EVERSOURCE
Project Authorization Form

Operations Project Authorization Form

Approved at August 1, 2018 EPAC
Link to Meeting Minutes

Date Prepared: 07/16/2018	**Project Title: [redacted]-Xfmr & PCE install**
Company/ies: Eversource CT	**Project ID Number: CS00247**
Organization: Asset Management	**Class(es) of Plant: Distribution Substation**
Project Initiator: [redacted]	**Project Category: SS Transformer Reliability**
Project Manager: [redacted]	**Project Type: Specific**
Project Sponsor: [redacted]	**Project Purpose: [redacted]**
Estimated in service date: 2020	**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: $6,636,000	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

This project is seeking full funding of $6,636,000 to [redacted]. The prior authorized dollars indicated below is for engineering and ordering long lead time materials.

[redacted]

[redacted]

[redacted]

This project was previously approved for $2,700,000 on 4/2017 for engineering and long lead time material purchases.

Project Costs Summary Financial Evaluation

Note: Dollar values are in thousands

	Prior Authorized*	2017	2018	2019	Total
Capital Additions Direct	$2,531	$7	$4,312	$1,194	$5,513
Less Customer Contribution	$0	$0	$0	$0	$0
Removals Net of Salvage	$0	$0	$44	$12	$56
Total - Direct Spending	$2,531	$7	$4,356	$1,206	$5,569
Capital Additions - Indirect	$124	$4	$540	$263	$808
Subtotal Request	$2,655	$11	$4,896	$1,469	$6,376
AFUDC	$45	$0	$92	$167	$259
Total Request	$2,700	$11	$4,989	$1,636	$6,636

Financial Evaluation

Note: Dollar values are in thousands

Direct Capital Costs	Prior Years	2018	2019	Total
Straight Time Labor	$2	$166	$86	$254
Overtime Labor	$0	$0	$0	$0
Outside Services	$4	$1,169	$1,120	$2,294
Materials	$0	$3,021	$0	$3,021
Other, including contingency amounts	$0	$0	$0	$0
Total	$7	$4,356	$1,206	$5,569

Indirect Capital Costs	Prior Years	2018	2019	Total
Indirects/Overheads (including benefits)	$4	$540	$263	$808
Capitalized interest or AFUDC, if any	$0	$92	$167	$259
Total	$4	$633	$430	$1,067
Total Capital Costs	$11	$4,989	$1,636	$6,636
Less Total Customer Contribution	$0	$0	$0	$0
Total Capital Project Costs	$11	$4,989	$1,636	$6,636
Total O&M Project Costs	$0	$0	$0	$0

Note: Explain unique payment provisions, if applicable

Future Financial Impacts:

Note: Dollar values are in thousands:

Future Costs	Year 20__	Year 20__	Year20__	Year 20__+	Total Future Project Costs
Capital	$ -	$ -	$ -	$ -	$ -
O&M	-	-	-	-	-
Other	-	-	-	-	-
TOTAL	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

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

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

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__	Year20__	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

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

Is there an ARO associated with this project? If yes, please provide details: There are no ARO requirements for this project.

Are there other environmental cleanup costs associated with this project? If yes, please provide details: N/A

Technical Justification:

Project Need Statement

[redacted]

Project Objectives

The main objective of this project is to improve reliability by [redacted]

Project Scope

The scope of the project is to:

[redacted]

A baseline sound report was performed and provided by engineering at the time of the siting request for an exemption.

- Engineering is working with the Siting and Construction Services group. An outreach effort was confirmed by engineering and will be carried out to abutters.
- A sound study will be performed once all equipment associated with this project has been installed and energized to confirm the substation meets Connecticut guidelines. If the sound levels exceed the state sound levels a sound wall will be engineered and installed to mitigate this issue.

This project is similar to the [redacted] but with an increase of approximately $800K due to the following scope differences;

- [redacted]
- [redacted].

Background / Justification

[redacted]

A review of the proposed [redacted]

[redacted]

Business Process and / or Technical Improvements:

- Improved customer reliability and complying with [redacted]
- The [redacted]
- [redacted]
- [redacted]
- [redacted]
  - [redacted]

Alternatives Considered with Cost Estimates

One alternative was to [redacted]. Due to a previous request for material funding, a [redacted]

An alternative is to [redacted], would cost more due to mobilizing construction crews twice and in requesting work zone clearances. The estimated cost to install [redacted] is $3,223k using internal resources and $3,795k using external resources.

Another alternative is to [redacted]

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Procurement	6/2017
Siting and Outreach review	6/2018
Civil Eng. Dwg issue	7/2018
Elec Eng. Dwg issue	11/2018
Construction start	2018/2019
Construction completion	2020

Regulatory Approvals

Siting Council has filed a notice of exception (7/2018)

Risks and Risk Mitigation Plans

Engineering is working with SCLL Committee to get proper mitigation in place.

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Internal engineering resources not available to perform the work.	2018	Low	If internal resources will not be available, external resources will be obtained well in advance to ensure availability and least possible cost.
System abnormal configuration	2018/2019	Medium	[redacted]
Actual cost higher than estimated due to scope changes.	2019	Low	The scope will be held to the project description. [redacted]

SCLL Conditions	2019	Medium	[redacted]
Customer Permission / Siting Council / Municipal approvals	2018	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach will be initiated.
Delays due to inclement weather is always a risk	2019	Low - Medium	Every opportunity to keep outage schedules from changing are made. This project will be constructed by outside contractors.
Delay of installing equipment for lack of funding this project	2019	medium	[redacted] was ordered with a pre-approval of $2.7M. The risk is landing the equipment on a foundation that has not yet been approved. The project has been delayed in approvals elevating the risk to medium.
Sound levels exceed state guidelines	2020	Low	The risk level has been set to low due to the manufactures specification on reduced noise levels. A sound study will be performed after all installed equipment has been energized.

References

- ES SYS PLAN 010
- ES SYS PLAN 015

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



Figure 1 – [redacted]



Figure 2 – [redacted]



Figure 3 –Aerial view of [redacted] showing existing abutters.

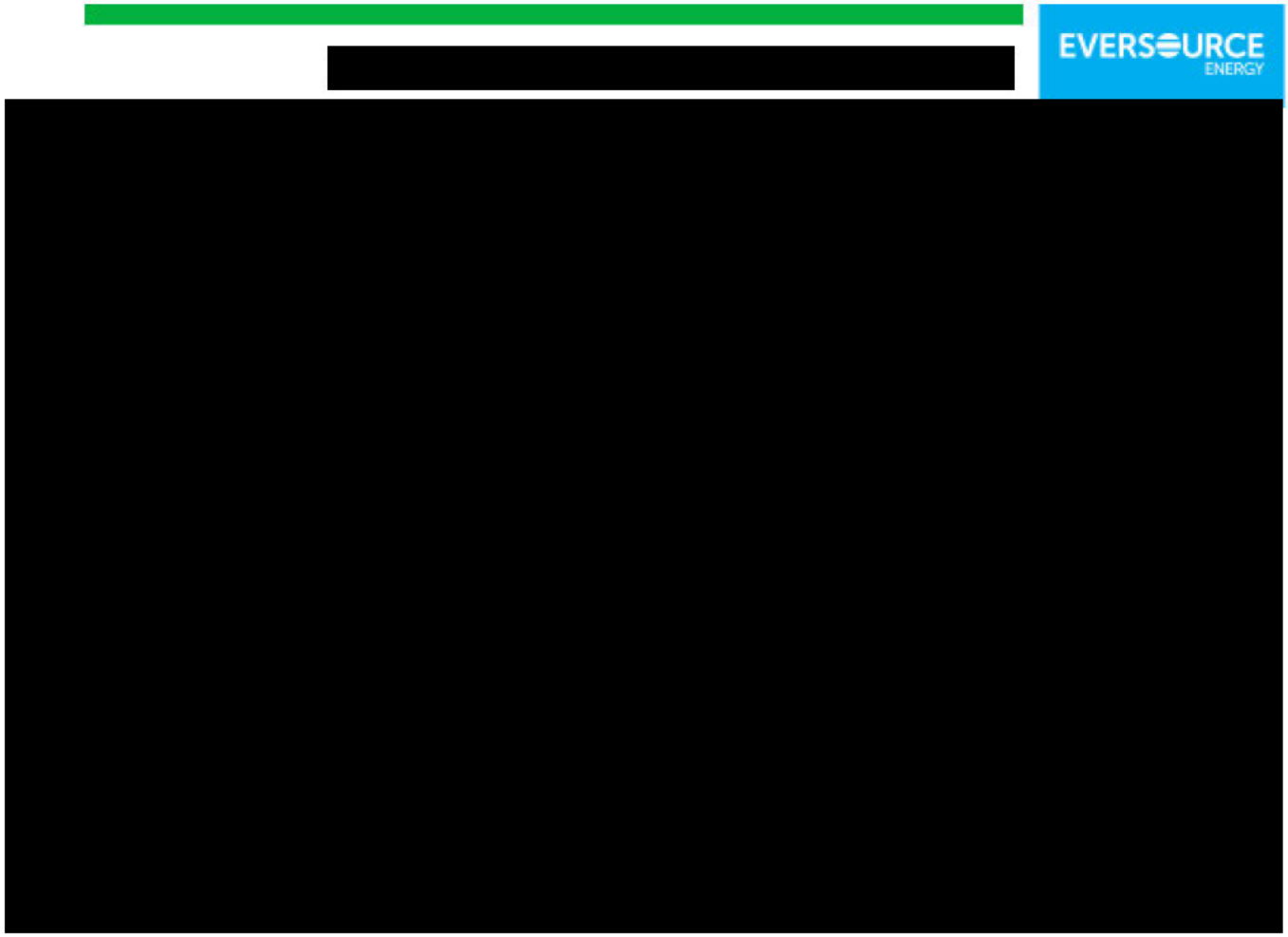

Figure 4 - Bubble chart indicating

Load Factor= [redacted]

Note [redacted]

To Devices											
							Ratings				
Substation	To Circuit	Cummalative Load	To Device	kV	Peak on Existing Device Amps	Peak on Existing Device MVA	Normal MVA	Emergency MVA	Load on Device W/ Transfer MVA	Remaining Capacity on Adjacient Circuit MVA	Type of Transfer
[redacted]											

From Devices					
From Circuit	Device Closed	Device Open	AMPS Transferred	MVA Transferred	Notes:
[redacted]					

Load Transferred From				
From	MVA	Amps	kV	Note
[redacted]				

Load Transferred To
[redacted]

Project Checklist – Transmission and Substation

Checklist for Studies and Processes of a Transmission & Substation Capital Project					
Project Name: [redacted] & PCE install					**PAF No: CS00247**
Facility Type: ☐ BPS	☒ BES	☐ PTF	☒ non-PTF	☐ CIP	☒ Distribution
PLANNING					
Is a NX-9 required?					Yes
Is an ISO-NE PAC presentation required?					No
Is a PPA required?					Yes
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?					Yes
Has an outage schedule been approved?					No
Are Operations & Maintenance procedures/training required?					No
STANDARDS					
Does the project include standard equipment and designs?					Yes
SUBSTATION ENGINEERING					
Does this impact Revenue Metering					Yes
Is preliminary short circuit/ breaker duty analysis required?					Yes
Are there any changes to the baseline audible noise?					Yes
Is there an impact to the existing ground grid?					Yes
Is a Transient Over Voltage (TOV) analysis required?					NR
P&C ENGINEERING					
OP-22 - Are PMUs and DDR required?					No
If BPS, is an NPCC Directory #4 presentation required?					No

Engineering is working with SCLL Committee to get proper mitigation in place.

Checklist for Studies and Processes of a Transmission & Substation Capital Project	
Project Name: [redacted] & PCE install	**PAF No: CS00247**
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?	Yes
PERMITTING	
Is there any permitting required?	Yes
SITING & CONSTRUCTION SERVICES (OUTREACH)	
What is the level of outreach expected?	Medium
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 Details

Funding Project Cash Flow CS00247 *ISD:* 12/31/19

Operating Company	[redacted]
Budget Year	2017
Budget Status on Jan 1	TAF
Latest Approved Status or ISD	PPAF
SS Description	[redacted]
PURA Initiative	[redacted]
Project Mgr	[redacted]
Project Engineering Mgr	[redacted]
Accounting Work Order #	CS002471

RP use CF Loaders Estimate not overstated DME
Partial PAF approved due to [redacted]

($000's)

RESOURCES	Prior Yrs	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	TOTAL
DIRECT	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	2017	Project
LT - CT_L01:Labor EESCO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.2	0.6	0.5	2.5	2.5
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	0.6	0.6	0.2	0.6	0.5	2.5	2.5
AE - CT_EE0:Employee Expenses	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
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	4.4	0.0	0.0	4.4	4.4
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	0.0	4.4	0.0	0.0	4.4	4.4
Total Direct - Including Labor	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	4.5	0.6	0.5	6.8	6.8
INDIRECT															
CT_ZNP:Non-Productive EESCO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.4	0.4
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	0.5	0.5	0.1	0.5	0.3	1.9	1.9
CT_Z96:Alloc- E+S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.6	0.1	0.2	1.2	1.2
CT_Z92:Alloc-Misc Costs Cap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.3
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	0.1	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	0.8	0.8	0.9	0.8	0.7	4.0	4.0
Subtotal X-AFUDC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.4	5.4	1.4	1.2	10.8	10.8
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	0.1	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	1.5	1.4	5.4	1.4	1.2	11.0	11.0
Total Project - Cumulative To Date	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	2.9	8.3	9.8	11.0	11.0	
CF vs. Resource Sheet - Conditional Format		0.00	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	0.00	#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	15.7	15.7	15.7	15.7	13.6	76.5	
Monthly Actual & ----------->YTD Actual		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.4	5.4	1.4	1.2	11.0	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	1.5	1.4	5.4	1.4	1.2	11.0	YTD Var
Variance Mo. Actual vs. Budget & ----------->YE vs. Budget		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.4	5.4	1.4	1.2	11.0	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)	(14.2)	(14.3)	(10.3)	(14.3)	(12.4)	(65.5)	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	0	0	0	0	0	0	0	0	0	0	0	0	0	
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 9-13-17

Indirects		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

Funding Project Cash Flow CS00247 *ISD:* 12/31/19

Operating Company	CL&P
Budget Year	2018
Budget Status on Jan 1	PPAF
Latest Approved Status or ISD	PAF Pend
SS Description	[redacted]
PURA Initiative	[redacted]
Project Mgr	[redacted]
Project Engineering Mgr	[redacted]
Accounting Work Order #	CS002471

RP use CF Loaders Estimate not overstated DME

Partial PAF approved due to [redacted]

($000's)

RESOURCES DIRECT	Prior Yrs Actual	JAN Actual	FEB Actual	MAR Actual	APR Actual	MAY Fcst	JUN Fcst	JUL Fcst	AUG Fcst	SEP Fcst	OCT Fcst	NOV Fcst	DEC Fcst	TOTAL 2018	TOTAL Project
LT - CT_L01:Labor EESCO	2.5	0.9	0.2	0.4	1.5	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	122.9	125.4
LT - CT_LO1:Labor EECT - Civil, Elect, Test	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	9.5	9.5	9.5	9.5	42.7	42.7
L01-LT - Total Labor	2.5	0.9	0.2	0.4	1.5	15.0	15.0	15.0	19.7	24.5	24.5	24.5	24.5	165.6	168.0
AE - CT_EE0:Employee Expenses	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
AM - CT_M12:Materials-Stores M11 Purchases	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3,020.9	0.0	0.0	0.0	0.0	0.0	3,020.9	3,020.9
AO - CT_OS1:OS Svc-Contr Env	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	10.0	10.0	10.0	50.0	50.0
AQ - CT_OS0:OS Svc-Contr	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	223.9	223.9	223.9	223.9	223.9	1,119.5	1,123.8
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	4.4	0.0	0.0	0.0	0.0	0.0	0.0	3,020.9	233.9	233.9	233.9	233.9	233.9	4,190.3	4,194.7
Total Direct - Including Labor	6.8	0.9	0.2	0.4	1.5	15.0	15.0	3,035.9	253.6	258.4	258.4	258.4	258.4	4,355.9	4,362.7
INDIRECT															
CT_ZNP:Non-Productive EESCO	0.4	0.0	0.0	0.1	0.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	18.8	19.2
CT_ZNP:Non-Productive EECT	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.5	1.5	1.5	1.5	6.7	6.7
CT_Z91:Alloc-Mat loaders (Excludes >25K)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	94.2	0.0	0.0	0.0	0.0	0.0	94.2	94.2
CT_Z93:Alloc-PR load Payroll Benefits	0.0	0.0	0.0	0.0	0.0	6.1	6.1	6.1	8.3	10.5	10.5	10.5	10.5	68.3	68.3
CT_Z94:Alloc-GSCOH EESCO	1.9	0.7	0.1	0.3	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	4.2
CT_Z96:Alloc- E+S	1.2	0.4	0.1	0.1	2.6	4.2	4.2	4.2	47.7	49.1	49.1	49.1	49.1	259.8	261.0
CT_Z92:Alloc-Misc Costs Cap	0.3	0.1	0.0	0.0	0.1	0.6	0.6	0.6	6.6	6.8	6.8	6.8	6.8	35.9	36.2
CT_Z90:Alloc- AS+E	0.1	0.0	0.0	0.0	0.0	0.3	0.3	7.1	2.8	2.8	2.8	2.8	2.8	21.8	21.9
CT_Z98:Alloc - Veh Clear	0.1	0.0	0.0	0.0	0.0	3.0	3.0	3.0	3.9	4.9	4.9	4.9	4.9	32.6	32.7
	4.0	1.4	0.3	0.6	4.3	16.4	16.4	117.4	72.3	77.8	77.8	77.8	77.8	540.4	544.4
Subtotal X-AFUDC	10.8	2.3	0.4	0.9	5.8	31.4	31.4	3,153.3	325.9	336.2	336.2	336.2	336.2	4,896.3	4,907.1
CT_Z95:Alloc-AFUDC	0.1	0.1	0.1	0.1	0.1	0.1	0.3	6.8	14.1	15.5	16.9	18.4	19.8	92.3	92.4
Total Project Prior To Date-->Month	11.0	2.3	0.5	1.0	5.9	31.6	31.7	3,160.1	340.0	351.7	353.1	354.6	356.1	4,988.5	4,999.5
Total Project - Cumulative To Date	11.0	13.3	13.8	14.8	20.7	52.2	83.9	3,244.0	3,584.0	3,935.7	4,288.9	4,643.5	4,999.5	4,999.5	
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		20.1	20.1	20.2	20.3	20.4	59.1	260.8	3,097.6	274.6	237.1	199.4	200.1	4,430.0	
Latest Approved Budget / Projection		24.7	24.4	24.5	24.6	24.7	8.7	8.7	2,415.4	16.9	17.0	17.0	17.1	2,623.5	
Monthly Actual & ----------->YTD Actual		2.3	0.5	1.0	5.9									9.7	YTD Act
Variance Mo. Actual vs. Mo. Budget &-- ->YTD vs. Budget		(17.7)	(19.7)	(19.2)	(14.5)									(71.1)	YTD Var
Variance Mo. Actual vs. Budget & ---------->YE vs. Budget		(17.7)	(19.7)	(19.2)	(14.5)	11.2	(27.4)	2,899.3	(2,757.6)	77.1	116.0	155.2	155.9	558.5	YE Var
Variance Mo. Actual vs. LAB &---------->YTD vs. LAB														0.0	YTD Var
Variance Mo. Actual vs. LAB & ---------->YE vs. LAB		(22.3)	(23.9)	(23.5)	(18.7)	6.9	23.0	3,151.4	(2,075.4)	334.8	336.2	337.6	339.0	2,365.0	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	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	90	
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	
% of Electrical Labor Cost	Elec Support	0	0	0	0	0	0	0	0	0	0	0	0	0.0	[redacted]
(Other Man Days) x Labor Rate (E - T - Other)	Other	0	0	0	0	0	0	0	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
% of Other Labor Cost	Other Vehicle	0	0	0	0	0	0	0	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	8.5	
(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	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
Total	CLP Veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
Special Misc Adj Man Days	Man Days	0	0	0	0	0	0	0	0	0	0	0	0		
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 CS00247 *ISD:* 12/31/19

Operating Company	CL&P
Budget Year	2019
Budget Status on Jan 1	PPAF
Latest Approved Status or ISD	PAF Pend
SS Description	[redacted]
PURA Initiative	[redacted]
Project Mgr	[redacted]
Project Engineering Mgr	[redacted]
Accounting Work Order #	CS002471

RP use CF Loaders Estimate not overstated DME

Partial PAF approved due to [redacted]

($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	125.4	10.0	10.0	10.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	162.4
LT - CT_LO1:Labor EECT - Civil, Elect, Test	42.7	9.8	9.8	9.8	9.8	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.8	91.5
L01-LT - Total Labor	**168.0**	**19.8**	**19.8**	**19.8**	**16.8**	**9.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**85.8**	**253.9**
AE - CT EE0:Employee Expenses	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
AM - CT M12:Materials-Stores M11 Purchases	3,020.9	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	3,020.9
AO - CT OS1:OS Svc-Contr Env	50.0	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	50.0
AQ - CT OS0:OS Svc-Contr	1,123.8	223.9	223.9	223.9	223.9	223.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	1,120.1	2,243.9
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	**4,194.7**	**223.9**	**223.9**	**223.9**	**223.9**	**223.9**	**0.7**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**1,120.1**	**5,314.8**
Total Direct - Including Labor	**4,362.7**	**243.7**	**243.7**	**243.7**	**240.7**	**233.7**	**0.7**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**1,206.0**	**5,568.7**
INDIRECT															
CT ZNP:Non-Productive EESCO	19.2	1.5	1.5	1.5	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	24.9
CT ZNP:Non-Productive EECT	6.7	1.5	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	14.2
CT Z91:Alloc-Mat loaders (Excludes >25K)	94.2	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	94.2
CT Z93:Alloc-PR load Payroll Benefits	68.3	8.6	8.6	8.6	7.4	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7	105.9
CT Z94:Alloc-GSCOH EESCO	4.2	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	4.2
CT Z96:Alloc- E+S	261.0	30.6	30.6	30.6	30.1	28.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	150.8	411.9
CT Z92:Alloc-Misc Costs Cap	36.2	6.4	6.4	6.4	6.3	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.4	67.6
CT Z90:Alloc- AS+E	21.9	2.7	2.7	2.7	2.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.1	35.0
CT_Z98:Alloc - Veh Clear	32.7	4.0	4.0	4.0	3.4	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.2	49.8
	544.4	**55.2**	**55.2**	**55.2**	**52.2**	**45.2**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**263.3**	**807.7**
Subtotal X-AFUDC	**4,907.1**	**298.9**	**298.9**	**298.9**	**292.9**	**278.9**	**0.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**1,469.2**	**6,376.3**
CT_Z95:Alloc-AFUDC	92.4	11.5	12.1	12.8	13.5	14.2	14.5	14.6	14.6	14.6	14.7	14.7	14.7	166.6	259.0
Total Project Prior To Date-->Month	**4,999.5**	**310.4**	**311.0**	**311.7**	**306.4**	**293.1**	**15.3**	**14.6**	**14.6**	**14.6**	**14.7**	**14.7**	**14.7**	**1,635.8**	**6,635.4**
Total Project - Cumulative To Date	**4,999.5**	**5,309.9**	**5,620.9**	**5,932.7**	**6,239.1**	**6,532.2**	**6,547.5**	**6,562.0**	**6,576.6**	**6,591.3**	**6,605.9**	**6,620.6**	**6,635.4**	**6,635.4**	
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		210.8	368.0	383.7	384.5	370.4	211.8	14.1	14.1	14.2	14.2	14.2	14.3	1,974.3	
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		99.5	(56.9)	(52.0)	(58.1)	(77.3)	(196.5)	0.5	0.5	0.5	0.5	0.5	0.5	(338.5)	YE Var
Variance Mo. Actual vs. LAB &---------->YTD vs. LAB														0.0	YTD Var
Variance Mo. Actual vs. LAB & ---------->YE vs. LAB		310.4	311.0	311.7	306.4	293.1	15.3	14.6	14.6	14.6	14.7	14.7	14.7	1,635.8	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	[redacted]					0	0	0	0	0	0	0	[redacted]	
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	[redacted]					0	0	0	0	0	0	0	[redacted]	
% of Other Labor Cost	Other Vehicle						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	[redacted]					0.0	0.0	0.0	0.0	0.0	0.0	0.0	[redacted]	
Total	CLP Veh						0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Special Misc Adj Man Days	Man Days	0	0	0	0	0	0	0	0	0	0	0	0		
Special Misc Adj $	$MA	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
% of Special Misc Vehicle $	$MV	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)		0.1200	0.1200	0.1200	0.1200	0.1200	0.1200	0.1200	0.1200	0.1200	0.1200	0.1200	0.1200
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)		0.0267	0.0267	0.0267	0.0267	0.0267	0.0267	0.0267	0.0267	0.0267	0.0267	0.0267	0.0267
AFUDC (monthly) (ZK)		0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022
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