EVERSOURCE

Project Approval Form

Project Title: [redacted] DB Cable Replacement	Project Number: CD01756
Date Prepared: 02/23/2024	Company: Eversource CT
Organization: Distribution Engineering	Project Category: URD/DB Cable Improvements
Project Initiator: [redacted]	Project Type: Specific
Initiating Organization: Distribution	Capital Investment part of original Op Plan: No
Project Manager: [redacted]	Emergency Related Request? No
Project Sponsor: [redacted]	Facility Type (check all that apply): ☐ PTF ☐ non-PTF ■ Distribution ☐ N/A (General Plant)
Required in service date: 12/31/2022	
Total Capital Request: $380.3K	Authorization Type: Full Funding

1. Executive Summary

Full funding is being requested for this project at a cost of **$380.3K** which is 125% of the partial funding capital estimate of $302K. There is no scope change on the project. The variance between the full funding and partial funding estimate is due to the underestimated labor and material charges. The legacy estimating units used to produce the partial funding estimate are about 30% lower than the estimates used today, which were updated to reflect increased labor & material costs.

The Original Project was presented as follows:

- [redacted]

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2022 Actual	2023 Actual	Total
Internal Labor and Construction Equipment	0.1	0.0	0.1
Outside Services	173.2	4.5	177.7
Materials	27.7	0.7	28.4
Removals	13.3	0.8	14.1
Risk and Contingency	0.0	7.5	7.5
Other	0.0	0.0	0.0
Subtotal	**214.3**	**13.6**	**227.9**

Indirect Capital Costs	2022 Actual	2023 Actual	Total
Indirects/Overheads (including benefits)	155.9	-16.3	139.5
Capitalized interest or AFUDC, if any	10.0	2.9	12.8
Subtotal	**165.8**	**-13.5**	**152.4**

Total Capital Costs (Gross)	**380.1**	**0.1**	**380.3**

Less Total Customer Contribution	**0.0**	**0.0**	**0.0**

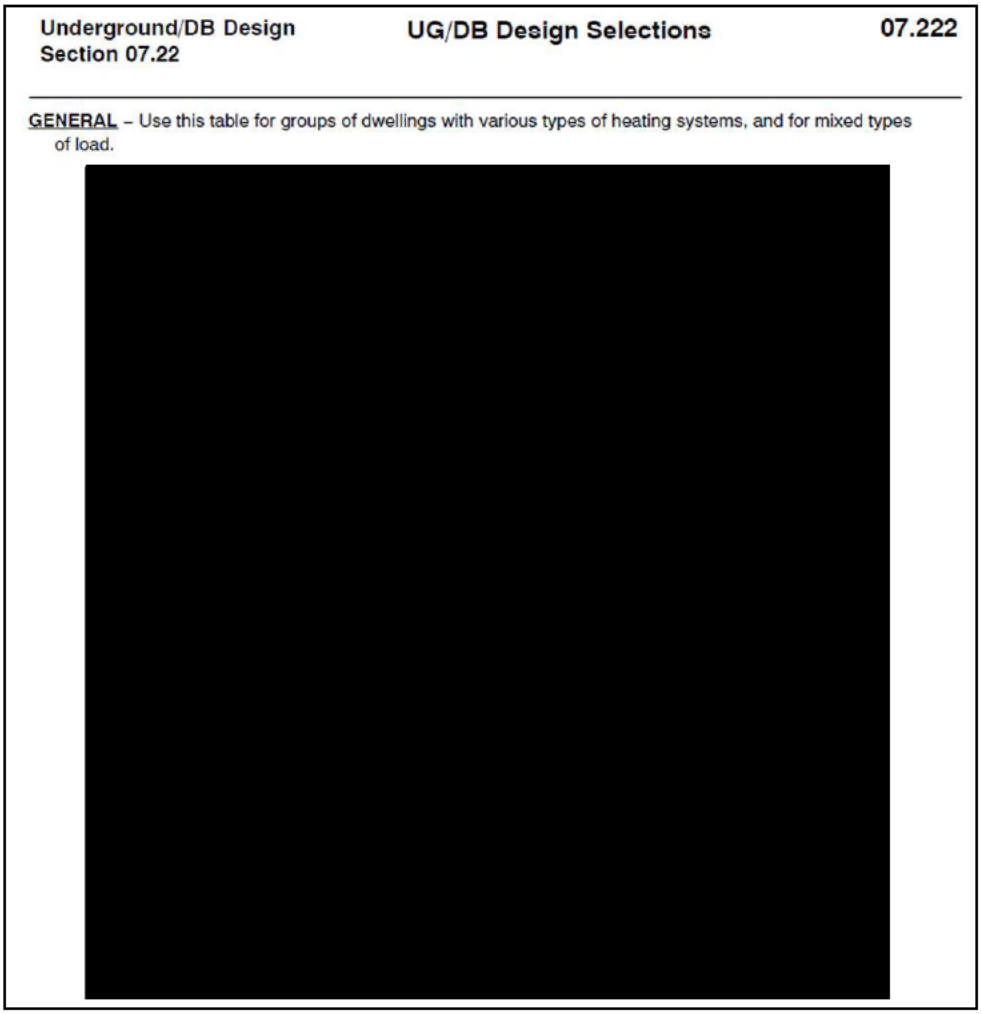
Project Costs (Net of Reimbursement)	**380.1**	**0.1**	**380.3**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

- The project has been created to address the [redacted]



Underground/DB Design
Section 07.22

UG/DB Design Selections

07.222

GENERAL – Use this table for groups of dwellings with various types of heating systems, and for mixed types of load.

[redacted]

EVERSOURCE

URD TRACKING DATABASE

DB FAILURE REPORT - GROUP ID: 800.4508721.0

LOCATION INFO

Division	CT WESTERN	CIRCUIT	[redacted]	DB MAP	DB-S-C10N8-00560-01
AWC	1B	TOWN		URD NAME	
DVC STR:	[redacted]	CROSS:		MAP LINK	LINK

OUTAGE EVENT INFO

Group ID	Fact ID	Outage Date/Time	Duration	Cust Affected	Equipment Involved	Device
800.4508721.0	800.4508721.0	04/26/2021 9:57:56 PM	183	[redacted]	CONP	[redacted]

made repairs to primary db under 21e0493

FAULT LOC 275 First Crew: NWT_Z4-RS-CASTELLAN-Edward W AUTO GEN STORMS WR

PRIOR FAILURES

800.4507991.0	800.4507991.0	04/24/2021 9:08:45 PM	202	[redacted]	CONP	[redacted]
800.4328479.0	800.4328479.0	08/30/2020 12:46:42 AM	185	[redacted]	CONP	[redacted]
REPARIED PRIMARY UNDER 20-E-1950						
800.4321805.0	800.4323318.0	08/27/2020 2:48:09 PM	1422	[redacted]	CONP	[redacted] Between

Business Process and / or Technical Improvements:

- This will help improve Eversource SAIDI and MBI
- The loop will improve SAIDI by having a quicker restoration time.
- MBI will be improved with the new cable not failing at the same rate as the old cable.

b. Project Need

PER DESM 07.222 rebuilding a development with load between [redacted]

Additionally, this project proposes the following:

- Reduce frequency of outages.
- Improve reliability with new cable and design.

- Design the development with a loop feed.
- Ease of switching for a fault.

c. Project Scope

The project proposes the following:

[redacted]

4. Alternatives Considered

[redacted]

5. Project Schedule

Milestone/Phase Name	Estimated Date
Partial Approval	June 2021
100% Detailed Engineering Completion	April 2022
Fully Funded	N/A
Construction Start	June 2022
In Service Date	12/31/2022

6. Regulatory Decisions

N/A

7. Codes and Standards

N/A

8. Risk and Contingencies

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2021	Low	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
Customer Permission / Siting Council / Municipal approvals	2021	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2021	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Internal engineering resources not available to perform the work.	2021	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2021	Medium	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2021	Low	If storm activity delays work, we may be forced to use external resources.

System abnormal configuration	2021	Medium	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.
Technological risks involving integration of new technology	2021	Low	Before use of new technology ensure support of standards and manufacturer. Schedule project to accommodate for extra time or ensure new technology is not on the critical path.
Wetlands / Environmentally sensitive area	2021	Low	Use of mats and specialty equipment, only work during certain times of the year.

9. References

References
1. N/A

10. Attachments (One Line Diagrams, Images, etc.)

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. P6 Schedule	*YES*
C. Geographic Map	*YES*
D. System and Station One-Lines	*YES*

Attachments (One-Line Diagrams, Images, etc.):


CD01756_project_needs_statement.pdf


CD01756 [redacted] DB Repl Map.pc


CD01756 Load comparison kWh.pd

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01756

[redacted] - DB Cable Repl

Work Classification

Category: Line
Type: REL2
Type Desc: DB CABLE REPLACE-SPECIFIC PROJ
Work Type:

Ownership / Management

AWC: Newtown
Statewide: No
Owner: [redacted]
Manager:

Project Information

Status: Draft
SPS #:
AIS Score:
Associated Projects:
Assignment ID:
Patrol Find ID:

Budget Summary - Preferred Option

--- No Preferred Option Selected / Created ---

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01756

[redacted] - DB Cable Repl

Project Option Summary

ID	Description	Segments	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)	Prfrd

Segments

ID	Title	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)
1	Single phase loop	$301,873			$0.00	$0.00
2	No Loop	$155,387			$0.00	$0.00

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01756
[redacted] - DB Cable Repl

Background / Scope

Issue:

Project Description:

Other Considerations:

Revision / ACT Comments:

If we don't do this project, what will happen?

Environmental

Water Pollution: No Change Soil Contamination: No Change Natural Habitats: No Change

Alternatives considered based on Environmental Impact or Description of Aspects Oil Spill Risks Considered? ☐

Safety Concerns With This Project? ☐

Explain:

External Stakeholders

Customer Impact / Involvement

Cust. Impacted:	Approx. Pole Count (NU):
Crit. Cust. Impacted:	Approx. Pole Count (Other):
Adjoining Property Owner Consent Required: ☐	Town Hearing Required: ☐
Other Utility Pole Custodian Area: ☐	Easement Required: ☐
State Highway Permit Required: ☐	

Relocation / New Service

New Srvc. Contact:	Requestor Type:
Customer Type:	State Highway Project #:
Request Number:	Route #:

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01756

[redacted] - DB Cable Repl

Design Alternative CD01756-01

General Information

Segment: 1 - Single phase loop
Status: Draft
Segment Type: DB CABLE - REPLACEMENT
Town: BROOKFIELD
Budget Year: 2022
Work Type: Other
Trimming Required: ☐
In Service Date: 12/31/2022
Description: [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01756

[redacted] - DB Cable Repl

Design Alternative CD01756-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$243,446
Contingency Amount:	$58,427
Estimate:	$301,873
Reimbursement:	$0
Net Amount:	**$301,873**
Description:	

Item Description	CU	$ / Per	Qty	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	[redacted]		$7,019.20
TRAFFIC OH/DB/UG - Traffic Control - Flagger	16-ALL19			$2,000.00
XF DB/UG - Padmount XF - 3ph	16-UG131			$6,299.20
POLE DB/UG - Riser - 1ph	16-UG145			$7,370.40
POLE DB/UG - Riser - 3ph	16-UG146			$10,794.40
ENCLOSURE DB - Fiberglass Enclosure - 3ph - Doghouse	16-UG148			$6,212.80
OTHER OTHER 1250' of new conduit,trenching & cable from Riser pole to [redacted] for three phase pad ($85/ft)	16-ALL14			$106,250.00
OTHER OTHER 1300' of singe phase new conduit, trenching and cable from [redacted] ($75/ft)	16-ALL14	[redacted]		$97,500.00

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01756
[redacted] - DB Cable Repl

Design Alternative CD01756-01

Associated / Impacted Devices

Status	Type / SysID	[redacted]	Notes
Existing	[redacted]		

Reliability Projection

Title:

Outage Start Date: 1/1/2017 Outage End Date: 6/2/2021 Years History: 4.42

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01756

[redacted] - DB Cable Repl

Design Alternative CD01756-02

General Information

Segment: 2 - No Loop
Status: Draft
Segment Type: DB CABLE - REPLACEMENT
Town: BROOKFIELD
Budget Year: 2022
Work Type: Other
Trimming Required: ☐
In Service Date: 12/31/2022
Description: Replacing 2 phase bad DB cable from switch [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01756

[redacted] - DB Cable Repl

Design Alternative CD01756-02

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	24.00%
SubTotal:	$125,312
Contingency Amount:	$30,075
Estimate:	$155,387
Reimbursement:	$0
Net Amount:	**$155,387**

Description:

Item Description	CU	$ / Per	Qty	Amount
OTHER	16-ALL14	[redacted]		$125,312.00
OTHER URD Database Estimate				

Associated / Impacted Devices

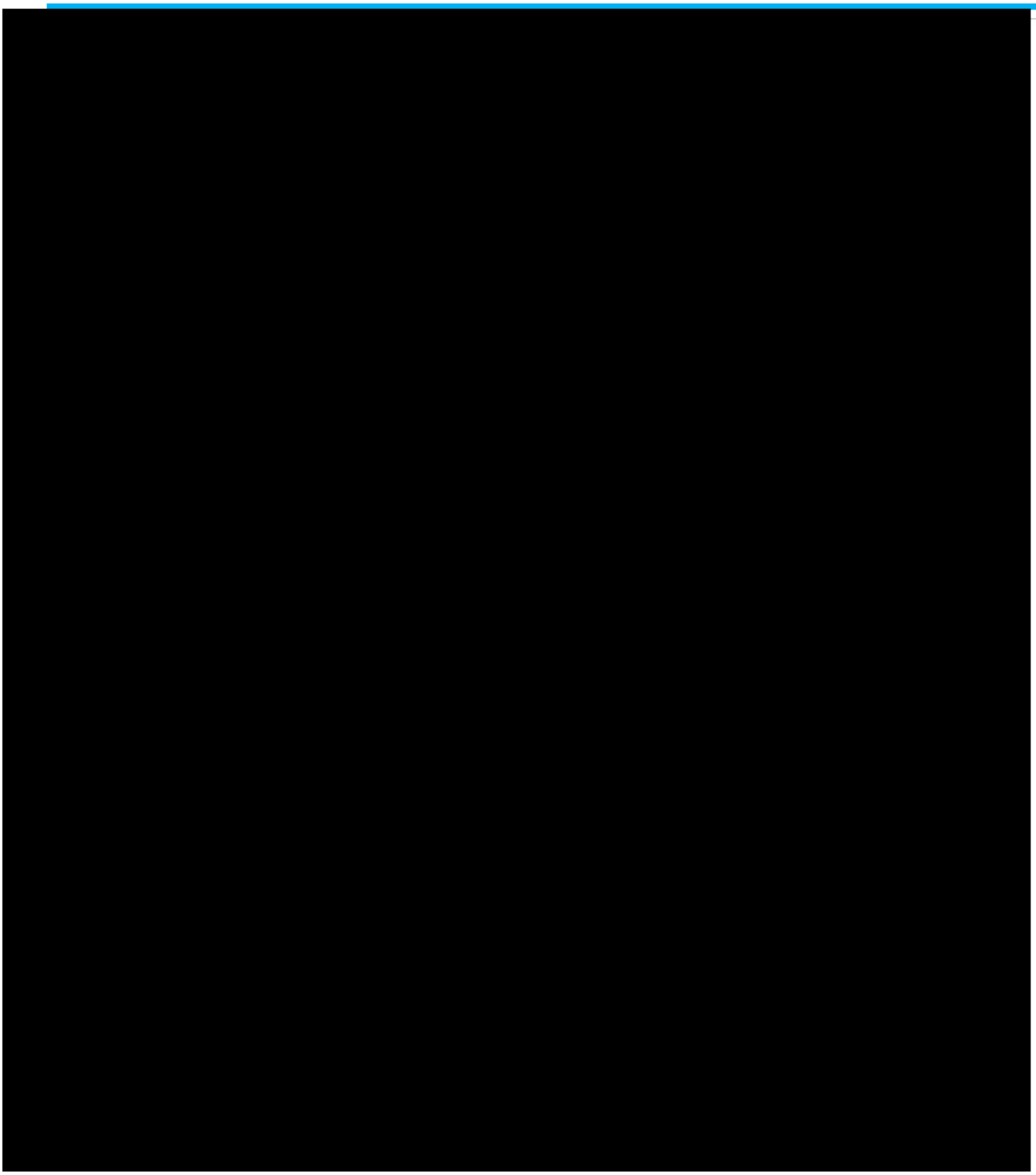
Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes
Existing	[redacted]	[redacted]					

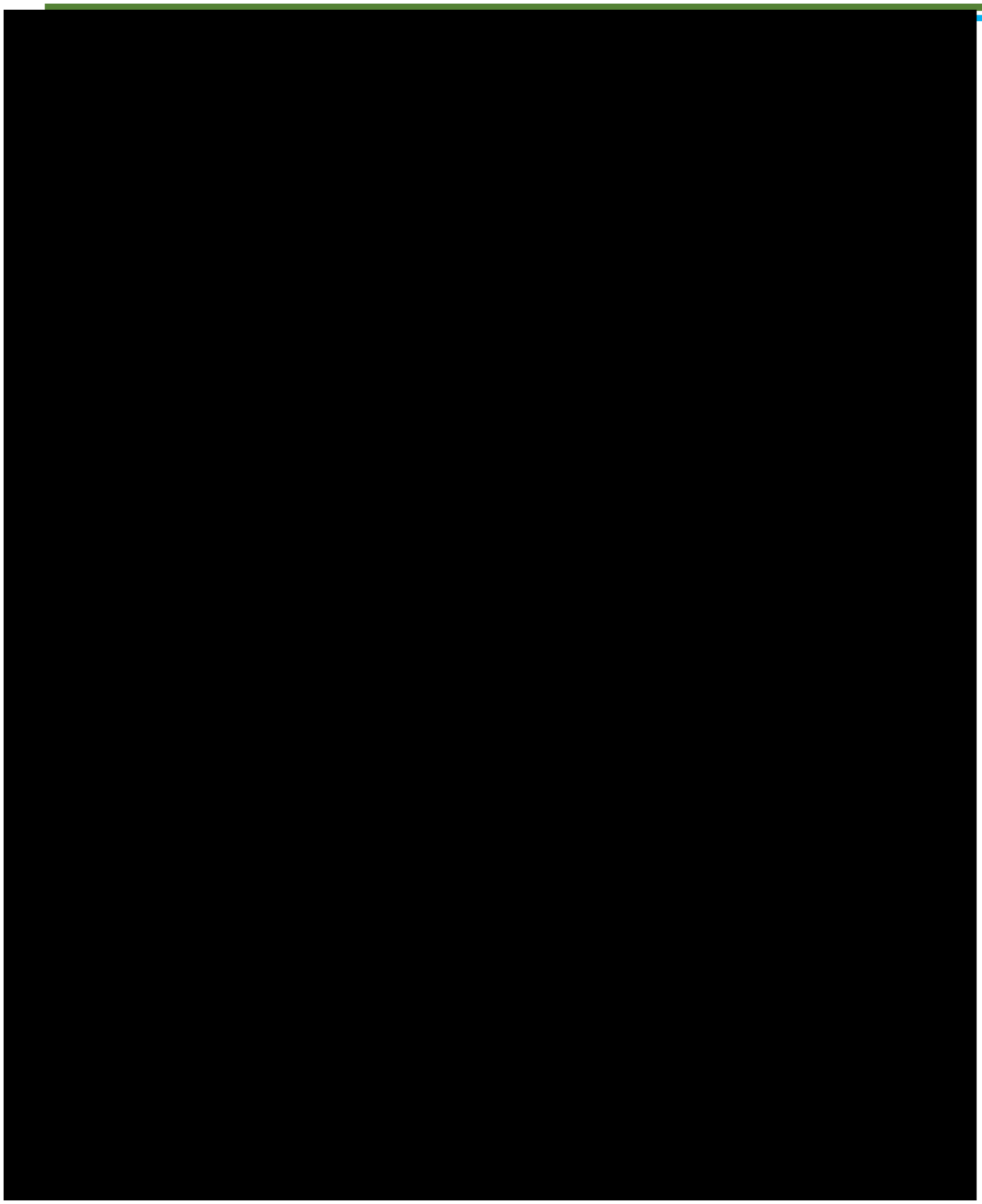
Reliability Projection

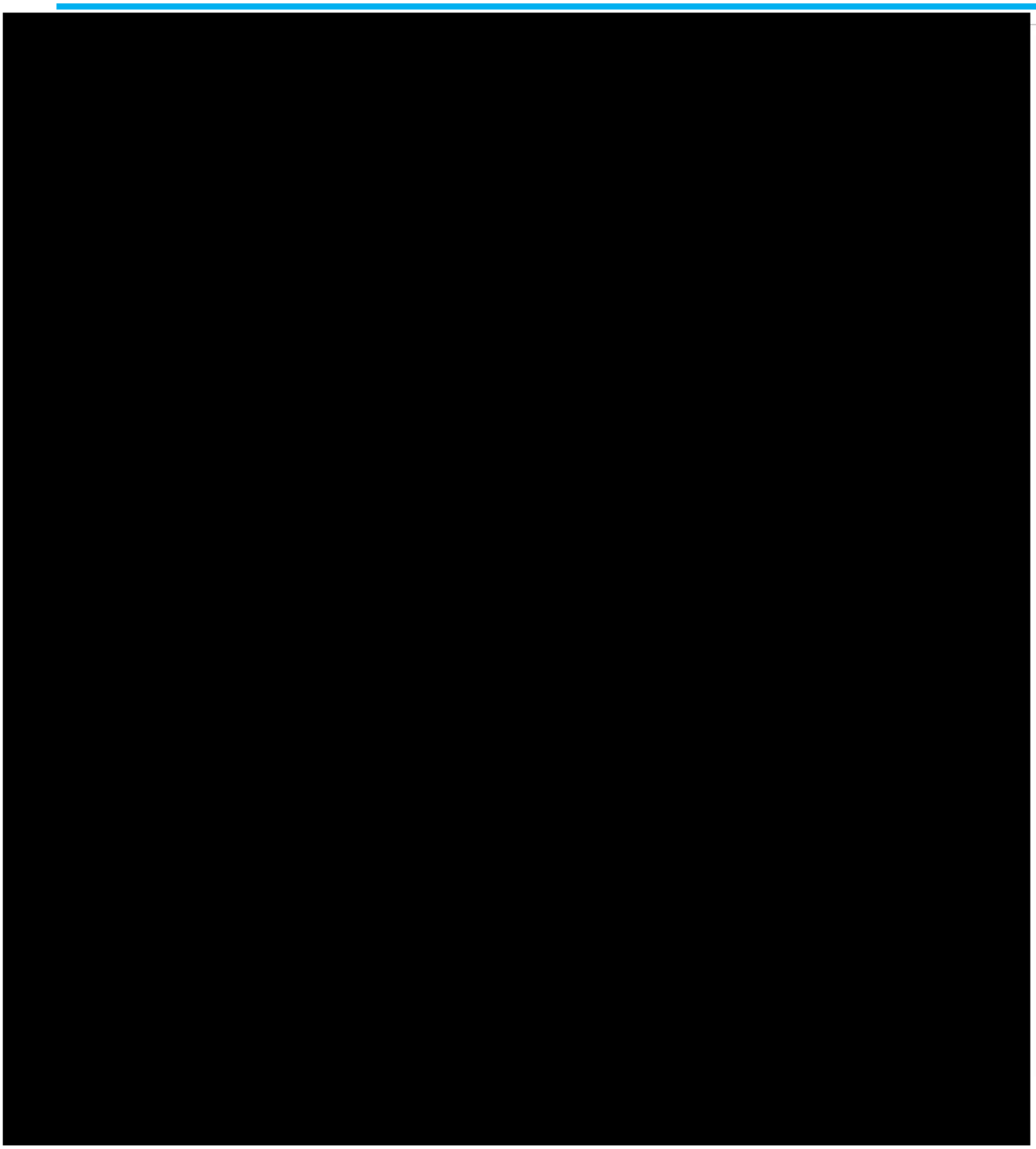
Title:

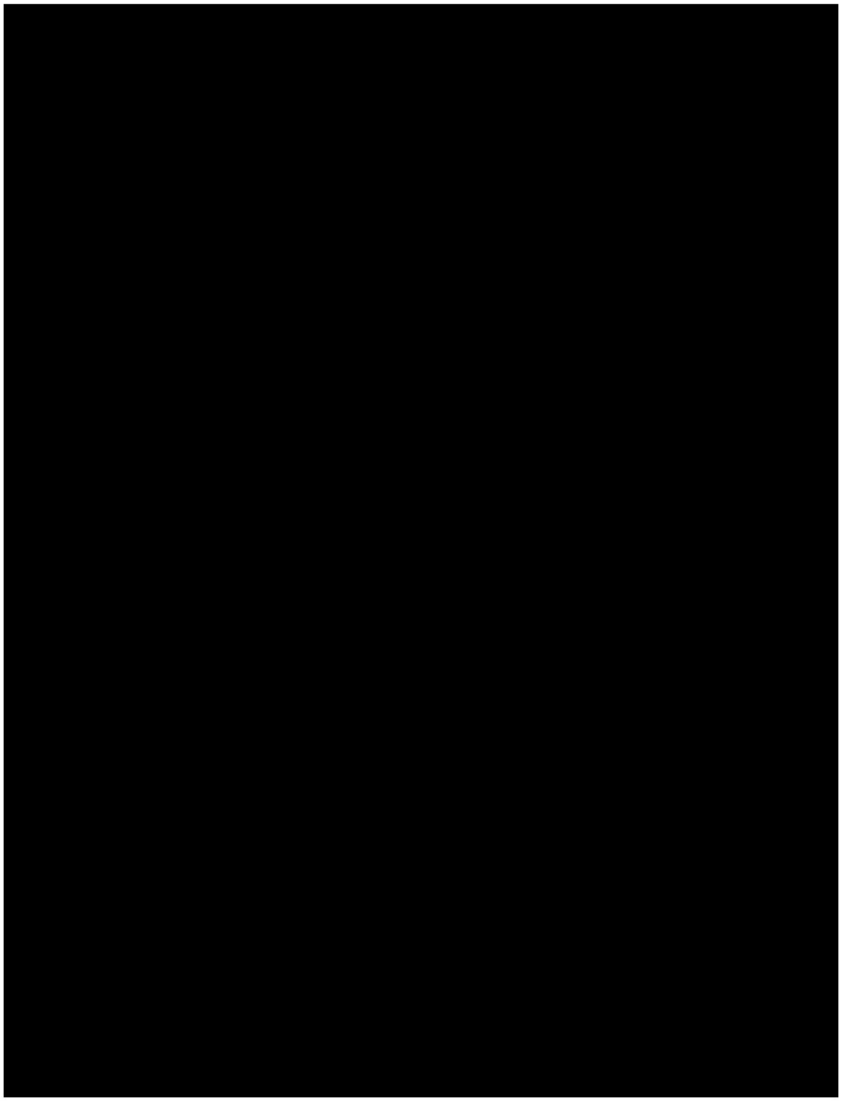
Outage Start Date: 1/1/2017 Outage End Date: 6/2/2021 Years History: 4.42

[redacted]









Operations Project Authorization Form

Date Prepared: 06/02/2021	**Project Title: [redacted] DB Cable Replacement**
Company/ies: Eversource CT	**Project ID Number: CD01756 Fund under 101395**
Organization: Distribution	**Class(es) of Plant: Distribution**
Project Initiator: [redacted]	**Project Category: DB Cable Replacement**
Project Manager: [redacted]	**Project Type: Specific**
Project Sponsor: [redacted]	**Project Purpose: Line Relocation**
Estimated in service date: 12/31/2022	**If Transmission Project: PTF? N/A**
Eng. /Constr. Resources Budgeted? N	**Capital Investment Part of Original Operating Plan? N**
Authorization Type: Initial Funding	**O&M Expenses Part of the Original Operating Plan? N**
Total Request: $302k	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

[redacted]

[redacted]

Project Costs Summary
Note: Dollar values are in thousands

	Prior Authorized	2021	2022	2023+	Totals
Capital Additions - Direct	$0	$0	$182,061	$0	$182,061
Less Customer Contribution	$0	$0	$0	$0	$0
Removals net of Salvage ____%	$0	$0	$7,622	$0	$7,622
Total - Direct Spending	$0	$0	$189,683	$0	$189,683
Capital Additions - Indirect	$0	$0	$103,053	$0	$103,053
Subtotal Request	$0	$0	$292,736	$0	$292,736
AFUDC	$0	$0	$4,698	$0	$4,698
Total Capital Request	$0	$0	$297,434	$0	$297,434
O&M	$0	$0	$4,439	$0	$4,439
Total Request	$0	$0	$301,873	$0	$301,873

Financial Evaluation

Direct Capital Costs	2021	2022	2023+	Total
Direct Capital Costs	**Year 1**	**Year 2**	**Year 3+**	**Total**
Straight Time Labor	$0	$4,345	$0	$4,345
Overtime Labor	$0	$2,945	$0	$2,945
Outside Services	$0	$166,508	$0	$166,508
Materials	$0	$16,043	$0	$16,043
Other, including contingency amounts (describe)	$0	($159)	$0	($159)
Total Direct Costs	**$0**	**$189,683**	**$0**	**$189,683**

Indirect Capital Costs	2021	2022	2023+	Total
Indirects/Overheads (including benefits)	$0	$103,053	$0	$103,053
Capitalized interest or AFUDC, if any	$0	$4,628	$0	$4,628
Total Indirect Costs	**$0**	**$107,681**	**$0**	**$107,681**
Total Capital Costs	**$0**	**$297,364**	**$0**	**$297,364**
Less Total Customer Contribution	**$0**	**$0**	**$0**	**$0**
Total Capital Project Costs	**$0**	**$297,364**	**$0**	**$297,364**
Total O&M Project Costs	**$0**	**$4,509**	**$0**	**$4,509**
Total Project Cost	**$ -**	**$ 301,873**	**$ -**	**$ 301,873**

Technical Justification:

Project Need Statement

The project has been created to address the [redacted]

Project Objectives

Reduce frequency of outages.
Improve reliability with new cable and design.
Design the development with a loop feed.
Ease of switching for a fault.

Project Scope

The project proposes the following:

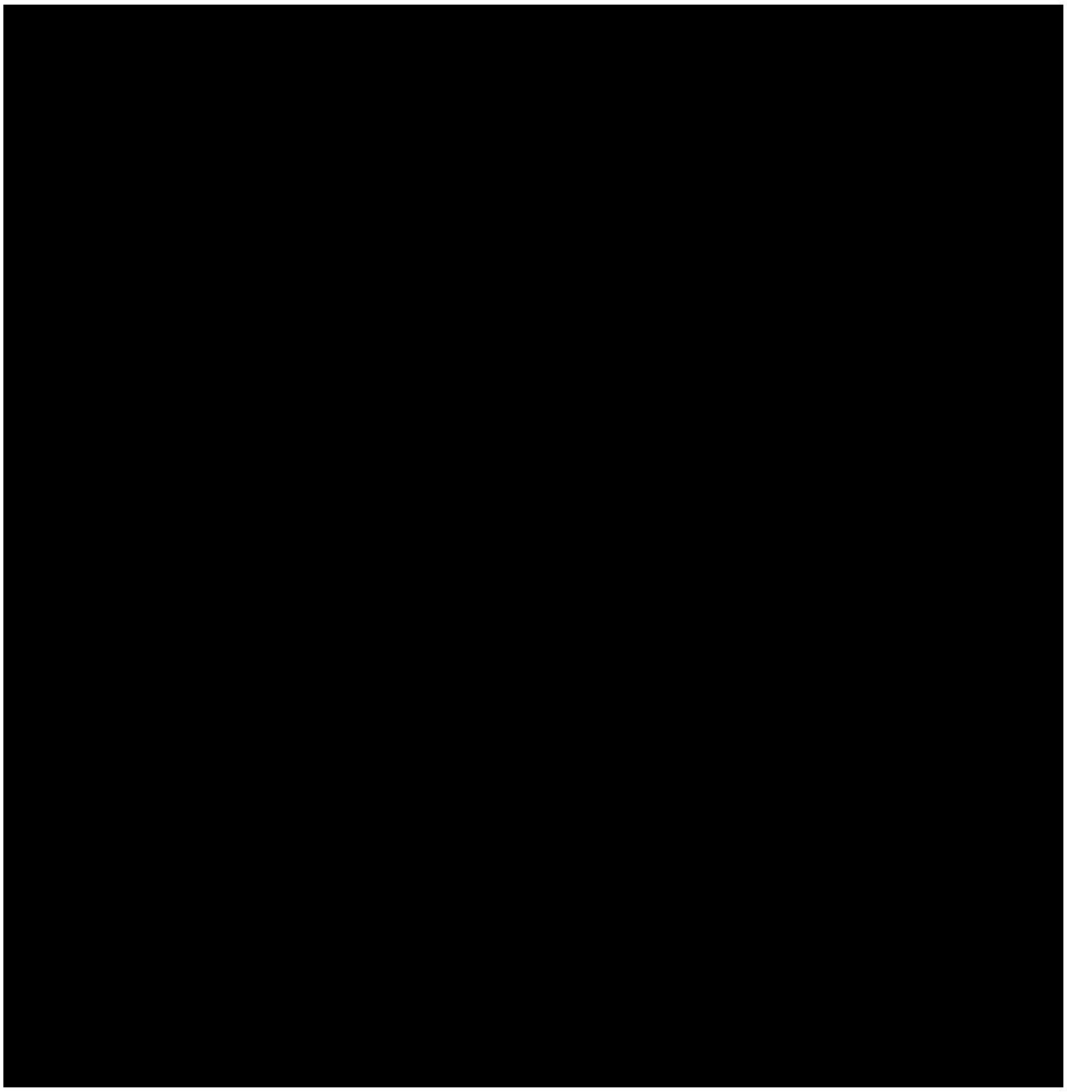
[redacted]

Background / Justification

PER DESM 07.222 rebuilding a development with load between 0-500kVA and more than 60 customers are required to be in single -phase loop.

Underground/DB Design Section 07.22 **UG/DB Design Selections** **07.222**

GENERAL – Use this table for groups of dwellings with various types of heating systems, and for mixed types of load.



Outages:

EVERSOURCE

URD TRACKING DATABASE

DB FAILURE REPORT - GROUP ID: 800.4508721.0

LOCATION INFO

Division	CT WESTERN	CIRCUIT	[redacted]	DB MAP	DB-S-C10N8-00560-01
AWC	1B	TOWN		URD NAME	
DVC STR:	[redacted]	CROSS:		MAP LINK	LINK

OUTAGE EVENT INFO

Group ID	Fact ID	Outage Date/Time	Duration	Cust Affected	Equipment Involved	Device
800.4508721.0	800.4508721.0	04/26/2021 9:57:56 PM	183	[redacted]	CONP	[redacted]

made repairs to primary db under 21e0493

FAULT LOC 275 First Crew: NWT_Z4-RS-CASTELLAN-Edward W AUTO GEN STORMS WR

PRIOR FAILURES

800.4507991.0	800.4507991.0	04/24/2021 9:08:45 PM	202	[redacted]	CONP	[redacted]
800.4328479.0	800.4328479.0	08/30/2020 12:46:42 AM	185	[redacted]	CONP	[redacted]
	REPARIED PRIMARY UNDER 20-E-1950					
800.4321805.0	800.4323318.0	08/27/2020 2:48:09 PM	1422	[redacted]	CONP	[redacted]

Business Process and / or Technical Improvements:
This will help improve Eversource SAIDI and MBI
The loop will improve SAIDI by having a quicker restoration time.
MBI will be improve with the new cable not failing at the same rate the old cable is.

Alternatives Considered with Cost Estimates

1. [redacted]

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Initial Funding Authorization	June 2021
Construction Begin	June 2022
Construction End	August 2022

Regulatory Approvals

None

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2021	Low	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
Internal construction resources not available to perform the work.	2021	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost if necessary.
Internal engineering resources not available to perform the work.	2021	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost if necessary.
Materials shortage or long lead times	2021	Medium	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2021	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2021	Medium	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods
Technological risks involving integration of new technology	2021	Low	Before use of new technology ensure support of standards and manufacture. Schedule project to accommodate for extra time or ensure new technology is not on the critical path.

References

Attachments (One-Line Diagrams, Images, etc.)


CD01756_project_needs_statement.pdf


CD01756 [redacted] DB Repl Map.p


CD01756 Load comparison kWh.pd

