EVERSOURCE
Project Authorization Form

Operations Project Authorization Form

Approved at March 21, 2019 EPAC
Link to Meeting Minutes

Date Prepared: 01/10/2019	**Project Title: [redacted] Circuit Breaker Automation**
Company/ies: Eversource CT	**Project ID Number: CS00265**
Organization: Asset Management	**Class(es) of Plant: Distribution Substation**
Project Initiator: [redacted]	**Project Category: Stations - Breakers**
Project Manager: [redacted]	**Project Type: Specific**
Project Sponsor: [redacted]	**Project Purpose: Automate five breakers**
Estimated in service date: 12/31/2019	**If Transmission Project: PTF? N/A**
Eng. /Constr. Resources Budgeted? Y	**Capital Investment Part of Original Operating Plan? Y**
Authorization Type: Full Funding	**O&M Expenses Part of the Original Operating Plan? N**
Total Request: $723,000	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

This project is seeking full funding of $723,000 to complete the [redacted] Eversource CT has an initiative to [redacted] The initiative objectives are to introduce safety, reliability and emergency response. [redacted] This project was engineered by Eversource but will be awarded to a contractor for construction. All engineering has been completed, drawings issued, and materials are on hand. The previous authorized amount of $35,000 was approved in PowerPlan on March 27, 2017 for preliminary engineering. The spend to date as of March 5, 2019 is $73,725. The provided estimate was verified to carry all additional testing and construction representation man hours as requested. Spend to date consist of approximately $42k direct (labor and Materials) and $32K in indirect charges of which $39K was spent in 2018 and the remaining $34,725 spend in 2019.

Project Costs Summary
Note: Dollar values are in thousands

	Prior Authorized	Prior Years	2019	Totals
Capital Additions - Direct	$23	$13	$455	$468
Less Customer Contribution	$0	$0	$0	$0
Removals net of Salvage _4%	$0	$0	$0	$0
Total - Direct Spending	$23	$13	$455	$468
Capital Additions - Indirect	$12	$24	$219	$243
Subtotal Request	$34	$37	$674	$711
AFUDC	$1	$2	$10	$12
Total Capital Request	$35	$39	$684	$723
O&M	$0	$0	$0	$0
Total Request	$35	$39	$684	$723

Financial Evaluation
Note: Dollar values are in thousands

Direct Capital Costs	Prior Years	2019	Total
Straight Time Labor	$12	$65	$77
Overtime Labor	$0	$0	$0
Outside Services	$1	$390	$391
Materials	$0	$0	$0
Other, including contingency amounts (describe)	$0	$0	$0
Total	$13	$455	$468

Indirect Capital Costs	Prior Years	2019	Total
Indirects/Overheads (including benefits)	$24	$219	$243
Capitalized interest or AFUDC, if any	$2	$10	$12
Total	$26	$229	$255

Total Capital Costs	$39	$684	$723
Less Total Customer Contribution	$0	$0	$0
Total Capital Project Costs	$39	$684	$723
Total O&M Project Costs	$0	$0	$0

Note: Explain unique payment provisions, if applicable

Future Financial Impacts:

Provide below the estimated future costs that will result from the project:
Note: Dollar values are in thousands

Future Costs	Year 20__	Year 20__	Year 20__	Year 20__+	Total Future Project Costs
Capital	$ -	$ -	$ -	$ -	$ -
O&M	-	-	-	-	-
Other	-	-	-	-	-
TOTAL	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Describe the estimated future Capital, O&M, and/or Other costs noted above: N/A

What functional area(s) will these future costs be funded in? N/A

A representative from the respective functional area is required to be included as a project approver.

If this is other than a Reliability Project, please complete the section below;

Provide below the estimated financial benefits that will result from the project:
Note: Dollar values are in thousands

Future Benefits	Year 20__	Year 20__	Year 20__	Year 20__+	Total Future Project Benefits
Capital	$ -	$ -	$ -	$ -	$ -
O&M	-	-	-	-	-
Other	-	-	-	-	-
TOTAL	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Describe the estimated future Capital, O&M, and/or Other benefits noted above: N/A

What functional area(s) will these benefits be reflected in? N/A

A representative from the respective functional area is required to be included as a project approver.

Asset Retirement Obligation (ARO) and/ or Environmental Cleanup Costs (Environmental Liabilities):

Is there an ARO associated with this project? No If yes, please provide details:

Are there other environmental cleanup costs associated with this project? No If yes, please provide details:

Technical Justification:

Project Need Statement

Eversource CT has an initiative "2015 to 2017 Expanded System Resiliency Plan Initiatives" to [redacted]
Distribution Automation is a capital Plan Program initiated in 2014 to 2019. This program was initiated to capture the [redacted]

Project Objectives

[redacted] This will support the following Eversource objectives:

- Safety
- Reliability and Emergency Response
- Commitment to customers and communities

Project Scope

[redacted]

[redacted] Refer to Figure 1 for feeder/line positions.

[redacted]

[redacted]

Background / Justification

Eversource has an initiative to automate all [redacted]. This automation initiative meets the National Electric Safety Code (NESC) and Occupational Safety and Health Administration (OSHA) requirements for Arc Flash protection.

Business Process and / or Technical Improvements:

[redacted]

Alternatives Considered with Cost Estimates

[redacted]

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Engineering	May 2018
Bids returned	February 2019
Construction start	April 2019
Construction completion	December 31, 2019

Regulatory Approvals

N/A

Risks and Risk Mitigation Plans

- This type of work has been done for several hundred feeders in Eversource. There are minimal risks.
- Engineering is complete and electrical drawings have been issued.
- Materials are on hand
- [redacted]

References

2015 to 2017 Expanded System Resiliency Plan Initiatives

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



Figure 1 - Nomenclature diagram showing feeder locations



Figure 2 - Schematic section showing installation of



Figure 3 – Proposed panel changes

Project Checklist – Transmission and Substation

INSTRUCTIONS:

It is the responsibility of the initiator to contact the area disciplines to determine if the project considerations contained in this list are applicable to their project. They should fill out the checklist and determine a transition plan for the purpose of project execution.

Checklist for Studies and Processes of a Transmission & Substation Capital Project					
Project Name: [redacted] Circuit Breaker Automation				**PAF No: CS00265**	
Facility Type: ☐ BPS	☐ BES	☐ PTF	☒ non-PTF	☐ CIP	☒ Distribution
PLANNING					
Is a NX-9 required?			No		
Is an ISO-NE PAC presentation required?			No		
Is a PPA required?			No		
Is a TCA Application Required?			No		
PLANNING/PROTECTION & CONTROLS					
Are RAS/SPS/UVLs affected?			No		
OPERATIONS					
Outage Required?	☐ Primary Equipment (Power Transfer)		☒ Secondary Equipment (P&C only)		☐ Outage Not Required
Do SCLL Conditions Exist?			No		
Has an outage schedule been approved?			Yes		
Are Operations & Maintenance procedures/training required?			No		
STANDARDS					
Does the project include standard equipment and designs?			Yes		
SUBSTATION ENGINEERING					
Does this impact Revenue Metering			No		
Is preliminary short circuit/ breaker duty analysis required?			No		
Are there any changes to the baseline audible noise?			No		
Is there an impact to the existing ground grid?			No		
Is a Transient Over Voltage (TOV) analysis required?			No		
P&C ENGINEERING					
OP-22 - Are PMUs and DDR required?			No		
If BPS, is an NPCC Directory #4 presentation required?			No		

Checklist for Studies and Processes of a Transmission & Substation Capital Project	
Project Name: [redacted] Circuit Breaker Automation	**PAF No: CS00265**
TRANSMISSION LINE ENGINEERING	
Are there any changes that affect the baseline EMF?	No
Are there any changes that affect the baseline EMI?	No
SITING	
Is a Siting filing required?	No
PERMITTING	
Is there any permitting required?	No
SITING & CONSTRUCTION SERVICES (OUTREACH)	
What is the level of outreach expected?	Low
INITIATOR	
Has a field constructability review been completed?	Yes
INVESTMENT RECOVERY	
Does the project require development of an Investment Recovery plan?	No
COST ESTIMATING	
How was the cost estimate prepared?	Other (specify below)
Who prepared the estimate?	Engineering
Was the estimate reviewed by Eversource Estimating?	No

Cost Estimate Backup Detail

Funding Project Cash Flow CS00265 *ISD:* 12/31/19

Operating Company	CL&P
Budget Year	2019
Budget Status on Jan 1	TAF
Latest Approved Status or ISD	PAF Pend
SS Description	[redacted]
PURA Initiative	SRSSCBA
Project Mgr	[redacted]
Project Engineering Mgr	PEM
Accounting Work Order #	CS002651

($000's)

RESOURCES DIRECT	Prior Yrs Actual	JAN Fcst	FEB Fcst	MAR Fcst	APR Fcst	MAY Fcst	JUN Fcst	JUL Fcst	AUG Fcst	SEP Fcst	OCT Fcst	NOV Fcst	DEC Fcst	TOTAL 2019	TOTAL Project
LT - CT_L01:Labor EESCO	12.1	0.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	18.1
LT - CT_LO1:Labor EECT - Civil, Elect, Test	0.0	0.0	0.0	19.5	19.5	19.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.6	58.6
L01-LT - Total Labor	12.1	0.0	0.0	21.5	21.5	21.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	64.6	76.8
AE - CT_EE0:Employee Expenses	0.1	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	0.1
AM - CT_M12:Materials-Stores M11 Purchases	0.1	0.0	0.0	0.0	0.0	0.0	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	(0.1)	0.0
AO - CT_OS1:OS Svc-Contr Env	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
AQ - CT_OS0:OS Svc-Contr	0.8	0.0	0.0	120.0	120.0	120.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	390.0	390.8
AV - CT_V00:Vehicles	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
P1 - CT_A01:Other Misc Acct, Contingency	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
KR - CT_C01:Contributions, Fees & Payments	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
BR - CT_J00:Rents + Leases	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
Subtotal Direct - Excluding Labor	1.1	0.0	0.0	120.0	120.0	120.0	29.9	0.0	0.0	0.0	0.0	0.0	0.0	389.9	391.0
Total Direct - Including Labor	13.2	0.0	0.0	141.5	141.5	141.5	29.9	0.0	0.0	0.0	0.0	0.0	0.0	454.5	467.7
INDIRECT															
CT_ZNP:Non-Productive EESCO	1.9	0.0	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	2.8
CT_ZNP:Non-Productive EECT	0.2	0.0	0.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	9.2
CT_Z01:Alloc-Mat loaders (Excludes >25K)	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)
CT_Z93:Alloc-PR load Payroll Benefits	0.0	0.0	0.0	7.5	7.5	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.6	22.6
CT_Z94:Alloc-GSCOH EESCO	9.6	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	9.6
CT_Z96:Alloc- E+S	10.9	0.0	0.0	45.7	45.7	45.7	9.0	0.0	0.0	0.0	0.0	0.0	0.0	146.1	157.1
CT_Z92:Alloc-Misc Costs Cap	1.1	0.0	0.0	7.6	7.6	7.6	1.5	0.0	0.0	0.0	0.0	0.0	0.0	24.4	25.5
CT_Z90:Alloc- AS+E	0.2	0.0	0.0	0.8	0.8	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.8
CT_Z98:Alloc - Veh Clear	0.2	0.0	0.0	4.3	4.3	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.9	13.2
	24.1	0.0	0.0	69.3	69.3	69.3	10.6	0.0	0.0	0.0	0.0	0.0	0.0	218.6	242.7
Subtotal X-AFUDC	37.4	0.0	0.0	210.9	210.9	210.9	40.5	0.0	0.0	0.0	0.0	0.0	0.0	673.1	710.4
CT_Z95:Alloc-AFUDC	1.9	0.2	0.2	0.8	2.0	3.2	3.9	0.0	0.0	0.0	0.0	0.0	0.0	10.3	12.3
Total Project Prior To Date-->Month	39.3	0.2	0.2	211.7	212.9	214.0	44.4	0.0	0.0	0.0	0.0	0.0	0.0	683.4	722.7
Total Project - Cumulative To Date	39.3	39.5	39.7	251.4	464.2	678.3	722.7	722.7	722.7	722.7	722.7	722.7	722.7	722.7	
CF vs. Resource Sheet - Conditional Format		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Budget		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	317.0	317.0	
Latest Approved Budget / Projection		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	
Monthly Actual & ----------->YTD Actual														0.0	YTD Act
Variance Mo. Actual vs. Mo. Budget &-- ->YTD vs. Budget														0.0	YTD Var
Variance Mo. Actual vs. Budget & ---------->YE vs. Budget		0.2	0.2	211.7	212.9	214.0	44.4	0.0	0.0	0.0	0.0	0.0	(317.0)	366.4	YE Var
Variance Mo. Actual vs. LAB &---------->YTD vs. LAB														0.0	YTD Var
Variance Mo. Actual vs. LAB & ---------->YE vs. LAB		0.2	0.2	211.7	212.9	214.0	44.4	0.0	0.0	0.0	0.0	0.0	0.0	683.4	YE Var

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
	Civil	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Elec	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Test	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Other	0	0	40	40	40	0	0	0	0	0	0	0	120	
Labor Rate - Elect. Test & Other	E - T - Other	[redacted]													
Labor Rate - Civil	Civil														
(Elect Man Days) x Labor Rate (E - T - Other)	Elec	0	0	0	0	0	0	0	0	0	0	0	0	0.0	%
% of Electrical Labor Cost	Vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0.0	[redacted]
% of Electrical Labor Cost	Elec Support	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
(Other Man Days) x Labor Rate (E - T - Other)	Other	0	0	[redacted]			0	0	0	0	0	0	0		
% of Other Labor Cost	Other Vehicle	0	0				0	0	0	0	0	0	0		
(Test Man Days) x Labor Rate (E - T - Other)	Test	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Test Labor Cost	Test Vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
(Civil Man Days) x Labor Rate (Civil)	Civil	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Civil Labor Cost	Civil Vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Elect Labor Cost	Switching	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Switching Cost	SW Vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Total +.01 Conditional Formating=Zero	CLP Lab	0.0	0.0	19.5	19.5	19.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.6	
Total	CLP Veh	0.0	0.0	3.9	3.9	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.7	
Special Misc Adj Man Days	Man Days	[redacted]													
Special Misc Adj $	SMA	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Special Misc Vehicle $	SMV	0	0	0	0	0	0	0	0	0	0	0	0	0.0	[redacted]

TM1 Projects OH Rates Cube as of 3/1/18

Indirects		Jan	Feb	Mar	April	May	June	July	August	Sept.	Oct	Nov	Dec
NUSCO Non-Productive (ZB)		0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535
CL&P Non-Productive (ZB)		0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535
Stores (ZC)		0.1500	0.1500	0.1500	0.1500	0.1500	0.1500	0.1500	0.1500	0.1500	0.1500	0.1500	0.1500
CL&P Payroll Benefits (ZE)		0.3348	0.3348	0.3348	0.3348	0.3348	0.3348	0.3348	0.3348	0.3348	0.3348	0.3348	0.3348
NUSCO Gen Svcs Ovrhd (ZF)		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
E&S Substations (ZI)		0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
MDEC (ZM)		0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
Admin Sal & Exp (ZJ)		0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050
AFUDC (annual) (ZK)		0.0671	0.0671	0.0671	0.0671	0.0671	0.0671	0.0671	0.0671	0.0671	0.0671	0.0671	0.0671
AFUDC (monthly) (ZK)		0.0056	0.0056	0.0056	0.0056	0.0056	0.0056	0.0056	0.0056	0.0056	0.0056	0.0056	0.0056
Vehicles (ZV)		0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000

Funding Project Cash Flow CS00265 *ISD:* 12/31/19

Operating Company	CL&P
Budget Year	2018
Budget Status on Jan 1	TAF
Latest Approved Status or ISD	TAF
SS Description	[redacted]
PURA Initiative	SRSSCBA
Project Mgr	[redacted]
Project Engineering Mgr	PEM
Accounting Work Order #	CS002651

($000's)

RESOURCES DIRECT	Prior Yrs Actual	JAN Actual	FEB Actual	MAR Actual	APR Actual	MAY Actual	JUN Actual	JUL Actual	AUG Actual	SEP Actual	OCT Actual	NOV Actual	DEC Actual	TOTAL 2018	TOTAL Project
LT - CT_L01:Labor EESCO	5.3	1.1	0.8	0.5	1.3	1.0	0.5	0.0	0.2	0.0	0.3	1.1	0.0	6.8	12.1
LT - CT_LO1:Labor EECT - Civil, Elect, Test	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
L01-LT - Total Labor	5.3	1.1	0.8	0.5	1.3	1.0	0.5	0.0	0.2	0.0	0.3	1.1	0.0	6.8	12.1
AE - CT_EE0:Employee Expenses	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1
AM - CT_M12:Materials-Stores M11 Purchases	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1
AO - CT_OS1:OS Svc-Contr Env	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
AQ - CT_OS0:OS Svc-Contr	0.0	0.0	0.0	0.0	0.0	0.0	0.9	(0.0)	0.0	0.0	0.0	0.0	0.0	0.8	0.8
AV - CT_V00:Vehicles	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
P1 - CT_A01:Other Misc Acct, Contingency	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
KR - CT_C01:Contributions, Fees & Payments	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
BR - CT_J00:Rents + Leases	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
Subtotal Direct - Excluding Labor	0.1	0.0	0.0	0.0	0.0	0.0	0.9	(0.0)	0.1	0.0	0.0	0.1	0.0	1.0	1.1
Total Direct - Including Labor	5.4	1.1	0.8	0.5	1.3	1.0	1.4	(0.0)	0.3	0.0	0.3	1.1	0.0	7.8	13.2
INDIRECT															
CT_ZNP:Non-Productive EESCO	0.9	0.0	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.2	0.0	1.0	1.9
CT_ZNP:Non-Productive EECT	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
CT_Z01:Alloc-Mat loaders (Excludes >25K)	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
CT_Z93:Alloc-PR load Payroll Benefits	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
CT_Z94:Alloc-GSCOH EESCO	4.1	0.9	0.7	0.4	1.1	0.8	0.4	0.0	0.1	0.0	0.2	0.8	0.0	5.4	9.6
CT_Z96:Alloc- E+S	1.9	0.6	0.4	0.2	2.4	1.8	1.7	(0.0)	0.3	0.0	0.5	1.2	0.0	9.0	10.9
CT_Z92:Alloc-Misc Costs Cap	0.4	0.1	0.1	0.0	0.1	0.1	0.1	(0.0)	0.0	0.0	0.0	0.1	0.0	0.7	1.1
CT_Z90:Alloc- AS+E	0.1	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)	0.0	0.0	0.0	0.0	0.0	0.1	0.2
CT_Z98:Alloc - Veh Clear	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)	0.0	0.0	0.1	0.2
	7.5	1.8	1.3	0.7	3.9	2.9	2.3	(0.0)	0.5	0.0	0.7	2.4	0.0	16.6	24.1
Subtotal X-AFUDC	12.9	3.0	2.2	1.2	5.2	3.9	3.6	(0.1)	0.7	0.0	1.0	3.6	0.0	24.4	37.4
CT_Z95:Alloc-AFUDC	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.8	1.9
Total Project Prior To Date-->Month	13.0	3.1	2.3	1.3	5.3	4.1	3.8	0.1	0.9	0.2	1.2	3.8	0.2	26.2	39.3
Total Project - Cumulative To Date	13.0	16.1	18.4	19.7	25.0	29.1	32.9	33.0	33.9	34.1	35.3	39.1	39.3	39.3	
CF vs. Resource Sheet - Conditional Format		0.00	#REF!	#REF!	#REF!	#REF!	0.00	0.00	0.00	#REF!	#REF!	#REF!	0.00		
Budget		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	345.4	345.4	
Latest Approved Budget / Projection		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	
Monthly Actual & ---------->YTD Actual		3.1	2.3	1.3	5.3	4.1	3.8	0.1	0.9	0.2	1.2	3.8	0.2	26.2	YTD Act
Variance Mo. Actual vs. Mo. Budget &-- ->YTD vs. Budget		3.1	2.3	1.3	5.3	4.1	3.8	0.1	0.9	0.2	1.2	3.8	(345.2)	(319.2)	YTD Var
Variance Mo. Actual vs. Budget & ---------->YE vs. Budget		3.1	2.3	1.3	5.3	4.1	3.8	0.1	0.9	0.2	1.2	3.8	(345.2)	(319.2)	YE Var
Variance Mo. Actual vs. LAB &---------->YTD vs. LAB														0.0	YTD Var
Variance Mo. Actual vs. LAB & ---------->YE vs. LAB		3.1	2.3	1.3	5.3	4.1	3.8	0.1	0.9	0.2	1.2	3.8	0.2	26.2	YE Var

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
	Civil	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Elec	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Test	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	
Labor Rate - Elect. Test & Other	E - T - Other	[redacted]													
Labor Rate - Civil	Civil														
(Elect Man Days) x Labor Rate (E - T - Other)	Elec	0	0	0	0	0	0	0	0	0	0	0	0	0.0	%
% of Electrical Labor Cost	Vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0.0	[redacted]
% of Electrical Labor Cost	Elec Support	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
(Other Man Days) x Labor Rate (E - T - Other)	Other	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Other Labor Cost	Other Vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
(Test Man Days) x Labor Rate (E - T - Other)	Test	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Test Labor Cost	Test Vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
(Civil Man Days) x Labor Rate (Civil)	Civil	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Civil Labor Cost	Civil Vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Elect Labor Cost	Switching	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Switching Cost	SW Vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Total +.01 Conditional Formating=Zero	CLP Lab	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	
Total	CLP Veh	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	
Special Misc Adj Man Days	Man Days	[redacted]													
Special Misc Adj $	SMA	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Special Misc Vehicle $	SMV	0	0	0	0	0	0	0	0	0	0	0	0	0.0	[redacted]

TM1 Projects OH Rates Cube as of 3/1/18

Indirects		Jan	Feb	Mar	April	May	June	July	August	Sept	Oct	Nov	Dec
NUSCO Non-Productive (ZB)		0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535
CL&P Non-Productive (ZB)		0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535	0.1535
Stores (ZC)		0.1600	0.1600	0.1600	0.1600	0.1600	0.1600	0.1600	0.1600	0.1600	0.1600	0.1600	0.1600
CL&P Payroll Benefits (ZE)		0.4034	0.4034	0.4034	0.4034	0.4034	0.4034	0.4034	0.4034	0.4034	0.4034	0.4034	0.4034
NUSCO Gen Svcs Ovrhd (ZF)		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
E&S Substations (ZI)		0.1080	0.1080	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800
MDEC (ZM)		0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250
Admin Sal & Exp (ZJ)		0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100
AFUDC (annual) (ZK)		0.0495	0.0495	0.0495	0.0495	0.0495	0.0495	0.0495	0.0495	0.0495	0.0495	0.0495	0.0495
AFUDC (monthly) (ZK)		0.0041	0.0041	0.0041	0.0041	0.0041	0.0041	0.0041	0.0041	0.0041	0.0041	0.0041	0.0041
Vehicles (ZV)		0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000

Funding Project Cash Flow **CS00265** ***ISD:*** **12/31/18**

Operating Company	CL&P
Budget Year	2017
Budget Status on Jan 1	TAF
Latest Approved Status or ISD	TAF
SS Description	[redacted]
PURA Initiative	SRSSCBA
Project Mgr	[redacted]
Project Engineering Mgr	PEM
Accounting Work Order #	CS002651

($000's)

RESOURCES	Prior Yrs Actual	JAN Actual	FEB Actual	MAR Actual	APR Actual	MAY Actual	JUN Actual	JUL Actual	AUG Actual	SEP Actual	OCT Actual	NOV Actual	DEC Actual	TOTAL 2017	TOTAL Project
DIRECT															
LT - CT_L01:Labor EESCO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.3	0.7	0.3	2.8	5.3	5.3
LT - CT_LO1:Labor EECT - Civil, Elect, Test	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
L01-LT - Total Labor	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.3	0.7	0.3	2.8	5.3	5.3
AE - CT_EE0:Employee Expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1
AM - CT_M12:Materials-Stores M11 Purchases	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
AO - CT_OS1:OS Svc-Contr Env	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
AQ - CT_OS0:OS Svc-Contr	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
AV - CT_V00:Vehicles	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
P1 - CT_A01:Other Misc Acct, Contingency	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
KR - CT_C01:Contributions, Fees & Payments	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
BR - CT_J00:Rents + Leases	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
Subtotal Direct - Excluding Labor	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1
Total Direct - Including Labor	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.4	0.7	0.3	2.8	5.4	5.4
INDIRECT															
CT_ZNP:Non-Productive EESCO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.4	0.9	0.9
CT_ZNP:Non-Productive EECT	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
CT_Z91:Alloc-Mat loaders (Excludes >25K)	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
CT_Z93:Alloc-PR load Payroll Benefits	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
CT_Z94:Alloc-GSCOH EESCO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.0	0.6	0.2	2.1	4.1	4.1
CT_Z96:Alloc- E+S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.1	1.4	1.9	1.9
CT_Z92:Alloc-Misc Costs Cap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.4	0.4
CT_Z90:Alloc- AS+E	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	0.1	0.1
CT_Z98:Alloc - Veh Clear	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	0.1	0.1
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.7	0.9	0.3	4.3	7.5	7.5
Subtotal X-AFUDC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.1	1.6	0.6	7.1	12.9	12.9
CT_Z95:Alloc-AFUDC	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	0.1	0.1
Total Project Prior To Date-->Month	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.1	1.7	0.6	7.1	13.0	13.0
Total Project - Cumulative To Date	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.7	5.3	5.9	13.0	13.0	
CF vs. Resource Sheet - Conditional Format		0.00	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.00		
Budget		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	
Latest Approved Budget / Projection		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	
Monthly Actual & ----------->YTD Actual		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.1	1.7	0.6	7.1	13.0	YTD Act
Variance Mo. Actual vs. Mo. Budget &--->YTD vs. Budget		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.1	1.7	0.6	7.1	13.0	YTD Var
Variance Mo. Actual vs. Budget & ----------->YE vs. Budget		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.1	1.7	0.6	7.1	13.0	YE Var
Variance Mo. Actual vs. LAB &------------->YTD vs. LAB														0.0	YTD Var
Variance Mo. Actual vs. LAB & ------------->YE vs. LAB		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.1	1.7	0.6	7.1	13.0	YE Var

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
	Civil	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Elec	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Test	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	
Labor Rate - Elect. Test & Other	E - T - Other	[redacted]													
Labor Rate - Civil	Civil														
(Elect Man Days) x Labor Rate (E - T - Other)	Elec	0	0	0	0	0	0	0	0	0	0	0	0	0.0	%
% of Electrical Labor Cost	Vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0.0	[redacted]
% of Electrical Labor Cost	Elec Support	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
(Other Man Days) x Labor Rate (E - T - Other)	Other	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Other Labor Cost	Other Vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0.0	[redacted]
(Test Man Days) x Labor Rate (E - T - Other)	Test	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Test Labor Cost	Test Vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0.0	[redacted]
(Civil Man Days) x Labor Rate (Civil)	Civil	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Civil Labor Cost	Civil Vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0.0	[redacted]
% of Elect Labor Cost	Switching	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Switching Cost	SW Vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0.0	[redacted]
Total +.01 Conditional Formating=Zero	CLP Lab	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	
Total	CLP Veh	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	
Special Misc Adj Man Days	Man Days	[redacted]													
Special Misc Adj $	SMA	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Special Misc Vehicle $	SMV	0	0	0	0	0	0	0	0	0	0	0	0	0.0	[redacted]

Indirects		TM1 Projects OH Rates Cube as of 9-13-17 Jan	Feb	Mar	April	May	June	July	August	Sept	Oct	Nov	Dec
NUSCO Non-Productive (ZB)		0.2058	0.1851	0.1851	0.1851	0.1851	0.1851	0.1851	0.1851	0.1851	0.1851	0.1851	0.1851
CL&P Non-Productive (ZB)		0.2058	0.1851	0.1851	0.1851	0.1851	0.1851	0.1851	0.1851	0.1851	0.1851	0.1851	0.1851
Stores (ZC)		0.1600	0.1600	0.1600	0.1600	0.1600	0.1600	0.1600	0.1600	0.1600	0.1600	0.1600	0.1600
CL&P Payroll Benefits (ZE)		0.4024	0.4024	0.4024	0.4024	0.4024	0.4024	0.4024	0.4024	0.4024	0.4024	0.4024	0.4024
NUSCO Gen Svcs Ovrhd (ZF)		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
E&S Substations (ZI)		0.1080	0.1080	0.1080	0.1080	0.1080	0.1080	0.1080	0.1080	0.1100	0.1100	0.1100	0.1100
MDEC (ZM)		0.0313	0.0313	0.0313	0.0313	0.0313	0.0313	0.0313	0.0313	0.0250	0.0250	0.0250	0.0250
Admin Sal & Exp (ZJ)		0.0113	0.0113	0.0113	0.0113	0.0113	0.0113	0.0113	0.0113	0.0100	0.0100	0.0100	0.0100
AFUDC (annual) (ZK)		0.0660	0.0660	0.0660	0.0660	0.0660	0.0660	0.0660	0.0660	0.0660	0.0660	0.0660	0.0660
AFUDC (monthly) (ZK)		0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055
Vehicles (ZV)		0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000