	SCADA	-----	EM	-----	V4L	single phase; vac; hyd
Pulvers Corners	13.8	7092 Ckt.	SCADA	-----	EM	-----	Kyle L	single phase; oil; hyd
Pulvers Corners	34.5	7395 Ckt.	SCADA	EM	-----	-----	RVE	3 phase; oil; hyd
Pulvers Corners	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Pulvers Corners	69	Cap Bank	-----	EM	-----	-----	-----	
Pulvers Corners	69	B1	SCADA	-----	-----	-----	-----	Volts
Pulvers Corners	34.5	B1	SCADA	-----	-----	-----	-----	Volts
Pulvers Corners	13.8	B1	SCADA	-----	-----	-----	-----	Volts
Pulvers Corners	69/13.8	T1	SCADA	Fuse	-----	-----	-----	
Pulvers Corners	69/34.5	T2	None	EM/uP	-----	-----	-----	95P is SR-745

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Reynolds Hill						2100		
Reynolds Hill	13.8	6001 Ckt.	Charts - kW	-----	EM	-----	-----	
Reynolds Hill	13.8	6004 Ckt.	SCADA	-----	uP	-----	-----	
Reynolds Hill	13.8	6005 Ckt.	Charts - kW	-----	EM	-----	-----	
Reynolds Hill	13.8	6008 Ckt.	SCADA	-----	uP	-----	-----	
Reynolds Hill	-----	Com Equipment	-----	-----	-----	-----	-----	Com
Reynolds Hill	115	DR-1418 BKR.	-----	uP	-----	-----	-----	
Reynolds Hill	115	DR Line	SCADA	uP	-----	-----	-----	
Reynolds Hill	115	HR-1285 BKR.	-----	EM	-----	-----	-----	
Reynolds Hill	115	HR Line	SCADA	uP	-----	-----	-----	
Reynolds Hill	115	IR Line	SCADA	uP	-----	-----	-----	
Reynolds Hill	13.8	B Cable	SCADA	-----	uP	-----	-----	
Reynolds Hill	13.8	W Cable	SCADA	-----	uP	-----	-----	
Reynolds Hill	13.8	PD Cable	SCADA	-----	uP	-----	-----	
Reynolds Hill	13.8	PH Line	SCADA	-----	uP	-----	-----	
Reynolds Hill	13.8	PK Line	SCADA	-----	uP	-----	-----	
Reynolds Hill	13.8	PO Line	SCADA	-----	uP	-----	-----	
Reynolds Hill	13.8	PQ Line	SCADA	-----	uP	-----	-----	
Reynolds Hill	13.8	PS Line	SCADA	-----	uP	-----	-----	
Reynolds Hill	13.8	PU Cable	SCADA	-----	uP	-----	-----	
Reynolds Hill	115	T-31 BKR.	-----	EM	-----	-----	-----	
Reynolds Hill	115	B1	SCADA	EM	-----	-----	-----	Volts
Reynolds Hill	115	B2	SCADA	EM	-----	-----	-----	Volts
Reynolds Hill	13.8	B1	SCADA	-----	EM/uP	-----	-----	95BU is SEL-501
Reynolds Hill	13.8	B2		-----	uP	-----	-----	Volts
Reynolds Hill	13.8	B3	SCADA	-----	uP	-----	-----	Volts
Reynolds Hill	115	W-1543 BKR.	-----	EM	-----	-----	-----	
Reynolds Hill	115/13.8	T3	SCADA	EM/uP	-----	-----	-----	95P is SEL-351A
Reynolds Hill	115/13.8	T4	SCADA	EM/uP	-----	-----	-----	95P is SEL-351A
Rhinebeck						2300		
Rhinebeck	13.8	7051 Ckt.	Charts - kW/SCADA	-----	uP- 200/ uP	-----	-----	95P is SEL-251; 95BU is SEL-501
Rhinebeck	13.8	7052 Ckt.	Charts - Amps	-----	EM	-----	-----	
Rhinebeck	13.8	7053 Ckt.	Charts - Amps	-----	EM	-----	-----	
Rhinebeck	13.8	7054 Ckt.	Charts - Amps	-----	EM	-----	-----	
Rhinebeck	13.8	7055 Ckt.	Charts - kW	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Rhinebeck	13.8	7056 Ckt.	SCADA		uP- 200/ uP	-----	-----	95P is SEL-251; 95BU is SEL-501
Rhinebeck	-----	Com Equipment	-----	-----	-----	-----	-----	
Rhinebeck	69	Cap Bank	-----	EM	-----	-----	-----	
Rhinebeck	115	ER Line	SCADA*	uP	-----	-----	-----	Amps
Rhinebeck	115	LR-830-MR BKR.	-----	uP	-----	-----	-----	
Rhinebeck	115	MR Line	None	uP	-----	-----	-----	
Rhinebeck	69	Q-1471 BKR.	-----	EM	-----	-----	-----	
Rhinebeck	13.8	W-1017 BKR.	-----	-----	EM	-----	-----	
Rhinebeck	13.8	W-1238 BKR.	-----	-----	EM	-----	-----	
Rhinebeck	69	W-258 BKR.	-----	EM	-----	-----	-----	
Rhinebeck	13.8	W-367 BKR.	-----		EM	-----	-----	
Rhinebeck	69	Q Line	SCADA*	-----	-----	-----	-----	Volts
Rhinebeck	13.8	B1	SCADA	-----	EM	-----	-----	Combine Bus Volts to one point
Rhinebeck	13.8	B2	none	-----	EM	-----	-----	
Rhinebeck	69	69kV Bus	SCADA	-----	-----	-----	-----	Volts
Rhinebeck	69/13.8	T1	SCADA*	EM	-----	-----	-----	Amps & Volts
Rhinebeck	69/13.8	T2	SCADA*	EM	-----	-----	-----	Amps & Volts
Rhinebeck	115/13.8	T4	SCADA	EM	-----	-----	-----	
Rhinebeck	115/69	T3	SCADA	EM	-----	-----	-----	

Electric Substation Upg[illegible] Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Rock Tavern 345kV						2100		
Rock Tavern 345kV	345	311 Line A1	SCADA	uP	-----	-----	-----	
Rock Tavern 345kV	345	311 Line A2	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	3456 BKR.	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	3456 BF A1	-----	uP	-----	-----	-----	
Rock Tavern 345kV	345	3456 BF A2	-----	uP	-----	-----	-----	
Rock Tavern 345kV	345	Cap Bank 1 A1	SCADA*	EM	-----	-----	-----	Combined MVArs
Rock Tavern 345kV	345	Cap Bank 1 A2		EM	-----	-----	-----	
Rock Tavern 345kV	345	Cap Bank 2 A1		EM	-----	-----	-----	
Rock Tavern 345kV	345	Cap Bank 2 A2		EM	-----	-----	-----	
Rock Tavern 345kV	345	34 Line A1	SCADA	uP	-----	-----	-----	
Rock Tavern 345kV	345	34 Line A2		uP	-----	-----	-----	
Rock Tavern 345kV	345	37751 BKR.	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	37751 BF A1	-----	uP	-----	-----	-----	
Rock Tavern 345kV	345	37751 BF A2	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	37752 BKR.	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	37752 BF A1	-----	uP	-----	-----	-----	
Rock Tavern 345kV	345	37752 BF A2	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	377 Line A1	SCADA	uP	-----	-----	-----	
Rock Tavern 345kV	345	377 Line A2		EM	-----	-----	-----	
Rock Tavern 345kV	345	4255 BKR.	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	4255 BF A1	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	4255 BF A2	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	42 Line A1		SS	-----	-----	-----	
Rock Tavern 345kV	345	42 Line A2	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	C3351 BKR.	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	C3351 BF A1	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	C3351 BF A2	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	C3352 BKR.	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	C3352 BF A1	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	C3352 BF A2	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	C3353 BKR.	-----	uP- 200	-----	-----	-----	
Rock Tavern 345kV	345	C3353 BF A1	-----	uP	-----	-----	-----	
Rock Tavern 345kV	345	C3353 BF A2	-----	uP	-----	-----	-----	
Rock Tavern 345kV	345	31153 BKR.	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	31153 BF A1	-----	uP	-----	-----	-----	
Rock Tavern 345kV	345	31153 BF A2	-----	uP	-----	-----	-----	
Rock Tavern 345kV	345	31154 BKR.	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	31154 BF A1	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	31154 BF A2	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	Com Equipment	-----	-----	-----	-----	-----	Com
Rock Tavern 345kV	345	B1 A1	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	B1 A2	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	B2 A1	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345	B2 A2	-----	EM	-----	-----	-----	
Rock Tavern 345kV	345/115	T1 A1	SCADA	EM	-----	-----	-----	
Rock Tavern 345kV	345/115	T1 A2		EM	-----	-----	-----	
Rock Tavern 345kV	345/115	T3 A1	SCADA	uP	-----	-----	-----	
Rock Tavern 345kV	345/115	T3 A2		uP	-----	-----	-----	

Electric Substation Up[illegible] Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Sand Dock						2400		
Sand Dock	13.8	6011 Ckt.	Charts - kW	-----	EM	-----	-----	
Sand Dock	13.8	BP-1296 BKR.	-----	-----	EM	-----	-----	
Sand Dock	13.8	BP-1570 BKR.	-----	-----	EM	-----	-----	
Sand Dock	13.8	Cap Bank 1	-----	-----	EM	-----	-----	
Sand Dock	13.8	Cap Bank 2	-----	-----	EM	-----	-----	
Sand Dock	13.8	Cap Bank 3	-----	-----	EM	-----	-----	
Sand Dock	13.8	GB Line	SCADA	-----	-----	-----	-----	
Sand Dock	115	KC-1447-SC BKR.	-----	EM	-----	-----	-----	
Sand Dock	115	KC Line	None	EM	-----	-----	-----	
Sand Dock	115	SC Line	None	UP	-----	-----	-----	
Sand Dock	13.8	SH-886 BKR.	-----	-----	EM	-----	-----	
Sand Dock	13.8	SH-911 BKR.	-----	-----	EM	-----	-----	
Sand Dock	13.8	TW-902 BKR.	-----	-----	EM	-----	-----	
Sand Dock	13.8	TW-909 BKR.	-----	-----	EM	-----	-----	
Sand Dock	13.8	TW-910 BKR.	-----	-----	EM	-----	-----	
Sand Dock	13.8	W-116 BKR.	-----	-----	EM	-----	-----	
Sand Dock	13.8	W-1449 BKR.	-----	-----	EM	-----	-----	
Sand Dock	13.8	W-1453 BKR.	-----	-----	EM	-----	-----	
Sand Dock	13.8	W-1467 BKR.	-----	-----	EM	-----	-----	
Sand Dock	115	B1	SCADA	-----	-----	-----	-----	Combine Bus Volts to one point
Sand Dock	115	B4		-----	-----	-----	-----	
Sand Dock	13.8	B1	SCADA	-----	EM	-----	-----	Combine Bus Volts to one point
Sand Dock	13.8	B2		-----	EM	-----	-----	
Sand Dock	13.8	B3		-----	EM	-----	-----	
Sand Dock	13.8	B4	SCADA	-----	EM	-----	-----	
Sand Dock	13.8	T1	SCADA	EM		-----	-----	Combine load value
Sand Dock	13.8	T3		EM		-----	-----	
Sand Dock	13.8	T4	SCADA	EM		-----	-----	
Saugerties						Orion		

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Shenandoah						2400		
Shenandoah	115	East Bus	SCADA	EM	-----	-----	-----	Combine Bus Volts to one point
Shenandoah	115	West Bus		EM	-----	-----	-----	
Shenandoah	13.8	B1	SCADA	-----	EM	-----	-----	Combine Bus Volts to one point
Shenandoah	13.8	B2		-----	EM	-----	-----	
Shenandoah	13.8	B3	SCADA	-----	EM	-----	-----	Combine Bus Volts to one point
Shenandoah	13.8	B4		-----	EM	-----	-----	
Shenandoah	13.8	B5	SCADA	-----	EM	-----	-----	Combine Bus Volts to one point
Shenandoah	13.8	B6		-----	EM	-----	-----	
Shenandoah	13.8	B7	SCADA	-----	EM	-----	-----	Combine Bus Volts to one point
Shenandoah	13.8	B8		-----	EM	-----	-----	
Shenandoah	13.8	Cap Bank 1	-----	-----	EM	-----	-----	
Shenandoah	13.8	Cap Bank 2	-----	-----	EM	-----	-----	
Shenandoah	13.8	Cap Bank 3	-----	-----	EM	-----	-----	
Shenandoah	13.8	Cap Bank 4	-----	-----	EM	-----	-----	
Shenandoah	13.8	Cap Bank 5	-----	-----	EM	-----	-----	
Shenandoah	13.8	Cap Bank 6	-----	-----	EM	-----	-----	
Shenandoah	13.8	B-4451 BKR. (CB1)	-----	-----	uP	-----	-----	
Shenandoah	13.8	8071 Ckt.	Charts - kW	-----	EM	-----	-----	
Shenandoah	13.8	8072 Ckt.	Charts - kW	-----	EM	-----	-----	
Shenandoah	115	EF Line	None	uP/Gen-1	-----	-----	-----	95BU is Optimho; in replacement plan
Shenandoah	115	FS Line	None	EM	-----	-----	-----	
Shenandoah	115	EF-1514 BKR.	-----	EM	-----	-----	-----	
Shenandoah	115	FS-739 BKR.	-----	EM	-----	-----	-----	
Shenandoah	115	FS-892-EF BKR.	-----	EM	-----	-----	-----	
Shenandoah	115	FS-959 BKR.	-----	EM	-----	-----	-----	
Shenandoah	13.8	Feeder S1	None	-----	EM	-----	-----	
Shenandoah	13.8	Feeder S2	None	-----	EM	-----	-----	
Shenandoah	13.8	Feeder S3	None	-----	EM	-----	-----	
Shenandoah	13.8	Feeder S4	None	-----	EM	-----	-----	
Shenandoah	13.8	Feeder S5	None	-----	EM	-----	-----	
Shenandoah	13.8	Feeder S6	None	-----	EM	-----	-----	
Shenandoah	13.8	Feeder S7	None	-----	EM	-----	-----	
Shenandoah	13.8	Feeder S8	None	-----	EM	-----	-----	
Shenandoah	13.8	Feeder S9	None	-----	EM	-----	-----	
Shenandoah	13.8	Feeder S10	None	-----	EM	-----	-----	
Shenandoah	13.8	Feeder S11	None	-----	EM	-----	-----	
Shenandoah	13.8	Feeder S12	None	-----	EM	-----	-----	
Shenandoah	13.8	Feeder S13	None	-----	EM	-----	-----	
Shenandoah	13.8	Feeder S14	None	-----	EM	-----	-----	
Shenandoah	13.8	Feeder S15	None	-----	EM	-----	-----	
Shenandoah	115/13.8	T1	SCADA	EM	-----	-----	-----	
Shenandoah	115/13.8	T2		EM	-----	-----	-----	Combine load value
Shenandoah	115/13.8	T3	SCADA	EM	-----	-----	-----	
Shenandoah	115/13.8	T4		EM	-----	-----	-----	Combine load value
Shenandoah	115/13.8	T5	SCADA	EM	-----	-----	-----	
Shenandoah	115/13.8	T6		EM	-----	-----	-----	Combine load value
Shenandoah	115/13.8	T7	SCADA	EM	-----	-----	-----	
Shenandoah	13.8	W-1266 BKR.	-----	-----	EM	-----	-----	
Shenandoah	13.8	W-1279 BKR.	-----	-----	EM	-----	-----	
Shenandoah	13.8	W-1450 BKR.	-----	-----	EM	-----	-----	
Shenandoah	13.8	W-1593 BKR.	-----	-----	EM	-----	-----	
Shenandoah	13.8	W-664 BKR.	-----	-----	EM	-----	-----	
Shenandoah	13.8	W-665 BKR.	-----	-----	EM	-----	-----	
Shenandoah	13.8	W-802 BKR.	-----	-----	EM	-----	-----	
Shenandoah	13.8	W-803 BKR.	-----	-----	EM	-----	-----	
Shenandoah	13.8	W-805 BKR.	-----	-----	EM	-----	-----	
Shenandoah	13.8	W-807 BKR.	-----	-----	EM	-----	-----	

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Rock Tavern 115kV						44-550		
Rock Tavern 115kV	115	B1		EM	-----	-----	-----	
Rock Tavern 115kV	115	B2		EM	-----	-----	-----	
Rock Tavern 115kV	115	115-0.48kV SST		EM	-----	-----	-----	
Rock Tavern 115kV	115	Com Equipment	-----	-----	-----	-----	-----	Com
Rock Tavern 115kV	115	D Line	SCADA*	EM	-----	-----	-----	Amps
Rock Tavern 115kV	115	D-448 BKR.	-----	EM	-----	-----	-----	
Rock Tavern 115kV	115	J Line	SCADA*	GEN-1/EM	-----	-----	-----	95P is a DLP; identified in replacement program; Amps
Rock Tavern 115kV	115	J-788 BKR.	-----	EM	-----	-----	-----	
Rock Tavern 115kV	115	RD Line	SCADA*	EM	-----	-----	-----	Amps
Rock Tavern 115kV	115	RD-809 BKR.	-----	EM	-----	-----	-----	
Rock Tavern 115kV	115	RJ Line	SCADA*	EM	-----	-----	-----	Amps
Rock Tavern 115kV	115	RJ-818 BKR.	-----	EM	-----	-----	-----	
Rock Tavern 115kV	115	SL Line	SCADA	EM	-----	-----	-----	
Rock Tavern 115kV	115	SL-684 BKR.	-----	EM	-----	-----	-----	
Rock Tavern 115kV	115	W-467 BKR.	-----	uP	-----	-----	-----	
Rock Tavern 115kV	115	W-681 BKR.	-----	EM	-----	-----	-----	
Rock Tavern 115kV	115	W-814 BKR.	-----	EM/uP	-----	-----	-----	SEL-351
Rock Tavern 115kV	115	WM Line	none	uP	-----	-----	-----	
Rock Tavern 115kV	115/69	T2	SCADA	EM	-----	-----	-----	
Roseton Switchyard						2100		
Roseton Switchyard	345	30356 (B6) BKR	-----	EM	-----	-----	-----	
Roseton Switchyard	345	30356 (B6) BF A1	-----	EM	-----	-----	-----	
Roseton Switchyard	345	30356 (B6) BF A2	-----	EM	-----	-----	-----	
Roseton Switchyard	345	303 Line A1	SCADA	uP	-----	-----	-----	
Roseton Switchyard	345	303 Line A2		EM	-----	-----	-----	
Roseton Switchyard	345	30551 (B7) BKR	-----	EM	-----	-----	-----	
Roseton Switchyard	345	30551 (B7) BF A1	-----	EM	-----	-----	-----	
Roseton Switchyard	345	30551 (B7) BF A2	-----	EM	-----	-----	-----	
Roseton Switchyard	345	30553 (B3) BKR	-----	EM	-----	-----	-----	
Roseton Switchyard	345	30553 (B3) BF A1	-----	uP	-----	-----	-----	
Roseton Switchyard	345	30553 (B3) BF A2	-----	EM	-----	-----	-----	
Roseton Switchyard	345	305 Line A1	SCADA	uP	-----	-----	-----	
Roseton Switchyard	345	305 Line A2		EM/uP	-----	-----	-----	SEL-501 for DBC
Roseton Switchyard	345	31151 (B1) BKR	-----	EM	-----	-----	-----	
Roseton Switchyard	345	31152 (B1) BF A1	-----	EM	-----	-----	-----	
Roseton Switchyard	345	31152 (B1) BF A2	-----	EM	-----	-----	-----	
Roseton Switchyard	345	31152 (B4) BKR	-----	EM	-----	-----	-----	
Roseton Switchyard	345	31152 (B4) BF A1	-----	EM	-----	-----	-----	
Roseton Switchyard	345	31152 (B4) BF A2	-----	EM	-----	-----	-----	
Roseton Switchyard	345	311 Line A1	SCADA	uP	-----	-----	-----	
Roseton Switchyard	345	311 Line A2		EM	-----	-----	-----	
Roseton Switchyard	345	B1	-----	uP	-----	-----	-----	
Roseton Switchyard	345	B2	-----	uP	-----	-----	-----	
Roseton Switchyard	345	U1	SCADA	EM	-----	-----	-----	
Roseton Switchyard	345	U2	SCADA	EM	-----	-----	-----	

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Smith Street						2300		Radio to INW
Smith Street	4	631 Ckt.	Charts - kW	-----	EM	-----	-----	
Smith Street	4	632 Ckt.	Charts - kW	-----	EM	-----	-----	
Smith Street	4	633 Ckt.	Charts - kW	-----	EM	-----	-----	
Smith Street	4	634 Ckt.	Charts - kW	-----	EM	-----	-----	
Smith Street	13.8	MS Line	None	-----	EM	-----	-----	
Smith Street	13.8	PQ Line	None	-----	EM	-----	-----	
Smith Street	13.8	PS Line	None	-----	EM	-----	-----	
Smith Street	13.8	W Line	None	-----	EM	-----	-----	Volts
Smith Street	13.8	B1	SCADA	-----	EM	-----	-----	Volts
Smith Street	13.8	B2	SCADA	-----	EM	-----	-----	Volts
Smith Street	4	B1	SCADA	-----	uP	-----	-----	Volts
Smith Street	4	B2	SCADA	-----	uP	-----	-----	
Smith Street	13.8/4	T1	None	-----	EM	-----	-----	
Smith Street	13.8/4	T2	None	-----	EM	-----	-----	
Smithfield						8890		
Smithfield	13.8	7095 Ckt.	SCADA	-----	uP	-----	-----	
Smithfield	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Smithfield	69	E Line	None	uP- 200/uP	-----	-----	-----	95P is SEL-267
Smithfield	69	FV Line	SCADA*	uP- 200/uP	-----	-----	-----	95P is SEL-267; Volts & Amps
Smithfield	69	GE Line	SCADA*	EM	-----	-----	-----	Amps
Smithfield	69	S Line	SCADA*	EM	-----	-----	-----	Amps
Smithfield	69	SA Line	SCADA*	EM	-----	-----	-----	Volts & Amps
Smithfield	69	B2	SCADA	-----	-----	-----	-----	Volts
Smithfield	69	B3	SCADA	-----	-----	-----	-----	Volts
Smithfield	69/13.8	T1	None*	-----	-----	-----	-----	Only one feeder; T1 = 7095 load
South Cairo						8890		
South Cairo	13.8	2041 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79
South Cairo	13.8	2042 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79
South Cairo	13.8	2043 Ckt.	Charts - kW	-----	EM	-----	-----	
South Cairo	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
South Cairo	69	CF Line	None	EM/uP	-----	-----	-----	79 done with NLR
South Cairo	69	CL Line	None	uP	-----	-----	-----	
South Cairo	13.8	B1+G1	Charts - kW/SCADA	-----	EM	-----	-----	SCADA Volts
South Cairo	69/13.8	T1	Charts - Amps	EM/uP	-----	-----	-----	95P is SEL-587
South Wall St.						None		
South Wall St.	4	111 Ckt.	Grid Sense	-----	EM	-----	Kyte L	Single Phase; Oil; Hyd
South Wall St.	4	112 Ckt.	Grid Sense	-----	EM	-----	Kyle L	Single Phase: Oil; Hyd; missing GS data
South Wall St.	13.8/4	T1	Charts - kW/kVAr	-----	EM	-----	-----	
Spackenkill						Orion		
Spackenkill	13.8	6041 Ckt.	SCADA	-----	uP	-----	-----	
Spackenkill	13.8	6042 Ckt.	SCADA	-----	uP	-----	-----	
Spackenkill	13.8	6043 Ckt.	SCADA	-----	uP	-----	-----	
Spackenkill	13.8	6044 Ckt.	SCADA	-----	uP	-----	-----	
Spackenkill	13.8	6045 Ckt.	SCADA	-----	uP	-----	-----	
Spackenkill	13.8	6046 Ckt.	SCADA	-----	uP	-----	-----	
Spackenkill	13.8	6047 Ckt.	SCADA	-----	uP	-----	-----	
Spackenkill	13.8	6048 Ckt.	SCADA	-----	uP	-----	-----	
Spackenkill	13.8	Com Equipment	-----	-----	-----	-----	-----	
Spackenkill	13.8	KR Line	SCADA	-----	uP	-----	-----	
Spackenkill	13.8	KS Line	SCADA	-----	uP	-----	-----	
Spackenkill	13.8	MC Line	SCADA	-----	uP	-----	-----	
Spackenkill	13.8	MC-200-SK BKR.	SCADA	-----	uP	-----	-----	
Spackenkill	13.8	B1	SCADA	-----	uP	-----	-----	
Spackenkill	13.8	B2		-----	uP	-----	-----	
Spackenkill	115/13.8	T1	SCADA	uP	-----	-----	-----	
Spackenkill	115/13.8	T2		uP	-----	-----	-----	
Staatsburg						BM		
Staatsburg	13.8	7041 Ckt.	SCADA	-----	uP	-----	-----	
Staatsburg	13.8	7042 Ckt.	SCADA	-----	uP	-----	-----	
Staatsburg	13.8	7043 Ckt.	SCADA	-----	uP	-----	-----	
Staatsburg	13.8	Com Equipment	-----	-----	-----	-----	-----	
Staatsburg	13.8	B1	SCADA	-----	uP	-----	-----	
Staatsburg	69/13.8	T1	SCADA	uP	-----	-----	-----	

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Standfordville						M-4000		
Standfordville	13.8	7071 Ckt.	MV-90	-----	EM	-----	V4L	Single phase; vac; hyd
Standfordville	13.8	7072 Ckt.	MV-90	-----	EM	-----	-----	
Standfordville	13.8	B1	SCADA	-----	-----	-----	-----	Volts
Standfordville	69/13.8	T1	MV-90	Fuse	-----	-----	-----	
Sturgeon Pool						2100		
Sturgeon Pool	4	341 Ckt.	Grid Sense	-----	EM	-----	Kyle W	3 phase; oil; hyd; missing data
Sturgeon Pool	4	Com Equipment	-----	-----	-----	-----	-----	Com
Sturgeon Pool	69	N Line	SCADA	uP	-----	-----	-----	
Sturgeon Pool	69	O Line	SCADA	uP	-----	-----	-----	
Sturgeon Pool	69	P Line	SCADA	uP	-----	-----	-----	
Sturgeon Pool	69	69k Bus	SCADA	EM	-----	-----	-----	Volts
Sturgeon Pool		T5	None	Fuse	-----	-----	-----	
Sugarloaf						44-500		
Sugarloaf	115	SD Line	SCADA	EM	-----	-----	-----	Combine load value
Sugarloaf	115	SJ Line		EM	-----	-----	-----	
Sugarloaf	115	SL Line	None	EM	-----	-----	-----	
Sugarloaf	115	B1	SCADA	EM	-----	-----	-----	Volts
Sugarloaf	115/69	O & R Transformer	SCADA	EM	-----	-----	-----	
Tinkertown						2300		Radio to PVL
Tinkertown	13.8	7022 Ckt.	SCADA	-----	uP	-----	-----	
Tinkertown	13.8	7023 Ckt.	SCADA	-----	uP	-----	-----	
Tinkertown	13.8	7024 Ckt.	SCADA	-----	uP	-----	-----	
Tinkertown	13.8	7025 Ckt.	SCADA	-----	uP	-----	-----	
Tinkertown	13.8	B1	SCADA	-----	uP	-----	-----	Volts
Tinkertown	13.8	B2	SCADA	-----	uP	-----	-----	Volts
Tinkertown	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Tinkertown	69/13.8	T1	SCADA	Fuse	-----	-----	-----	
Tinkertown	69/13.8	T2	SCADA	Fuse	-----	-----	-----	
Tioronda						M-4000		
Tioronda	13.8	8085 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Tioronda	13.8	8086 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Tioronda	13.8	8087 Ckt.	Charts - Amps	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Tioronda	115	W-566 Ckt. Sw	-----	EM	-----	-----	-----	Agastat
Tioronda	13.8	B1	SCADA	-----	EM	-----	-----	Volts
Tioronda	115/13.8	T1	Charts - kW/kVAr	EM	-----	-----	-----	
Todd Hill						2200		
Todd Hill	13.8	6051 Ckt.	SCADA	-----	uP	-----	-----	
Todd Hill	13.8	6052 Ckt.	SCADA	-----	uP	-----	-----	
Todd Hill	13.8	6053 Ckt.	SCADA	-----	uP	-----	-----	
Todd Hill	13.8	6054 Ckt.	SCADA	-----	uP	-----	-----	
Todd Hill	13.8	6055 Ckt.	SCADA	-----	EM	-----	-----	
Todd Hill	13.8	6056 Ckt.	SCADA	-----	EM	-----	-----	
Todd Hill	13.8	6057 Ckt.	SCADA	-----	EM	-----	-----	
Todd Hill	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Todd Hill	115	A Line	None	EM/Gen-1	-----	-----	-----	95BU is Optimho; in replacement plan
Todd Hill	115	A-520-C BKR.	-----	EM	-----	-----	-----	
Todd Hill	115	C Line	None	EM/Gen-1	-----	-----	-----	95BU is Optimho; in replacement plan
Todd Hill	13.8	W - 524 BKR.	-----	-----	EM	-----	-----	
Todd Hill	115	B1	SCADA	-----	-----	-----	-----	Volts
Todd Hill	13.8	B1	SCADA	-----	EM/uP	-----	-----	95BU is SEL-351A; Volts
Todd Hill	13.8	B2	SCADA	-----	uP	-----	-----	Volts
Todd Hill	115/13.8	T1	SCADA	EM/uP	-----	-----	-----	95P is SEL-587
Todd Hill	115/13.8	T2	SCADA	uP	-----	-----	-----	

Electric Substation U[illegible] Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Union Ave						2200		
Union Ave	115	B1	SCADA	uP	-----	-----	-----	Volts
Union Ave	115	RJ Line	SCADA	EM	-----	-----	-----	
Union Ave	115	RJ-52 BKR.	-----	EM/uP	-----	-----	-----	SEL-351A for BF
Union Ave	115	UB Line	SCADA	uP	-----	-----	-----	
Union Ave	115	UB-51 BKR.	-----	uP	-----	-----	-----	
Union Ave	115	UN Line	SCADA*	EM	-----	-----	-----	Amps
Union Ave	115	UW Line	SCADA*	EM	-----	-----	-----	Amps
Union Ave	115	W-1095 BKR.	-----	EM	-----	-----	-----	
Union Ave	13.8	B1	-----	-----	uP	-----	-----	
Union Ave	13.8	B2	-----	-----	uP	-----	-----	
Union Ave	13.8	B3	SCADA	-----	uP	-----	-----	Volts
Union Ave	13.8	B4	SCADA	-----	uP	-----	-----	Volts
Union Ave	13.8	B3-B2	-----	-----	uP	-----	-----	
Union Ave	13.8	B4-B1	-----	-----	uP	-----	-----	
Union Ave	13.8	4041 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Union Ave	13.8	4042 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Union Ave	13.8	4043 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Union Ave	13.8	4044 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Union Ave	13.8	4045 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Union Ave	13.8	4046 Ckt.	MV-90	-----	EM/uP	-----	-----	BE1-851H as BU and 79
Union Ave	13.8	4047 Ckt.	SCADA	-----	uP	-----	-----	
Union Ave	13.8	4051 Ckt.	SCADA	-----	uP	-----	-----	
Union Ave	13.8	4052 Ckt.	SCADA	-----	uP	-----	-----	
Union Ave	13.8	4053 Ckt.	SCADA	-----	uP	-----	-----	
Union Ave	13.8	4054 Ckt.	SCADA	-----	uP	-----	-----	
Union Ave	13.8	4055 Ckt.	SCADA	-----	uP	-----	-----	
Union Ave	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Union Ave	115/13.8	T1	SCADA	EM/uP	-----	-----	-----	95BU is SEL-387E
Union Ave	115/13.8	T2	SCADA	EM/uP	-----	-----	-----	95BU is SEL-387E
Union Ave	115/13.8	T3	SCADA	uP	-----	-----	-----	
Van Wagner						NONE		
Van Wagner	4	731 Ckt.	Charts - kW/GS	-----	-----	-----	Kyle L	Single phase; oil; hyd
Van Wagner	4	732 Ckt.	Charts - kW/GS	-----	-----	-----	Kyle L	Single phase; oil; hyd
Vinegar Hill						M-4000		
Vinegar Hill	34.5	2389 Ckt.	MV-90	-----	uP	-----	RVE	3 phase; oil; hyd
West Balmville						2300		
West Balmville	115	B2	SCADA	EM	-----	-----	-----	Volts
West Balmville	13.8	B1	SCADA	-----	uP	-----	-----	Combine Bus Volts to one point
West Balmville	13.8	B2		-----	uP	-----	-----	
West Balmville	115	B Line	SCADA	uP	-----	-----	-----	
West Balmville	13.8	4011 Ckt.	MV-90	-----	EM	-----	-----	
West Balmville	13.8	4012 Ckt.	SCADA	-----	uP	-----	-----	MV-90 still?
West Balmville	13.8	4013 Ckt.	SCADA	-----	uP	-----	-----	MV-90 still?
West Balmville	13.8	4014 Ckt.	SCADA	-----	uP	-----	-----	MV-90 still?
West Balmville	13.8	4015 Ckt.	MV-90	-----	EM	-----	-----	
West Balmville	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
West Balmville	115	DB Line	SCADA	uP	-----	-----	-----	
West Balmville	115	DB-875 BKR.	-----	uP	-----	-----	-----	
West Balmville	115	DW Line	SCADA	uP	-----	-----	-----	
West Balmville	115	DW-662 BKR.	-----	uP	-----	-----	-----	
West Balmville	115	F Line	SCADA	uP	-----	-----	-----	
West Balmville	115	R Line	SCADA	uP	-----	-----	-----	
West Balmville	115	W-478 BKR.	-----	uP	-----	-----	-----	
West Balmville	115	W-855 BKR.	-----	uP	-----	-----	-----	
West Balmville	115	WN Line	SCADA	uP	-----	-----	-----	
West Balmville		T1	SCADA	EM	-----	-----	-----	Combine load value
West Balmville		T2		EM	-----	-----	-----	

Electric Substation Upgrade Needs Assessment

Substation	Voltage Class (kV)	Line/Ckt.	Metering	T. Relaying	D. Relaying	RTU	Recloser	Comment
Westerlo						BM		
Westerlo	13.8	1091 Ckt.	SCADA	-----	uP	-----	-----	
Westerlo	13.8	1092 Ckt.	SCADA	-----	uP	-----	-----	
Westerlo	13.8	1093 Ckt.	SCADA	-----	uP	-----	-----	
Westerlo	13.8	B1	SCADA	-----	uP	-----	-----	
Westerlo	-----	Com Equipment	-----	-----	-----	-----	-----	Only has one 13.8 bus; T1 = Bus load
Westerlo	69/13.8	T1	SCADA	uP	-----	-----	-----	
Westerlo	69	Cap Bank	-----	uP	-----	-----	-----	
Westerlo	69	FW Line	SCADA	uP	-----	-----	-----	
Westerlo	69	NW Line	SCADA	uP	-----	-----	-----	
Westerlo	69	FW-1500-NW BKR.	-----	uP	-----	-----	-----	
Wiccopee						L&N		
Wiccopee	115	FS Line	None	EM	-----	-----	-----	
Wiccopee	115	WP Line	None	uP	-----	-----	-----	
Wiccopee	115	FS - 1652- WP BKR.	-----	EM	-----	-----	-----	
Wiccopee	13.8	F1-292 BKR.	-----	-----	EM	-----	-----	
Wiccopee	13.8	F2-280 BKR.	-----	-----	EM	-----	-----	
Wiccopee	13.8	W-368 BKR.	-----	-----	EM	-----	-----	
Wiccopee	13.8	W-378 BKR.	-----	-----	EM	-----	-----	
Wiccopee	13.8	W-632 BKR.	-----	-----	EM	-----	-----	
Wiccopee	13.8	W-636 BKR.	-----	-----	EM	-----	-----	
Wiccopee	13.8	Future (Unit #3)	-----	-----	EM	-----	-----	
Wiccopee	13.8	Future (Unit #9)	-----	-----	EM	-----	-----	
Wiccopee	13.8	B1	-----	-----	EM	-----	-----	
Wiccopee	13.8	B2	-----	-----	EM	-----	-----	
Wiccopee	13.8	Com Equipment	-----	-----	-----	-----	-----	Com
Wiccopee	115/13.8	T1	SCADA	EM	-----	-----	-----	
Wiccopee	115/13.8	T2	SCADA	EM	-----	-----	-----	
Woodstock						M-4000		
Woodstock	13.8	3011 Ckt.	MV-90	-----	EM	-----	-----	
Woodstock	13.8	3012 Ckt.	MV-90	-----	EM	-----	-----	
Woodstock	13.8	3013 Ckt.	MV-90	-----	EM	-----	-----	
Woodstock	13.8	3014 Ckt.	MV-90	-----	EM	-----	-----	
Woodstock	13.8	B1	SCADA	-----	EM	-----	-----	Volts
Woodstock	13.8	B2	SCADA	-----	EM	-----	-----	Volts
Woodstock	69/13.8	T2+SR Line	-----	EM	-----	-----	-----	
Woodstock	69/13.8	T2 + B2	-----	EM	-----	-----	-----	
Woodstock	69/13.8	T1	MV-90	-----	-----	-----	-----	
Woodstock	69/13.8	T2	MV-90	-----	-----	-----	-----	

Attachment 6

	Station	Cost
2012	Dashville	$190,000
	East Walden	$610,000
	Tioronda	$200,000
2013	Coxsackie	$130,000
	South Cairo	$160,000
	East Park	$200,000
	Pleasant Valley	$360,000
	Todd Hill	$160,000
2014	Sand Dock	$510,000
	Fishkill Plains	$480,000
	South Wall St.	$84,000
2015	Manchester	$340,000
	Forgebrook	$730,000
2016	Rock Tavern	$1,060,000
Subs		

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Converse Street Upgrade
Work Order #: 2020-H
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2020 **In-Service:** 12/31/2027

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
A variety of equipment exists in Central Hudson substations, including protective relays, meters, recloser controls, and other control & communications equipment such as Remote Terminal Units (RTUs). Each of these components serves an integral role in contribution to the overall, integrated substation protection, control, and monitoring function. This equipment is at the end of its useful life and must be upgraded to current standards.

Describe specific scope exclusions, assumptions and constraints:
Replacement of Transformer #1, Transformer #2, and Bus #1 and Bus #2 switchgears. The substation is in poor condition requiring a full substation rebuild.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Risk Reduction. See file "SR#2011-07 Substation Relays, Meters, Controls and Communications Infrastructure Oppor.pdf".

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?
Risk of equipment failure possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $2,457,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	187,000	0	0	17,000	170,000	0	0	0
	Labor (Monthly Payroll)	117,000	0	0	11,000	106,000	0	0	0
	Stock Materials	70,000	0	0	6,000	64,000	0	0	0
	A/P Non-Stock Material	1,167,000	0	0	107,000	1,060,000	0	0	0
	A/P Contractors & Other	537,000	0	0	49,000	488,000	0	0	0
	Overheads & Other	43,000	0	0	4,000	39,000	0	0	0
	AFUDC*	125,000	0	0	10,000	115,000	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**2,246,000**	0	0	**204,000**	**2,042,000**	0	0	0
RETIREMENTS	Labor (Weekly Payroll)	86,000	0	0	21,000	65,000	0	0	0
	Labor (Monthly Payroll)	65,000	0	0	16,000	49,000	0	0	0
	A/P Non-Labor (dumpsters, etc.)	11,000	0	0	3,000	8,000	0	0	0
	A/P Contractors	21,000	0	0	5,000	16,000	0	0	0
	Overheads & Other	28,000	0	0	7,000	21,000	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**211,000**	0	0	**52,000**	**159,000**	0	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 1,803,900 **Maximum ($):** 3,350,100

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: East Kingston PLC Replacement
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2026 **In-Service:** 12/1/2027

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
The first and second generation Programmable Logic Controllers (PLC's) require more extensive maintenance due to age-related component failures. Many of these PLC's are now unsupported by the manufacturers and have limited or no parts availability for maintenance and repair.

Describe specific scope exclusions, assumptions and constraints:
Planned replacement of PLC located at East Kingston Substation.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A: Replacement of obsolete PLC equipment.

Why was the proposed project scope chosen over other alternatives?
N/A: Replacement of obsolete PLC equipment.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Replacing obsolete PLC equipment in order to optimize control and communications in Electric Substations.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
To replace obsolete equipment before failure.

What are the risks and consequences of not completing this project?
Lack of Supervisory control and information in the substation possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $2,195,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	165,000	0	0	17,000	148,000	0	0	0
	Labor (Monthly Payroll)	103,000	0	0	11,000	92,000	0	0	0
	Stock Materials	61,000	0	0	6,000	55,000	0	0	0
	A/P Non-Stock Material	1,031,000	0	0	107,000	924,000	0	0	0
	A/P Contractors & Other	474,000	0	0	49,000	425,000	0	0	0
	Overheads & Other	40,000	0	0	4,000	36,000	0	0	0
	AFUDC*	111,000	0	0	10,000	101,000	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	1,985,000	0	0	204,000	1,781,000	0	0	0
RETIREMENTS	Labor (Weekly Payroll)	83,000	0	0	41,000	42,000	0	0	0
	Labor (Monthly Payroll)	63,000	0	0	31,000	32,000	0	0	0
	A/P Non-Labor (dumpsters, etc.)	10,000	0	0	5,000	5,000	0	0	0
	A/P Contractors	21,000	0	0	10,000	11,000	0	0	0
	Overheads & Other	33,000	0	0	17,000	16,000	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	210,000	0	0	104,000	106,000	0	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 1,604,400 **Maximum ($):** 2,979,600

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Unit Pricing; Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
This project was part of the original RTU and PLC Replacement Program that has been separated out by project.

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Pulvers Corners Transformer #1 Replacement
Work Order #: 7835-K
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2024 **In-Service:** 12/1/2027

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
As part of the original Transformer Condition-Based Replacement Program that has been broken out into individual projects, several existing power transformers have been identified for potential replacement due to condition and are on the above 55 years of age listing. These transformers include: Pulvers Corners Transformer #1 (69/13.8 kV), Forgebrook Transformers #1 & #2 (115/13.8 kV), Ancram Transformer #1 (1 Phase 34.5/13.8 kV), Woodstock Transformers #1 & #2 (69/13.8 kV).

Describe specific scope exclusions, assumptions and constraints:
Replace Transformer #1 at Pulvers Corners Substation and any associated relaying as appropriate.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

EP 2022-013 Pulvers Ancram Area Review.pdf

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Integrate CLCPA goals into planning & performance management processes
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

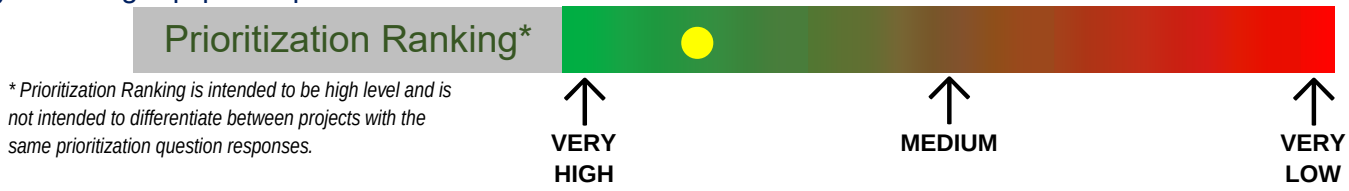
What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
To replace obsolete equipment before failure.

What are the risks and consequences of not completing this project?
Risk of power transformer failure possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.



** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $3,702,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	263,000	5,000	0	171,000	87,000	0	0	0
	Labor (Monthly Payroll)	181,000	20,000	0	107,000	54,000	0	0	0
	Stock Materials	97,000	0	0	64,000	33,000	0	0	0
	A/P Non-Stock Material	1,911,000	300,000	0	1,067,000	544,000	0	0	0
	A/P Contractors & Other	741,000		0	491,000	250,000	0	0	0
	Overheads & Other	85,000	25,000	0	40,000	20,000	0	0	0
	AFUDC*	214,000	50,000	0	105,000	59,000	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**3,492,000**	**400,000**	**0**	**2,045,000**	**1,047,000**	**0**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	83,000	0	0	41,000	42,000	0	0	0
	Labor (Monthly Payroll)	63,000	0	0	31,000	32,000	0	0	0
	A/P Non-Labor (dumpsters, etc.)	10,000	0	0	5,000	5,000	0	0	0
	A/P Contractors	21,000	0	0	10,000	11,000	0	0	0
	Overheads & Other	33,000	0	0	17,000	16,000	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**210,000**	**0**	**0**	**104,000**	**106,000**	**0**	**0**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 2,078,300 **Maximum ($):** 3,859,700

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Sand Dock Relay Upgrade
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2026 **In-Service:** 12/1/2027

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
A variety of equipment exists in Central Hudson substations, including protective relays, meters, recloser controls, and other control & communications equipment such as Remote Terminal Units (RTUs). Each of these components serves an integral role in contribution to the overall, integrated substation protection, control, and monitoring function. This equipment is at the end of its useful life and must be upgraded to current standards.

Describe specific scope exclusions, assumptions and constraints:
Part of the original ESP Infrastructure Replacement Program that has been broken out into individual projects. All electromechanical relays at Sand Dock Substation will be upgraded to current microprocessor relay standards.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Risk Reduction. See file "SR#2011-07 Substation Relays, Meters, Controls and Communications Infrastructure Oppor.pdf".

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

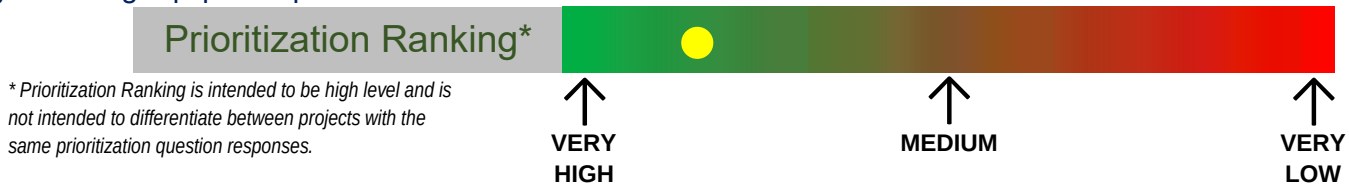
What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?
Risk of equipment failure possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.



** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,125,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	87,000	0	0	9,000	78,000	0	0	0
	Labor (Monthly Payroll)	54,000	0	0	5,000	49,000	0	0	0
	Stock Materials	32,000	0	0	3,000	29,000	0	0	0
	A/P Non-Stock Material	542,000	0	0	53,000	489,000	0	0	0
	A/P Contractors & Other	250,000	0	0	25,000	225,000	0	0	0
	Overheads & Other	22,000	0	0	2,000	20,000	0	0	0
	AFUDC*	58,000	0	0	5,000	53,000	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**1,045,000**	0	0	**102,000**	**943,000**	0	0	0
RETIREMENTS	Labor (Weekly Payroll)	32,000	0	0	0	32,000	0	0	0
	Labor (Monthly Payroll)	24,000	0	0	0	24,000	0	0	0
	A/P Non-Labor (dumpsters, etc.)	4,000	0	0	0	4,000	0	0	0
	A/P Contractors	8,000	0	0	0	8,000	0	0	0
	Overheads & Other	12,000	0	0	0	12,000	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**80,000**	0	0	0	**80,000**	0	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 793,100 **Maximum ($):** 1,472,900

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven

Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025

Budget Category: _13

Budget Group: Electric

Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Myers Corners Switchgear Upgrade & 69 kV Breaker TV-399-KM Replace **Work Order #:** -

Funding Project Description: Substation D-Sustaining Projects **Funding Project Number:** 1-1312-99-19

Is this a Specific Project, Program or Blanket? Specific **Target Schedule - Start:** 1/1/2025 **In-Service:** 12/1/2028

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:

The existing external switchgear has reached the end of its useful life and replacement parts are difficult to obtain or no longer available. The switchgear roof has been repaired over the years but water ingress has damaged much of the inner ceiling.

Describe specific scope exclusions, assumptions and constraints:

It is recommended that the external switchgear be replaced with a new switchgear. The switchgear will contain two bus's with a normally closed tie breaker, 15kV breakers rated 2000A and 1200A, protective relaying, interconnection cabinet, PT's, and station service transformers. The switchgear will contain provisions for future expansion.This project will include the replacement of the 69 kV TV-399-KM circuit breaker as part of the original 69 kV Breaker Replacement program that has also been broken out into individual projects.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?

N/A

Why was the proposed project scope chosen over other alternatives?

N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

N/A: Infrastructure Replacements

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?
Risk of equipment failure possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $4,666,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	358,000	0	8,000	0	261,000	89,000	0	0
	Labor (Monthly Payroll)	223,000	0	5,000	0	163,000	55,000	0	0
	Stock Materials	134,000	0	3,000	0	98,000	33,000	0	0
	A/P Non-Stock Material	2,237,000	0	52,000	0	1,631,000	554,000	0	0
	A/P Contractors & Other	1,029,000	0	24,000	0	750,000	255,000	0	0
	Overheads & Other	85,000	0	3,000	0	61,000	21,000	0	0
	AFUDC*	277,000	0	7,000	0	178,000	92,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**4,343,000**	**0**	**102,000**	**0**	**3,142,000**	**1,099,000**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	128,000	0	0	0	42,000	86,000	0	0
	Labor (Monthly Payroll)	98,000	0	0	0	32,000	66,000	0	0
	A/P Non-Labor (dumpsters, etc.)	15,000	0	0	0	5,000	10,000	0	0
	A/P Contractors	33,000	0	0	0	11,000	22,000	0	0
	Overheads & Other	49,000	0	0	0	16,000	33,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**323,000**	**0**	**0**	**0**	**106,000**	**217,000**	**0**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 2,491,300 **Maximum ($):** 4,626,700

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Ancram Transformer Replacement
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2027 **In-Service:** 12/1/2028

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
As part of the original Transformer Condition-Based Replacement Program that has been broken out into individual projects, several existing power transformers have been identified for potential replacement due to condition and are on the above 55 years of age listing. These transformers include: Pulvers Corners Transformer #1 (69/13.8 kV), Forgebrook Transformers #1 & #2 (115/13.8 kV), Ancram Transformer #1 (1 Phase 34.5/13.8 kV), Woodstock Transformers #1 & #2 (69/13.8 kV).

Describe specific scope exclusions, assumptions and constraints:
Replace Transformer #1 (three single phase transformers) at Ancram Substation with a new three-phase Wye-Delta-Wye 34.5/13.8 kV transformer and replace any associated relaying as appropriate. Purchase a replacement 34.5/13.8 kV spare three-phase transformer to be located at Eltings Corners to be utilized at either Ancram or Hunter Substations due to a failure.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

EP 2022-013 Pulvers Ancram Area Review.pdf

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

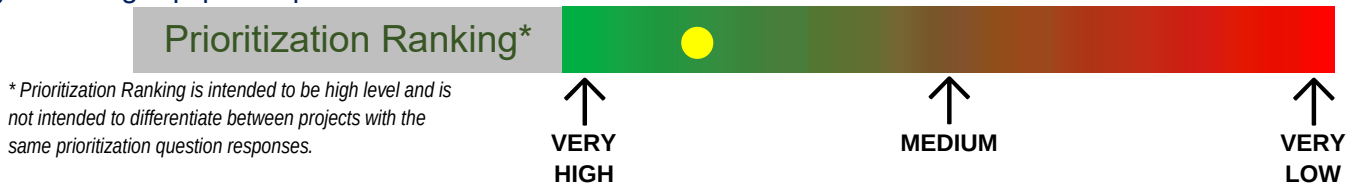
What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
To replace obsolete equipment before failure.

What are the risks and consequences of not completing this project?
Risk of power transformer failure possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.



** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY

Budget Submittal Form

D. COST ESTIMATE

Capital Estimate Summary $5,210,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	398,000	0	0	0	43,000	355,000	0	0
	Labor (Monthly Payroll)	249,000	0	0	0	27,000	222,000	0	0
	Stock Materials	149,000	0	0	0	16,000	133,000	0	0
	A/P Non-Stock Material	2,488,000	0	0	0	272,000	2,216,000	0	0
	A/P Contractors & Other	1,144,000	0	0	0	125,000	1,019,000	0	0
	Overheads & Other	94,000	0	0	0	11,000	83,000	0	0
	AFUDC*	396,000	0	0	0	30,000	366,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**4,918,000**	**0**	**0**	**0**	**524,000**	**4,394,000**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	117,000	0	0	0	0	117,000	0	0
	Labor (Monthly Payroll)	88,000	0	0	0	0	88,000	0	0
	A/P Non-Labor (dumpsters, etc.)	15,000	0	0	0	0	15,000	0	0
	A/P Contractors	29,000	0	0	0	0	29,000	0	0
	Overheads & Other	43,000	0	0	0	0	43,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**292,000**	**0**	**0**	**0**	**0**	**292,000**	**0**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 2,383,500 **Maximum ($):** 4,426,500

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Galeville PLC Replacement
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2027
In-Service: 12/1/2028

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
The first and second generation Programmable Logic Controllers (PLC's) require more extensive maintenance due to age-related component failures. Many of these PLC's are now unsupported by the manufacturers and have limited or no parts availability for maintenance and repair.

Describe specific scope exclusions, assumptions and constraints:
Planned replacement of PLC located at Galeville Substation.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A: Replacement of obsolete PLC equipment.

Why was the proposed project scope chosen over other alternatives?
N/A: Replacement of obsolete PLC equipment.

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Replacing obsolete PLC equipment in order to optimize control and communications in Electric Substations.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
To replace obsolete equipment before failure.

What are the risks and consequences of not completing this project?
Lack of Supervisory control and information in the substation possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,255,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	89,000	0	0	0	9,000	80,000	0	0
	Labor (Monthly Payroll)	55,000	0	0	0	5,000	50,000	0	0
	Stock Materials	33,000	0	0	0	3,000	30,000	0	0
	A/P Non-Stock Material	553,000	0	0	0	54,000	499,000	0	0
	A/P Contractors & Other	254,000	0	0	0	25,000	229,000	0	0
	Overheads & Other	22,000	0	0	0	3,000	19,000	0	0
	AFUDC*	88,000	0	0	0	6,000	82,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	1,094,000	0	0	0	105,000	989,000	0	0
RETIREMENTS	Labor (Weekly Payroll)	64,000	0	0	0	21,000	43,000	0	0
	Labor (Monthly Payroll)	49,000	0	0	0	16,000	33,000	0	0
	A/P Non-Labor (dumpsters, etc.)	7,000	0	0	0	2,000	5,000	0	0
	A/P Contractors	16,000	0	0	0	5,000	11,000	0	0
	Overheads & Other	25,000	0	0	0	9,000	16,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	161,000	0	0	0	53,000	108,000	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 878,500 **Maximum ($):** 1,631,500

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: **Montgomery Street Switchgear Replacement**
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2028

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
The existing internal switchgear has reached the end of its useful life and replacement parts are difficult to obtain or no longer available. Maintenance issues have been experienced with racking the vintage breakers in the internal switchgear. Replacement parts for the racking mechanisms are no longer available.

Describe specific scope exclusions, assumptions and constraints:
It is recommended that the internal switchgear be replaced with a new switchgear. The switchgear will contain three bus's with normally closed tie breakers, 15kV breakers rated 2000A and 1200A, protective relaying, interconnection cabinet, PT's, and station service transformers. The switchgear will contain provisions for future expansion.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Part of the original Breaker Replacement Program and removal of cables to old Balmville Substation.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?
N/A: Infrastructure Replacements

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $3,379,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	253,000	0	4,000	9,000	174,000	66,000	0	0
	Labor (Monthly Payroll)	159,000	0	3,000	5,000	109,000	42,000	0	0
	Stock Materials	95,000	0	2,000	3,000	65,000	25,000	0	0
	A/P Non-Stock Material	1,581,000	0	26,000	53,000	1,087,000	415,000	0	0
	A/P Contractors & Other	728,000	0	12,000	25,000	500,000	191,000	0	0
	Overheads & Other	61,000	0	1,000	2,000	42,000	16,000	0	0
	AFUDC*	195,000	0	3,000	5,000	118,000	69,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**3,072,000**	**0**	**51,000**	**102,000**	**2,095,000**	**824,000**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	122,000	0	0	37,000	42,000	43,000	0	0
	Labor (Monthly Payroll)	93,000	0	0	28,000	32,000	33,000	0	0
	A/P Non-Labor (dumpsters, etc.)	14,000	0	0	4,000	5,000	5,000	0	0
	A/P Contractors	31,000	0	0	9,000	11,000	11,000	0	0
	Overheads & Other	47,000	0	0	15,000	16,000	16,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**307,000**	**0**	**0**	**93,000**	**106,000**	**108,000**	**0**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 2,562,000 **Maximum ($):** 4,758,000

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Saugerties PLC Replacement
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2028
In-Service: 12/1/2028

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
The first and second generation Programmable Logic Controllers (PLC's) require more extensive maintenance due to age-related component failures. Many of these PLC's are now unsupported by the manufacturers and have limited or no parts availability for maintenance and repair.

Describe specific scope exclusions, assumptions and constraints:
Planned replacement of PLC located at Saugerties Substation.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A: Replacement of obsolete PLC equipment.

Why was the proposed project scope chosen over other alternatives?
N/A: Replacement of obsolete PLC equipment.

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Replacing obsolete PLC equipment in order to optimize control and communications in Electric Substations.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
To replace obsolete equipment before failure

What are the risks and consequences of not completing this project?
Lack of Supervisory control and information in the substation possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,207,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan					*All future year cost estimates should include applicable adjustments for inflation.*		
ADDITIONS	Labor (Weekly Payroll)	89,000	0	0	0	0	89,000	0	0
	Labor (Monthly Payroll)	55,000	0	0	0	0	55,000	0	0
	Stock Materials	33,000	0	0	0	0	33,000	0	0
	A/P Non-Stock Material	554,000	0	0	0	0	554,000	0	0
	A/P Contractors & Other	255,000	0	0	0	0	255,000	0	0
	Overheads & Other	21,000	0	0	0	0	21,000	0	0
	AFUDC*	92,000	0	0	0	0	92,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	1,099,000	0	0	0	0	1,099,000	0	0
RETIREMENTS	Labor (Weekly Payroll)	43,000	0	0	0	0	43,000	0	0
	Labor (Monthly Payroll)	33,000	0	0	0	0	33,000	0	0
	A/P Non-Labor (dumpsters, etc.)	5,000	0	0	0	0	5,000	0	0
	A/P Contractors	11,000	0	0	0	0	11,000	0	0
	Overheads & Other	16,000	0	0	0	0	16,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	108,000	0	0	0	0	108,000	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 844,900 **Maximum ($):** 1,569,100

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Smithfield Relay Modernization
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2026 **In-Service:** 12/1/2027

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
A variety of equipment exists in Central Hudson substations, including protective relays, meters, recloser controls, and other control & communications equipment such as Remote Terminal Units (RTUs). Each of these components serves an integral role in contribution to the overall, integrated substation protection, control, and monitoring function. This equipment is at the end of its useful life and must be upgraded to current standards.

Describe specific scope exclusions, assumptions and constraints:
Part of the original ESP Infrastructure Replacement Program that has been broken out into individual projects. All electromechanical relays at Smithfield Substation will be upgraded to current microprocessor relay standards.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Risk Reduction. See file "SR#2011-07 Substation Relays, Meters, Controls and Communications Infrastructure Oppor.pdf".

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?
Risk of equipment failure possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $3,117,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	239,000	0	0	9,000	159,000	71,000	0	0
	Labor (Monthly Payroll)	148,000	0	0	5,000	99,000	44,000	0	0
	Stock Materials	90,000	0	0	3,000	60,000	27,000	0	0
	A/P Non-Stock Material	1,488,000	0	0	53,000	992,000	443,000	0	0
	A/P Contractors & Other	685,000	0	0	25,000	456,000	204,000	0	0
	Overheads & Other	57,000	0	0	2,000	38,000	17,000	0	0
	AFUDC*	186,000	0	0	5,000	108,000	73,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**2,893,000**	**0**	**0**	**102,000**	**1,912,000**	**879,000**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	91,000	0	0	0	65,000	26,000	0	0
	Labor (Monthly Payroll)	69,000	0	0	0	49,000	20,000	0	0
	A/P Non-Labor (dumpsters, etc.)	11,000	0	0	0	8,000	3,000	0	0
	A/P Contractors	23,000	0	0	0	16,000	7,000	0	0
	Overheads & Other	30,000	0	0	0	21,000	9,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**224,000**	**0**	**0**	**0**	**159,000**	**65,000**	**0**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 1,570,800 **Maximum ($):** 2,917,200

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Sand Dock 15 kV Breaker Replacements
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2029 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
Central Hudson had an on-going condition based circuit breaker replacement program that has been broken out into individual projects. The majority of power circuit breakers on the Central Hudson System have been in operation for over 40 years. Some of the breakers have operating issues and others are obsolete and do not have spare parts available for repair or maintenance.

Describe specific scope exclusions, assumptions and constraints:
The 15 kV BP-1296, BP-1570, TW-902, TW-909, TW-910, W-116, W-1449, W-1453, W-1568, and W-1573 Circuit Breakers at Sand Dock will be replaced.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
OS2018-002 Infrastructure Recommendations.pdf and BRP 2025-2029 Five Year Forecast OFFICIAL BA 20240419.xlsx

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?

To replace obsolete equipment before failure.

What are the risks and consequences of not completing this project?

Risk of circuit breaker failure possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes

Yes

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Cost avoidance by minimizing maintenance costs.

Does this Project enhance Central Hudson's customer experience or service delivery? Yes

Minimizes substation outages.

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Reduces risk of equipment failure.

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,727,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan							*All future year cost estimates should include applicable adjustments for inflation.*
ADDITIONS	Labor (Weekly Payroll)	135,000	0	0	0	0	0	135,000	0
	Labor (Monthly Payroll)	85,000	0	0	0	0	0	85,000	0
	Stock Materials	51,000	0	0	0	0	0	51,000	0
	A/P Non-Stock Material	846,000	0	0	0	0	0	846,000	0
	A/P Contractors & Other	389,000	0	0	0	0	0	389,000	0
	Overheads & Other	32,000	0	0	0	0	0	32,000	0
	AFUDC*	79,000	0	0	0	0	0	79,000	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**1,617,000**	**0**	**0**	**0**	**0**	**0**	**1,617,000**	**0**
RETIREMENTS	Labor (Weekly Payroll)	43,000	0	0	0	0	0	43,000	0
	Labor (Monthly Payroll)	33,000	0	0	0	0	0	33,000	0
	A/P Non-Labor (dumpsters, etc.)	5,000	0	0	0	0	0	5,000	0
	A/P Contractors	11,000	0	0	0	0	0	11,000	0
	Overheads & Other	18,000	0	0	0	0	0	18,000	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**110,000**	**0**	**0**	**0**	**0**	**0**	**110,000**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Preliminary
Cost Estimate Confidence: **(that final cost will be within +/-20% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 953,600 **Maximum ($):** 1,430,400

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Spackenkill PLC Replacement
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2029 **In-Service:** 12/1/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
The first and second generation Programmable Logic Controllers (PLC's) require more extensive maintenance due to age-related component failures. Many of these PLC's are now unsupported by the manufacturers and have limited or no parts availability for maintenance and repair.

Describe specific scope exclusions, assumptions and constraints:
Planned replacement of PLC located at Spackenkill Substation.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A: Replacement of obsolete PLC equipment.

Why was the proposed project scope chosen over other alternatives?
N/A: Replacement of obsolete PLC equipment.

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Replacing obsolete PLC equipment in order to optimize control and communications in Electric Substations.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?

To replace obsolete equipment before failure.

What are the risks and consequences of not completing this project?

Lack of Supervisory control and information in the substation possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes

Yes

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Cost avoidance by minimizing maintenance costs.

Does this Project enhance Central Hudson's customer experience or service delivery? Yes

Minimizes substation outages.

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Reduces risk of equipment failure.

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY

Budget Submittal Form

D. COST ESTIMATE

Capital Estimate Summary $1,188,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	90,000	0	0	0	0	0	90,000	0
	Labor (Monthly Payroll)	56,000	0	0	0	0	0	56,000	0
	Stock Materials	34,000	0	0	0	0	0	34,000	0
	A/P Non-Stock Material	564,000	0	0	0	0	0	564,000	0
	A/P Contractors & Other	259,000	0	0	0	0	0	259,000	0
	Overheads & Other	22,000	0	0	0	0	0	22,000	0
	AFUDC*	53,000	0	0	0	0	0	53,000	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**1,078,000**	**0**	**0**	**0**	**0**	**0**	**1,078,000**	**0**
RETIREMENTS	Labor (Weekly Payroll)	43,000	0	0	0	0	0	43,000	0
	Labor (Monthly Payroll)	33,000	0	0	0	0	0	33,000	0
	A/P Non-Labor (dumpsters, etc.)	5,000	0	0	0	0	0	5,000	0
	A/P Contractors	11,000	0	0	0	0	0	11,000	0
	Overheads & Other	18,000	0	0	0	0	0	18,000	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**110,000**	**0**	**0**	**0**	**0**	**0**	**110,000**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 706,300 **Maximum ($):** 1,311,700

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
This project was part of the original RTU and PLC Replacement Program that has been separated out by project.

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Tinkertown Transformers Replacements
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2026
In-Service: 12/1/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
Replace existing Tinkertown Transformers #1 and #2 with new 69-13.8 kV wye-wye, 13.4/17.1/22.4 MVA transformers with low side LTC, high side circuit switchers, bus work, and connections to accommodate the substation firm LTE rating of 35 MVA and winter firm LTE of 45 MVA.

Describe specific scope exclusions, assumptions and constraints:
To allow for increased emergency ratings, the 7023 and 7024 500 Cu MCM risers must be replaced with 750 Cu MCM in subsequent years.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
EP_2023_02 Tinkertown Transformer Replacement.pdf

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
To upgrade transformers to meet the summer and winter projected firm LTE ratings at Tinkertown Substation.

What are the risks and consequences of not completing this project?
Risk of power transformer failure possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $7,248,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	579,000	0	0	128,000	0	0	451,000	0
	Labor (Monthly Payroll)	362,000	0	0	80,000	0	0	282,000	0
	Stock Materials	217,000	0	0	48,000	0	0	169,000	0
	A/P Non-Stock Material	3,620,000	0	0	800,000	0	0	2,820,000	0
	A/P Contractors & Other	1,665,000	0	0	368,000	0	0	1,297,000	0
	Overheads & Other	138,000	0	0	31,000	0	0	107,000	0
	AFUDC*	343,000	0	0	79,000	0	0	264,000	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	6,924,000	0	0	1,534,000	0	0	5,390,000	0
RETIREMENTS	Labor (Weekly Payroll)	128,000	0	0	41,000	0	0	87,000	0
	Labor (Monthly Payroll)	98,000	0	0	31,000	0	0	67,000	0
	A/P Non-Labor (dumpsters, etc.)	15,000	0	0	5,000	0	0	10,000	0
	A/P Contractors	32,000	0	0	10,000	0	0	22,000	0
	Overheads & Other	51,000	0	0	17,000	0	0	34,000	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	324,000	0	0	104,000	0	0	220,000	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Preliminary
Cost Estimate Confidence: **(that final cost will be within +/-20% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 5,798,400 **Maximum ($):** 8,697,600

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Tioronda Switchgear Replacement
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2027
In-Service: 12/1/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
As part of the original Switchgear Replacement Program that has been broken out into its individual project, the existing external switchgear at Tioronda Substation has reached the end of its useful life and replacement parts are difficult to obtain or no longer available.

Describe specific scope exclusions, assumptions and constraints:
It is recommended that the external switchgear at Tioronda Substation be replaced with a new switchgear. The switchgear will contain two bus's with a normally closed tie breaker, 15kV breakers rated 2000A and 1200A, protective relaying, interconnection cabinet, PT's, and station service transformers. The switchgear will contain provisions for future expansion.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
N/A: Infrastructure Replacements

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?
Risk of equipment failure possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $5,227,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	407,000	0	0	0	47,000	89,000	271,000	0
	Labor (Monthly Payroll)	253,000	0	0	0	29,000	55,000	169,000	0
	Stock Materials	153,000	0	0	0	18,000	33,000	102,000	0
	A/P Non-Stock Material	2,540,000	0	0	0	294,000	554,000	1,692,000	0
	A/P Contractors & Other	1,168,000	0	0	0	135,000	255,000	778,000	0
	Overheads & Other	95,000	0	0	0	11,000	21,000	63,000	0
	AFUDC*	283,000	0	0	0	32,000	92,000	159,000	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	4,899,000	0	0	0	566,000	1,099,000	3,234,000	0
RETIREMENTS	Labor (Weekly Payroll)	132,000	0	0	0	0	43,000	89,000	0
	Labor (Monthly Payroll)	99,000	0	0	0	0	33,000	66,000	0
	A/P Non-Labor (dumpsters, etc.)	16,000	0	0	0	0	5,000	11,000	0
	A/P Contractors	33,000	0	0	0	0	11,000	22,000	0
	Overheads & Other	48,000	0	0	0	0	16,000	32,000	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	328,000	0	0	0	0	108,000	220,000	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 3,658,900 **Maximum ($):** 6,795,100

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Forgebrook Substation Rebuild
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2026 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
A variety of equipment exists in Central Hudson substations, including protective relays, meters, recloser controls, and other control & communications equipment such as Remote Terminal Units (RTUs). Each of these components serves an integral role in contribution to the overall, integrated substation protection, control, and monitoring function. This equipment is at the end of its useful life and must be upgraded to current standards.

Describe specific scope exclusions, assumptions and constraints:
Replacement of Transformer #1, Transformer #2, switchgear, control house and lattice structures. The substation is in poor condition requiring a full substation rebuild.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Risk Reduction. See file "SR#2011-07 Substation Relays, Meters, Controls and Communications Infrastructure Oppor.pdf".

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?
Risk of equipment failure possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? No

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.

Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $13,758,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	1,116,000	0	0	43,000	174,000	177,000	722,000	0
	Labor (Monthly Payroll)	698,000	0	0	27,000	109,000	111,000	451,000	0
	Stock Materials	418,000	0	0	16,000	65,000	66,000	271,000	0
	A/P Non-Stock Material	6,973,000	0	0	267,000	1,087,000	1,108,000	4,511,000	0
	A/P Contractors & Other	3,208,000	0	0	123,000	500,000	510,000	2,075,000	0
	Overheads & Other	264,000	0	0	9,000	42,000	42,000	171,000	0
	AFUDC*	750,000	0	0	26,000	118,000	183,000	423,000	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**13,427,000**	**0**	**0**	**511,000**	**2,095,000**	**2,197,000**	**8,624,000**	**0**
RETIREMENTS	Labor (Weekly Payroll)	131,000	0	0	0	0	0	131,000	0
	Labor (Monthly Payroll)	100,000	0	0	0	0	0	100,000	0
	A/P Non-Labor (dumpsters, etc.)	15,000	0	0	0	0	0	15,000	0
	A/P Contractors	33,000	0	0	0	0	0	33,000	0
	Overheads & Other	52,000	0	0	0	0	0	52,000	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**331,000**	**0**	**0**	**0**	**0**	**0**	**331,000**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 9,630,600 **Maximum ($):** 17,885,400

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Hurley Avenue 115 kV Upgrade
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2028
In-Service: 12/31/2028

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
A variety of equipment exists in Central Hudson substations, including protective relays, meters, recloser controls, and other control & communications equipment such as Remote Terminal Units (RTUs). Each of these components serves an integral role in contribution to the overall, integrated substation protection, control, and monitoring function. This equipment is at the end of its useful life and must be upgraded to current standards.

Describe specific scope exclusions, assumptions and constraints:
Replacement of 115/13.8 kV Transformer #4 and replacement of 6-15 kV circuit breakers and associated relaying.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Risk Reduction. See file "SR#2011-07 Substation Relays, Meters, Controls and Communications Infrastructure Oppor.pdf".

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?

N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?

Risk of equipment failure possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes

Yes

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Cost avoidance by minimizing maintenance costs.

Does this Project enhance Central Hudson's customer experience or service delivery? Yes

Minimizes substation outages.

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Reduces risk of equipment failure.

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary		*Year 1 = 1st year of the 5-year budget plan*		*All future year cost estimates should include applicable adjustments for inflation.*				
$2,778,000		**TOTAL**	**Prior Years Actuals + Projections**	**Year 1 2025**	**Year 2 2026**	**Year 3 2027**	**Year 4 2028**	**Year 5 2029**	**Future Years**
ADDITIONS	Labor (Weekly Payroll)	219,000	0	0	0	0	219,000	0	0
	Labor (Monthly Payroll)	137,000	0	0	0	0	137,000	0	0
	Stock Materials	82,000	0	0	0	0	82,000	0	0
	A/P Non-Stock Material	1,368,000	0	0	0	0	1,368,000	0	0
	A/P Contractors & Other	629,000	0	0	0	0	629,000	0	0
	Overheads & Other	52,000	0	0	0	0	52,000	0	0
	AFUDC*	226,000	0	0	0	0	226,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	2,713,000	0	0	0	0	2,713,000	0	0
RETIREMENTS	Labor (Weekly Payroll)	26,000	0	0	0	0	26,000	0	0
	Labor (Monthly Payroll)	20,000	0	0	0	0	20,000	0	0
	A/P Non-Labor (dumpsters, etc.)	3,000	0	0	0	0	3,000	0	0
	A/P Contractors	7,000	0	0	0	0	7,000	0	0
	Overheads & Other	9,000	0	0	0	0	9,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	65,000	0	0	0	0	65,000	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 1,944,600 **Maximum ($):** 3,611,400

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Jansen Avenue Substation Upgrade
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2027
In-Service: 12/31/2028

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
Much of the equipment at the Shenandoah Substation has been identified for replacement on the following programs that have been broken out into individual projects: Breaker Replacement Program, DA/LTC Replacement Program, and the ESP Infrastructure Replacement Program.

Describe specific scope exclusions, assumptions and constraints:
The various programs above have been combined into one substation modernization project. All electromechanical relays will be replaced along with the replacement of 9-15 kV circuit breakers.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
N/A: Infrastructure Replacements

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?

N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?

Risk of equipment failure possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes

Yes

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Cost avoidance by minimizing maintenance costs.

Does this Project enhance Central Hudson's customer experience or service delivery? Yes

Minimizes substation outages.

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Reduces risk of equipment failure.

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $3,262,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	258,000	0	0	0	9,000	249,000	0	0
	Labor (Monthly Payroll)	161,000	0	0	0	5,000	156,000	0	0
	Stock Materials	97,000	0	0	0	3,000	94,000	0	0
	A/P Non-Stock Material	1,613,000	0	0	0	54,000	1,559,000	0	0
	A/P Contractors & Other	742,000	0	0	0	25,000	717,000	0	0
	Overheads & Other	62,000	0	0	0	3,000	59,000	0	0
	AFUDC*	264,000	0	0	0	6,000	258,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	3,197,000	0	0	0	105,000	3,092,000	0	0
RETIREMENTS	Labor (Weekly Payroll)	26,000	0	0	0	0	26,000	0	0
	Labor (Monthly Payroll)	20,000	0	0	0	0	20,000	0	0
	A/P Non-Labor (dumpsters, etc.)	3,000	0	0	0	0	3,000	0	0
	A/P Contractors	7,000	0	0	0	0	7,000	0	0
	Overheads & Other	9,000	0	0	0	0	9,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	65,000	0	0	0	0	65,000	0	0
	** AFUDC may require adjustment after Finance Department review.*								
	Expense $ (if applicable):	0							
	Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 2,283,400 **Maximum ($):** 4,240,600

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Shenandoah Substation Upgrade
Work Order #: -
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2030

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
Much of the equipment at the Shenandoah Substation has been identified for replacement on the following programs that have been broken out into individual projects: Breaker Replacement Program, DA/LTC Replacement Program, and the ESP Infrastructure Replacement Program.

Describe specific scope exclusions, assumptions and constraints:
The various programs above have been combined into one substation modernization project. All electromechanical relays will be replaced along with the replacement of 25-15 kV circuit breakers.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

N/A: Infrastructure Replacements

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?

N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?

Risk of equipment failure possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes

Yes

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Cost avoidance by minimizing maintenance costs.

Does this Project enhance Central Hudson's customer experience or service delivery? Yes

Minimizes substation outages.

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Reduces risk of equipment failure.

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $4,635,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan							*All future year cost estimates should include applicable adjustments for inflation.*
ADDITIONS	Labor (Weekly Payroll)	298,000	0	8,000	0	0	0	90,000	200,000
	Labor (Monthly Payroll)	161,000	0	5,000	0	0	0	56,000	100,000
	Stock Materials	117,000	0	3,000	0	0	0	34,000	80,000
	A/P Non-Stock Material	2,616,000	0	52,000	0	0	0	564,000	2,000,000
	A/P Contractors & Other	583,000	0	24,000	0	0	0	259,000	300,000
	Overheads & Other	225,000	0	3,000	0	0	0	22,000	200,000
	AFUDC*	160,000	0	7,000	0	0	0	53,000	100,000
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**4,160,000**	**0**	**102,000**	**0**	**0**	**0**	**1,078,000**	**2,980,000**
RETIREMENTS	Labor (Weekly Payroll)	269,000	0	26,000	0	0	0	43,000	200,000
	Labor (Monthly Payroll)	103,000	0	20,000	0	0	0	33,000	50,000
	A/P Non-Labor (dumpsters, etc.)	8,000	0	3,000	0	0	0	5,000	0
	A/P Contractors	18,000	0	7,000	0	0	0	11,000	0
	Overheads & Other	77,000	0	9,000	0	0	0	18,000	50,000
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**475,000**	**0**	**65,000**	**0**	**0**	**0**	**110,000**	**300,000**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 4,970,000 **Maximum ($):** 9,230,000

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: 345 kV Switch Replacement Program
Work Order #: -
Funding Project Description: 345kV Switch Replacement Program
Funding Project Number: 1-1312-01-17
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
Various 345 kV disconnect replacement projects have been included in this budget item.

Describe the project objective and scope of work:
Problems have been identified with the TTT-7, EA, VR2 and VT-1 style motor operated 345kV air disconnects at the Roseton, Rock Tavern and Hurley Ave substations. Limited to no replacement parts are available for these style switches. These disconnects have reached the end of their useful lives, are problematic, and have resulted in extended time trouble-shooting problems and result in increased callouts. There have been several failures in recent times due to frequency of operation and general condition.

Describe specific scope exclusions, assumptions and constraints:
With the developing trend of problems and consideration given to the criticality of the bulk 345kV system, a multi-year systematic 345kV disconnect replacement program has been developed.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A: Infrastructure Replacements

Why was the proposed project scope chosen over other alternatives?
N/A: Infrastructure Replacements

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience; Compliance

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Selective replacement of disconnect switches as specified by the program. (This represents the continuation of our on-going disconnect replacement program). See "Operations Services Infrastructure Projects Rev 5-10-13 (06.10.15 MDM).doc" and "OS2018-002 Infrastructure Recommendations.pdf"

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Infrastructure Replacements as required.

What are the risks and consequences of not completing this project?
Failed substation disconnect switches would not be replaced possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $4,918,025		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	301,000	40,000	42,000	43,000	43,000	44,000	45,000	44,000
	Labor (Monthly Payroll)	164,025	25	26,000	27,000	27,000	28,000	28,000	28,000
	Stock Materials	114,000	15,000	16,000	16,000	16,000	17,000	17,000	17,000
	A/P Non-Stock Material	1,899,000	260,000	261,000	267,000	272,000	277,000	282,000	280,000
	A/P Contractors & Other	873,000	120,000	120,000	123,000	125,000	127,000	130,000	128,000
	Overheads & Other	166,000	55,000	10,000	9,000	11,000	10,000	11,000	60,000
	AFUDC*	226,000	35,000	34,000	25,000	30,000	46,000	26,000	30,000
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**3,743,025**	**525,025**	**509,000**	**510,000**	**524,000**	**549,000**	**539,000**	**587,000**
RETIREMENTS	Labor (Weekly Payroll)	470,000	60,000	63,000	64,000	65,000	66,000	87,000	65,000
	Labor (Monthly Payroll)	356,000	45,000	47,000	48,000	49,000	50,000	67,000	50,000
	A/P Non-Labor (dumpsters, etc.)	58,000	8,000	8,000	8,000	8,000	8,000	10,000	8,000
	A/P Contractors	118,000	15,000	16,000	16,000	16,000	17,000	22,000	16,000
	Overheads & Other	173,000	23,000	29,000	20,000	21,000	21,000	34,000	25,000
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**1,175,000**	**151,000**	**163,000**	**156,000**	**159,000**	**162,000**	**220,000**	**16[illegible],000**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 3,442,618 **Maximum ($):** 6,393,433

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: 115 kV Switch Replacement Program
Work Order #: -
Funding Project Description: Substation T-Sustaining Projects
Funding Project Number: 1-1312-98-19
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
Various 115 kV disconnect replacement projects have been included in this budget item.

Describe the project objective and scope of work:
Based on condition, age and criticality, Substation Operations has identified 115 kV disconnect switches as candidates for targeted replacements. The 115kV Switch Replacement Program will operate similar to our original Breaker Replacement Program that has been broken out into separate projects. Switches will be identified by condition, criticality, age, use, availability of parts, and maintenance issues in order to create a prioritized list for replacement.

Describe specific scope exclusions, assumptions and constraints:
Development of a 115kV switch replacement program.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A: Infrastructure Replacements

Why was the proposed project scope chosen over other alternatives?
N/A: Infrastructure Replacements

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Selective replacement of disconnect switches as specified by the program. (This represents the continuation of our on-going disconnect replacement program). See "Operations Services Infrastructure Projects Rev 5-10-13 (06.10.15 MDM).doc" and "OS2018-002 Infrastructure Recommendations.pdf"

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?

Infrastructure Replacements as required

What are the risks and consequences of not completing this project?

Failed substation disconnect switches would not be replaced possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes

Yes

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Cost avoidance by minimizing maintenance costs.

Does this Project enhance Central Hudson's customer experience or service delivery? Yes

Minimizes substation outages.

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Reduces risk of equipment failure.

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $6,899,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	486,000	65,000	67,000	68,000	70,000	71,000	72,000	73,000
	Labor (Monthly Payroll)	302,000	40,000	42,000	43,000	43,000	44,000	45,000	45,000
	Stock Materials	186,000	25,000	25,000	26,000	26,000	27,000	27,000	30,000
	A/P Non-Stock Material	3,034,000	410,000	418,000	427,000	435,000	443,000	451,000	450,000
	A/P Contractors & Other	1,400,000	190,000	192,000	196,000	200,000	204,000	208,000	210,000
	Overheads & Other	272,000	90,000	15,000	16,000	17,000	17,000	17,000	100,000
	AFUDC*	362,000	55,000	55,000	40,000	47,000	73,000	42,000	50,000
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	**6,042,000**	**875,000**	**814,000**	**816,000**	**838,000**	**879,000**	**862,000**	**958,000**
RETIREMENTS	Labor (Weekly Payroll)	344,000	40,000	42,000	43,000	43,000	44,000	87,000	45,000
	Labor (Monthly Payroll)	261,000	30,000	31,000	32,000	33,000	33,000	67,000	35,000
	A/P Non-Labor (dumpsters, etc.)	43,000	5,000	5,000	5,000	5,000	6,000	10,000	7,000
	A/P Contractors	87,000	10,000	10,000	11,000	11,000	11,000	22,000	12,000
	Overheads & Other	122,000	15,000	14,000	13,000	14,000	14,000	34,000	18,000
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	**857,000**	**100,000**	**102,000**	**104,000**	**106,000**	**108,000**	**220,000**	**11[illegible],000**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 5,297,600 **Maximum ($):** 9,838,400

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Operations Services Infrastructure Projects:

Date Modified: 5-10-13

345kV Motor Operated Disconnect Replacement Program: Recently, problems have developed with the TTT-7, EA, VR2 and VT-1 style motor operated 345kV air disconnects at the Roseton, Rock Tavern and Hurley Ave substations. Limited to no replacement parts are available for this style switch.
These disconnects have reached the end of their useful lives, are problematic, and have resulted in extended time trouble-shooting problems and result in increased callouts. There have been several failures in recent times and due to frequency of operation and general condition
With the developing trend of problems and consideration given to the criticality of the bulk 345kV system, Engineering should consider a multi-year systematic 345kV disconnect replacement program. This replacement program would replace fifty-one 345kV motor operated disconnects.
It is envisioned that this program will represent a living process. The switches selected at the present time represent equipment that we feel, given the current information and conditions, will require replacement. Should system conditions change or failures occur the order of replacements may need to be modified and the program may need to be extended to include longer-term requirements.

Listed below is a summary of the switches requiring replacement with a priority given based on current system conditions:

Order	location	equip_position	manufacturer	model	switch_style
1	ROCK TAVERN 345 kV	3493	PASCOR	TTT-7	Double Break
2	ROCK TAVERN 345 kV	31193	PASCOR	TTT-7	Double Break
3	ROCK TAVERN 345 kV	C3391	PASCOR	VT-1	Vertical Break
4	ROCK TAVERN 345 kV	C3394	MEMCO	VR2	Vertical Break
TBD	HURLEY AVENUE	A-2492	MEMCO	VR2	Vertical Break
TBD	HURLEY AVENUE	30394	MEMCO	EA	Vertical Break
TBD	HURLEY AVENUE	30181	MEMCO	EA 3000A	Vertical Break
TBD	HURLEY AVENUE	30193	MEMCO	EA	Vertical Break
TBD	HURLEY AVENUE	A-2491	MEMCO	VR2	Vertical Break
TBD	HURLEY AVENUE	30192	MEMCO	EA 3000A	Vertical Break
TBD	HURLEY AVENUE	30382	MEMCO	EA	Vertical Break
TBD	HURLEY AVENUE	30393	MEMCO	EA	Vertical Break
TBD	HURLEY AVENUE	A-2461	MEMCO	EA	Vertical

					Break
TBD	HURLEY AVENUE	30191	MEMCO	VR2	Vertical Break
TBD	ROCK TAVERN 345 kV	31182	MEMCO	EA	Vertical Break
TBD	ROCK TAVERN 345 kV	C3397	MEMCO	VR2	Vertical Break
TBD	ROCK TAVERN 345 kV	C3398	MEMCO	EA	Vertical Break
TBD	ROCK TAVERN 345 kV	3451	MEMCO	EA	Vertical Break
TBD	ROCK TAVERN 345 kV	C3373	PASCOR	TTT-7	Double Break
TBD	ROCK TAVERN 345 kV	C3395	MEMCO	VR2	Vertical Break
TBD	ROCK TAVERN 345 kV	37791	PASCOR	TTT-7	Double Break
TBD	ROCK TAVERN 345 kV	3484	MEMCO	EA	Vertical Break
TBD	ROCK TAVERN 345 kV	37792	PASCOR	TTT-7	Double Break
TBD	ROCK TAVERN 345 kV	C3396	MEMCO	VR2	Vertical Break
TBD	ROCK TAVERN 345 kV	C3399	MEMCO	EA	Vertical Break
TBD	ROCK TAVERN 345 kV	37781	MEMCO	EA	Vertical Break
TBD	ROCK TAVERN 345 kV	C3392	MEMCO	EA	Vertical Break
TBD	ROCK TAVERN 345 kV	4291	MEMCO	EA	Vertical Break
TBD	ROCK TAVERN 345 kV	C3371	PASCOR	TTT-7	Double Break
TBD	ROCK TAVERN 345 kV	4283	MEMCO	EA	Vertical Break
TBD	ROCK TAVERN 345 kV	4292	PASCOR	TTT-7	Double Break
TBD	ROCK TAVERN 345 kV	31194	MEMCO	EA	Vertical Break
TBD	ROCK TAVERN 345 kV	C3393	MEMCO	VR2	Vertical Break
TBD	ROCK TAVERN 345 kV	C33910	MEMCO	EA	Vertical Break
TBD	ROCK TAVERN 345 kV	C33911	PASCOR	TTT-7	Double Break
TBD	ROSETON SWITCHYARD	30392	PASCOR	VT-1	Vertical Break
TBD	ROSETON SWITCHYARD	C-3092	MEMCO	EA	Vertical Break
TBD	ROSETON SWITCHYARD	C-3091	MEMCO	EA	Vertical Break
TBD	ROSETON SWITCHYARD	30581	MEMCO	EA	Vertical Break
TBD	ROSETON SWITCHYARD	30398	PASCOR	TTT-7	Double Break

TBD	ROSETON SWITCHYARD	30592	PASCOR	VT-1	Vertical Break
TBD	ROSETON SWITCHYARD	31191	PASCOR	TTT-7	Double Break
TBD	ROSETON SWITCHYARD	30381	PASCOR	VT-1	Vertical Break
TBD	ROSETON SWITCHYARD	C-3082	PASCOR	VT-1	Vertical Break
TBD	ROSETON SWITCHYARD	C-3081	PASCOR	VT-1	Vertical Break
TBD	ROSETON SWITCHYARD	30591	MEMCO	VR2	Vertical Break
TBD	ROSETON SWITCHYARD	C-3094	PASCOR	TTT-7	Double Break
TBD	ROSETON SWITCHYARD	31181	PASCOR	VT-1	Vertical Break
TBD	ROSETON SWITCHYARD	30391	MEMCO	VR2	Vertical Break
TBD	ROSETON SWITCHYARD	31192	PASCOR	TTT-7	Double Break
TBD	ROSETON SWITCHYARD	C-3093	PASCOR	TTT-7	Double Break

Circuit Switchers: The older circuit switchers on our system have reached the end of their useful life. Spare parts are difficult to obtain and we recently have had problems with the unit at Hurley Avenue (replaced 6/1/2011) and Saugerties (scheduled to be retired with Substation). Mark II and Mark III series are considered for replacement due to obsolescence and lack of available replacement parts. Due to frequency of operation and general condition, capacitor bank circuit switcher replacements were also given priority along with circuit switchers that feed a single transformer station.

Order	location	equip_position	serial_no	equip_class	model
1	ROCK TAVERN 345 kV	C-3361		345 kV	MARK II
2	OHIOVILLE	PX-1661		115kV	MARK II
3	PULVERS CORNERS	W-1649	75-11530	69 kV	MARK III
4	ROCK TAVERN 115 kV	W-126	73-10119	115 kV	MARK III
TBD	TIORONDA	W-566	72-05428	115 kV	MARK IV
TBD	RHINEBECK	W-1668	69-03171	69 kV	MARK IV
TBD	TIORONDA	W-570	72-05429	115 kV	MARK II
TBD	MYERS CORNERS	KM-1056	82-32215	115 kV	MARK V
TBD	MYERS CORNERS	TV-388	82-32216	115 kV	MARK V
TBD	EAST PARK	W-240		69 kV	MARK V
TBD	NEW BALTIMORE	A-4661	05-32050	69 kV	MARK V
TBD	NEW BALTIMORE	CN-160	90204	69 kV	MARK V

Large Substation Projects:

Order	Description
1	Greenfield Road 15kV reclosers
2	Dashville LTC control
3	Sturgeon Pool Transformers *(part of existing Category 13 capital plan)
4	Pleasant Valley – 8171, 8172, 8191 & 8192 disconnect switch replacements -
5	DR Line – Line Tuners are leaking fluid and need to be replaced.
6	Sand Dock – SC-13311 disconnect switch replacement – should be upgraded (existing unit has difficult time breaking arc during switching operations)
7	Coxsackie 69kV CCVT replacement
8	Rock Tavern Transformer #1 Ground Switch Installation
9	North Catskill – Station Service Upgrade
10	Hurley Ave 301 Line PT Replacement

Annunciator Replacements: Annunciators at several substations have reached the end of their useful lives. Theses annunciators are problematic, may result in extended time trouble-shooting problems and result in increased callouts. The annunciators should be incorporated into a systematic replacement program. Recommended replacements: Rock Tavern 345kV unit, Roseton 345kV unit and Fishkill Plains 115kV unit (one of a kind PLC based unit – difficult to modify/trouble shoot maintain). Note - Hurley Ave 345kV annunciator was successfully replaced in 2010. Any replacements should involve review of General Alarm layout with Operations Services to evaluate the value of separating out specific alarms that might help assist Operations Services and System Operations reduce unnecessary after-hour callouts for alarms.

Automatic Ground Switch removals: The existing ground switches on the system are antiquated and it is recommended that they be replaced with a more modern protection scheme. These units are not operated on any periodic basis. The overall theory of the ground switch places a bolted short circuit at its installed location. This places stresses on the equipment within the vicinity. The switches have the risk of inadvertent operations. Remaining locations include: Marlboro AG-2; Rhinebeck AG-1; Ohioville AG-1, East Park AG-1. Marlboro and Rhinebeck switched will be removed during planned upcoming substation upgrades.

Line Trap Replacement Program – There have been a number of line traps identified that have reached the end of their useful lives, are problematic, and have resulted in extended time trouble-shooting problems and result in increased callouts. There have been several failures in recent times and due to general condition. It is envisioned that this program will represent a living process. The traps selected at the present time represent equipment that we feel, given the current information and conditions, will require replacement. Should system conditions change or failures occur the order of replacements may need to be modified and the program may need to be extended to include longer-term requirements. Listed below is a summary of the traps requiring replacement with a priority given based on current system conditions:

Production – Cat 11:
Sturgeon Pool Generator Arrestors and capacitors

ESP Programs:
RTU Replacements – ESP program

Relay Replacements – ESP Program

Operations Services Programs:

LTC Filtration Systems - Install LTC filtration system on all LTCs which are either resistive or reactive with high side voltages, 69kV and above. These filters result in improved performance and reduced maintenance costs of the LTCs. Listed below are the remaining transformers requiring a filter

Station	Transformer
Clinton Avenue	Tr. #1
East Park	Tr. #1
Highland	Tr. #1
Manchester	Tr. #1
Manchester	Tr. #2
Maybrook	Tr. #1
Merritt Park	Tr. #1
Merritt Park	Tr. #2
North Chelsea	Tr. #1 ph 1, 2 & 3 (2 compartments)
Ohioville	Tr. #1 (2 compartments)
Ohioville	Tr. #2 (2 compartments)
Rhinebeck	Tr. #4
Sand Dock	Tr. #2
Shenandoah	Tr. #1
Shenandoah	Tr. #2
Shenandoah	Tr. #4
Stanfordville	Tr. #1
South Wall Street	Tr. #1
Todd Hill	Tr. #1
Union Avenue	Tr. #1
Union Avenue	Tr. #2

Battery Replacements – Battery replacement program. Central Hudson replaced any batteries that have been in service for 20 years or are testing poorly due to operational or equipment failure. Currently 58 battery replacements are anticipated over the next 10 years based upon remaining service life. The battery and battery charger replacement program is integrated into our normal capital spending budget.

Lightning Arrester Replacement Program – MOV Lightning Arresters have proven to be superior in providing surge protection to power equipment. It has been recommended by R. P. Brand in the "Standards for MOV Arresters Applications for Central Hudson" dated October 1, 1989 to replace arresters which have been in service for more than 20 years since the reliability of these old arresters decreases due to possible contamination and moisture. Remaining arrestors replacements are listed below:

Substation	Location
Knapps Corners	Tr #3
Rock Tavern	Tr #1
Rock Tavern	42 Line

Pin-cap insulator replacements – We have uncovered a problem with vertical pin-cap insulators in two of our substations (Marlboro and West Balmville). The insulators at the Marlboro Substation have been replaced in conjunction with a major rebuild of the substation. Approximately half of the insulators at the West Balmville substation have been replaced. The remaining pin-caps are located in the 115kV portion of the substation. – Operations Services Program

Type-U bushing replacements. Once these bushings begin to have poor power factor test results they are scheduled for replacement.

Roof maintenance program. Refurbish 2-3 control house roofs per year.
The cost to refurbish 2-3 roofs per year is approximately $22,000 per year (Expense) and is included in the current operating budget. Listed below are the outstanding roof repairs.

Coxsackie Switchgear
Kerhonkson Leak
Sturgeon Pool Leak
Woodstock Control House
Hurley Ave 14.4kV Switchgear
East Walden Control House (Capital)

Montgomery Street Substation Building Repairs – seal outside brick and repair the top outside fascia. The porous brick and the need to re-point the brick is allowing water to deteriorate the brick so that it is crumbling

INFRASTRUCTURE REVIEW & RECOMMENDATIONS

VERSION HISTORY

Memo No.	Date	Action	Author	Approval
OS2018-002	6/25/2018	Initial Document Creation	B. Perry	

This memo is to memorialize Operations Services annual review of its infrastructure, maintenance and inspection programs for various pieces of substation equipment as well as physical infrastructure. This document will be modified annually.

Breaker Replacement

Below are the 115kV oil breakers remaining and the planned replacement as identified in the capital budget.

Anticipated Replacement	Location	Voltage Class	Position	Manufacturer	Model	Breaker Type	Mfg. Date
2018	ROCK TAVERN	115 kV	RJ-818	ALLIS CHALMERS	BZO-115-10000	OIL	1971
2018	ROCK TAVERN	115 kV	W-681	GE	FK-121-43000	OIL	1971
2018	UNION AVE	115 kV	RJ-52	GE	FK-439-115-3500	OIL	1952
2019	WEST BALMVILLE	115 kV	DW-662	ALLIS CHALMERS	BZO-115-7500	OIL	1965
2019	HURLEY AVE	115 kV	HP-1643	ALLIS CHALMERS	BZO-115-10000-2	OIL	1969
2019	HURLEY AVE	115 kV	W-389	ALLIS CHALMERS	BZO-121-40-6	OIL	1973
2019	HURLEY AVE	115 kV	OR-1640	ALLIS CHALMERS	BZO-115-10000-2	OIL	1969
2019	HURLEY AVE	115 kV	A-2451	ALLIS CHALMERS	BZO-121-40-3PST	OIL	1973
2019	ROCK TAVERN	115 kV	W-814	GE	FK-121-43000	OIL	1971
2019	ROCK TAVERN	115 kV	RD-809	ALLIS CHALMERS	BZO-115-10000	OIL	1971

2019	ROCK TAVERN	115 kV	J-788	ALLIS CHALMERS	BZO-115-10000	OIL	1971
2020	BETHLEHEM ROAD	115 kV	RD-604-UB	ALLIS CHALMERS	BZO-121-40-6	OIL	1974
2020	PLEASANT VALLEY	115 kV	R-8	SIEMENS	BZO-121-50-6	OIL	1991
2020	PLEASANT VALLEY	115 kV	RX-4	ALLIS CHALMERS	BZO-115-10000-2	OIL	1968
2020	PLEASANT VALLEY	115 kV	R-81	ALLIS CHALMERS	BZO-115-10000-2	OIL	1968
2020	PLEASANT VALLEY	115 kV	R-10	ALLIS CHALMERS	BZO-115-10000-2	OIL	1980
2020	PLEASANT VALLEY	115 kV	R-62	ALLIS CHALMERS	BZO-115-10000-2	OIL	1980
2020	PLEASANT VALLEY	115 kV	R-61	MCGRAW EDISON	OHT-54	OIL	1973
2020	PLEASANT VALLEY	115 kV	R-643	ALLIS CHALMERS	BZO-121-40-6	OIL	1980
2021	LINCOLN PARK	115 kV	LR-1219-HP	ALLIS CHALMERS	BZO-115-10000-2	OIL	1969
2021	LINCOLN PARK	115 kV	HP-1318	ALLIS CHALMERS	BZO-115-10000-2	OIL	1969
2021	NORTH CATSKILL	115 kV	R-2	SIEMENS	BZO-121-20-7	OIL	1985
2022	SHENANDOAH	115 kV	FS-739	SIEMENS	BZO-121-40-6	OIL	1983
2022	SHENANDOAH	115 kV	FS-959	SIEMENS	BZO-121-40-6	OIL	1983
2022	BARNEGAT	115 kV	KB-749-KC	ALLIS CHALMERS	BZO-121-40-6	OIL	1987
Recommendation Requested	WICCOPEE	115 kV	FS-1652-WP	ALLIS CHALMERS	BZO-121-40-6	OIL	1988

**Wiccopee has essentially no distribution load present. A recommendation about the necessity of this station is required for equipment replacement to be planed appropriately*

Outlined below are the 69 kV oil breakers remaining and the associated years of planned replacement.

Anticipated Replacement	Location	Voltage Class	Position	Manufacturer	Model	Breaker Type	Mfg. Date
2018	HURLEY AVE	69 kV	SB-233	GE	FK-69-2500-5	OIL	1963
2018	HURLEY AVE	69 kV	I-442	GE	FK-69-2500-5	OIL	1963
2018	HURLEY AVE	69 kV	W-142	GE	FK-69-2500-5	OIL	1963
2019	HONK FALLS	69 kV	GM-737	GE	FK-69-2500	OIL	1963
2019	HONK FALLS	69 kV	HG-709	ALLIS CHALMERS	FZO-151-69F	OIL	1953
2019	HONK FALLS	69 kV	WH-769	ALLIS CHALMERS	FZO-151-69F	OIL	1952
2019	ROCK TAVERN	69 kV	WM-1675	GENERAL ELECTRIC	FK-69-2500-5	OIL	1964
2020	MYERS CORNERS	69 kV	TV-399-KM	SIEMENS	TDO-72.5-20000	OIL	1981
2023	HIBERNIA	69 kV	E-972	ITE CIRCUIT BREAKER COMPANY	69KSB2500-12	OIL	1967
Substation Rebuild	KNAPPS CORNERS	69 kV	G-1175	SIEMENS ALLIS	TDO-72.5-20000	OIL	1981
Substation Rebuild	KNAPPS CORNERS	69 kV	KM-1185	SIEMENS ALLIS	TDO-72.5-20000	OIL	1981
Substation Rebuild	KNAPPS CORNERS	69 kV	TR-1195	SIEMENS ALLIS	TDO-72.5-20000	OIL	1981
Substation Rebuild	KNAPPS CORNERS	69 kV	W-1409	SIEMENS ALLIS	TDO-72.5-20000	OIL	1981

Outlined below are the 15 kV oil breakers remaining and the associated years of planned replacement.

Anticipated Replacement	Location	Voltage Class	Position	Manufacturer	Model	Breaker Type	Mfg. Date
2020	NEW BALTIMORE	15 kV	TD-1081	SIEMENS	SDO-15-500	OIL	1990
2020	NEW BALTIMORE	15 kV	TD-1082	SIEMENS	SDO-15-500	OIL	1982
2020	NEW BALTIMORE	15 kV	TD-1083	SIEMENS	SDO-15-500	OIL	1990
2022	JANSEN AVE	15 kV	K-553	GE	FK-255-13.8-250-1	OIL	1941
2022	JANSEN AVE	15 kV	KL-543	GE	FK-255-13.8-250-1	OIL	1941
2022	JANSEN AVE	15 kV	K-583	GE	FK-255-13.8-250-1	OIL	1941
2022	JANSEN AVE	15 kV	K-593	GE	FK-255-250	OIL	1941
2022	JANSEN AVE	15 kV	KO-533	GE	FK-255-13.8-250-1	OIL	1941
2022	JANSEN AVE	15 kV	TD-1001	GE	FK-255-13.8-250-1	OIL	1941
2022	JANSEN AVE	15 kV	TD-1002	GE	FK-255-13.8-250-1	OIL	1941
2022	JANSEN AVE	15 kV	TD-1004	GE	FK-255-13.8-250-1	OIL	1941
2023	STURGEON POOL	15 kV	OS-1	GE	FK-255-150	OIL	1924
2023	STURGEON POOL	15 kV	OS-2	GE	FKR-255	OIL	1924
2023	STURGEON POOL	15 kV	OS-3	WESTINGHOUSE	E-8	OIL	1924
Substation Retirement	BEACON	15 kV	CM-311	ALLIS CHALMERS	FZO-15-1000-H	OIL	1958
Substation Retirement	BEACON	15 kV	TD-8006	ALLIS CHALMERS	FZO-15-1000-H	OIL	1958
Substation Retirement	BEACON	15 kV	W-426	ALLIS CHALMERS	FZO-15-1000-H	OIL	1958
Substation Retirement	CONWAY PLACE	15 kV	CKT 881	GE	FK-143	OIL	1958
Substation Retirement	CONWAY PLACE	15 kV	CKT 882	GE	FK-143	OIL	1958

Substation Retirement	MARYLAND AVE	15 kV	W-426	GE	FK-46	OIL	1951
Substation Retirement	MARYLAND AVE	15 kV	CKT 881	GE	FK-46	OIL	1951
Substation Retirement	MARYLAND AVE	15 kV	CKT 882	GE	FK-46	OIL	1951
Substation Rebuild	KNAPPS CORNERS	15 kV	CKT 8026	GE	FKD-15.5-18000-4	OIL	1966
Substation Rebuild	KNAPPS CORNERS	15 kV	CKT 8027	GE	FK-14.4-500	OIL	1958
Substation Rebuild	KNAPPS CORNERS	15 kV	CKT 8028	GE	FK-14.4-500-1	OIL	1959

Outlined below are the 5 kV oil breakers remaining and the associated years of planned replacement.

Anticipated Replacement	Location	Voltage Class	Position	Manufacturer	Model	Breaker Type	Mfg. Date
Substation Retirement	BEACON	5 kV	CKT 801	GE	FKR-155-16	OIL	1929
Substation Retirement	BEACON	5 kV	CKT 802	GE	FKR-155-16	OIL	1929
Substation Retirement	BEACON	5 kV	CKT 803	GE	FKR-155-16	OIL	1929
Substation Retirement	BEACON	5 kV	W-414	GE	FKR-255-7.2-100-2	OIL	1957
Substation Retirement	BEACON	5 kV	W-463	GE	FKR-255-7.2-100-2	OIL	1957
Low Voltage Retirement	GREENFIELD ROAD	5 kV	CKT 375	GE	FKR-255-100	OIL	1938
Low Voltage Retirement	GREENFIELD ROAD	5 kV	CKT 376	GE	FKR-255-100	OIL	1938
Low Voltage Retirement	GREENFIELD ROAD	5 kV	CKT 377	GE	FKR-255-100	OIL	1938
Low Voltage Retirement	GREENFIELD ROAD	5 kV	CKT 378	GE	FKR-255-100	OIL	1938

345kV SF6 Breaker Replacement

A replacement recommendation is in affect for Westinghouse type SFA SF6 breakers as these breakers have historically been leak prone and maintenance is extremely time consuming because of the design complexity. Outlined below are the type SFA breakers remaining and the associated years of planned replacement.

Anticipated Replacement	Location	Voltage Class	Position	Manufacturer	Model	Breaker Type	Mfg. Date
2020	HURLEY AVE	345 kV	30354	WESTINGHOUSE	362-SFA-40	SF6 GAS	1976
2021	HURLEY AVE	345 kV	30353	WESTINGHOUSE	362-SFA-40	SF6 GAS	1976
2022	HURLEY AVE	345 kV	30151	WESTINGHOUSE	362-SFA-40	SF6 GAS	1976

15kV Breaker Replacement

A replacement recommendation is in affect for Westinghouse type DH and DHP breakers as these breakers are known to have components that contain asbestos. Outlined below are the type DH and DHP breakers remaining and the associated years of planned replacement.

Anticipated Replacement	Location	Voltage Class	Position	Manufacturer	Model	Breaker Type	Mfg. Date
2018	FISHKILL PLAINS	15 kV	TD-8091	WESTINGHOUSE	150-DH-500E	AIR	1963
2018	FISHKILL PLAINS	15 kV	TD-8092	WESTINGHOUSE	150-DH-500E	AIR	1963
2018	FISHKILL PLAINS	15 kV	TD-8093	WESTINGHOUSE	150-DH-500E	AIR	1963
2018	FISHKILL PLAINS	15 kV	TD-8094	WESTINGHOUSE	150-DH-500E	AIR	1963
2018	FISHKILL PLAINS	15 kV	W-975	WESTINGHOUSE	150-DH-500E	AIR	1963
2018	FISHKILL PLAINS	15 kV	W-976	WESTINGHOUSE	150-DH-500E	AIR	1963
2018	FISHKILL PLAINS	15 kV	W-1000	WESTINGHOUSE	150-DH-500E	AIR	1963
2018	UNION AVE	15 kV	W-1105	WESTINGHOUSE	150-DH-500E	AIR	1961
2018	UNION AVE	15 kV	W-1095	WESTINGHOUSE	150-DH-500E	AIR	1961
2018	UNION AVE	15 kV	W-837	WESTINGHOUSE	150-DH-500E	AIR	1964
2018	UNION AVE	15 kV	TD-4049	WESTINGHOUSE	150-DH-500A	AIR	1967
2018	UNION AVE	15 kV	UW-1494	WESTINGHOUSE	150-DH-500A	AIR	1958
2018	UNION AVE	15 kV	UN-594	WESTINGHOUSE	150-DH-250A	AIR	1957
2018	UNION AVE	15 kV	TD-4046	WESTINGHOUSE	150-DH-500A	AIR	1958
2018	UNION AVE	15 kV	TD-4045	WESTINGHOUSE	150-DH-500A	AIR	1956
2018	UNION AVE	15 kV	TD-4044	WESTINGHOUSE	150-DH-500E	AIR	1969
2018	UNION AVE	15 kV	TD-4043	WESTINGHOUSE	150-DH-500A	AIR	1957
2018	UNION AVE	15 kV	TD-4042	WESTINGHOUSE	150-DH-500A	AIR	1956
2018	UNION AVE	15 kV	TD-4041	WESTINGHOUSE	150-DH-500E	AIR	1964
2019	MONTGOMERY ST.	15 kV	NM-384	WESTINGHOUSE	150-DH-500A	AIR	1958
2019	MONTGOMERY ST.	15 kV	NB-385	WESTINGHOUSE	150-DH-500A	AIR	1958
2019	MONTGOMERY ST.	15 kV	TD-4001	WESTINGHOUSE	150-DH-500A	AIR	1958
2019	MONTGOMERY ST.	15 kV	TD-4002	WESTINGHOUSE	150-DH-500A	AIR	1958

2019	MONTGOMERY ST.	15 kV	TD-4003	WESTINGHOUSE	150-DH-500A	AIR	1958
2019	MONTGOMERY ST.	15 kV	W-507	WESTINGHOUSE	150-DH-500A	AIR	1958
2019	MONTGOMERY ST.	15 kV	W-508	WESTINGHOUSE	150-DH-500A	AIR	1958
2019	MONTGOMERY ST.	15 kV	W-509	WESTINGHOUSE	150-DH-500A	AIR	1958
2019	MONTGOMERY ST.	15 kV	R-350	WESTINGHOUSE	150-DH-500A	AIR	1958
2019	MONTGOMERY ST.	15 kV	F-351	WESTINGHOUSE	150-DH-500A	AIR	1958
2019	MONTGOMERY ST.	15 kV	B-352	WESTINGHOUSE	150-DH-500A	AIR	1958
2019	MONTGOMERY ST.	15 kV	W-359	WESTINGHOUSE	150-DH-500A	AIR	1958
2019	MONTGOMERY ST.	15 kV	WN-486	WESTINGHOUSE	150-DH-500A	AIR	1958
2019	MONTGOMERY ST.	15 kV	W-489	WESTINGHOUSE	150-DH-500A	AIR	1958
2023	SAND DOCK	15 kV	BP-1296	WESTINGHOUSE	150-DHP-500	AIR	1973
2023	SAND DOCK	15 kV	BP-1570	WESTINGHOUSE	150-DHP-500	AIR	1973
2023	SAND DOCK	15 kV	TW-909	WESTINGHOUSE	150-DHP-500	AIR	1973
2023	SAND DOCK	15 kV	TW-910	WESTINGHOUSE	150-DHP-500	AIR	1973
2023	SAND DOCK	15 kV	W-1449	WESTINGHOUSE	150-DHP-500	AIR	1973
2023	SAND DOCK	15 kV	W-1453	WESTINGHOUSE	150-DHP-500	AIR	1973
2023	SAND DOCK	15 kV	W-1568	WESTINGHOUSE	150-DHP-500	AIR	1973
2023	SAND DOCK	15 kV	W-1573	WESTINGHOUSE	150-DHP-500	AIR	1973
2023	SAND DOCK	15 kV	TW-902	WESTINGHOUSE	150-DHP-500	AIR	1973
2024	REYNOLDS HILL	15 kV	TD-6001	WESTINGHOUSE	150-DHP	AIR	1972
2024	REYNOLDS HILL	15 kV	TD-6005	WESTINGHOUSE	150-DHP	AIR	1973
Substation Retirement	BEACON	15 kV	NM-402	WESTINGHOUSE	150-DH-500E	AIR	1958
Substation Retirement	BEACON	15 kV	TD-8015A	WESTINGHOUSE	150-DH-500E	AIR	1959
Substation Retirement	BEACON	15 kV	W-408	WESTINGHOUSE	150-DH-500E	AIR	1959
Substation Retirement	BEACON	15 kV	W-420	WESTINGHOUSE	150-DH-500E	AIR	1959
Substation Retirement	BOARDMAN ROAD	15 kV	Z-201	WESTINGHOUSE	150-DH-250A	AIR	
Substation Retirement	BOARDMAN ROAD	15 kV	Z-202	WESTINGHOUSE	150-DH-250A	AIR	

Substation Retirement	BOARDMAN ROAD	15 kV	Z-203	WESTINGHOUSE	150-DH-250A	AIR	
Substation Retirement	BOARDMAN ROAD	15 kV	Z-204	WESTINGHOUSE	150-DH-250A	AIR	
Substation Retirement	BOARDMAN ROAD	15 kV	Z-205	WESTINGHOUSE	150-DH-250A	AIR	
Substation Retirement	BOARDMAN ROAD	15 kV	Z-206	WESTINGHOUSE	150-DH-250A	AIR	
Substation Retirement	BOARDMAN ROAD	15 kV	Z-208	WESTINGHOUSE	150-DH-250A	AIR	
Substation Retirement	BOARDMAN ROAD	15 kV	Z-209	WESTINGHOUSE	150-DH-250A	AIR	
2025/2026	SHENANDOAH	15 kV	B-4453	WESTINGHOUSE	150-DHP-500	AIR	1982
2025/2026	SHENANDOAH	15 kV	B-4454	WESTINGHOUSE	150-DHP-500	AIR	1982
2025/2026	SHENANDOAH	15 kV	B-4455	WESTINGHOUSE	150-DHP-750C	AIR	1986
2025/2026	SHENANDOAH	15 kV	B-4456	WESTINGHOUSE	150-DHP-750C	AIR	1986
2025/2026	SHENANDOAH	15 kV	S10-1015	WESTINGHOUSE	150-DHP-500	AIR	1980
2025/2026	SHENANDOAH	15 kV	S11-405	WESTINGHOUSE	150-DHP-750C	AIR	1986
2025/2026	SHENANDOAH	15 kV	S12-401	WESTINGHOUSE	150-DHP-750C	AIR	1986
2025/2026	SHENANDOAH	15 kV	S13-412	WESTINGHOUSE	150-DHP-750C	AIR	1986
2025/2026	SHENANDOAH	15 kV	S14-410	WESTINGHOUSE	150-DHP-750C	AIR	1986
2025/2026	SHENANDOAH	15 kV	S7-1102	WESTINGHOUSE	150-DHP-500	AIR	1982
2025/2026	SHENANDOAH	15 kV	S8-1014	WESTINGHOUSE	150-DHP-500	AIR	1980
2025/2026	SHENANDOAH	15 kV	S9-1009	WESTINGHOUSE	150-DHP-500	AIR	1982
2025/2026	SHENANDOAH	15 kV	TD-8071	WESTINGHOUSE	150-DHP-750C	AIR	1986
2025/2026	SHENANDOAH	15 kV	TD-8072	WESTINGHOUSE	150-DHP-750C	AIR	1986
2025/2026	SHENANDOAH	15 kV	W-1059	WESTINGHOUSE	150-DHP-500	AIR	1982
2025/2026	SHENANDOAH	15 kV	W-1279	WESTINGHOUSE	150-DHP-500	AIR	1980
2025/2026	SHENANDOAH	15 kV	W-1593	WESTINGHOUSE	150-DHP-500	AIR	1982
2025/2026	SHENANDOAH	15 kV	W-664	WESTINGHOUSE	150-DHP-750C	AIR	1986

2025/2026	SHENANDOAH	15 kV	W-665	WESTINGHOUSE	150-DHP-750C	AIR	1986
2025/2026	SHENANDOAH	15 kV	W-802	WESTINGHOUSE	150-DHP-750C	AIR	1986
2025/2026	SHENANDOAH	15 kV	W-803	WESTINGHOUSE	150-DHP-750C	AIR	1986
2025/2026	SHENANDOAH	15 kV	W-805	WESTINGHOUSE	150-DHP-750C	AIR	1986
2025/2026	SHENANDOAH	15 kV	W-807	WESTINGHOUSE	150-DHP-750C	AIR	1986
2025/2026	SHENANDOAH	15 kV	W-845	WESTINGHOUSE	150-DHP-500	AIR	1982
2025/2026	SHENANDOAH	15 kV	W-846	WESTINGHOUSE	150-DH-500	AIR	1980
Replacement Deferral	TIORONDA	15 kV	TD-8085	WESTINGHOUSE	150-DHP-500	AIR	1971
Replacement Deferral	TIORONDA	15 kV	TD-8086	WESTINGHOUSE	150-DHP-500	AIR	1971
Replacement Deferral	TIORONDA	15 kV	W-567	WESTINGHOUSE	150-DHP-500	AIR	1971
Replacement Deferral	TIORONDA	15 kV	TD-8087	WESTINGHOUSE	150-DHP-500	AIR	1971

**Operations Services recommends the deferral of the Tioronda breaker replacement until a proper cost benefit switchgear replacement is developed to weigh the value of component replacement (wires, AC power, breakers, etc.) versus entire switchgear. The switchgear condition is questionable (discussed further in later section)*

A replacement recommendation is in affect for General Electric type AM breakers as replacement parts are not available for these breakers and continuous issues have been reported. Outlined below are the type AM breakers remaining and the associated years of planned replacement.

Anticipated Replacement	Location	Voltage Class	Position	Manufacturer	Model	Breaker Type	Mfg. Date
2019	COXSACKIE	15 kV	TD-1071	GE	AM-13.8-500-6H	AIR	1969
2019	COXSACKIE	15 kV	TD-1072	GE	AM-13.8-500-6H	AIR	1969
2019	COXSACKIE	15 kV	TD-1076	GE	AM-13.8-500-6H	AIR	1969
2019	COXSACKIE	15 kV	TD-1074A	GE	AM-13.8-500-6H	AIR	1969
2019	COXSACKIE	15 kV	W-1398	GE	AM-13.8-500-6H	AIR	1969
2019	COXSACKIE	15 kV	W-296	GE	AM-13.8-500-6H	AIR	1969
2019	COXSACKIE	15 kV	W-484	GE	AM-13.8-500-6H	AIR	1969
2020	JANSEN AVE	15 kV	TD-1003	GE	AM-15-250-1	AIR	1956
2020	WOODSTOCK	15 kV	TD-3012	GE	AM-15-250-1	AIR	1947
2020	WOODSTOCK	15 kV	TD-3013	GE	AM-15-250-1	AIR	1947
2020	WOODSTOCK	15 kV	W-1091	GE	AM-15-250-1	AIR	1947
2020	WOODSTOCK	15 kV	W-25	GE	AM-15-250-1	AIR	2001
2021	NEVERSINK	5 kV	CKT-391	GE	AM-5-150-5	AIR	1950
2021	NEVERSINK	5 kV	W-1128	GE	AM-5-150-5	AIR	1950
Substation Retirement	MARYLAND AVE	5 kV	CKT 623	GE	AM-5-150-4	AIR	1951
Substation Retirement	MARYLAND AVE	5 kV	CKT 624	GE	AM-5-150-7	AIR	1951
Substation Retirement	MARYLAND AVE	5 kV	W-1034	GE	AM-5-150-4	AIR	1951
Substation Retirement	MARYLAND AVE	5 kV	W-540	GE	AM-5-150-7	AIR	1951
Substation Rebuild	KNAPPS CORNERS	15 kV	W-1208	GE	AM-13.8-500-5H	AIR	1953
Substation Rebuild	KNAPPS CORNERS	15 kV	W-1215	GE	AM-13.8-500-5H	AIR	1953
Substation Rebuild	KNAPPS CORNERS	15 kV	W-1462	GE	AM-13.8-500-5H	AIR	1953
Substation Rebuild	KNAPPS CORNERS	15 kV	W-1562	GE	AM-13.8-500-5H	AIR	1953
Low Voltage Retirement	CLINTON AVE	5 kV	CKT 395	GE	AM-2.4/4.16-150/250-3	AIR	1968
Low Voltage Retirement	CLINTON AVE	5 kV	CKT 396	GE	AM-2.4/4.16-150/250-3	AIR	1968
Low Voltage Retirement	CLINTON AVE	5 kV	CKT 397	GE	AM-2.4/4.16-100/150-1	AIR	1968

New Switchgear Recommendation	CONVERSE ST	5 kV	CKT 121	GE	AM-2.4/4.16-150/250-1	AIR	1955
New Switchgear Recommendation	CONVERSE ST	5 kV	CKT 122	GE	AM-2.4/4.16-100/150-1	AIR	1955
New Switchgear Recommendation	CONVERSE ST	5 kV	CKT 123	GE	AM-2.4/4.16-150/250-2	AIR	1955

**Operations Services recommends the replacement of the Converse Street breakers along with the switchgear due to parts constraints, wiring issues, old generation relaying, etc. A cost benefit analysis should be performed to determine the best course of action.*

Transformer Replacement

Typically a power transformer's useful life is 55 years old. When rebuilding a substation where the transformer is greater than 55 years old, consideration should be given to retiring and not reusing the transformer. Outlined below are the power transformers that are scheduled for replacement in the 5 year budget.

Location	Asset Name	Age	Plan	Replacement Reason	Condition Analysis
BOULEVARD	TR. #1 PH 1	64	Substation Rebuild	Age	
BOULEVARD	TR. #1 PH 2	64	Substation Rebuild	Age	
BOULEVARD	TR. #1 PH 3	64	Substation Rebuild	Age	
BOULEVARD	TR. #2	78	Substation Rebuild	Age	
BOULEVARD	TR. #3	47	Substation Rebuild	Potential Spare	
CONVERSE ST	TR. #2	62	Transformer Replacement	Condition	Very poor power factor test results and poor oil quality.
CONWAY PLACE	TR. #1	59	Substation Retirement	Substation Retirement	
MONTGOMERY ST	TR. #1	80	Transformer Replacement	Condition	Very poor power factor test results.
MONTGOMERY ST	TR. #2	80	Transformer Replacement	Condition	Very poor power factor test results.
MARYLAND AVE	TR. #1	63	Substation Retirement	Substation Retirement	
MARYLAND AVE	TR. #2	63	Substation Retirement	Substation Retirement	
NORTH CATSKILL	TR. #4	67	Transformer Replacement	Planning Recommendation	
NORTH CATSKILL	TR. #5	62	Transformer Replacement	Planning Recommendation	
NORTH CHELSEA	TR. #1 PH 1	71	Transformer Replacement	Condition	Very poor power factor test results. Poor DGA results.
NORTH CHELSEA	TR. #1 PH 2	71	Transformer Replacement	Condition	Very poor power factor test results.
NORTH CHELSEA	TR. #1 PH 3	71	Transformer Replacement	Condition	Very poor power factor test results. Poor DGA results.
REYNOLDS HILL	TR. #3	64	Transformer Replacement	Age & Refined LTC	
REYNOLDS HILL	TR. #4	66	Transformer Replacement	Age & Refined LTC	
KNAPPS CORNERS	TR. #1	52	Substation Rebuild	Age & Condition	Poor power factor test results and poor oil quality.
KNAPPS CORNERS	TR. #2	40	Substation Rebuild	Condition	Poor DGA results and poor oil quality.

Central Hudson's power transformers are evaluated based on analytical testing data compiled by Operations Services. Outlined below are the power transformers that need to be monitored for decreasing condition. Operations Services is requesting that planning make a recommendation related to the following power transformers.

Location	Asset Name	Age	Comment
ANCRAM	Bank 1 PH 1	50	Slightly elevated power factor results. Slightly elevated combustible gas content.
ANCRAM	Bank 1 PH 2	50	Slightly elevated power factor results. Slightly elevated combustible gas content.
ANCRAM	Bank 1 PH 3	50	Slightly elevated power factor results. Slightly elevated combustible gas content.
CONVERSE ST	TR. #1	49	High hydrogen content.
FORGEBROOK	TR. #1	60	High hydrogen content. High combustible gas content overall. Oil quality deteriorating. High power factor results on CH insulation.
GREENFIELD ROAD	TR. #2	45	Very high CHL power factor results. Acetylene present in oil likely left over from previous lead damage.
HUNTER	TR. #1	23	High ethylene and ethane content. High combustible content overall.
TINKERTOWN	TR. #2	61	Elevated power factor results across the board. Relative saturation is elevated.

Switchgear Replacement

Switchgear condition is evaluated by Operations Services on a five year schedule. Below is a list of switchgear that has been given a poor evaluation, where replacement needs to be considered.

Location	Asset Type	Comment
MYERS CORNERS	Switchgear	Poor roof condition. Switchgear roof has rotted through allowing water to ingress over relays. Breaker roll in alignment is problematic.
WOODSTOCK	Switchgear	Roof and rust condition is poor. Switchgear wiring and panels have aged. Needs replacement.
SHENANDOAH	Multiple Switchgear	Very difficult to rack breakers in and out due to misalignment and shifting of the switchgear floor. This issue makes switching very challenging.
TIORONDA	Switchgear	Wiring and CTs with the gear are deteriorated. Breakers require 240 VAC which would lead to extensive rewiring. It is recommended that the switchgear be replaced with the breakers
CONVERSE STREET	Switchgear	Switchgear wiring has aged and contains old electromechanical relaying. Parts for the switchgear breakers are hard to procure. It is recommended to couple the replacement of the switchgear breakers with a new switchgear.

Additionally, Operations Services is looking for several recommendations from planning related to the replacement of switchgear and possibility of low voltage conversion to assist with some of the substation initiatives.

- Lincoln Park outdoor switchgear necessity (some of these cables are in poor condition and are out of potentially out of service – needs engineering/planning review)
- Shenandoah Bus #1 & Bus #2 switchgears
- Neversink feasibility of 4kV conversion to 13.8kV

Switch Replacement

345 kV Switch Replacement

Recently, problems have developed with the Pascor type TTT-7 and Memco type EA, VR2 and VT-1 style motor operated 345kV air disconnects at the Roseton, Rock Tavern and Hurley Avenue substations. Replacement parts availability is limited for these switch styles.

Operations Services has determined that these disconnects have reached the end of their useful life due to increasing issues, troubleshooting and callouts.

Below is a list of remaining switches that need replacement based on this recommendation in prioritized order. This order can be shuffled if replacements are to be packaged together, but can be followed as a guideline.

Location	Position	Voltage	Manufacturer	Model	Mfg. Date	Issues
ROCK TAVERN 345 kV	RTB-3451	345 kV	MEMCO	EA	1/1/1972	Reoccurring Hotspots, Reoccurring Trouble
ROSETON SWITCHYARD	RSB-C-3092	345 kV	MEMCO	EA	1/1/1970	Reoccurring Hotspots
HURLEY AVENUE - 345kV	HAB-30382	345 kV	MEMCO	EA	1/1/1976	Reoccurring Hotspots, Reoccurring Trouble
ROSETON SWITCHYARD	RSB-C-3091	345 kV	MEMCO	EA	1/1/1970	Reoccurring Hotspots
HURLEY AVENUE - 345kV	HAB-30393	345 kV	MEMCO	EA	1/1/1976	Reoccurring Hotspots, Reoccurring Trouble
ROCK TAVERN 345 kV	RTB-4483	345 kV	MEMCO	EA	1/1/1972	Reoccurring Hotspots, Reoccurring Trouble
HURLEY AVENUE - 345kV	HAB-30193	345 kV	MEMCO	EA	1/1/1976	Reoccurring Trouble
ROCK TAVERN 345 kV	RTB-31194	345 kV	MEMCO	EA	1/1/1972	Reoccurring Trouble
HURLEY AVENUE - 345kV	HAB-30181	345 kV	MEMCO	EA	1/1/1976	Reoccurring Hotspots
HURLEY AVENUE - 345kV	HAB-A-2492	345 kV	MEMCO	VR2	1/1/1976	Reoccurring Trouble
ROCK TAVERN 345 kV	RTB-31193	345 kV	PASCOR ATLANTIC	TTT-7	1/1/1980	Reoccurring Trouble
ROSETON SWITCHYARD	RSB-30398	345 kV	PASCOR ATLANTIC	TTT-7	1/1/1980	Reoccurring Trouble
HURLEY AVENUE - 345kV	HAB-30394	345 kV	MEMCO	EA	1/1/1976	Reoccurring Trouble
ROSETON SWITCHYARD	RSB-30581	345 kV	MEMCO	EA	1/1/1970	Reoccurring Hotspots
ROCK TAVERN 345 kV	RTB-3493	345 kV	PASCOR ATLANTIC	TTT-7	1/1/1986	Reoccurring Trouble
ROCK TAVERN 345 kV	RTB-3484	345 kV	MEMCO	EA	1/1/1972	Reoccurring Hotspots

ROCK TAVERN 345 kV	RTB-4491	345 kV	MEMCO	EA	1/1/1972	Reoccurring Hotspots
ROCK TAVERN 345 kV	RTB-C3392	345 kV	MEMCO	EA	1/1/1972	Reoccurring Trouble
HURLEY AVENUE - 345kV	HAB-A-2491	345 kV	MEMCO	VR2	1/1/1976	Reoccurring Trouble
ROCK TAVERN 345 kV	RTB-C3397	345 kV	MEMCO	VR2	1/1/1972	Reoccurring Trouble
ROCK TAVERN 345 kV	RTB-C3393	345 kV	MEMCO	VR2	1/1/1972	Reoccurring Trouble
HURLEY AVENUE - 345kV	HAB-30192	345 kV	MEMCO	EA	1/1/1976	Reoccurring Trouble
ROCK TAVERN 345 kV	RTB-C3394	345 kV	MEMCO	VR2	1/1/1972	Reoccurring Trouble
ROSETON SWITCHYARD	RSB-31191	345 kV	PASCOR ATLANTIC	TTT-7	1/1/1980	Reoccurring Trouble
ROSETON SWITCHYARD	RSB-C-3094	345 kV	PASCOR ATLANTIC	TTT-7	1/1/1980	Reoccurring Trouble
ROSETON SWITCHYARD	RSB-30392	345 kV	PASCOR ATLANTIC	VT-1	1/1/1980	Reoccurring Trouble
ROCK TAVERN 345 kV	RTB-C3396	345 kV	MEMCO	VR2	1/1/1972	
ROCK TAVERN 345 kV	RTB-C3395	345 kV	MEMCO	VR2	1/1/1972	
ROCK TAVERN 345 kV	RTB-376934	345 kV	PASCOR ATLANTIC	TTT-7	1/1/1980	
ROCK TAVERN 345 kV	RTB-376945	345 kV	PASCOR ATLANTIC	TTT-7	1/1/1980	
ROCK TAVERN 345 kV	RTB-C33911	345 kV	PASCOR ATLANTIC	TTT-7	1/1/1980	
ROSETON SWITCHYARD	RSB-C-3093	345 kV	PASCOR ATLANTIC	TTT-7	1/1/1980	
ROSETON SWITCHYARD	RSB-31181	345 kV	PASCOR ATLANTIC	VT-1	1/1/1980	
ROCK TAVERN 345 kV	RTB-31182	345 kV	MEMCO	EA	1/1/1972	
ROCK TAVERN 345 kV	RTB-C3398	345 kV	MEMCO	EA	1/1/1972	
ROCK TAVERN 345 kV	RTB-C3399	345 kV	MEMCO	EA	1/1/1972	
ROCK TAVERN 345 kV	RTB-C33910	345 kV	MEMCO	EA	1/1/1972	
HURLEY AVENUE - 345kV	HAB-30191	345 kV	MEMCO	VR2	1/1/1976	
ROSETON SWITCHYARD	RSB-30591	345 kV	MEMCO	VR2	1/1/1970	
ROSETON SWITCHYARD	RSB-30391	345 kV	MEMCO	VR2	1/1/1970	
ROCK TAVERN 345 kV	RTB-4492	345 kV	PASCOR ATLANTIC	TTT-7	1/1/1986	
ROCK TAVERN 345 kV	RTB-C3373	345 kV	PASCOR ATLANTIC	TTT-7	1/1/1980	
ROCK TAVERN 345 kV	RTB-C3371	345 kV	PASCOR ATLANTIC	TTT-7	1/1/1980	
ROSETON SWITCHYARD	RSB-31192	345 kV	PASCOR ATLANTIC	TTT-7	1/1/1980	
ROSETON SWITCHYARD	RSB-C-	345 kV	PASCOR	VT-1	1/1/1980	

	3081		ATLANTIC			
ROSETON SWITCHYARD	RSB-C-3082	345 kV	PASCOR ATLANTIC	VT-1	1/1/1980	

115 kV Switch Replacement

Operations Services collects and trends hotspot information as well as trouble orders documenting issues with switches over the lifespan of a switch. Below is an identified list of 115 kV switches that are recommended for replacement.

Location	Position	Voltage	Manufacturer	Model	Mfg. Date	Issues
BARNEGAT	KB-747	115 kV	MEMCO	VM1-204	1987	Reoccurring Hotspots
BARNEGAT	KB-748	115 kV	MEMCO	VM1-204	1987	
BARNEGAT	KC-750	115 kV	MEMCO	VM1-204	1987	
BARNEGAT	KC-752	115 kV	SOUTHERN STATES	VM-1-104	1987	
INWOOD AVENUE	X-970	115 kV	SOUTHERN STATES	VM-1-208	1975	Reoccurring Hotspots
INWOOD AVENUE	X-977	115 kV	SOUTHERN STATES	VM-1-208	1975	
NORTH CATSKILL REACTOR	293	115 kV	PASCOR	CBSA	2014	Reoccurring Hotspots, Adjustment Issues, Poor Quality Construction
PLEASANT VALLEY	1077	115 kV			-	Reoccurring Hotspots causing switches to become inoperable. Switches are hand operated and are very difficult to open making operation dangerous during switching.
PLEASANT VALLEY	1099	115 kV			-	
PLEASANT VALLEY	1277	115 kV			-	
PLEASANT VALLEY	1288	115 kV			-	
PLEASANT VALLEY	1299	115 kV			-	
PLEASANT VALLEY	1377	115 kV			-	
PLEASANT VALLEY	1388	115 kV			-	
PLEASANT VALLEY	1399	115 kV			-	
PLEASANT VALLEY	6177	115 kV			-	

PLEASANT VALLEY	6199	115 kV			-	Reoccurring Hotspots causing switches to become inoperable. Switches are hand operated and are very difficult to open making operation dangerous during switching.
PLEASANT VALLEY	6277	115 kV			-	
PLEASANT VALLEY	6299	115 kV			-	
PLEASANT VALLEY	64377	115 kV			-	
PLEASANT VALLEY	64399	115 kV			-	
PLEASANT VALLEY	8171	115 kV			-	
PLEASANT VALLEY	8172	115 kV			-	
PLEASANT VALLEY	8191	115 kV			-	
PLEASANT VALLEY	8192	115 kV			-	
PLEASANT VALLEY	877	115 kV			-	
PLEASANT VALLEY	888	115 kV			-	
PLEASANT VALLEY	899	115 kV			-	
PLEASANT VALLEY	93932-44	115 kV			-	
PLEASANT VALLEY	93931-44	115 kV			-	

PLEASANT VALLEY	C677	115 kV			-	Reoccurring Hotspots causing switches to become inoperable. Switches are hand operated and are very difficult to open making operation dangerous during switching.
PLEASANT VALLEY	C688	115 kV			-	
PLEASANT VALLEY	C699	115 kV			-	
PLEASANT VALLEY	M77	115 kV			-	
PLEASANT VALLEY	M88	115 kV			-	
PLEASANT VALLEY	M99	115 kV			-	
PLEASANT VALLEY	Q302	115 kV			-	
PLEASANT VALLEY	X-477	115 kV			-	
PLEASANT VALLEY	X-488	115 kV			-	
PLEASANT VALLEY	X-499	115 kV			-	
TODD HILL	A-523	115 kV	SIEMENS	CM-4A	1989	Hotspot issues, DC motor problems, switches have been burning up motors. We recommend replacing with same style switches as install on the C line during recent work order

TODD HILL	A-702	115 kV	SIEMENS	CM-4A	1989	Hotspot issues, DC motor problems, switches have been burning up motors. We recommend replacing with same style switches as install on the C line during recent work order
TODD HILL	A-521	115 kV	SIEMENS	CM-4A	1989	
TODD HILL	C-519	115 kV	SIEMENS	CM-4A	1989	

**Model numbers for switches may not always be accurate*

Operations Services recommends that the switches at Pleasant Valley be replaced with or prior to the planned replacement of the existing 115kV oil breakers in 2020, a systematic plan needs to be coordinated to allow for proper isolation of each breaker prior to replacement. The existing switch problems will prevent proper clearances to be taken if they are not replaced prior to the breakers.

Non-Equipment Based Replacements

A 5 year substation evaluation program that assesses "non-equipment" assets has been implemented in 2016 to address the following equipment: steel, foundations, fence, ground grid, etc. As projects are identified through this program, Operations Services will bring issues to the attention of Substation Design or manage with local work orders as needed.

Steel Replacement

As replacement recommendations are identified, this work should be completed with future rebuilds unless there is imminent danger of failure, in which case the repairs should be handled sooner. It is also recommended that during any future rebuilds, that Substation Design evaluates the steel in and around any equipment that will be affected during the work order. An example of this is in 2019, as part of the Boulevard substation upgrade, the steel on the 69kV portion of the yard will be replaced due to condition concerns which were caused by poor foundations.

Foundation Replacement

These replacement recommendations should be considered during future work order planning to improve the existing infrastructure. Overall foundations are acceptable, with some older stations showing deteriorated foundations due to weather such as flaking. Some flaking is addressed as part of general maintenance by patching the foundations as necessary.

Fence Review

Operations Services completes fence inspections on a monthly as well as a more thorough inspection on a 5 year cycle and recommends either fence maintenance repair or complete rebuilds. Most recently the East Walden Substation fence was replaced which had rotten top rails as well as posts. It is recommended that 1 inch fence fabric is utilized for new substation fences to limit fence cuts.

Ground Grid Review

Operations Services completes ground grid testing on an 8 year cycle and reports ground grid deficiencies as they are determined. When adding or replacing equipment within a substation, the ground grid should be reviewed by Substation Design to ensure that the existing grid is adequate.

Substation	Comments
Manchester	There are ground grid deficiencies that were noted during recent construction. It is recommended that a formal review of the substation ground grid be conducted.
West Balmville	During fence repair an electrical arc was drawn. This could be due to lack of fence bonding, however as part of the future breaker replacements, it is recommended that a more thorough engineered review be completed.

Stone Review

Operations Services recommendation is to review the integrity of the stone fill within a substation when any major work order is being executed to ensure there is adequate stone coverage throughout the entire station and incorporate this work as part of any major work to be performed.

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 2 Design

A. GENERAL

Project/Program Name: Pot Heads - East
Work Order #: 7 2 4 4 - G
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2023 **In-Service:** 12/1/2025

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
The 115 kV 'AC' Line and the 115 kV 'DC' Line oil filled cable between Danskammer Substation (West side of Hudson River) and North Chelsea Substation (East Side of Hudson River) has been leaking oil at the ends of the cables. These ends are referred to as 'Pot Heads'. In order to prolong the life of the oil filled cables and to decrease the chances of a failure on either Line, the Pot Heads are in need of replacement.

Describe specific scope exclusions, assumptions and constraints:
The Pot Heads along with a portion of the oil filled cable will be replaced on the 115 kV 'AC' Line and 115 kV 'DC' Line on the East side of the Hudson River.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
AC-Line & DC-Line Cable Termination Project Scope 20200505.pdf

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
To replace obsolete equipment before failure.

What are the risks and consequences of not completing this project?
Risk of AC Line or DC Line cable failure possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $4,766,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	217,000	50,000	167,000	0	0	0	0	0
	Labor (Monthly Payroll)	254,000	150,000	104,000	0	0	0	0	0
	Stock Materials	63,000	0	63,000	0	0	0	0	0
	A/P Non-Stock Material	1,045,000	0	1,045,000	0	0	0	0	0
	A/P Contractors &Other	2,681,000	2,200,000	481,000	0	0	0	0	0
	Inflation	60,000	20,000	40,000	0	0	0	0	0
	AFUDC*	344,000	180,000	164,000	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	4,664,000	2,600,000	2,064,000	0	0	0	0	0
RETIREMENTS	Labor (Weekly Payroll)	40,000	0	40,000	0	0	0	0	0
	Labor (Monthly Payroll)	31,000	0	31,000	0	0	0	0	0
	A/P Non-Labor (dumpsters, etc.)	5,000	0	5,000	0	0	0	0	0
	A/P Contractors	10,000	0	10,000	0	0	0	0	0
	Overheads & Other	16,000	0	16,000	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	-102,000	0	-102,000	0	0	0	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 3,336,200 **Maximum ($):** 6,195,800

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Business Sponsor: Eric Loeven
Budget Group: Electric
Prepared By: Brett Arteta
Current Life-Cycle Phase: 2 Design

A. GENERAL

Project/Program Name: Pot Heads - West
Work Order #: 7 2 4 3 - G
Funding Project Description: Substation D-Sustaining Projects
Funding Project Number: 1-1312-99-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2023
In-Service: 12/1/2025

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
The 115 kV 'AC' Line and the 115 kV 'DC' Line oil filled cable between Danskammer Substation (West side of Hudson River) and North Chelsea Substation (East Side of Hudson River) has been leaking oil at the ends of the cables. These ends are referred to as 'Pot Heads'. In order to prolong the life of the oil filled cables and to decrease the chances of a failure on either Line, the Pot Heads are in need of replacement.

Describe specific scope exclusions, assumptions and constraints:
The Pot Heads along with a portion of the oil filled cable will be replaced on the 115 kV 'AC' Line and 115 kV 'DC' Line on the West side of the Hudson River.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
AC-Line & DC-Line Cable Termination Project Scope 20200505.pdf

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
To replace obsolete equipment before failure.

What are the risks and consequences of not completing this project?
Risk of AC Line or DC Line cable failure possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $6,066,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	267,000	100,000	167,000	0	0	0	0	0
	Labor (Monthly Payroll)	254,000	150,000	104,000	0	0	0	0	0
	Stock Materials	63,000	0	63,000	0	0	0	0	0
	A/P Non-Stock Material	1,045,000	0	1,045,000	0	0	0	0	0
	A/P Contractors &Other	3,781,000	3,300,000	481,000	0	0	0	0	0
	Inflation	80,000	40,000	40,000	0	0	0	0	0
	AFUDC*	474,000	310,000	164,000	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	5,964,000	3,900,000	2,064,000	0	0	0	0	0
RETIREMENTS	Labor (Weekly Payroll)	40,000	0	40,000	0	0	0	0	0
	Labor (Monthly Payroll)	31,000	0	31,000	0	0	0	0	0
	A/P Non-Labor (dumpsters, etc.)	5,000	0	5,000	0	0	0	0	0
	A/P Contractors	10,000	0	10,000	0	0	0	0	0
	Overheads & Other	16,000	0	16,000	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	-102,000	0	-102,000	0	0	0	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 4,246,200 **Maximum ($):** 7,885,800

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Kerhonkson 115/69 kV Autotransformers Phase 2 & Remove 61850 **Work Order #:** 8 7 7 5 - K
Funding Project Description: Substation T-Sustaining Projects **Funding Project Number:** 1-1312-98-19
Is this a Specific Project, Program or Blanket? Specific **Target Schedule - Start:** 1/1/2024 **In-Service:** 12/31/2025

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
In order to complete this project, conversions to 115 kV will take place at High Falls and Sturgeon Pool Substations.

Describe the project objective and scope of work:
Based on a review of the Ellenville Transmission Area, it is recommended that following the retirement of the Modena 115kV/69 kV autotransformers, new autotransformers be installed at the Kerhonkson Substation. This work will be completed in conjunction with the upgrade of the P and MK Lines to 115 kV operation. In addition to addressing the infrastructure issues, this work will increase the load serving capability within the Ellenville Area. It is recommended to complete this work to also serve a new large customer load in the Ellenville area.

Describe specific scope exclusions, assumptions and constraints:
The majority of the work required for the line conversion has been completed previously based predominately on infrastructure issues (rebuild of the P & MK Lines, rebuild of the High Falls, Galeville, Kerhonkson and Sturgeon Pool Substations). Install two new 115/69 kV autotransformers at the Kerhonkson Substation and reconfigure the 69 kV bus at the Honk Falls Substation while removing the 61850 control of Kerhonkson Substation.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Chan, R.: "P & MK Area Study". E.P. #2010-008. May 2, 2011 & "EP2011-010 WH-1 and WH-2 Line Rebuild.pdf"

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
Provide load serving capability for the Cresco Project in the Ellenville Area.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No; Article VII - Electric

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
In order to provide load serving capability to a large customer.

What are the risks and consequences of not completing this project?
Losing a large customer to another area or utility.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $2,722,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	175,000	50,000	125,000	0	0	0	0	0
	Labor (Monthly Payroll)	178,000	100,000	78,000	0	0	0	0	0
	Stock Materials	47,000	0	47,000	0	0	0	0	0
	A/P Non-Stock Material	834,000	50,000	784,000	0	0	0	0	0
	A/P Contractors & Other	1,161,000	800,000	361,000	0	0	0	0	0
	Inflation	60,000	30,000	30,000	0	0	0	0	0
	AFUDC*	165,000	70,000	95,000	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	2,620,000	1,100,000	1,520,000	0	0	0	0	0
RETIREMENTS	Labor (Weekly Payroll)	40,000	0	40,000	0	0	0	0	0
	Labor (Monthly Payroll)	31,000	0	31,000	0	0	0	0	0
	A/P Non-Labor (dumpsters, etc.)	5,000	0	5,000	0	0	0	0	0
	A/P Contractors	10,000	0	10,000	0	0	0	0	0
	Overheads & Other	16,000	0	16,000	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	-102.000	0	-102,000	0	0	0	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: (that final cost will be within +/-30% of the estimate): High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 1,905,400 **Maximum ($):** 3,538,600

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Hurley Avenue 345 kV Relay Upgrade
Work Order #: -
Funding Project Description: Substation T-Sustaining Projects
Funding Project Number: 1-1312-98-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2026
In-Service: 12/1/2026

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
A variety of equipment exists in Central Hudson substations, including protective relays, meters, recloser controls, and other control & communications equipment such as Remote Terminal Units (RTUs). Each of these components serves an integral role in contribution to the overall, integrated substation protection, control, and monitoring function. This equipment is at the end of its useful life and must be upgraded to current standards.

Describe specific scope exclusions, assumptions and constraints:
Part of the original ESP Infrastructure Replacement Program that has been broken out into individual projects. All electromechanical relays at Hurley Avenue 345 kV Substation will be upgraded to current microprocessor relay standards.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Risk Reduction. See file "SR#2011-07 Substation Relays, Meters, Controls and Communications Infrastructure Oppor.pdf".

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?

N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?

Risk of equipment failure possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes

Yes

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Cost avoidance by minimizing maintenance costs.

Does this Project enhance Central Hudson's customer experience or service delivery? Yes

Minimizes substation outages.

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Reduces risk of equipment failure.

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $1,124,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	85,000	0	0	85,000	0	0	0	0
	Labor (Monthly Payroll)	53,000	0	0	53,000	0	0	0	0
	Stock Materials	32,000	0	0	32,000	0	0	0	0
	A/P Non-Stock Material	533,000	0	0	533,000	0	0	0	0
	A/P Contractors & Other	245,000	0	0	245,000	0	0	0	0
	Overheads & Other	22,000	0	0	22,000	0	0	0	0
	AFUDC*	50,000	0	0	50,000	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	1,020,000	0	0	1,020,000	0	0	0	0
RETIREMENTS	Labor (Weekly Payroll)	43,000	0	0	43,000	0	0	0	0
	Labor (Monthly Payroll)	32,000	0	0	32,000	0	0	0	0
	A/P Non-Labor (dumpsters, etc.)	5,000	0	0	5,000	0	0	0	0
	A/P Contractors	11,000	0	0	11,000	0	0	0	0
	Overheads & Other	13,000	0	0	13,000	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	104,000	0	0	104,000	0	0	0	0
	** AFUDC may require adjustment after Finance Department review.*								
Expense $ (if applicable):		0							
Current Approved Rate Case Funding ($):		n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 786,800 **Maximum ($):** 1,461,200

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Pleasant Valley 115 kV Modernization
Work Order #: 0 7 9 0 - H
Funding Project Description: Substation T-Sustaining Projects
Funding Project Number: 1-1312-98-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2020
In-Service: 12/1/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
Much of the equipment at the Pleasant Valley 115 kV Substation has been identified for replacement on the following original programs that have been combined into a single project: Breaker Replacement Program, 115 kV Disconnect Replacement Program, and the ESP Infrastructure Replacement Program.

Describe specific scope exclusions, assumptions and constraints:
The various programs above have been combined into one 115 kV substation modernization project. Two 115 kV circuit breakers will be replaced along with Bus #1 and Bus #2 relays and all associated electromagnetic breaker relays. Twelve 115 kV Disconnect Switches will be replaced on Bus #1 and Bus #2. Lastly, the redundant North Bus will be retired.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Risk Reduction. See file "SR#2011-07 Substation Relays, Meters, Controls and Communications Infrastructure Oppor.pdf".

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?
Risk of equipment failure possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary		*Year 1 = 1st year of the 5-year budget plan*		*All future year cost estimates should include applicable adjustments for inflation.*				
$9,664,900		**TOTAL**	**Prior Years Actuals + Projections**	**Year 1 2025**	**Year 2 2026**	**Year 3 2027**	**Year 4 2028**	**Year 5 2029**	**Future Years**
ADDITIONS	Labor (Weekly Payroll)	759,040	40	0	0	43,000	355,000	361,000	0
	Labor (Monthly Payroll)	475,100	100	0	0	27,000	222,000	226,000	0
	Stock Materials	284,000	0	0	0	16,000	133,000	135,000	0
	A/P Non-Stock Material	4,744,700	700	0	0	272,000	2,216,000	2,256,000	0
	A/P Contractors & Other	2,182,000	0	0	0	125,000	1,019,000	1,038,000	0
	Overheads & Other	178,030	30	0	0	11,000	83,000	84,000	0
	AFUDC*	608,030	30	0	0	30,000	366,000	212,000	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	9,230,900	900	0	0	524,000	4,394,000	4,312,000	0
RETIREMENTS	Labor (Weekly Payroll)	173,000	0	0	0	43,000	43,000	87,000	0
	Labor (Monthly Payroll)	132,000	0	0	0	33,000	33,000	66,000	0
	A/P Non-Labor (dumpsters, etc.)	20,000	0	0	0	5,000	5,000	10,000	0
	A/P Contractors	44,000	0	0	0	11,000	11,000	22,000	0
	Overheads & Other	65,000	0	0	0	14,000	16,000	35,000	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	434,000	0	0	0	106,000	108,000	220,000	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 6,765,430 **Maximum ($):** 12,564,370

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Rock Tavern 345 kV Relay Upgrade
Work Order #: [redacted]-[redacted]
Funding Project Description: Substation T-Sustaining Projects
Funding Project Number: 1-1312-98-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2027
In-Service: 12/1/2028

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
A variety of equipment exists in Central Hudson substations, including protective relays, meters, recloser controls, and other control & communications equipment such as Remote Terminal Units (RTUs). Each of these components serves an integral role in contribution to the overall, integrated substation protection, control, and monitoring function. This equipment is at the end of its useful life and must be upgraded to current standards.

Describe specific scope exclusions, assumptions and constraints:
Part of the original ESP Infrastructure Replacement Program that has been broken out into individual projects. All remaining electromechanical relays at Rock Tavern 345 kV Substation will be upgraded to current microprocessor relay standards.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Risk Reduction. See file "SR#2011-07 Substation Relays, Meters, Controls and Communications Infrastructure Oppor.pdf".

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?
Risk of equipment failure possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $3,069,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	240,000	0	0	0	191,000	49,000	0	0
	Labor (Monthly Payroll)	150,000	0	0	0	120,000	30,000	0	0
	Stock Materials	90,000	0	0	0	72,000	18,000	0	0
	A/P Non-Stock Material	1,501,000	0	0	0	1,196,000	305,000	0	0
	A/P Contractors & Other	690,000	0	0	0	550,000	140,000	0	0
	Overheads & Other	57,000	0	0	0	45,000	12,000	0	0
	AFUDC*	180,000	0	0	0	130,000	50,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	2,908,000	0	0	0	2,304,000	604,000	0	0
RETIREMENTS	Labor (Weekly Payroll)	66,830	0	0	0	22,000	44,830	0	0
	Labor (Monthly Payroll)	48,604	0	0	0	16,000	32,604	0	0
	A/P Non-Labor (dumpsters, etc.)	9,113	0	0	0	3,000	6,113	0	0
	A/P Contractors	15,188	0	0	0	5,000	10,188	0	0
	Overheads & Other	21,265	0	0	0	7,000	14,265	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	161,000	0	0	0	53,000	108,000	0	0
	** AFUDC may require adjustment after Finance Department review.*								
Expense $ (if applicable):		0							
Current Approved Rate Case Funding ($):		n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 2,148,300 **Maximum ($):** 3,989,700

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Roseton 345 kV Relay Upgrade
Work Order #: [redacted]-[redacted]
Funding Project Description: Substation T-Sustaining Projects
Funding Project Number: 1-1312-98-19
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2029
In-Service: 12/1/2030

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
A variety of equipment exists in Central Hudson substations, including protective relays, meters, recloser controls, and other control & communications equipment such as Remote Terminal Units (RTUs). Each of these components serves an integral role in contribution to the overall, integrated substation protection, control, and monitoring function. This equipment is at the end of its useful life and must be upgraded to current standards.

Describe specific scope exclusions, assumptions and constraints:
Part of the original ESP Infrastructure Replacement Program that has been broken out into individual projects. All remaining electromechanical relays at Roseton 345 kV Substation will be upgraded to current microprocessor relay standards.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Transmission Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Risk Reduction. See file "SR#2011-07 Substation Relays, Meters, Controls and Communications Infrastructure Oppor.pdf".

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?

N/A: Infrastructure Replacements

What are the risks and consequences of not completing this project?

Risk of equipment failure possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes

Yes

Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes

Cost avoidance by minimizing maintenance costs.

Does this Project enhance Central Hudson's customer experience or service delivery? Yes

Minimizes substation outages.

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes

Reduces risk of equipment failure.

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes

Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $2,218,065		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	335,000	0	0	0	0	0	135,000	200,000
	Labor (Monthly Payroll)	135,000	0	0	0	0	0	85,000	50,000
	Stock Materials	101,000	0	0	0	0	0	51,000	50,000
	A/P Non-Stock Material	946,000	0	0	0	0	0	846,000	100,000
	A/P Contractors & Other	389,000	0	0	0	0	0	389,000	0
	Overheads & Other	82,000	0	0	0	0	0	32,000	50,000
	AFUDC*	109,000	0	0	0	0	0	79,000	30,000
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	2,097,000	0	0	0	0	0	1,617,000	480,00
RETIREMENTS	Labor (Weekly Payroll)	48,450	0	0	0	0	0	48,400	50
	Labor (Monthly Payroll)	37,410	0	0	0	0	0	37,400	10
	A/P Non-Labor (dumpsters, etc.)	6,600	0	0	0	0	0	6,600	0
	A/P Contractors	13,200	0	0	0	0	0	13,200	0
	Overheads & Other	15,405	0	0	0	0	0	15,400	5
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	121,065	0	0	0	0	0	121,000	65

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 1,552,646 **Maximum ($):** 2,883,485

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Woodstock Switchgear Upgrade
Work Order #: 1361 - F
Funding Project Description: Woodstock Substation Replace Switch
Funding Project Number: 1-1312-31-15
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2015
In-Service: 12/1/2028

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
The existing external switchgear and control house switchgear has reached the end of its useful life and replacement parts are difficult to obtain or no longer available. Maintenance issues have been experienced with racking the 1947 vintage breakers in the external switchgear. Replacement parts for the racking mechanisms are no longer available. The external switchgear and control house switchgear have separate DC voltage supplies, a 24 volt and a 48 volt battery system, respectively. There is no room to upgrade either battery system, and maintenance

Describe specific scope exclusions, assumptions and constraints:
It is recommended that the external switchgear and control house switchgear be replaced with a new Power Control Center (PCC). The PCC will contain two bus's with a normally open tie breaker, 15kV breakers rated 2000A and 1200A, protective relaying, interconnection cabinet, PT's, station service transformers, RTU, and DC battery system. The PCC will contain provisions for future expansion.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Woodstock Substation Switchgear Replacement Justification.docx

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The replacement of the substation equipment in the scope will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
N/A: Infrastructure Replacement

What are the risks and consequences of not completing this project?
Risk of equipment failure possibly increasing SAIFI or CAIDI

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $11,360,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	906,000	30,000	8,000	341,000	261,000	266,000	0	0
	Labor (Monthly Payroll)	587,000	40,000	5,000	213,000	163,000	166,000	0	0
	Stock Materials	329,000	0	3,000	128,000	98,000	100,000	0	0
	A/P Non-Stock Material	5,479,000	0	52,000	2,134,000	1,631,000	1,662,000	0	0
	A/P Contractors & Other	2,544,000	24,000	24,000	982,000	750,000	764,000	0	0
	Overheads & Other	268,000	60,000	3,000	81,000	61,000	63,000	0	0
	AFUDC*	722,000	64,000	5,000	200,000	178,000	275,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0		0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	10,835,000	218,000	100,000	4,079,000	3,142,000	3,296,000	0	0
RETIREMENTS	Labor (Weekly Payroll)	208,229	0	81,377	41,486	42,284	43,082		0
	Labor (Monthly Payroll)	158,885	2,000	61,311	31,257	31,858	32,459		0
	A/P Non-Labor (dumpsters, etc.)	25,672	0	10,033	5,115	5,213	5,311		0
	A/P Contractors	51,345	0	20,066	10,230	10,426	10,623		0
	Overheads & Other	80,869	1,000	31,213	15,912	16,219	16,525		0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	525,000	3,000	204,000	104,000	106,000	108,000	0	0
	** AFUDC may require adjustment after Finance Department review.*								
	Expense $ (if applicable):	0							
	Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 7,952,000 **Maximum ($):** 14,768,000

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Woodstock Substation Switchgear Replacement Justification

Created By: Operation Services
Date: May 27, 2014

Operation Services is proposing that the 13.8kV control house switchgear and external switchgear in the Woodstock Substation be removed and replaced with a new Power Control Center. Listed below are the current issues with the existing infrastructure.

External Switchgear

- Breakers: W-1091, TD-3012, TD-3013, W-25
- GE – AM-15-250-1 – 1947 vintage (except W-25 is 2001)
- Scheduled for replacement, 2020.
- Racking mechanisms no longer work; except for W-25.
    - Racking mech includes: old motor, gears, and chains; replacement parts are no longer available.
        - Relies on AC feed.
    - Often have to use the hand crank to rack breakers; puts operator very close to exposed, live switchgear while the door is open.
        - 2,000 lb. breaker hand-cranked while wearing 40 kal suit.
- Central Hudson no longer installs external switchgear because it is difficult to troubleshoot during inclement weather.
- Outdated protection needs to be replaced.
    - CT's aren't adequate for the load; over saturated, therefore they don't contribute anything to the current protection scheme.

Control House Switchgear

- Breakers: TD-3014, W-1059, TD-3011
- Allis Chalmers – FC-500A – 1972 vintage
- Spare parts no longer available? --- *Can someone in Op Services verify this for me?*
- Recent failure on TD-3011
    - TD-3011 & TD-3014 are always "buzzing" – uncertain of the cause.
        - Could be poor design or insulation issue.
        - Always inspected during outage, cause never determined.
- Wiring is very congested – no room to add any new devices.
    - Need to hold wires back and door open in order to make room for racking breakers.
- Not enough room to house two breakers outside of their cubicles.
    - If the ground test device is being used the original breaker needs to sit outside.
- FC-500A breaker utilizes a puffer to extinguish arc under normal load break.
    - The puffer is made with a plastic manifold and tubing.
        - Constant maintenance issue.
    - More dangerous during normal switching verses fault conditions; fault-arc is cleared by magnetic coils.
- Dial-up RTU is not reliable in Woodstock.
- Installation of new RTU for voltage regulation control will require an external/outdoor cabinet due to inadequate room within the Control House.

DC Voltage Supply

- Two separate DC battery systems
    - 24 volt system
        - Resides in outdoor switchgear
            - Poor conditions for a VLA substation battery
            - Requires additional attention
            - Reduced lifespan
        - Supplies 15kV breaker relays
    - 48 volt system
        - Resides in control house/switchgear
        - Inadequate rack and ventilation system
        - Dangerous location – electricians have to often work overtop the battery
        - Restricted footprint because all available room in Control House is needed for racking 15kV breakers in/out of switchgear
            - New batteries need a larger footprint and will not fit properly

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Modena Complete Ring Bus
Work Order #: 2 4 9 2 - G
Funding Project Description: Funding Project Not Yet Assigned
Funding Project Number: to be determined
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2017
In-Service: 12/1/2027

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
Based on a review of the Ellenville Transmission Area, following the retirement of the Modena 115kV/69 kV autotransformers, new autotransformers must be installed at Kerhonkson Substation. This work will need to be completed in conjunction with the upgrade of the P & MK Lines to 115 kV operation. To meet our current protection standards, remaining work for the upgrade of the P & MK Lines to 115 kV will include protection upgrades, including pilot protection (high speed coverage of 100% of the line) and direct transfer trip for the lines upgrading to

Describe specific scope exclusions, assumptions and constraints:
Install a third 115 kV breaker at Modena Substation to complete the ring bus. Install relay pilot schemes at Modena Substation for primary line protection and direct transfer trip. Retire the old 115/69 kV Modena transformer and substation after conversion to 115 kV.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Chan, R.: "P & MK Area Study". E.P. #2010-008. May 2,2011.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
Ring Bus functionality at Modena will provide isolation of faults while allowing other lines to be in service resulting in high reliability.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Project aligns with the 115 kV conversion of the Kerhonkson loop.

What are the risks and consequences of not completing this project?
Lack of a ring bus at Modena would result in lower reliability during maintenance or faults possibly increasing SAIFI or CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $3,675,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	264,000	0	33,000	101,000	130,000	0	0	0
	Labor (Monthly Payroll)	176,000	10,000	21,000	63,000	82,000	0	0	0
	Stock Materials	100,000	0	13,000	38,000	49,000	0	0	0
	A/P Non-Stock Material	1,759,000	105,000	209,000	630,000	815,000	0	0	0
	A/P Contractors & Other	761,000	0	96,000	290,000	375,000	0	0	0
	Overheads & Other	71,000	9,000	8,000	23,000	31,000	0	0	0
	AFUDC*	178,000	8,000	22,000	59,000	89,000	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	3,309,000	132,000	402,000	1,204,000	1,571,000	0	0	0
RETIREMENTS	Labor (Weekly Payroll)	147,808	0	63,000	42,000	42,808	0	0	0
	Labor (Monthly Payroll)	110,269	0	47,000	31,333	31,936	0	0	0
	A/P Non-Labor (dumpsters, etc.)	18,769	0	8,000	5,333	5,436	0	0	0
	A/P Contractors	37,539	0	16,000	10,667	10,872	0	0	0
	Overheads & Other	51,615	0	22,000	14,667	14,948	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	366,000	0	156,000	104,000	106,000	0	0	0
	** AFUDC may require adjustment after Finance Department review.*								
	Expense $ (if applicable):	0							
	Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 2,572,500 **Maximum ($):** 4,777,500

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: April 19, 2024

Business Sponsor: Eric Loeven
Prepared By: Brett Arteta

First Year of 5-Year Budget Period: 2025
Budget Category: _13
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Tilcon - Tap Station
Work Order #: 4814-F
Funding Project Description: Funding Project Not Yet Assigned
Funding Project Number: to be determined
Is this a Specific Project, Program or Blanket? Specific
Target Schedule - Start: 1/1/2016
In-Service: 12/1/2028

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
Installation of a new 115 kV breaker at the Sand Dock Substation to limit exposure to IBM resulting from a fault at the new tap on the SC Line.

Describe the project objective and scope of work:
Based on infrastructure issues determined by inspections and a condition based assessment, the 69 kV TR Line needs to be rebuilt. This line is the sole supply to a quarry limiting the ability to obtain outages during a rebuild of the line. A review has determined that the most economical solution is to build a new substation tapped off of the 115 kV SC Line to supply the quarry and to retire the TR Line.

Describe specific scope exclusions, assumptions and constraints:
Install a new 115/69 kV Substation to serve Tilcon. Additionally, install a new 115 kV breaker at the Sand Dock Substation to limit exposure to IBM resulting from a fault at the new tap on the SC Line.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
An alternative considered was to rebuild the TR Line in kind. Construction would be costly and lengthy due to the restrictions from the quarry on the allowable outage durations to perform the work.

Why was the proposed project scope chosen over other alternatives?
More cost effective solution.

C. JUSTIFICATION

Budget Submittal Form

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: System Enhancements
Investment Type: New Business
Is there an Innovation Component? No

Needs Assessment: Infrastructure; Resilience
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Risk reduction.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
The retirement of the TR Line will improve reliabilty and mitigate risk as well as avoid the cost of potential emergency repairs or replacements while removing infrastructure from DAC areas.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment ***(CATS-4220, 4222, 4230, 4235, 4***

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estin N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approval ***(select all that apply)***
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown belc

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
N/A: Infrastructure Replacements.

What are the risks and consequences of not completing this project?
N/A: Infrastructure Replacements.

Is this Project in Central Hudson's current approved rate case? Yes
Yes
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Cost avoidance by minimizing maintenance costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Minimizes substation outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Reduces risk of equipment failure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Enhances safety by removing equipment prone to failure.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary		*Year 1 = 1st year of the 5-year budget plan*		*All future year cost estimates should include applicable adjustments for inflation.*				
$6,589,000		**TOTAL**	**Prior Years Actuals + Projections**	**Year 1 2025**	**Year 2 2026**	**Year 3 2027**	**Year 4 2028**	**Year 5 2029**	**Future Years**
ADDITIONS	Labor (Weekly Payroll)	532,000	10,000	5,000	43,000	261,000	213,000	0	0
	Labor (Monthly Payroll)	376,000	50,000	3,000	27,000	163,000	133,000	0	0
	Stock Materials	196,000	0	2,000	16,000	98,000	80,000	0	0
	A/P Non-Stock Material	3,258,000	0	31,000	267,000	1,631,000	1,329,000	0	0
	A/P Contractors & Other	1,579,000	80,000	14,000	123,000	750,000	612,000	0	0
	Overheads & Other	162,000	40,000	2,000	9,000	61,000	50,000	0	0
	AFUDC*	486,000	60,000	3,000	25,000	178,000	220,000	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL ADDITIONS:	6,589,000	240,000	60,000	510,000	3,142,000	2,637,000	0	0
RETIREMENTS	Labor (Weekly Payroll)	0	0	0	0	0	0	0	0
	Labor (Monthly Payroll)	0	0	0	0	0	0	0	0
	A/P Non-Labor (dumpsters, etc.)	0	0	0	0	0	0	0	0
	A/P Contractors	0	0	0	0	0	0	0	0
	Overheads & Other	0	0	0	0	0	0	0	0
	Journal Vouchers (JVs)	0	0	---	---	---	---	---	---
	Salvage CREDIT	0	0	0	0	0	0	0	0
	CIAC Payments CREDIT	0	0	0	0	0	0	0	0
	Joint Utility Payments CREDIT	0	0	0	0	0	0	0	0
	TOTAL REMOVALS:	0	0	0	0	0	0	0	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan as a SPECIFIC PROJECT

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 4,612,300 **Maximum ($):** 8,565,700

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Revised :	4/30/2023
Printed :	6/6/2024 14:24

BREAKER REPLACEMENT PROGRAM - 2025

LOCATION	VOLTAGE CLASS	EQUIPMENT POSITION	MANUFACTURER	MODEL #	BREAKER TYPE	MANUFACTURE DATE	Breaker Duty Rating	BREAKER PURCHASED	IN SERVICE DATE	PROFORMA COST	CURRENT YEAR COST	NOTES
					345 kV							
					115 kV							
					69 kV							
HIBERNIA	69 kV	E-972	CIRCUIT BREAKER COMPA	69KSB2500-12	OIL	1967		2023	12/31/2023	$200,000	$200,000	Moved to 2029 - Future
					15 kV							
REYNOLDS HILL	15 kV	TD-6001	WESTINGHOUSE	150-DHP	AIR	1972		2024	12/31/2024	$35,000	$35,000	Moved to 2029 - Future
REYNOLDS HILL	15 kV	TD-6005	WESTINGHOUSE	150-DHP	AIR	1973		2024	12/31/2024	$35,000	$35,000	Moved to 2029 - Future
SHENANDOAH	15 kV	B-4453	WESTINGHOUSE	150-DHP-500	AIR	1982		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	B-4454	WESTINGHOUSE	150-DHP-500	AIR	1982		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	B-4455	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	B-4456	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	S10-1015	WESTINGHOUSE	150-DHP-500	AIR	1980		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	S11-405	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	S12-401	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	S13-412	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	S14-410	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	S7-1102	WESTINGHOUSE	150-DHP-500	AIR	1982		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	S8-1014	WESTINGHOUSE	150-DHP-500	AIR	1980		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	S9-1009	WESTINGHOUSE	150-DHP-500	AIR	1982		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	TD-8071	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	TD-8072	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	W-1059	WESTINGHOUSE	150-DHP-500	AIR	1982		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	W-1279	WESTINGHOUSE	150-DHP-500	AIR	1980		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	W-1593	WESTINGHOUSE	150-DHP-500	AIR	1982		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	W-664	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	W-665	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	W-802	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	W-803	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	W-805	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	W-807	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	W-845	WESTINGHOUSE	150-DHP-500	AIR	1982		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
SHENANDOAH	15 kV	W-846	WESTINGHOUSE	150-DH-500	AIR	1980		2025	12/31/2025	$35,000	$35,000	Moved to 2029 - Switchgear Replacement
WOODSTOCK	15 kV	TD-3012	GE	AM-15-250-1	AIR	1947		2023	12/31/2023	$112,000	$112,000	Moved to 2029 - Switchgear Replacement
WOODSTOCK	15 kV	TD-3013	GE	AM-15-250-1	AIR	1947		2023	12/31/2023	$112,000	$112,000	Moved to 2029 - Switchgear Replacement
WOODSTOCK	15 kV	W-1091	GE	AM-15-250-1	AIR	1947		2023	12/31/2023	$112,000	$112,000	Moved to 2029 - Switchgear Replacement
WOODSTOCK	15 kV	W-25	GE	AM-15-250-1	AIR	1947		2023	12/31/2023	$112,000	$112,000	Moved to 2029 - Switchgear Replacement
					5 kV							
NEVERSINK	5 kV	CKT-391	GE	AM-5-150-5	AIR	1950	33%	2024	12/31/2024	$40,000	$40,000	Moved from 2024
NEVERSINK	5 kV	W-1128	GE	AM-5-150-5	AIR	1950	31%	2024	12/31/2024	$40,000	$40,000	Moved from 2024

345 kV Totals	$0
115/69 kV Totals	$200,000
15 kV Totals	$1,403,000
Approximate 2025 Expenditures	$1,603,000

Revised :	4/30/2023
Printed :	6/6/2024 14:24

BREAKER REPLACEMENT PROGRAM - 2026

LOCATION	VOLTAGE CLASS	EQUIPMENT POSITION	MANUFACTURER	MODEL #	BREAKER TYPE	MANUFACTURE DATE	Breaker Duty Rating	BREAKER PURCHASED	IN SERVICE DATE	PROFORMA COST	CURRENT YEAR COST	NOTES
					345 kV							
					115 kV							
PLEASANT VALLEY	115 kV	RX-4	ALLIS CHALMERS	BZO-115-10000-2	OIL	1968	53%	2026	12/31/2026	$220,000	$220,000	Moved from 2020
PLEASANT VALLEY	115 kV	R-643	SIEMENS	BZO-121-50-6	OIL	1990		2026	12/31/2026	$220,000	$220,000	Moved from 2023
					69 kV							
MYERS CORNERS	69 kV	TV-399-KM	SIEMENS	TDO-72.5-20000	OIL	1981	17%	2023	12/31/2023	$200,000	$200,000	Moved from 2023
					15 kV							
MONTGOMERY ST.	15 kV	NM-384	WESTINGHOUSE	150-DH-500A	AIR	1958	45%	2026	12/31/2026	$35,000	$35,000	Moved from 2022
MONTGOMERY ST.	15 kV	NB-385	WESTINGHOUSE	150-DH-500A	AIR	1958	63%	2026	12/31/2026	$35,000	$35,000	Moved from 2022
MONTGOMERY ST.	15 kV	TD-4001	WESTINGHOUSE	150-DH-500A	AIR	1958	63%	2026	12/31/2026	$35,000	$35,000	Moved from 2022
MONTGOMERY ST.	15 kV	TD-4002	WESTINGHOUSE	150-DH-500A	AIR	1958	63%	2026	12/31/2026	$35,000	$35,000	Moved from 2022
MONTGOMERY ST.	15 kV	TD-4003	WESTINGHOUSE	150-DH-500A	AIR	1958	63%	2026	12/31/2026	$35,000	$35,000	Moved from 2022
MONTGOMERY ST.	15 kV	W-507	WESTINGHOUSE	150-DH-500A	AIR	1958	63%	2026	12/31/2026	$35,000	$35,000	Moved from 2022
MONTGOMERY ST.	15 kV	W-508	WESTINGHOUSE	150-DH-500A	AIR	1958	63%	2026	12/31/2026	$35,000	$35,000	Moved from 2022
MONTGOMERY ST.	15 kV	W-509	WESTINGHOUSE	150-DH-500A	AIR	1958	63%	2026	12/31/2026	$35,000	$35,000	Moved from 2022
MONTGOMERY ST.	15 kV	R-350	WESTINGHOUSE	150-DH-500A	AIR	1958	58%	2026	12/31/2026	$35,000	$35,000	Moved from 2022
MONTGOMERY ST.	15 kV	F-351	WESTINGHOUSE	150-DH-500A	AIR	1958	58%	2026	12/31/2026	$35,000	$35,000	Moved from 2022
MONTGOMERY ST.	15 kV	B-352	WESTINGHOUSE	150-DH-500A	AIR	1958	60%	2026	12/31/2026	$35,000	$35,000	Moved from 2022
MONTGOMERY ST.	15 kV	W-359	WESTINGHOUSE	150-DH-500A	AIR	1958	60%	2026	12/31/2026	$35,000	$35,000	Moved from 2022
MONTGOMERY ST.	15 kV	WN-486	WESTINGHOUSE	150-DH-500A	AIR	1958	61%	2026	12/31/2026	$35,000	$35,000	Moved from 2022
MONTGOMERY ST.	15 kV	W-489	WESTINGHOUSE	150-DH-500A	AIR	1958	49%	2026	12/31/2026	$35,000	$35,000	Moved from 2022
SAND DOCK	15 kV	BP-1296	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved to 2027
SAND DOCK	15 kV	BP-1570	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved to 2027
SAND DOCK	15 kV	TW-902	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved to 2027
SAND DOCK	15 kV	TW-909	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved to 2027
SAND DOCK	15 kV	TW-910	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved to 2027
SAND DOCK	15 kV	W-116	WESTINGHOUSE	150-VCP-W-750	VACUUM	1973		2026	12/31/2026	$35,000	$35,000	Moved to 2027
SAND DOCK	15 kV	W-1449	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved to 2027
SAND DOCK	15 kV	W-1453	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved to 2027
SAND DOCK	15 kV	W-1568	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved to 2027
SAND DOCK	15 kV	W-1573	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved to 2027

345 kV Totals	$0
115/69 kV Totals	$640,000
15 kV Totals	$840,000
Approximate 2026 Expenditures	$1,480,000

Revised :	4/30/2023
Printed :	6/6/2024 14:24

BREAKER REPLACEMENT PROGRAM - 2027

LOCATION	VOLTAGE CLASS	EQUIPMENT POSITION	MANUFACTURER	MODEL #	BREAKER TYPE	MANUFACTURE DATE	Breaker Duty Rating	BREAKER PURCHASED	IN SERVICE DATE	PROFORMA COST	CURRENT YEAR COST	NOTES
					345 kV							
					115 kV							
					69 kV							
					15 kV							
JANSEN AVE	15 kV	JAN-K-553	GE	FK-255-13.8-250-1	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved to 2028
JANSEN AVE	15 kV	JAN-K-583	GE	FK-255-13.8-250-1	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved to 2028
JANSEN AVE	15 kV	JAN-K-593	GE	FK-255-250	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved to 2028
JANSEN AVE	15 kV	JAN-KL-543	GE	FK-255-13.8-250-1	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved to 2028
JANSEN AVE	15 kV	JAN-KO-533	GE	FK-255-13.8-250-1	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved to 2028
JANSEN AVE	15 kV	JAN-TD-1001	GE	FK-255-13.8-250-1	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved to 2028
JANSEN AVE	15 kV	JAN-TD-1002	GE	FK-255-13.8-250-1	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved to 2028
JANSEN AVE	15 kV	JAN-TD-1003	GE	AM-15-250-1	AIR	1956		2027	12/31/2027	$35,000	$35,000	Moved to 2028
JANSEN AVE	15 kV	JAN-TD-1004	GE	FK-255-13.8-250-1	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved to 2028
STURGEON POOL	15 kV	OS-1	GENERAL ELECTRIC	FK-255-150	OIL	1924		2027	12/31/2027	$35,000	$35,000	Moved from 2023
STURGEON POOL	15 kV	OS-2	GENERAL ELECTRIC	FKR-255	OIL	1924		2027	12/31/2027	$35,000	$35,000	Moved from 2023
STURGEON POOL	15 kV	OS-3	WESTINGHOUSE	E-8	OIL	1924		2027	12/31/2027	$35,000	$35,000	Moved from 2023
TIORONDA	15 kV	TD-8085	WESTINGHOUSE	150-DHP-500	AIR	1971		2027	12/31/2027	$35,000	$35,000	May be a Switchgear Replacement.
TIORONDA	15 kV	TD-8086	WESTINGHOUSE	150-DHP-500	AIR	1971		2027	12/31/2027	$35,000	$35,000	May be a Switchgear Replacement.
TIORONDA	15 kV	W-567	WESTINGHOUSE	150-DHP-500	AIR	1971		2027	12/31/2027	$35,000	$35,000	May be a Switchgear Replacement.
TIORONDA	15 kV	TD-8087	WESTINGHOUSE	150-DHP-500	AIR	1971		2027	12/31/2027	$35,000	$35,000	May be a Switchgear Replacement.
CONWAY PLACE	15 kV	CKT-881	GENERAL ELECTRIC	FK-143	OIL	1958		2027	12/31/2027	$35,000	$0	SUBSTATION RETIREMENT
CONWAY PLACE	15 kV	CKT-882	GENERAL ELECTRIC	FK-143	OIL	1958		2027	12/31/2027	$35,000	$0	SUBSTATION RETIREMENT
SAND DOCK	15 kV	BP-1296	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved from 2026
SAND DOCK	15 kV	BP-1570	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved from 2026
SAND DOCK	15 kV	TW-902	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved from 2026
SAND DOCK	15 kV	TW-909	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved from 2026
SAND DOCK	15 kV	TW-910	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved from 2026
SAND DOCK	15 kV	W-116	WESTINGHOUSE	150-VCP-W-750	VACUUM	1973		2026	12/31/2026	$35,000	$35,000	Moved from 2026
SAND DOCK	15 kV	W-1449	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved from 2026
SAND DOCK	15 kV	W-1453	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved from 2026
SAND DOCK	15 kV	W-1568	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved from 2026
SAND DOCK	15 kV	W-1573	WESTINGHOUSE	150-DHP-500	AIR	1973		2026	12/31/2026	$35,000	$35,000	Moved from 2026

345 kV Totals	$0
115/69 kV Totals	$0
15 kV Totals	$910,000
Approximate 2027 Expenditures	$910,000

Revised :	4/30/2023
Printed :	6/6/2024 14:24

BREAKER REPLACEMENT PROGRAM - 2028

LOCATION	VOLTAGE CLASS	EQUIPMENT POSITION	MANUFACTURER	MODEL #	BREAKER TYPE	MANUFACTURE DATE	Breaker Duty Rating	BREAKER PURCHASED	IN SERVICE DATE	PROFORMA COST	CURRENT YEAR COST	NOTES
					345 kV							
					115 kV							
					69 kV							
KNAPPS CORNERS	69 kV	KM-1185	SIEMENS	TDO-72.5-20000	OIL	1981				$0	$0	Future Removal - DO NOT REPLACE
KNAPPS CORNERS	69 kV	TR-1195	SIEMENS	TDO-72.5-20000	OIL	1981				$0	$0	Future Removal - DO NOT REPLACE
					15 kV							
JANSEN AVE	15 kV	JAN-K-553	GE	FK-255-13.8-250-1	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved from 2027
JANSEN AVE	15 kV	JAN-K-583	GE	FK-255-13.8-250-1	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved from 2027
JANSEN AVE	15 kV	JAN-K-593	GE	FK-255-250	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved from 2027
JANSEN AVE	15 kV	JAN-KL-543	GE	FK-255-13.8-250-1	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved from 2027
JANSEN AVE	15 kV	JAN-KO-533	GE	FK-255-13.8-250-1	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved from 2027
JANSEN AVE	15 kV	JAN-TD-1001	GE	FK-255-13.8-250-1	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved from 2027
JANSEN AVE	15 kV	JAN-TD-1002	GE	FK-255-13.8-250-1	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved from 2027
JANSEN AVE	15 kV	JAN-TD-1003	GE	AM-15-250-1	AIR	1956		2027	12/31/2027	$35,000	$35,000	Moved from 2027
JANSEN AVE	15 kV	JAN-TD-1004	GE	FK-255-13.8-250-1	OIL	1941		2027	12/31/2027	$35,000	$35,000	Moved from 2027
HURLEY AVE	15 kV	CKT-2091	ITE CIRCUIT BREAKERS	15HK-500	AIR	1972	79%	2024	12/31/2024	$35,000	$35,000	Originally scheduled for replacement
HURLEY AVE	15 kV	CKT-2092	ITE CIRCUIT BREAKERS	15HK-500	AIR	1972	79%	2024	12/31/2024	$35,000	$35,000	in 2017; however, KGN electricians
HURLEY AVE	15 kV	CKT-2093	ITE CIRCUIT BREAKERS	15HK-500	AIR	1972	79%	2024	12/31/2024	$35,000	$35,000	looked over the switchgear and reported
HURLEY AVE	15 kV	CKT-2094	ITE CIRCUIT BREAKERS	15HK-500	AIR	1972	79%	2024	12/31/2024	$35,000	$35,000	it to be fine, with no need to replace
HURLEY AVE	15 kV	W-1575	ITE CIRCUIT BREAKERS	15HK-500	AIR	1972	29%	2024	12/31/2024	$35,000	$35,000	the existing breakers as of 11/30/16
HURLEY AVE	15 kV	W-252	ITE CIRCUIT BREAKERS	15HK-500	AIR	1972	44%	2024	12/31/2024	$35,000	$35,000	
WOODSTOCK	15 kV	TD-3012	GE	AM-15-250-1	AIR	1947		2023	12/31/2023	$112,000	$112,000	Moved from 2025
WOODSTOCK	15 kV	TD-3013	GE	AM-15-250-1	AIR	1947		2023	12/31/2023	$112,000	$112,000	Moved from 2025
WOODSTOCK	15 kV	W-1091	GE	AM-15-250-1	AIR	1947		2023	12/31/2023	$112,000	$112,000	Moved from 2025
WOODSTOCK	15 kV	W-25	GE	AM-15-250-1	AIR	1947		2023	12/31/2023	$112,000	$112,000	Moved from 2025
					5 kV							

345 kV Totals	$0
115/69 kV Totals	$0
15 kV Totals	$973,000
Approximate 2024 Expenditures	$973,000

Revised :	4/30/2023
Printed :	6/6/2024 14:24

BREAKER REPLACEMENT PROGRAM - 2029

LOCATION	VOLTAGE CLASS	EQUIPMENT POSITION	MANUFACTURER	MODEL #	BREAKER TYPE	MANUFACTURE DATE	Breaker Duty Rating	BREAKER PURCHASED	IN SERVICE DATE	PROFORMA COST	CURRENT YEAR COST	NOTES
					345 kV							
					115 kV							
					69 kV							
HIBERNIA	69 kV	E-972	CIRCUIT BREAKER COMPA	69KSB2500-12	OIL	1967		2023	12/31/2023	$200,000	$200,000	Moved from 2025 - Future
					15 kV							
REYNOLDS HILL	15 kV	TD-6001	WESTINGHOUSE	150-DHP	AIR	1972		2024	12/31/2024	$35,000	$35,000	Moved from 2025 - Future
REYNOLDS HILL	15 kV	TD-6005	WESTINGHOUSE	150-DHP	AIR	1973		2024	12/31/2024	$35,000	$35,000	Moved from 2025 - Future
SHENANDOAH	15 kV	B-4453	WESTINGHOUSE	150-DHP-500	AIR	1982		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	B-4454	WESTINGHOUSE	150-DHP-500	AIR	1982		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	B-4455	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	B-4456	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	S10-1015	WESTINGHOUSE	150-DHP-500	AIR	1980		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	S11-405	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	S12-401	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	S13-412	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	S14-410	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	S7-1102	WESTINGHOUSE	150-DHP-500	AIR	1982		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	S8-1014	WESTINGHOUSE	150-DHP-500	AIR	1980		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	S9-1009	WESTINGHOUSE	150-DHP-500	AIR	1982		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	TD-8071	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	TD-8072	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	W-1059	WESTINGHOUSE	150-DHP-500	AIR	1982		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	W-1279	WESTINGHOUSE	150-DHP-500	AIR	1980		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	W-1593	WESTINGHOUSE	150-DHP-500	AIR	1982		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	W-664	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	W-665	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	W-802	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	W-803	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	W-805	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	W-807	WESTINGHOUSE	150-DHP-750C	AIR	1986		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	W-845	WESTINGHOUSE	150-DHP-500	AIR	1982		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
SHENANDOAH	15 kV	W-846	WESTINGHOUSE	150-DH-500	AIR	1980		2025	12/31/2025	$35,000	$35,000	Moved from 2025 - Switchgear Replacement
WOODSTOCK	15 kV	TD-3012	GE	AM-15-250-1	AIR	1947		2023	12/31/2023	$112,000	$112,000	Moved from 2025 - Switchgear Replacement
WOODSTOCK	15 kV	TD-3013	GE	AM-15-250-1	AIR	1947		2023	12/31/2023	$112,000	$112,000	Moved from 2025 - Switchgear Replacement
WOODSTOCK	15 kV	W-1091	GE	AM-15-250-1	AIR	1947		2023	12/31/2023	$112,000	$112,000	Moved from 2025 - Switchgear Replacement
WOODSTOCK	15 kV	W-25	GE	AM-15-250-1	AIR	1947		2023	12/31/2023	$112,000	$112,000	Moved from 2025 - Switchgear Replacement
					5 kV							

345 kV Totals	$0
115/69 kV Totals	$200,000
15 kV Totals	$1,323,000
Approximate 2025 Expenditures	$1,523,000

Budget Submittal Form

Submission Date: June 1, 2024

Business Sponsor: R. Hawthorne
Prepared By: Victor Narkaj

First Year of 5-Year Budget Period: 2025
Budget Category: _14
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Category 14 Electric New Business
Work Order #: -
Funding Project Description: New Business
Funding Project Number: 1-1412-00-18
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
Overall Budget Planning for Category 14

Describe the project objective and scope of work:
All electric new business

Describe specific scope exclusions, assumptions and constraints:
Tariff obligation to provide electric service

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
None. Category 14 is non-discretionary

Why was the proposed project scope chosen over other alternatives?
Obligation to serve is non-discretionary

C. JUSTIFICATION

Load Based/Infrastructure: Load-Based
Discretion Level: Non-Discretionary
Growth/Sustaining/Retirement: Growth Sustaining
Investment Type: Growth
Is there an Innovation Component? No

Needs Assessment: New Business

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

The Category 14 electric new business category consists of funding to provide new electric service to non-discretionary customer requested residential and commercial projects. This includes new multi-family and Underground Residential Distribution (URD) projects, new individual residential homes, street and area lighting installations, and commercial/industrial electric new business. Work orders types can be specific (>$15,000), local work orders

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

Monetary benefits through increased revenue.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve customer experience
Which *Strategic Initiative* does project most align with? Seamless Customer Experience
Which *Team Goal* does project most align with? Earnings (Net Income)
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

N/A

Why do we need to complete this project in the period requested?

New customer service must be provided in a timely manner

What are the risks and consequences of not completing this project?

Customer complaints

Is this Project in Central Hudson's current approved rate case?	Yes
Is this Project tied to a regulatory requirement?	Yes
Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson?	Yes
Does this Project enhance Central Hudson's customer experience or service delivery?	Yes
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)?	No
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public?	Yes

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $82,373,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan		*All future year cost estimates should include applicable adjustments for inflation.*					
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	Stock Materials	0							
	A/P Non-Stock Material	0							
	A/P Contractors & Other	74,695,000		14,069,000	14,491,000	14,926,000	15,374,000	15,835,000	
	Inflation	4,749,000		300,000	621,000	935,000	1,273,000	1,620,000	
	AFUDC*	1,701,000		303,000	470,000	372,000	276,000	280,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**81,145,000**	**0**	**14,672,000**	**15,582,000**	**16,233,000**	**16,923,000**	**17,735,000**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	1,228,000		236,000	241,000	246,000	250,000	255,000	
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**1,228,000**	**0**	**236,000**	**241,000**	**246,000**	**250,000**	**255,000**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Preliminary

Cost Estimate Confidence: **(that final cost will be within +/-20% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 56,603,200 **Maximum ($):** 84,904,800

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Proforma Pricing; Historical Unit Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

2025 - 2029 Business Plan

Cost & Rate Billed Customer Forecast

	2023	2024	2025	2026	2027	2028	2029
				Customers			
Electric							
Res	269,955	269,781	270,391	271,368	272,345	273,253	274,090
Non-Res	46,436	46,649	46,708	46,769	46,837	46,930	47,034
	316,391	316,430	317,099	318,137	319,182	320,183	321,124
Gas							
Res	74,728	75,681	76,593	76,992	77,334	77,653	78,000
Non-Res	12,796	12,853	12,978	13,066	13,134	13,199	13,261
	87,524	88,535	89,571	90,058	90,468	90,851	91,261
				Growth			
Electric							
Res	(174)	610	977	977	908	837	
Non-Res	213	59	61	68	93	104	
	39	669	1,038	1,045	1,001	941	
Gas							
Res	953	912	399	342	319	347	
Non-Res	57	125	88	68	64	63	
	1,010	1,037	487	410	383	410	

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch
Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025
Budget Category: _15
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: 4800 V Conversion/Infrastructure Program
Work Order #: -
Funding Project Description: 4800V Conver/Infrastructure Prg
Funding Project Number: 1-1551-12-18
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
A conversion program was developed to the eliminate 4800V aging infrastructure. The program focuses on upgrading 4800V mainline circuitry to 13.2kV operational voltage. A particular focus is placed on developing projects that eliminate overloaded step-down transformer banks in order mitigate thermal and infrastructure concerns, as well as remove any of the other potential hazards associated with 4800V circuitry.

Describe specific scope exclusions, assumptions and constraints:
N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Risk Reduction

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

An infrastructure concern in the Central Hudson territory is the 4800V circuitry. These 4800V pockets limit the operational flexibility, load serving capability, and hosting capacity for DERs. 4800V circuitry is also outdated; Central Hudson abandoned the practice of installing 4800V circuitry in the 1940s. Much of the area infrastructure is over 70 years old and has exceeded its useful life. Central Hudson has over 200 miles of 4800V circuitry

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC CAIDI Outage Duration
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this program as part of the Rate Case settlement for 2022-2024.

What are the risks and consequences of not completing this project?
The age of the infrastructure poses a risk to SAIFI and CAIDI results.

For the following Prioritization questions, please provide a brief explanation supporting any "Yes" responses.
Is this Project in Central Hudson's current approved rate case? Yes
Included in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Eliminating legacy 4800V circuitry and rebuilding the infrastructure to modern-day construction standards will reduce the impacts to SAIFI & CAIDI.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Removal of the aged 4800V circuitry will reduce the probability of customer outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
The properties of 4800V circuitry can be potentially dangerous.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
4800V circuitry can remain energized after a fault, making it dangerous for both the public and those making repairs.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $15,311,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	9,184,000		2,067,800	2,074,100	1,795,500	1,683,500	1,563,100	
	Labor (Monthly Payroll)	0							
	Stock Materials	3,936,000		886,200	888,900	769,500	721,500	669,900	
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	777,000		63,000	127,000	160,000	198,000	229,000	
	AFUDC*	102,000		21,000	21,000	21,000	20,000	19,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	13,999,000	0	3,038,000	3,111,000	2,746,000	2,623,000	2,481,000	0
RETIREMENTS	Labor (Weekly Payroll)	1,312,000		295,400	296,300	256,500	240,500	223,300	
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	1,312,000	0	295,400	296,300	256,500	240,500	223,300	0
	Expense $ (if applicable):	0							
	Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** AFUDC may require adjustment after Finance Department review.*

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Increased material costs could result in overages within the program.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: May 24, 2024

Business Sponsor: N. Conza
Prepared By: N. Conza

First Year of 5-Year Budget Period: 2025
Budget Category: _15
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: CAT 15 - Sub Circuit Exits
Work Order #: -
Funding Project Description: Cat 15 - Sub Circuit Exits
Funding Project Number: 10181
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
Distribution work conducted to support substation rebuild projects

Describe specific scope exclusions, assumptions and constraints:
N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? No
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Project scopes within this program are justified by Electric Planning Memos

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Resiliency and Energy Transition Opportunities
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:
Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Low *Other projects with higher relative urgency should take precedence over this project.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?

Completing these projects support substation rebuild projects

What are the risks and consequences of not completing this project?

Improperly supporting substation rebuild projects

Is this Project in Central Hudson's current approved rate case?	No
Is this Project tied to a regulatory requirement?	No
Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson?	No
Does this Project enhance Central Hudson's customer experience or service delivery?	No
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)?	No
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public?	No

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY

Budget Submittal Form

D. COST ESTIMATE

Capital Estimate Summary $6,202,200		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan		*All future year cost estimates should include applicable adjustments for inflation.*					
ADDITIONS	Labor (Weekly Payroll)	3,767,400		1,001,700	1,803,200	401,100	561,400	0	
	Labor (Monthly Payroll)	0							
	Stock Materials	1,614,600		429,300	772,800	171,900	240,600	0	
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	242,000		31,000	111,000	35,000	65,000		
	AFUDC*	40,000		10,000	18,000	5,000	7,000		
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**5,664,000**	**0**	**1,472,000**	**2,705,000**	**613,000**	**874,000**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	538,200		143,100	257,600	57,300	80,200		
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**538,200**	**0**	**143,100**	**257,600**	**57,300**	**80,200**	**0**	**0**
	Expense $ (if applicable):	**0**							

** AFUDC may require adjustment after Finance Department review.*

Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Low Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Reprioritization and individual project scope changes may result in changes to annual forecasted expenditures within the program.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch
Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025
Budget Category: _15
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: CEMI-Worst Circuit Reliability Program
Work Order #: -
Funding Project Description: CEMI/Worst Circuit Reliability Prg
Funding Project Number: 1-1551-18-18
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
The CEMI (customers experiencing multiple interruptions) and Worst Performing Circuits program have been designed to help identify and develop reliability improvements for these customers. Projects are similar to projects identified in the Reliability program. The customers experiencing the poorest of reliability are identified, and improvement projects are developed annually.

Describe specific scope exclusions, assumptions and constraints:
N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Service

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Central Hudson maximizes its reliability improvement efforts through continuous analysis and planning. Reliability improvement projects are generally prioritized using a $/Customer Outage Avoided (COA) criteria. This program allows us to address specific circuits and "pockets" of customers that tend to experience a significantly higher frequency of outages than average or are fed from a Worst Performing Circuit, where $/COA criteria is used

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this program as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
If these worst circuits are not addressed, they will continue to put a damper on SAIFI and CAIDI performance, as well as reduced customer satisfaction.

Is this Project in Central Hudson's current approved rate case? Yes
Included in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Projects that address CEMI/Worst Circuits will reduce outages and resultingly cost of repairs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
These projects address customers who experience multiple interruptions, thus improving their reliability.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Projects within this program will reduce the probability of infrastructure damage.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Projects within this program will reduce the likelihood of outages and the exposure of employees/the public to downed wires.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $5,856,603		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	3,532,212		863,216	813,523	982,639	872,834		
	Labor (Monthly Payroll)	0							
	Stock Materials	1,513,803		369,949	348,652	421,131	374,071		
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	266,985		25,835	49,825	88,230	103,095		
	AFUDC*	39,000		9,000	9,000	11,000	10,000		
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**5,352,000**	**0**	**1,268,000**	**1,221,000**	**1,503,000**	**1,360,000**	**0**	**0**
RETIREMENTS	Labor (Weekly Payroll)	504,603		123,317	116,218	140,377	124,691		
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**504,603**	**0**	**123,317**	**116,218**	**140,377**	**124,691**	**0**	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Increased material costs could result in overages within the program.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch
Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025
Budget Category: _15
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Copper Wire Replacement Program
Work Order #: -
Funding Project Description: Copper Wire Replacement Prg
Funding Project Number: 1-1551-11-18
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
The copper wire replacement program was developed to begin to phase out all of the undersized, antiquated, copper conductors. The wire is typically replaced with new, higher capacity ACSR wire. The new conductors are rated for 13.2kV operation, are stronger, and can handle additional loading.

Describe specific scope exclusions, assumptions and constraints:
N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Risk Reduction

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

There is a proliferation of primary copper wire on Central Hudson's distribution system. These conductors are not only antiquated and prone to failure; they are frequently undersized (#4 and #6) for modern operational needs, such as CVR and FLISR. They are also susceptible to burndown during reclose operations.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this program as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
Elevated risks to SAIFI and CAIDI performance.

Is this Project in Central Hudson's current approved rate case? Yes
ncluded in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Projects that address Copper Wire Replacement will reduce outages and resultingly cost of repairs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
The Copper Wire Replacement Program aims to replace old, failure prone conductor that is likely to cause outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Copper Wire Replacement projects reduce the probability of infrastructure damage.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Projects within this program will reduce the likelihood of outages and the exposure of employees/the public to downed wires.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY

Budget Submittal Form

D. COST ESTIMATE

Capital Estimate Summary $8,858,700		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	5,317,900			701,400	821,800	641,200	1,803,200	1,350,300
	Labor (Monthly Payroll)	0							
	Stock Materials	2,279,100			300,600	352,200	274,800	772,800	578,700
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	455,000			42,000	73,000	76,000	264,000	
	AFUDC*	47,000			8,000	10,000	7,000	22,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**8,099,000**	**0**	**0**	**1,052,000**	**1,257,000**	**999,000**	**2,862,000**	**1,929,000**
RETIREMENTS	Labor (Weekly Payroll)	759,700			100,200	117,400	91,600	257,600	192,900
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**759,700**	**0**	**0**	**100,200**	**117,400**	**91,600**	**257,600**	**192,900**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Increased material costs could result in overages within the program.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch
Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025
Budget Category: _15
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Distribution Automation - Other
Work Order #: -
Funding Project Description: DA - Major Program
Funding Project Number: 1-1551-19-18
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
There is a small annual allowance for new locations that were not identified as part of the Grid Modernization plan (DA-Major Program) and replacement equipment as it arises.

Describe specific scope exclusions, assumptions and constraints:
Funding for this program has already been accounted for as part of the 2022-2024 Category 15 Budget. Once approved, funds will be re-allocated from Funding Project # 1-1551-19-18 (Distribution Automation - Major Program).

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: System Enhancements
Investment Type: Infrastructure
Is there an Innovation Component? Yes

Needs Assessment: Infrastructure; Reliability

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

An aging infrastructure, inefficient grid, rising energy costs, increased demand for uninterrupted service, and increased adoption of distributed energy resources, as well as availability of more sophisticated technology, have driven the need for a reformation of the electric distribution system.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

The Electric Distribution Automation program was developed in order to address these growing concerns. Through the implementation of a Distribution Management System (DMS), Central Hudson will be able to implement programs such as Volt-Var optimization (VVO), Conservation

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Maybe - Requires further scope development
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this program as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
Increased impacts on SAIFI and CAIDI; Increased risk of power quality issues

Is this Project in Central Hudson's current approved rate case? Yes
Included in current PSC-approved budget plan under a PROGRAM
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? No

Does this Project enhance Central Hudson's customer experience or service delivery? Yes
The implementation of DA will reduce the likelihood of customer outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
The implementation of DA will reduce the likelihood of customer outages.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Infrastructure will be built to modern standards and increased operational flexibility.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $6,499,800		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	4,009,600		401,100	401,100	401,100	401,100	401,100	2,004,100
	Labor (Monthly Payroll)	0							
	Stock Materials	1,718,400		171,900	171,900	171,900	171,900	171,900	858,900
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	176,000		12,000	24,000	35,000	47,000	58,000	
	AFUDC*	23,000		4,000	4,000	5,000	5,000	5,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**5,927,000**	**0**	**589,000**	**601,000**	**613,000**	**625,000**	**636,000**	**2,863,000**
RETIREMENTS	Labor (Weekly Payroll)	572,800		57,300	57,300	57,300	57,300	57,300	286,300
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**572,800**	**0**	**57,300**	**57,300**	**57,300**	**57,300**	**57,300**	**286,300**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 4,549,860 **Maximum ($):** 8,449,740

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Data + Job Specific Adjustments

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch

Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025

Budget Category: _15

Budget Group: Electric

Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Distribution Improvement (1551-0X) - Operating/ Infrastructure Condition **Work Order #:** -

Funding Project Description: DI (1551-0X) - Operating/Infrastr **Funding Project Number:** 1-1551-03-18

Is this a Specific Project, Program or Blanket? Program **Target Schedule - Start:** 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:

Operating projects are developed with the primary goal being of reducing the duration of outages. Typical projects involve developing a tie between feeders, or reconductoring the lines to make the tie stronger so more load can be reenergized through switching. Many of these projects also address failing infrastructure that does not fall under a specific program.

Describe specific scope exclusions, assumptions and constraints:

N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?

N/A

Why was the proposed project scope chosen over other alternatives?

N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Service

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

One of the primary focuses of the Category 15 Capital Budget plan is to improve the reliability of the Central Hudson customers. Operational limitations in the distribution circuitry is a primary driver in the overall duration that the average customer experiences. In addition, aged infrastructure in poor condition may create operational limitations and/or future risk of an increase in outages.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC CAIDI Outage Duration
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this program as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
Elevated risks to SAIFI and CAIDI performance.

Is this Project in Central Hudson's current approved rate case? Yes
ncluded in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Projects that improve infrastructure will reduce outages and resultingly cost of repairs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Projects within this program improve infrastructure and operating conditions, improving reliability.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Projects within this program will reduce the probability of infrastructure damage.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Projects within this program will reduce the likelihood of outages and the exposure of employees/the public to downed wires.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $23,548,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	14,119,000		945,700	985,600	2,345,700	3,365,600	3,642,800	2,833,600
	Labor (Monthly Payroll)	0							
	Stock Materials	6,051,000		405,300	422,400	1,005,300	1,442,400	1,561,200	1,214,400
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	1,231,000		29,000	61,000	210,000	398,000	533,000	
	AFUDC*	130,000		10,000	9,000	27,000	39,000	45,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**21,531,000**	**0**	**1,390,000**	**1,478,000**	**3,588,000**	**5,245,000**	**5,782,000**	**4,048,000**
RETIREMENTS	Labor (Weekly Payroll)	2,017,000		135,100	140,800	335,100	480,800	520,400	404,800
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**2,017,000**	**0**	**135,100**	**140,800**	**335,100**	**480,800**	**520,400**	**404,800**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Increased material costs could result in overages within the program.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch

Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025

Budget Category: _15

Budget Group: Electric

Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Distribution Improvement - Reliability (1551-0X)

Work Order #: -

Funding Project Description: DI (1551-0X) - Reliability

Funding Project Number: 1-1551-10-18

Is this a Specific Project, Program or Blanket? Program

Target Schedule - Start: 1/1/2025

In-Service: 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:

Projects are developed and prioritized according to a 5 year historical average $/COA (customer outage avoided), but ancillary benefits to customer satisfaction and resiliency also are considered. Examples of improvement projects include relocating circuitry from off-road to on-road, closing gaps (i.e., new circuit ties), installing electronic reclosers, and replacing failure prone equipment.

Describe specific scope exclusions, assumptions and constraints:

N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?

N/A

Why was the proposed project scope chosen over other alternatives?

N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Service

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
One of the primary focuses of the Category 15 Capital Budget plan is to improve the reliability of electric service for Central Hudson's customers.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this program as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
Increased risks to the annual SAIFI and CAIDI results

Is this Project in Central Hudson's current approved rate case? Yes
ncluded in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Distribution Improvement projects that address reliability will reduce outages and resultingly cost of repairs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Projects within this program aim to improve customer reliability.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Projects within this program improve reliability by reducing risk to infrastructure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Projects within this program will reduce the likelihood of outages and the exposure of employees/the public to downed wires.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY

Budget Submittal Form

D. COST ESTIMATE

Capital Estimate Summary $7,104,164		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	4,264,139		1,021,913	861,613	861,613	961,800	557,200	
	Labor (Monthly Payroll)	0							
	Stock Materials	1,827,486		437,962	369,262	369,262	412,200	238,800	
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	356,375		31,125	53,125	77,125	114,000	81,000	
	AFUDC*	47,000		10,000	9,000	10,000	11,000	7,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**6,495,000**	**0**	**1,501,000**	**1,293,000**	**1,318,000**	**1,499,000**	**884,000**	**0**
RETIREMENTS	Labor (Weekly Payroll)	609,164		145,988	123,088	123,088	137,400	79,600	
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**609,164**	**0**	**145,988**	**123,088**	**123,088**	**137,400**	**79,600**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Increased material costs could result in overages within the program.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch
Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025
Budget Category: _15
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Distribution Improvement Blankets (15BL-01)
Work Order #: -
Funding Project Description: DI Blankets (15BL-01)
Funding Project Number: 1-151L-01-08
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
Develop work orders to address emerging operational work.

Describe specific scope exclusions, assumptions and constraints:
N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Non-Discretionary
Investment Type: Daily Operations
Is there an Innovation Component? No

Needs Assessment: Risk Reduction
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Newly emerging, operational work on the distribution system must be addressed on a routine basis, such as emergency work and compliance related issues.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
Distribution improvement projects typically reduce operating and maintenance costs

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this blanket as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
Increased impacts on SAIFI and CAIDI

Is this Project in Central Hudson's current approved rate case? Yes
Included in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Projects within this program will reduce outages and resultingly cost of repairs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Projects within this program will increase reliability metrics.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Projects within this program will reduce the probability of infrastructure damage.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Projects within this program will reduce the likelihood of outages and the exposure of employees/the public to downed wires.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $228,978,500		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan		*All future year cost estimates should include applicable adjustments for inflation.*					
ADDITIONS	Labor (Weekly Payroll)	125,034,000		21,640,500	21,640,500	21,640,500	21,640,500	21,640,500	16,831,500
	Labor (Monthly Payroll)	0							
	Stock Materials	53,586,000		9,274,500	9,274,500	9,274,500	9,274,500	9,274,500	7,213,500
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	9,646,000		661,000	1,324,000	1,937,000	2,561,000	3,163,000	
	AFUDC*	1,210,000		218,000	221,000	250,000	252,000	269,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**189,476,000**	**0**	**31,794,000**	**32,460,000**	**33,102,000**	**33,728,000**	**34,347,000**	**24,045,000**
RETIREMENTS	Labor (Weekly Payroll)	39,502,500		3,091,500	3,091,500	3,091,500	3,091,500	3,091,500	24,045,000
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**39,502,500**	**0**	**3,091,500**	**3,091,500**	**3,091,500**	**3,091,500**	**3,091,500**	**24,045,000**
	Expense $ (if applicable):	**0**							
	Current Approved Rate Case Funding ($):	**n/a***	**n/a***	**n/a***	**n/a***				

** AFUDC may require adjustment after Finance Department review.*

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Increasing material costs for non-discretionary work could result in overages for this program

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch
Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025
Budget Category: _15
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: CATV Make-ready
Work Order #: -
Funding Project Description: CATV Make-ready
Funding Project Number: 1-1551-01-18
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
Develop work orders to address any emerging CATV work.

Describe specific scope exclusions, assumptions and constraints:
N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Compliance
Is there an Innovation Component? No

Needs Assessment: Risk Reduction

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? Yes

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

As the communication companies continue to expand their infrastructure, the proper NESC clearances between communication and electric facilities must be maintained and the poles must have sufficient capability to carry the additional facilities. If the infrastructure is aged, the utility is responsible for the cost of the upgrades. With the governor's broadband initiative, the volume of these projects is increasing significantly.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve productivity and efficiency
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC Complaint Rate
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this program as part of the Rate Case settlement for 2022-2024.

What are the risks and consequences of not completing this project?
Elevated risks to SAIFI and CAIDI performance.

Is this Project in Central Hudson's current approved rate case? Yes
Included in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? Yes
As communications companies expand their infrastructure, proper NESC clearances between comms and electric facilities must be maintained.
Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? No

Does this Project enhance Central Hudson's customer experience or service delivery? No

Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? No

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? No

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $16,146,800		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	9,938,600		3,045,700	3,045,700	480,900	480,900	480,900	2,404,500
	Labor (Monthly Payroll)	0							
	Stock Materials	4,259,400		1,305,300	1,305,300	206,100	206,100	206,100	1,030,500
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	449,000		93,000	186,000	43,000	57,000	70,000	
	AFUDC*	80,000		31,000	31,000	6,000	6,000	6,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**14,727,000**	**0**	**4,475,000**	**4,568,000**	**736,000**	**750,000**	**763,000**	**3,435,000**
RETIREMENTS	Labor (Weekly Payroll)	1,419,800		435,100	435,100	68,700	68,700	68,700	343,500
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**1,419,800**	**0**	**435,100**	**435,100**	**68,700**	**68,700**	**68,700**	**343,500**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Increased material costs could result in overages within the program.

Basis for estimate: Historical Proforma Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch

Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025

Budget Category: _15

Budget Group: Electric

Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Distribution Improvement Conversions (1521-0X)

Work Order #: -

Funding Project Description: DI Conversions (1521-0X)

Funding Project Number: 1-1521-00-18

Is this a Specific Project, Program or Blanket? Program

Target Schedule - Start: 1/1/2025

In-Service: 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:

Conversion from 4kV to 13.2kV operation often is recommended where customers are experiencing low or errant voltage or a step-down transformer is overloaded. Polyphasing, reconductoring, or installation of mitigating equipment also are examples of projects that could fall under this line item on an emerging basis.

Describe specific scope exclusions, assumptions and constraints:

N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?

N/A

Why was the proposed project scope chosen over other alternatives?

N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Growth
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Safety; Service
If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? No
Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Customers fed from a lower than standard distribution voltage class (13.2kV) can often have low or errant voltages. Hosting capacity for distributed energy resources is also limited. Despite significant planning efforts, some of these problems emerge based upon changes in customer behaviors.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Seamless Customer Experience
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:
Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this blanket as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
Increased impacts on SAIFI, CAIDI and power quality.

Is this Project in Central Hudson's current approved rate case? Yes
Included in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Infrastructure improvements will reduce the likelihood of outages and resultingly repair cost.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Infrastructure improvements will improve service reliability.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Distribution improvements will reduce the likelihood of infrastructure damage.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Projects within this program will reduce the likelihood of outages and the exposure of employees/the public to downed wires.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY

Budget Submittal Form

D. COST ESTIMATE

Capital Estimate Summary $4,212,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	2,597,000		259,700	259,700	259,700	259,700	259,700	1,298,500
	Labor (Monthly Payroll)	0							
	Stock Materials	1,113,000		111,300	111,300	111,300	111,300	111,300	556,500
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	116,000		8,000	16,000	23,000	31,000	38,000	
	AFUDC*	15,000		3,000	3,000	3,000	3,000	3,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**3,841,000**	**0**	**382,000**	**390,000**	**397,000**	**405,000**	**412,000**	**1,855,000**
RETIREMENTS	Labor (Weekly Payroll)	371,000		37,100	37,100	37,100	37,100	37,100	185,500
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**371,000**	**0**	**37,100**	**37,100**	**37,100**	**37,100**	**37,100**	**185,500**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Increasing material costs could result in overages for this program

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch

Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025

Budget Category: _15

Budget Group: Electric

Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Distribution Pole Replacement Program

Work Order #: -

Funding Project Description: Distribution Pole Repl Prg - 18

Funding Project Number: 1-1551-08-18

Is this a Specific Project, Program or Blanket? Program

Target Schedule - Start: 1/1/2025

In-Service: 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:

The facility inspections program helps determine if poles are in need of replacement due to conditions such as broken poles, severe pole lean, pole rot, wash out, evidence of flashover and woodpecker holes.

As a result of the Inspections program, defective poles are identified and replaced based on the severity rating of the deficiency. Projects are

Describe specific scope exclusions, assumptions and constraints:

N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?

N/A

Why was the proposed project scope chosen over other alternatives?

N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Non-Discretionary
Investment Type: Compliance
Is there an Innovation Component? No

Needs Assessment: Risk Reduction

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? Yes

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Central Hudson currently owns over 211,000 distribution poles. All but a few are made of wood materials. Much of this pole plant is antiquated and undersized. The average age of the pole plant is over 40 years old with nearly 100,000 poles installed in the 1960's and earlier (50+ years old). Many of these poles have been exposed to rot, woodpeckers and other weather related decay. As the poles weaken, their likelihood of failure increases.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

Improvements to CAIDI and SAIFI results

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this blanket as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
Elevated risks to SAIFI and CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes
Included in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Distribution pole replacements improve infrastructure, reducing outage risk and resultingly repair costs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Replacing aged poles increases service reliability.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Replacing aged poles removes failure prone infrastructure, reducing outage risk.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Pole replacements reduce the likelihood of infrastructure damage as well as the exposure of employees/the public to downed wires.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $12,997,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	8,015,000		801,500	801,500	801,500	801,500	801,500	4,007,500
	Labor (Monthly Payroll)	0							
	Stock Materials	3,435,000		343,500	343,500	343,500	343,500	343,500	1,717,500
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	358,000		25,000	49,000	72,000	95,000	117,000	
	AFUDC*	44,000		8,000	8,000	9,000	9,000	10,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**11,852,000**	**0**	**1,178,000**	**1,202,000**	**1,226,000**	**1,249,000**	**1,272,000**	**5,725,000**
RETIREMENTS	Labor (Weekly Payroll)	1,145,000		114,500	114,500	114,500	114,500	114,500	572,500
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**1,145,000**	**0**	**114,500**	**114,500**	**114,500**	**114,500**	**114,500**	**572,500**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Increased material costs could result in overages within the program

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch

Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025

Budget Category: _15

Budget Group: Electric

Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Overhead Secondary Replacement Program

Work Order #: -

Funding Project Description: Overhead Secondary Repl Program

Funding Project Number: 1-1551-04-19

Is this a Specific Project, Program or Blanket? Program

Target Schedule - Start: 1/1/2025

In-Service: 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:

The overhead secondary replacement program was developed to begin to phase out all of the antiquated, open wire secondary. The wire is typically replaced with new, triplex cable. The conductors are stronger, more resistant to contact faults and can handle additional loading.

Describe specific scope exclusions, assumptions and constraints:

N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?

N/A

Why was the proposed project scope chosen over other alternatives?

N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: System Enhancements
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Service

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Many secondary wires serving older homes in the Central Hudson service territory are open, bare conductor. This design is antiquated and prone to failure. Also, the bare conductors provide no insulation from foreign contact and contribute to decreased reliability. There is a tendency for one leg or the neutral to fail, resulting in partial power or voltage swings that damage customer equipment.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

Improvements to CAIDI & SAIFI results

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this blanket as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
Elevated risks to SAIFI and CAIDI.

Is this Project in Central Hudson's current approved rate case? Yes
ncluded in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
This program improves infrastructure to modern construction standards will reduce outages and resultingly cost of repairs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Upgrading open wire secondary to modern construction standards will improve customer reliability.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Projects within this program will reduce the probability of infrastructure damage.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
This project will reduce the likelihood of outages and the exposure of employees/the public to downed wires.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $2,860,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	1,764,000		176,400	176,400	176,400	176,400	176,400	882,000
	Labor (Monthly Payroll)	0							
	Stock Materials	756,000		75,600	75,600	75,600	75,600	75,600	378,000
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	78,000		5,000	10,000	16,000	21,000	26,000	
	AFUDC*	10,000		2,000	2,000	2,000	2,000	2,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**2,608,000**	**0**	**259,000**	**264,000**	**270,000**	**275,000**	**280,000**	**1,260,000**
RETIREMENTS	Labor (Weekly Payroll)	252,000		25,200	25,200	25,200	25,200	25,200	126,000
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**252,000**	**0**	**25,200**	**25,200**	**25,200**	**25,200**	**25,200**	**126,000**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Increased material costs could results in overages within the program

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch
Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025
Budget Category: _15
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Network Cable and Equipment
Work Order #: -
Funding Project Description: Network Cable and Equipment
Funding Project Number: 1-1551-15-18
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
Replace the three remaining Newburgh 14.4kV PILC cables with two overhead feeds. The first feed will be brand 556 spacer cable and run south on Balmville Rd and is being planned for construction in 2024. The second feed will be the WN upgraded with 556 spacer cable; Phase 1 of this project is planned for 2025 with Phase 2 projected for 2026. Complete the WN infrastructure and cable replacement to bypass the tile ducts under the Newburgh Library in the near future.

Describe specific scope exclusions, assumptions and constraints:
All secondary network upgrades are excluded from this program (see Secondary Network Upgrade Program Budget Form for more details).

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Risk Reduction

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
The 14.4kV Rejuvenation program was initiated in 2009, with the replacement of the Poughkeepsie PO, PK and PU PILC network feeder main lines, as well as the majority of the WN cable feed to the Montgomery Street substation.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this program as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
Increased risks to the annual SAIFI and CAIDI results

Is this Project in Central Hudson's current approved rate case? Yes
ncluded in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Projects that address aged Network cables and equipment will reduce outages and resultingly cost of repairs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Projects within this program will improve service reliability.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Projects within this program will reduce the risk of failure prone aging infrastructure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? No

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $9,200,100		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan		*All future year cost estimates should include applicable adjustments for inflation.*					
ADDITIONS	Labor (Weekly Payroll)	5,670,700		1,642,900	1,582,700	280,700	280,700	280,700	1,603,000
	Labor (Monthly Payroll)	0							
	Stock Materials	2,430,300		704,100	678,300	120,300	120,300	120,300	687,000
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	247,000		51,000	97,000	25,000	33,000	41,000	
	AFUDC*	42,000		16,000	17,000	3,000	3,000	3,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**8,390,000**	**0**	**2,414,000**	**2,375,000**	**429,000**	**437,000**	**445,000**	**2,290,000**
RETIREMENTS	Labor (Weekly Payroll)	810,100		234,700	226,100	40,100	40,100	40,100	229,000
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**810,100**	**0**	**234,700**	**226,100**	**40,100**	**40,100**	**40,100**	**22[illegible],000**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Increased material costs could result in overages within the program

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch
Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025
Budget Category: _15
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: **Relocation Blankets (15BL-02)**
Work Order #: -
Funding Project Description: Relocation Blankets (15BL-02)
Funding Project Number: 1-152L-02-08
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
Create work orders to relocate facilities to a new location. The new location should be designed for optimal present and future operation.

Describe specific scope exclusions, assumptions and constraints:
N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Non-Discretionary
Investment Type: Daily Operations
Is there an Innovation Component? No

Needs Assessment: Compliance

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? Yes

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Central Hudson commonly experiences unforeseen issues with the location of existing infrastructure. Some examples are interference with new construction and new business and minor road and bridge rebuilds. These issues require Central Hudson to relocate its facilities.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve customer experience
Which *Strategic Initiative* does project most align with? Seamless Customer Experience
Which *Team Goal* does project most align with? PSC Complaint Rate
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this blanket as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
Customer needs will not be met and compliance will not be adhered to

Is this Project in Central Hudson's current approved rate case? Yes
Included in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Relocating circuitry will reduce the likehood of infrastructure damage and resultingly the cost of repairs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Relocating circuitry reduces outage risk.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Relocating circuitry reduces the risk of infrastructure damage.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Relocating circuitry makes the pole plant more accessible.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $2,727,200		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	1,681,400		168,000	168,000	168,000	168,000	168,000	841,400
	Labor (Monthly Payroll)	0							
	Stock Materials	720,600		72,000	72,000	72,000	72,000	72,000	360,600
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	75,000		5,000	10,000	15,000	20,000	25,000	
	AFUDC*	10,000		2,000	2,000	2,000	2,000	2,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**2,487,000**	**0**	**247,000**	**252,000**	**257,000**	**262,000**	**267,000**	**1,202,000**
RETIREMENTS	Labor (Weekly Payroll)	240,200		24,000	24,000	24,000	24,000	24,000	120,200
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**240,200**	**0**	**24,000**	**24,000**	**24,000**	**24,000**	**24,000**	**120,200**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Increased material costs and the number of requests for infrastucture relocations drive the expenditures within this blanket.

Basis for estimate: Historical Unit Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch
Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025
Budget Category: _15
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Resiliency Program
Work Order #: -
Funding Project Description: CAT 15 Resiliency Program
Funding Project Number: 10404
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
Examples of projects which would fit into this program may include any of the following:

• Use of technology: Microgrids, R&D, resiliency studies, weather early warning systems

Describe specific scope exclusions, assumptions and constraints:
N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Service

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Resilient capital expenditures are investments made to reduce the probability, magnitude and/or duration of disruptive outage events. The effectiveness of resilient infrastructure depends on its ability to anticipate, absorb, adapt to, and/or rapidly recover from a potentially disruptive event.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this program as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
Increased risks to the annual SAIFI and CAIDI results

Is this Project in Central Hudson's current approved rate case? Yes
ncluded in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Resiliency projects will reduce outages and resultingly cost of repairs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
This program aims to improve the resilience of infrastructure and reduce customer outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Resiliency projects will improve system infrastructure and reduce outage risk.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Projects within this program will reduce the likelihood of outages and the exposure of employees/the public to downed wires.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $10,318,225		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan			*All future year cost estimates should include applicable adjustments for inflation.*				
ADDITIONS	Labor (Weekly Payroll)	6,483,575			1,803,375				4,680,200
	Labor (Monthly Payroll)	0							
	Stock Materials	2,778,675			772,875				2,005,800
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	110,750			110,750				
	AFUDC*	19,000			19,000				
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**9,392,000**	**0**	**0**	**2,706,000**	**0**	**0**	**0**	**6,686,000**
RETIREMENTS	Labor (Weekly Payroll)	926,225			257,625				668,600
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**926,225**	**0**	**0**	**257,625**	**0**	**0**	**0**	**668,600**
	Expense $ (if applicable):	**0**							
	Current Approved Rate Case Funding ($):	**n/a***	**n/a***	**n/a***	**n/a***				

** AFUDC may require adjustment after Finance Department review.*

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Increased material costs could result in overages within the program

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch

Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025

Budget Category: _15

Budget Group: Electric

Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Road/Bridge Rebuild Relocation Projects (1531-0X)

Work Order #: -

Funding Project Description: Rd/Bridge Rebd/Relo Prj 1531-0X

Funding Project Number: 1-1531-00-18

Is this a Specific Project, Program or Blanket? Program

Target Schedule - Start: 1/1/2025

In-Service: 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:

Central Hudson coordinates with the local municipalities and the Department of Transportation for highway rebuild and road paving projects. The highway rebuilds and road paving projects usually consist of relocation and replacement of existing infrastructure. The infrastructure is optimally designed for both present and projected use through engineering studies.

Describe specific scope exclusions, assumptions and constraints:

N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?

N/A

Why was the proposed project scope chosen over other alternatives?

N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Non-Discretionary
Investment Type: Compliance
Is there an Innovation Component? No

Needs Assessment: Compliance

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? Yes

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Central Hudson commonly experiences unforeseen issues with the location of existing infrastructure. These issues require Central Hudson to relocate its facilities.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve customer experience
Which *Strategic Initiative* does project most align with? Seamless Customer Experience
Which *Team Goal* does project most align with? PSC Complaint Rate
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this blanket as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
Customer needs will not be met and compliance will not be adhered to

Is this Project in Central Hudson's current approved rate case? Yes
Included in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? No

Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Relocating our infrastructure to allow for municipalities to perform road/bridge construction and maintainance, roadways and bridges can be kept to star
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? No

Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Relocating infrastructure allows for safe maintenance, construction, and re-construction of roadways and bridges.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $12,997,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	8,015,000		801,500	801,500	801,500	801,500	801,500	4,007,500
	Labor (Monthly Payroll)	0							
	Stock Materials	3,435,000		343,500	343,500	343,500	343,500	343,500	1,717,500
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	358,000		25,000	49,000	72,000	95,000	117,000	
	AFUDC*	44,000		8,000	8,000	9,000	9,000	10,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**11,852,000**	**0**	**1,178,000**	**1,202,000**	**1,226,000**	**1,249,000**	**1,272,000**	**5,725,000**
RETIREMENTS	Labor (Weekly Payroll)	1,145,000		114,500	114,500	114,500	114,500	114,500	572,500
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**1,145,000**	**0**	**114,500**	**114,500**	**114,500**	**114,500**	**114,500**	**572,500**
	Expense $ (if applicable):	**0**							
	Current Approved Rate Case Funding ($):	**n/a***	**n/a***	**n/a***	**n/a***				

** AFUDC may require adjustment after Finance Department review.*

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Material costs and the number of requests for infrastucture relocations drive the expenditures within this program.

Basis for estimate: Historical Unit Pricing
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch

Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025

Budget Category: _15

Budget Group: Electric

Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Storm Hardening

Work Order #: -

Funding Project Description: CAT 15 Storm Hardening Program

Funding Project Number: 10403

Is this a Specific Project, Program or Blanket? Program

Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:

Circuit Hardening - Harden mainline zones of protection that impact 500 customers or more and are identified on the 25 Worst Performing circuits list when storm-related interruptions are considered by performing additional vegetation management, replacing failure-prone equipment, ensuring proper fusing/animal/lightning protection and verifying that all equipment is built to the current Electric Construction Standards.

Describe specific scope exclusions, assumptions and constraints:

N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?

N/A

Why was the proposed project scope chosen over other alternatives?

N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Infrastructure

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

In response to the New York State Public Service Commission's Order Instituting Proceeding and to Show Cause issued April 18, 2019 in Case 19-E-0109 ("Storm Order"), Central Hudson filed an Implementation Plan addressing recommendations within the Order to institute storm hardening measures and improve reliability to critical facilities that counties consider essential. The areas commonly impacted by storms may not always be

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this program as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
Increased risks to the annual SAIFI and CAIDI results

Is this Project in Central Hudson's current approved rate case? Yes
ncluded in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Projects within this program will improve infrastructure hardiness, reducing outages and resultingly cost of repairs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Projects within this program improve infrastructure hardiness, improving reliability.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Projects within this program will reduce the probability of infrastructure damage.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? Yes
Projects within this program will reduce the likelihood of outages and the exposure of employees/the public to downed wires.

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY

Budget Submittal Form

D. COST ESTIMATE

Capital Estimate Summary $27,616,700		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	16,510,900		3,025,400	3,206,000	3,526,600	3,619,000	3,133,900	
	Labor (Monthly Payroll)	0							
	Stock Materials	7,076,100		1,296,600	1,374,000	1,511,400	1,551,000	1,343,100	
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	1,490,000		93,000	196,000	315,000	428,000	458,000	
	AFUDC*	181,000		30,000	29,000	41,000	42,000	39,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**25,258,000**	**0**	**4,445,000**	**4,805,000**	**5,394,000**	**5,640,000**	**4,974,000**	**0**
RETIREMENTS	Labor (Weekly Payroll)	2,358,700		432,200	458,000	503,800	517,000	447,700	
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**2,358,700**	**0**	**432,200**	**458,000**	**503,800**	**517,000**	**447,700**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Increased material costs could result in overages within the program

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch

Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025

Budget Category: _15

Budget Group: Electric

Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: Secondary Network Upgrade Program

Work Order #: -

Funding Project Description: Secondary Network Upgrade

Funding Project Number: 10462

Is this a Specific Project, Program or Blanket? Program

Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:

Annual inspection-related repairs of the secondary network underground cables and associated infrastructure, including duct bank, pull boxes and manholes identify projects requiring immediate upgrades. In addition, project portfolios have been developed for each network system.

Describe specific scope exclusions, assumptions and constraints:

Funding for this program has already been accounted for as part of the 2022-2024 Category 15 Budget. Once approved, funds will be re-allocated from Funding Project # 1-1551-15-18 (Network Cable and Equipment).

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?

N/A

Why was the proposed project scope chosen over other alternatives?

N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Non-Discretionary
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Risk Reduction

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

The secondary network infrastructure in Poughkeepsie, Kingston, and Newburgh is nearly 100 years old. Many of the ducts in the secondary network system have either collapsed or have been abandoned. Pull box and manholes are in poor condition and are in need of new roofs and in some cases, need to be completely rebuilt.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

Completing repairs reduces risks to public safety.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Operational Excellence
Which *Strategic Objective* does project most align with? Improve productivity and efficiency
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC CAIDI Outage Duration
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Local municipality (1)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this program as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
Increased risks to public safety

Is this Project in Central Hudson's current approved rate case? Yes
ncluded in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Replacing aged secondary network infrastructure will lead to fewer outages in the future and resultingly the cost of repairs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Improving secondary network infrastructure will reduce the number of customer outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Projects within this program will remove aged, failure prone infrastructure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? No

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY

Budget Submittal Form

D. COST ESTIMATE

Capital Estimate Summary $7,461,100		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	4,508,700		1,045,800	1,418,900	1,402,800	320,600	320,600	
	Labor (Monthly Payroll)	0							
	Stock Materials	1,932,300		448,200	608,100	601,200	137,400	137,400	
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	328,000		32,000	86,000	125,000	38,000	47,000	
	AFUDC*	48,000		11,000	13,000	16,000	4,000	4,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	6,817,000	0	1,537,000	2,126,000	2,145,000	500,000	509,000	0
RETIREMENTS	Labor (Weekly Payroll)	644,100		149,400	202,700	200,400	45,800	45,800	
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	644,100	0	149,400	202,700	200,400	45,800	45,800	0

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0								
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*					

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 5,222,770 **Maximum ($):** 9,699,430

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Data + Job Specific Adjustments

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: March 28, 2024

Business Sponsor: J. Kisch
Prepared By: J. Kisch

First Year of 5-Year Budget Period: 2025
Budget Category: _15
Budget Group: Electric
Current Life-Cycle Phase: 1 Planning

A. GENERAL

Project/Program Name: URD Replacement
Work Order #: -
Funding Project Description: URD replacement
Funding Project Number: 1-1551-16-18
Is this a Specific Project, Program or Blanket? Program
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
Central Hudson conducted a successful R&D project in 2017 with IMCORP that proved the technology to detect partial discharge in cables and pinpoint the location of defects that will eventually result in a fault and customer outage. This allows for cable health assessment that would help target specific problems and coordinate repairs, rather than replace or rejuvenate older cable wholesale. Central Hudson will develop a program to target high risk URDs that meet testing eligibility criteria. Where testing is not a fit, more traditional replacement is required. Testing and targeted

Describe specific scope exclusions, assumptions and constraints:
N/A

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Maintain System Standards
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Risk Reduction

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.

Central Hudson's underground residential development (URD) cables are aging and are experiencing failures. Although the impact to reliability so far has been relatively small, the utility industry as a whole recognizes the potential larger impact these aging cables will have on reliability in the future. Pro-active measures are needed to curb these failures and improve system reliability.

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)

N/A

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*

Miscellaneous (wetlands; highway; SWPPP)

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: Yes
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Funding was approved for this program as part of the Rate Case settlement for 2022-2024

What are the risks and consequences of not completing this project?
Elevated risks to SAIFI and CAIDI performance.

Is this Project in Central Hudson's current approved rate case? Yes
ncluded in current PSC-approved budget plan under a PROGRAM.
Is this Project tied to a regulatory requirement? No

Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson? Yes
Rebuilding aged and failure prone underground infrastructure will lead to fewer outages in the future and resultingly the cost of repairs.
Does this Project enhance Central Hudson's customer experience or service delivery? Yes
Improving underground infrastructure will reduce the number of customer outages.
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)? Yes
Projects within this program will remove aged, failure prone underground infrastructure.
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public? No

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $70,211,400		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan		*All future year cost estimates should include applicable adjustments for inflation.*					
ADDITIONS	Labor (Weekly Payroll)	43,164,800		5,124,000	3,005,800	4,317,600	5,109,300	5,410,300	20,197,800
	Labor (Monthly Payroll)	0							
	Stock Materials	18,499,200		2,196,000	1,288,200	1,850,400	2,189,700	2,318,700	8,656,200
	A/P Non-Stock Material	0							
	A/P Contractors & Other	0							
	Inflation	2,123,000		157,000	184,000	386,000	605,000	791,000	
	AFUDC*	258,000		51,000	30,000	50,000	60,000	67,000	
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**64,045,000**	**0**	**7,528,000**	**4,508,000**	**6,604,000**	**7,964,000**	**8,587,000**	**28,854,000**
RETIREMENTS	Labor (Weekly Payroll)	6,166,400		732,000	429,400	616,800	729,900	772,900	2,885,400
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**6,166,400**	**0**	**732,000**	**429,400**	**616,800**	**729,900**	**772,900**	**2,885,400**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** Medium Confidence

Cost estimate confidence is not ideal, so please indicate minimum and maximum estimates:

Cost Estimate Range: **Minimum ($):** _____ **Maximum ($):** _____

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

Cost estimate confidence is not ideal, so please describe the risks that could significantly impact cost:
Increased material costs could result in overages within the program

Basis for estimate: Historical Data + Job Specific Adjustments
(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? No

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

Budget Submittal Form

Submission Date: June 1, 2024

Business Sponsor: David Schultz
Prepared By: Domenick D'Addona

First Year of 5-Year Budget Period: 2025
Budget Category: _16
Budget Group: Electric
Current Life-Cycle Phase: 4 Construction

A. GENERAL

Project/Program Name: Transformer Budget (Category 16)
Work Order #: -
Funding Project Description: Funding Project Not Yet Assigned
Funding Project Number: to be determined
Is this a Specific Project, Program or Blanket? Blanket
Target Schedule - Start: 1/1/2025 **In-Service:** 12/31/2029

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:

Describe the project objective and scope of work:
To purchase Transformers, Capacitors, Regulators, and Network Protectors to ensure an adequate stock of operational inventories to facilitate planned field work, smart grid components and emergency restoration operations.

Describe specific scope exclusions, assumptions and constraints:
None

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Non-Discretionary
Investment Type: Infrastructure
Is there an Innovation Component? No

Needs Assessment: Compliance; Infrastructure; New Business; Quality; Regulatory; Reliability

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? N/A

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Transformers, Regulators, Capacitors and Network Protectors are requisite Electric Distribution Infrastructure Components

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
Transformers, Regulators, Capacitors and Network Protectors are requisite Electric Distribution Infrastructure Components.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Energy Leadership
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? PSC SAIFI Outage Frequency
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates N/A
** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: Yes
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Moderate *Recommend commencement within next 24-months.*

Was this project included in a prior 5-year forecast? Yes

If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?

N/A

What are the risks and consequences of not completing this project?

N/A

Is this Project in Central Hudson's current approved rate case?	Yes
Is this Project tied to a regulatory requirement?	Yes
Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson?	Yes
Does this Project enhance Central Hudson's customer experience or service delivery?	Yes
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)?	Yes
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public?	No

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $94,316,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	Stock Materials	0							
	A/P Non-Stock Material	0							
	A/P Contractors &Other	88,749,000		17,594,000	17,393,000	17,723,000	18,061,000	17,978,000	
	Inflation	5,567,000		376,000	745,000	1,111,000	1,495,000	1,840,000	
	AFUDC*	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**94,316,000**	**0**	**17,970,000**	**18,138,000**	**18,834,000**	**19,556,000**	**19,818,000**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Included in current PSC-approved budget plan under a PROGRAM

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 58,646,700 **Maximum ($):** 108,915,300

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Vendor Generated Cost Estimate

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):

						7,849	TOTAL:	$ 33,632,486.56
SKU	DESCRIPTION	Previous Avg U/P	Current Avg U/P	COUNT PO	QTY	% DIFF	Value of Open POs	
4703175	PDMT 1P P 7.6 T-240/120 25KVA	$ 2,611.60	$ 5,672.19	6	512	117%	$ 2,904,161.05	
4703015	OH 1P P 7.6 120/240 25KVA	$ 2,394.84	$ 2,051.90	5	1,376	-14%	$ 2,823,415.32	
4702015	OH 1P P 7.6 120/240 15KVA	$ 2,025.04	$ 2,354.31	4	1,160	16%	$ 2,731,003.82	
4750314	PDMT 3P P 7.6 T-208Y/120 500KVA	$ 26,873.33	$ 38,375.33	5	36	43%	$ 1,381,511.92	
4705175	PDMT 1P P 7.6 T-240/120 50KVA	$ 7,081.98	$ 8,553.49	6	152	21%	$ 1,300,130.93	
4703008	OH 1P P 2.4X7.6 120/240 25KVA	$ 1,905.12	$ 2,155.35	5	545	13%	$ 1,174,667.45	
4705015	OH 1P P 7.6 120/240 50KVA	$ 3,245.48	$ 2,788.46	5	396	-14%	$ 1,104,228.84	
4701015	OH 1P P 7.6 120/240 10KVA	$ 863.41	$ 1,782.35	3	538	106%	$ 958,906.14	
4704015	OH 1P P 7.6 120/240 37KVA	$ 3,351.35	$ 2,323.06	5	373	-31%	$ 866,500.57	
4707175	PDMT 1P P 7.6 T-240/120 75KVA	$ 2,731.36	$ 9,562.35	6	84	250%	$ 803,237.16	
4704175	PDMT 1P P 7.6 T-240/120 37KVA	$ 2,597.37	$ 6,234.45	6	123	140%	$ 766,837.63	
4775314	PDMT 3P P 7.6 T-208Y/120 750KVA	$ 46,174.50	$ 61,375.90	4	12	33%	$ 736,510.80	
4775352	PDMT 3P P 7.6 T-480Y/277 750KVA	$ 37,288.01	$ 53,777.20	4	13	44%	$ 699,103.63	
4707322	PDMT 3P P 7.6 208Y/120 75KVA	$ 7,882.65	$ 18,591.32	5	36	136%	$ 669,287.52	
4796352	PDMT 3P P 7.6 T-480Y/277 1000KVA	$ 64,838.00	$ 64,794.33	5	10	0%	$ 647,943.33	
4700081	TRANSFORMER, PT 7.6-.120KV, SW DEVS 1KVA	$ 1,376.17	$ 1,752.06	2	362	27%	$ 634,244.12	
4711322	PDMT 3P P 7.6 208Y/120 112KVA	$ 10,992.90	$ 25,916.80	4	24	136%	$ 622,003.15	
4730352	PDMT 3P P 7.6 T-480Y/277 300KVA	$ 34,882.00	$ 28,403.50	5	20	-19%	$ 568,070.00	
4722322	PDMT 3P P 7.6 208Y/120 225KVA	$ 11,550.28	$ 23,110.20	4	23	100%	$ 531,534.55	
4703174	PDMT 1P P 2.4X7.6 T-240/120 25KVA	$ 3,804.88	$ 6,538.59	5	80	72%	$ 523,087.33	
4710175	PDMT 1P P 7.6 T-240/120 100KVA	$ 13,188.00	$ 12,289.97	6	40	-7%	$ 491,598.69	
4750352	PDMT 3P P 7.6 T-480Y/277 500KVA	$ 19,411.31	$ 32,483.77	2	13	67%	$ 422,289.02	
4730314	PDMT 3P P 7.6 T-208Y/120 300KVA	$ 29,821.25	$ 28,023.76	4	15	-6%	$ 420,356.42	
4716175	PDMT 1P P 7.6 T-240/120 167KVA	$ 16,782.00	$ 18,810.67	5	22	12%	$ 413,834.67	
4701008	OH 1P P 2.4X7.6 120/240 10KVA	$ 1,328.20	$ 2,430.73	2	169	83%	$ 410,793.79	
4725036	OH 1P P 7.6 T-2.4/4.8 250KVA	$ 8,873.71	$ 16,030.87	5	25	81%	$ 400,771.85	
4705008	OH 1P P 2.4X7.6 120/240 50KVA	$ 2,336.34	$ 4,127.72	5	96	77%	$ 396,261.49	
4704174	PDMT 1P P 2.4X7.6 T-240/120 37KVA	$ 6,315.00	$ 8,348.60	4	43	32%	$ 358,989.80	
4715322	PDMT 3P P 7.6 208Y/120 150KVA	$ 10,381.71	$ 20,303.27	4	16	96%	$ 324,852.36	
4703012	OH 1P P 4.8X7.6 120/240 25KVA	$ 1,101.72	$ 2,703.97	5	119	145%	$ 321,772.48	
4702012	OH 1P P 4.8X7.6 120/240 15KVA	$ 2,337.97	$ 2,669.46	5	120	14%	$ 320,335.05	
4702008	OH 1P P 2.4X7.6 120/240 15KVA	$ 1,553.56	$ 1,742.85	2	177	12%	$ 308,484.79	
4722342	PDMT 3P P 2.4X7.6 480Y/277 225KVA	$ 15,442.00	$ 25,407.50	5	12	65%	$ 304,890.00	
4796314	PDMT 3P P 7.6 T-208Y/120 1000KVA	$ 35,424.00	$ 73,702.25	3	4	108%	$ 294,809.00	
4730302	PDMT 3P P 2.4X7.6 208Y/120 300KVA	$ 31,392.13	$ 37,054.03	3	7	18%	$ 259,378.22	
4701012	OH 1P P 4.8X7.6 120/240 10KVA	$ 989.43	$ 2,861.80	3	90	189%	$ 257,562.23	
4704008	OH 1P P 2.4X7.6 120/240 37KVA	$ 2,281.09	$ 3,474.52	5	73	52%	$ 253,639.65	
4715342	PDMT 3P P 2.4X7.6 480Y/277 150KVA	$ 27,084.00	$ 33,411.25	3	7	23%	$ 233,878.75	
4701175	PDMT 1P P 7.6 T-240/120 10KVA	$ 1,928.65	$ 6,288.75	4	31	226%	$ 194,951.25	
4707013	OH 1P C 7.6 120/240 75KVA	$ 4,627.98	$ 4,059.95	5	48	-12%	$ 194,877.68	
4711352	PDMT 3P P 7.6 T-480Y/277 112KVA	$ 17,993.00	$ 21,505.75	3	9	20%	$ 193,551.75	
4730342	PDMT 3P P 2.4X7.6 480Y/277 300KVA	$ 14,299.93	$ 31,693.31	2	6	122%	$ 190,159.86	
4704182	PDMT 1P P 7.6X19.9 MAGN 240/120 37.5KVA	$ 7,000.00	$ 16,764.25	3	11	139%	$ 184,406.75	
4705017	OH 1P C 7.6 T-2.4/4.8 50KVA	$ 1,308.24	$ 8,439.25	4	21	545%	$ 177,224.21	
4716036	OH 1P P 7.6 T-2.4/4.8 167KVA	$ 6,785.97	$ 8,185.98	3	21	21%	$ 171,905.51	
4722302	PDMT 3P P 2.4X7.6 208Y/120 225KVA	$ 17,600.75	$ 28,058.69	3	6	59%	$ 168,352.13	
4703013	OH 1P C 7.6 120/240 25KVA	$ 1,760.13	$ 1,727.03	4	96	-2%	$ 165,794.52	
4703028	OH 1P P 19.9 120/240 25KVA	$ 1,916.98	$ 2,581.20	4	64	35%	$ 165,196.54	
4710174	PDMT 1P P 2.4X7.6 T-240/120 100KVA	$ 2,967.81	$ 20,612.76	4	8	595%	$ 164,902.10	
4707352	PDMT 3P P 7.6 T-480Y/277 75KVA	$ 9,615.52	$ 19,773.88	3	8	106%	$ 158,191.04	
4703182	PDMT 1P P 7.6X19.9 MAGN 240/120 25KVA	$ 2,500.00	$ 11,750.50	3	12	370%	$ 141,006.00	
4730322	PDMT 3P P 7.6 208Y/120 300KVA	$ 35,529.00	$ 34,216.33	2	4	-4%	$ 136,865.33	
4704012	OH 1P P 4.8X7.6 120/240 37KVA	$ 1,235.74	$ 3,879.62	5	35	214%	$ 135,786.82	
4715302	PDMT 3P P 2.4X7.6 208Y/120 150KVA	$ 11,075.00	$ 22,240.50	3	6	101%	$ 133,443.00	
4705174	PDMT 1P P 2.4X7.6 T-240/120 50KVA	$ 3,270.04	$ 5,123.81	4	25	57%	$ 128,095.20	
4707174	PDMT 1P P 2.4X7.6 T-240/120 75KVA	$ 2,490.40	$ 15,584.28	4	8	526%	$ 124,674.24	
4701174	PDMT 1P P 2.4X7.6 T-240/120 10KVA	$ 1,482.80	$ 7,085.27	2	16	378%	$ 113,364.27	
4707020	OH 1P C 7.6 T-277 75KVA	$ 4,168.85	$ 3,736.95	2	30	-10%	$ 112,108.47	
4707007	OH 1P C 2.4X7.6 120/240 75KVA	$ 1,849.08	$ 3,605.69	2	30	95%	$ 108,170.80	
4707302	PDMT 3P P 2.4X7.6 208Y/120 75KVA	$ 10,909.58	$ 24,863.19	2	4	128%	$ 99,452.77	
4750302	PDMT 3P P 2.4X7.6 208Y/120 500KVA	$ 61,160.00	$ 49,441.67	2	2	-19%	$ 98,883.33	
4704013	OH 1P C 7.6 120/240 37KVA	$ 2,142.70	$ 2,513.14	5	39	17%	$ 98,012.49	
4703035	OH 1P C 7.6 T-4.8 25KVA	$ 6,652.00	$ 5,518.50	3	17	-17%	$ 93,814.50	
4710017	OH 1P C 7.6 T-2.4/4.8 100KVA	$ 3,203.04	$ 6,021.68	2	15	88%	$ 90,325.17	
4710020	OH 1P C 7.6 T-277 100KVA	$ 4,293.43	$ 7,393.71	1	10	72%	$ 73,937.13	
4716174	PDMT 1P P 2.4X7.6 T-240/120 167KVA	$ 21,726.25	$ 24,395.08	2	3	12%	$ 73,185.25	
4750315	PDMT 3P P 13.8 T-208Y/120 500KVA	$ 21,384.00	$ 35,403.00	2	2	66%	$ 70,806.00	
4702013	OH 1P C 7.6 120/240 15KVA	$ 550.81	$ 1,608.48	4	32	192%	$ 51,471.35	
4705013	OH 1P C 7.6 120/240 50KVA	$ 2,055.48	$ 2,652.73	4	19	29%	$ 50,401.84	
4707182	PDMT 1P P 7.6X19.9 MAGN 240/120 75KVA	$ 7,000.00	$ 16,512.00	2	3	136%	$ 49,536.00	
4716020	OH 1P C 7.6 T-277 167KVA	$ 3,975.30	$ 6,050.65	1	8	52%	$ 48,405.20	
4705020	OH 1P C 7.6 T-277 50KVA	$ 3,121.28	$ 3,713.64	1	13	19%	$ 48,277.35	
4703180	PDMT 1P P 7.6X19.9 240/120 25KVA	$ 4,012.63	$ 4,012.63	0	12	0%	$ 48,151.56	
4700082	TRANSFORMER, PT 7.6-.120KV, *SPARE* 1KVA	$ 547.70	$ 842.85	1	55	54%	$ 46,356.71	
4703177	PDMT 1P P 7.6 FUSE 240/120 25KVA	$ 4,241.00	$ 4,440.50	1	10	5%	$ 44,405.00	
4703020	OH IP C 7.6 T-277 25KVA	$ 1,307.19	$ 2,138.60	1	20	64%	$ 42,771.92	
4705182	PDMT 1P P 7.6X19.9 MAGN 240/120 50KVA	$ 7,000.00	$ 13,390.67	2	3	91%	$ 40,172.00	
4707315	PDMT 3P P 13.8 T-208Y/120 75KVA	$ 10,393.00	$ 19,802.67	2	2	91%	$ 39,605.33	
4704180	PDMT 1P P 7.6X19.9 240/120 37KVA	$ 3,390.00	$ 3,390.00	0	11	0%	$ 37,290.00	
4702028	OH 1P P 19.9 120/240 15KVA	$ 764.24	$ 2,263.85	4	16	196%	$ 36,221.57	
4704030	OH 1P P 7.6X19.9 120/240 37KVA	$ 1,551.18	$ 5,803.73	2	6	274%	$ 34,822.36	
4701028	OH 1P P 19.9 120/240 10KVA	$ 786.93	$ 1,890.99	4	18	140%	$ 34,037.75	
4703007	OH 1P C 2.4X7.6 120/240 25KVA	$ 751.34	$ 1,701.78	2	20	127%	$ 34,035.58	
4716014	OH 1P C 7.6 T-120/240 167KVA	$ 1,824.02	$ 8,873.01	1	3	386%	$ 26,619.03	
4710013	OH 1P C 7.6 120/240 100KVA	$ 3,737.28	$ 3,325.09	2	8	-11%	$ 26,600.74	
4704014	OH 1P C 7.6 T-120/240 37KVA	$ 972.00	$ 1,503.00	1	17	55%	$ 25,551.00	
4705177	PDMT 1P P 7.6 FUSE 240/120 50KVA	$ 6,100.00	$ 5,524.00	1	4	-9%	$ 22,096.00	
4750316	PDMT 3P P 19.9 T-208Y/120 500KVA	$ 15,000.00	$ 21,724.00	1	1	45%	$ 21,724.00	
4705014	OH 1P C 7.6 T-120/240 50KVA	$ 843.20	$ 3,057.40	2	7	263%	$ 21,401.80	
4716013	OH 1P C 7.6 120/240 167KVA	$ 3,459.08	$ 10,067.54	1	2	191%	$ 20,135.08	
4705028	OH 1P P 19.9 120/240 50KVA	$ 1,170.63	$ 2,776.88	2	7	137%	$ 19,438.13	
4733007	OH 1P C 2.4X7.6 120/240 333KVA	$ 2,426.00	$ 17,110.00	1	1	605%	$ 17,110.00	
4707177	PDMT 1P P 7.6 FUSE 240/120 75KVA	$ 7,950.00	$ 7,950.00	0	2	0%	$ 15,900.00	
4707011	OH 1P C 4.8X7.6 120/240 75KVA	$ 1,200.00	$ 5,184.50	1	3	332%	$ 15,553.50	
4725033	OH 1P C 19.9 T-2.4 250KVA	$ 4,520.92	$ 6,665.96	1	2	47%	$ 13,331.92	
4725017	OH 1P C 7.6 T-2.4/4.8 250KVA	$ 3,295.84	$ 6,516.42	1	2	98%	$ 13,032.84	
4707180	PDMT 1P P 7.6X19.9 240/120 75KVA	$ 4,194.80	$ 4,194.80	0	3	0%	$ 12,584.40	
4707030	OH 1P P 7.6X19.9 120/240 75KVA	$ 1,484.00	$ 4,759.50	1	2	221%	$ 9,519.00	
4705027	OH 1P C 19.9 120/240 50KVA	$ 986.50	$ 1,873.25	1	5	90%	$ 9,366.25	
4700083	TRANSFORMER, PT 19.9-.120KV 1KVA	$ 1,051.00	$ 1,952.50	1	4	86%	$ 7,810.00	
4704011	OH 1P C 4.8X7.6 120/240 37KVA	$ 738.13	$ 3,177.57	1	2	330%	$ 6,355.13	
4705012	OH 1P P 4.8X7.6 120/240 50KVA	$ 1,416.77	$ 3,014.39	1	2	113%	$ 6,028.77	
4705030	OH 1P P 7.6X19.9 120/240 50KVA	$ 1,809.97	$ 2,657.49	1	2	47%	$ 5,314.97	
4705033	OH 1P C 19.9 T-2.4 50KVA	$ 2,559.00	$ 5,154.50	1	1	101%	$ 5,154.50	
4716177	PDMT 1P P 7.6 FUSE 240/120 167KVA	$ 2,500.00	$ 2,500.00	0	2	0%	$ 5,000.00	
4710177	PDMT 1P P 7.6 FUSE 240/120 100KVA	$ 2,350.00	$ 2,350.00	0	2	0%	$ 4,700.00	
4703019	OH 1P C 14.4 T-120/240 25KVA	$ 565.00	$ 2,113.00	1	2	274%	$ 4,226.00	
4705180	PDMT 1P P 7.6X19.9 240/120 50KVA	$ 3,148.00	$ 3,148.00	0	1	0%	$ 3,148.00	
4703014	OH 1P C 7.6 T-120/240 25KVA	$ 1,193.45	$ 2,522.72	1	1	111%	$ 2,522.72	
4701013	OH 1P C 7.6 120/240 10KVA	$ 543.65	$ 1,008.82	1	2	86%	$ 2,017.65	
4702027	OH 1P C 19.9 120/240 15KVA	$ 450.00	$ 1,956.00	1	1	335%	$ 1,956.00	

Budget Submittal Form

Submission Date: June 5, 2024

Business Sponsor: Hal Turner
Prepared By: David McGowan

First Year of 5-Year Budget Period: 2025
Budget Category: _17
Budget Group: Electric
Current Life-Cycle Phase: 4 Implementation (IT/OT)

A. GENERAL

Project/Program Name: Electric Meters
Work Order #: 0 -
Funding Project Description: ELECTRIC METERS
Funding Project Number: 1-1731-00-08
Is this a Specific Project, Program or Blanket? Blanket
Target Schedule - Start: 1/1/2025 **In-Service:** 1/1/2025

Indicate and summarize any other work orders associated with the overall project, including those of other budget categories:
X041A,X042A, X043A

Describe the project objective and scope of work:
Meter Services is required to purchase and install metering equipment to support regulatory requirements, as well as new business initiatives.

Describe specific scope exclusions, assumptions and constraints:
Meters and related material are rquired to support regulatory and new business requirements.

B. ALTERNATIVES

What other options were considered to the proposed project to meet the objective?
N/A

Why was the proposed project scope chosen over other alternatives?
N/A

C. JUSTIFICATION

Load Based/Infrastructure: Infrastructure
Growth/Sustaining/Retirement: Distribution Sustaining
Discretion Level: Non-Discretionary
Investment Type: Compliance
Is there an Innovation Component? No

Needs Assessment: Economic

If need is Safety, Regulatory or Compliance have we considered options, validated the need and challenged the value? Yes

Describe the justification for this project. If helpful you may include planning studies or other pertinent documents as attachments.
Regulatory and new business

Describe any quantifiable benefits (such as monetary benefits/business case, operational cost savings, cost avoidance, etc.)
Maintaining accurate metering.

For the following strategic alignment questions, reference CHG&E's current Strategic Outlook document: CLICK HERE

Which *Strategic Theme* does project most align with? Business Modernization
Which *Strategic Objective* does project most align with? Improve system performance and resilience
Which *Strategic Initiative* does project most align with? Business & Operations Modernization/Transformation
Which *Team Goal* does project most align with? Group Expense
Technology Strategic Alignment *(CATS-4220, 4222, 4230, 4235, 44)*:

Select all that apply

Have you taken into account potential environmental impacts that would need to be considered for cost and schedule estimates Yes

** Environmental impacts must be taken into consideration to the extent that you are able considering current phase, maturity of scope and knowledge of field conditions.*

Do you anticipate the project to require significant jurisdictional approvals? *(select all that apply)*
No

ESG (Environmental, Social and Governance) and Sustainability:

Complete the ESG Checklist on the separate worksheet (tab). Results of your answers will be automatically shown below:

Checklist Fully Completed: Yes
Environmental Component: No
Social Component: No
Governance Component: No
Is complete Sustainability status achieved by this project?* **No**

** Sustainability status is achieved for the project if the ESG checklist shows that there is at least one component each for environmental, social and governance.*

Budget Submittal Form

What is the relative urgency of this project? Immediate *Already in-progress or recommend commencement within next 12-months.*
Was this project included in a prior 5-year forecast? Yes
If No, why should this project be completed instead of a planned project?

Why do we need to complete this project in the period requested?
Requirements are yearly

What are the risks and consequences of not completing this project?
Variations in the numbers of new installs, equipment failure, cost increases, and material lead times.

Is this Project in Central Hudson's current approved rate case?	Yes
Is this Project tied to a regulatory requirement?	Yes
Does this Project result in cost avoidance, cost savings, or additional revenue for Central Hudson?	Yes
Does this Project enhance Central Hudson's customer experience or service delivery?	Yes
Does this Project reduce risk, debt, or vulnerabilities (i.e. technology, cybersecurity, legal, infrastructure, etc.)?	Yes
Does this Project improve or enhance safety for Central Hudson employees, contractors or the public?	No

** Prioritization Ranking is intended to be high level and is not intended to differentiate between projects with the same prioritization question responses.*

D. COST ESTIMATE

Capital Estimate Summary $13,288,000		TOTAL	Prior Years Actuals + Projections	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Future Years
		Year 1 = 1st year of the 5-year budget plan				*All future year cost estimates should include applicable adjustments for inflation.*			
ADDITIONS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	Stock Materials	0							
	A/P Non-Stock Material	0							
	A/P Contractors & Other	12,505,000		2,501,000	2,501,000	2,501,000	2,501,000	2,501,000	
	Inflation	783,000		54,000	108,000	157,000	208,000	256,000	
	AFUDC*	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL ADDITIONS:	**13,288,000**	**0**	**2,555,000**	**2,609,000**	**2,658,000**	**2,709,000**	**2,757,000**	**0**
RETIREMENTS	Labor (Weekly Payroll)	0							
	Labor (Monthly Payroll)	0							
	A/P Non-Labor (dumpsters, etc.)	0							
	A/P Contractors	0							
	Overheads	0							
	Journal Vouchers (JVs)	0		---	---	---	---	---	---
	Salvage CREDIT	0							
	CIAC Payments CREDIT	0							
	Joint Utility Payments CREDIT	0							
	TOTAL REMOVALS:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

** AFUDC may require adjustment after Finance Department review.*

Expense $ (if applicable):	0							
Current Approved Rate Case Funding ($):	n/a*	n/a*	n/a*	n/a*				

** Not applicable for 2025-2029 budget process when rate case funding not yet confirmed.*

Budget Status: Not included in current PSC-approved budget plan

Cost Estimate Level: Conceptual
Cost Estimate Confidence: **(that final cost will be within +/-30% of the estimate):** High Confidence

No further estimate range is required.

Cost Estimate Range: **Minimum ($):** 12,120 **Maximum ($):** 22,508

← *Formulas give standard ranges per estimate level, but may be overwritten if desired.*

No explanation on confidence level required.

Basis for estimate: Historical Unit Pricing

(select all that apply)

Is there documentation that shows how your conceptual or preliminary-level cost estimate was derived? Yes

E. ADDITONAL INFORMATION

If there is any additional information that you would like to add that is not covered elsewhere in this form, you may add it here (optional):
Previous material costs and trending needs.

2021	
RES	7417
AMI RES	10
COMMERCIAL	937
AMI COM	35
MV-90	21
SUBSTATION	3
TOTAL	8423

2022	
RES	8261
AMI RES	72
COMMERCIAL	839
AMI COM	19
MV-90	18
SUBSTATION	3
TOTAL	9212

2023	
RES	8477
AMI RES	61
COMMERCIAL	1326
AMI COM	31
MV-90	21
SUBSTATION	3
TOTAL	9919

2024 (forecast)	
RES	8647
AMI RES	62
COMMERCIAL	1353
AMI COM	32
MV-90	21
SUBSTATION	3
TOTAL	10117

PURCHASES

METER TYPE	2024				2025				2026				2027				2028				2029			
	Count	Cost	Credit	TOTAL/METER	Count	Cost	Credit	TOTAL/METER	Count	Cost	Credit	TOTAL/METER	Count	Cost	Credit	TOTAL/METER	Count	Cost	Credit	TOTAL/METER	Count	Cost	Credit	TOTAL/METER
RES	9000	$70.00	$150.00	$1,980,000.00	9000	$70.00	$150.00	$1,980,000.00	9000	$70.00	$150.00	$1,980,000.00	9000	$70.00	$150.00	$1,980,000.00	9000	$70.00	$150.00	$1,980,000.00	9000	$70.00	$150.00	$1,980,000.00
AMI RES	62	$233.00	$150.00	$23,746.00	62	$233.00	$150.00	$23,746.00	62	$233.00	$150.00	$23,746.00	62	$233.00	$150.00	$23,746.00	62	$233.00	$150.00	$23,746.00	62	$233.00	$150.00	$23,746.00
COMMERCIAL	1371	$166.00	$150.00	$433,236.00	1371	$166.00	$150.00	$433,236.00	1371	$166.00	$150.00	$433,236.00	1371	$166.00	$150.00	$433,236.00	1371	$166.00	$150.00	$433,236.00	1371	$166.00	$150.00	$433,236.00
AMI COM	40	$375.00	$150.00	$21,000.00	40	$375.00	$150.00	$21,000.00	40	$375.00	$150.00	$21,000.00	40	$375.00	$150.00	$21,000.00	40	$375.00	$150.00	$21,000.00	40	$375.00	$150.00	$21,000.00
MV-90	24	$832.00	$150.00	$23,568.00	24	$832.00	$150.00	$23,568.00	24	$832.00	$150.00	$23,568.00	24	$832.00	$150.00	$23,568.00	24	$832.00	$150.00	$23,568.00	24	$832.00	$150.00	$23,568.00
SUBSTATION	3	$6,302.00	$150.00	$19,743.12	3	$6,302.00	$150.00	$19,743.12	3	$6,302.00	$150.00	$19,743.12	3	$6,302.00	$150.00	$19,743.12	3	$6,302.00	$150.00	$19,743.12	3	$6,302.00	$150.00	$19,743.12
TOTAL	10500			$2,501,293.12	10500			$2,501,293.12	10500			$2,501,293.12	10500			$2,501,293.12	10500			$2,501,293.12	10500			$2,501,293.12

Credit increase (47.06% from 2023 to 2024)	N/A	0%	0%	0%	0% 0%

2024 credit 150