EVERSOURCE
Project Authorization Form

Operations Project Authorization Form

Approved at February 20, 2019 EPAC
Link to Meeting Minutes

Date Prepared: 02/06/2019	**Project Title: [redacted] - Circuit Breaker Auto**
Company/ies: Eversource CT	**Project ID Number: CS00184**
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 feeder(s) w/ SCADA**
Estimated in service date: 12/31/2018	**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: $579,000	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

This project is seeking full funding of $579,000 to [redacted]. Eversource had an initiative to [redacted]. The initiative was approved by the Connecticut Public Utilities Regulatory Authority (PURA) in the 2014 rate case. This project was previously approved in PowerPlan on February 11, 2016 for full funding in the amount of $75,000. The initial estimated cost was based on [redacted] However, following the engineering review, the forecasted funding required to complete this project increased to $579,000. The added cost is due to awarding this project to outside contractors and additional scope to [redacted] This project is complete and was placed in service on December 31, 2018.

Project Costs Summary
Note: Dollar values are in thousands

	Prior Authorized	Prior Years Spend	Totals
Capital Additions - Direct	$42	$294	$294
Less Customer Contribution	$0	$0	$0
Removals net of Salvage 23%	$5	$69	$69
Total - Direct Spending	$47	$363	$363
Capital Additions - Indirect	$25	$196	$195
Subtotal Request	$72	$559	$559
AFUDC	$3	$20	$20
Total Capital Request	$75	$579	$579
O&M	$0	$0	$0
Total Request	$75	$579	$579

Financial Evaluation
Note: Dollar values are in thousands

Direct Capital Costs	Prior Years	Total
Straight Time Labor	$49	$49
Overtime Labor	$0	$0
Outside Services	$286	$286
Materials	$28	$28
Other, including contingency amounts (describe)	$0	$0
Total	$363	$363

Indirect Capital Costs		Total
Indirects/Overheads (including benefits)	$196	$196
Capitalized interest or AFUDC, if any	$20	$20
Total	$216	$216

Total Capital Costs	$579	$579
Less Total Customer Contribution	$0	$0
Total Capital Project Costs	$579	$579
Total O&M Project Costs	$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 had an initiative "2015 to 2017 Expanded System Resiliency Plan Initiatives" to install [redacted] Docket information describing the initiatives in detail is available from the Regulated Businesses Policies, Procedures and Guidelines Database.

Project Objectives

[redacted] This supports the following Eversource objectives:

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

Project Scope

[redacted]

[redacted]

[redacted]

Added scope while in the field

[redacted] This additional scope added to the overall project cost. This project was initially planned and estimated for internal electricians to construct, due to delays in planning, the project was given to an outside contractor.

Background / Justification

[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] will be kept for the foreseeable future; therefore, it meets the guidelines to automate. [redacted]

[redacted]

Each of the above alternatives have their pros and cons, cost and availability being the most common cons.

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Engineering	12/31/17
Construction	9/31/18
ISD	12/31/18

Regulatory Approvals

The recloser automation program was approved by the Connecticut Public Utilities Regulatory Authority (PURA) in the 2014 rate case. The description of the Substation Automation initiative for breakers and reclosers is in the "2015 to 2017 Expanded System Resiliency Plan Initiatives".

Risks and Risk Mitigation Plans

Engineering was outsourced to ensure completion by 12/31/18. The project has been completed and placed in service.

References

Connecticut Public Utilities Regulatory Authority (PURA) in the 2014 rate case

Eversource "2015 to 2017 Expanded System Resiliency Plan Initiatives"

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

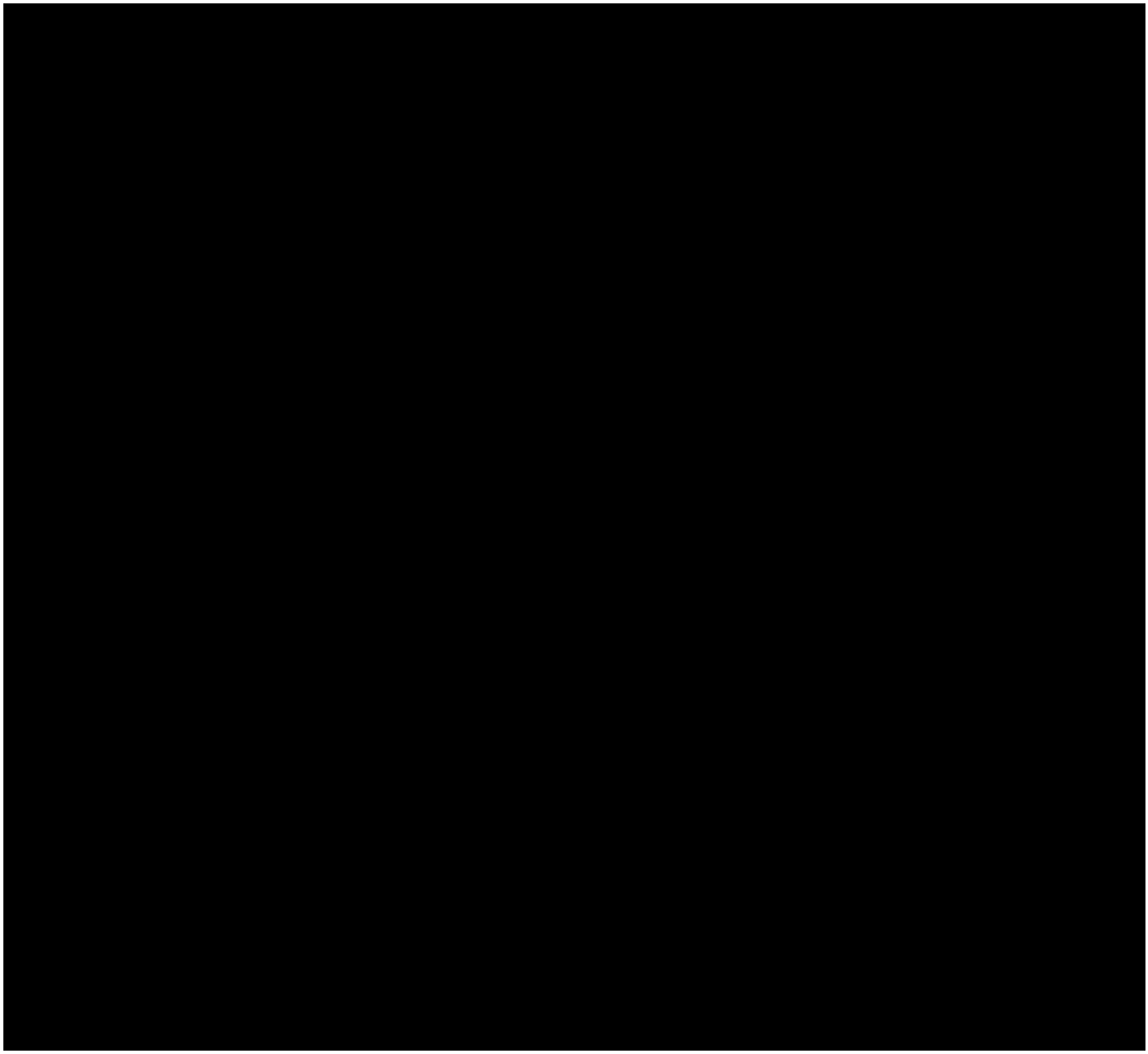

Figure 1 - Nomenclature diagram indicating location of equipment to be upgraded

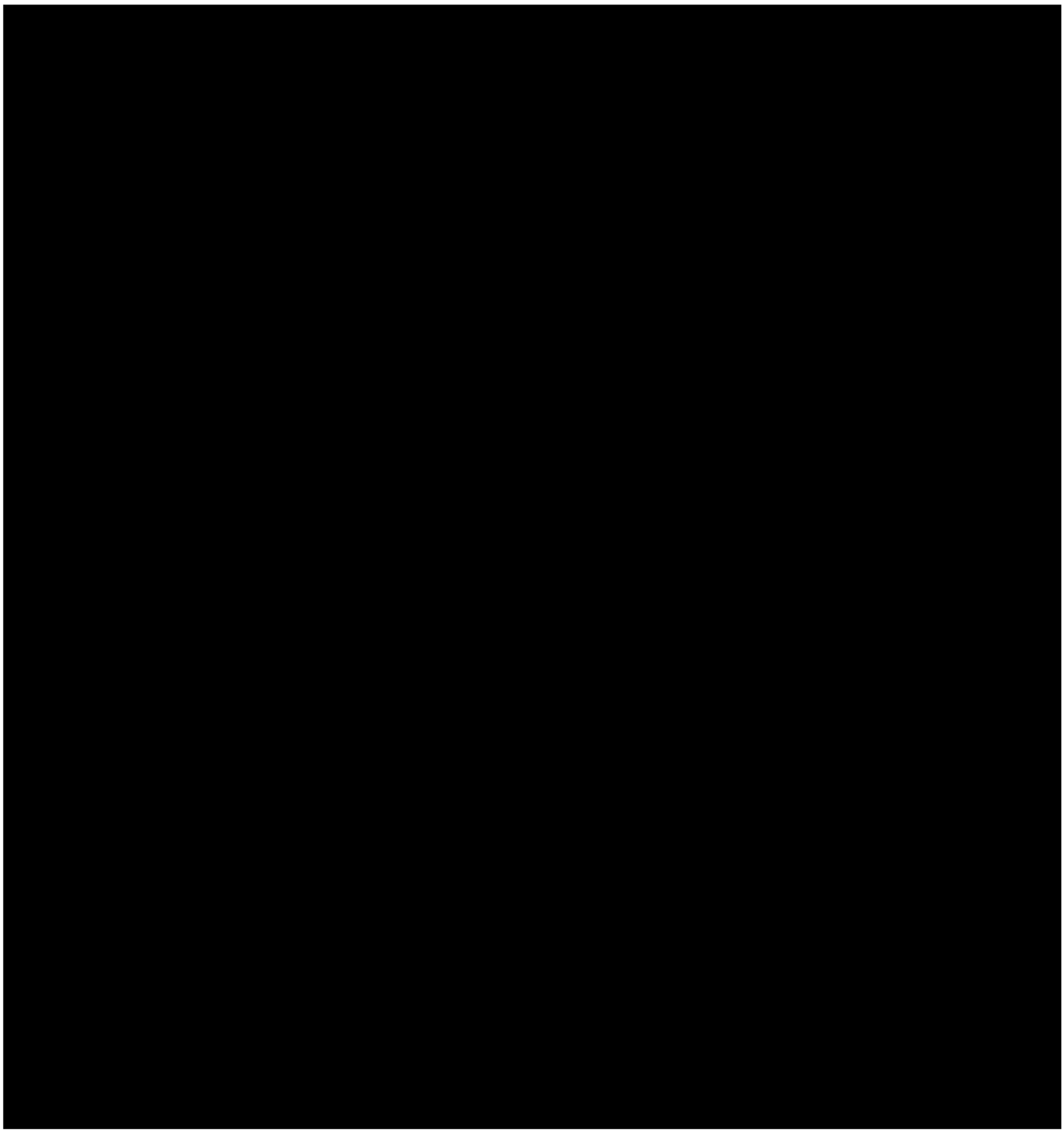

Figure 2 - 13.8 kV switchgear feeders that were automated

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 Auto					**PAF No: CS00184**	
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 Auto	**PAF No: CS00184**
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?	None
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 Backup Details

Cost Breakdown for FP# CS00184

02/11/2019

				FERC Account #			
Cost_Type	Year	CE_Type	DESCRIPTION	106010	107010	108030	Total
Direct	2016	Contractors	Engineering Design Services		23,702.59	6,080.91	29,783.50
		Contractors Total		-	23,702.59	6,080.91	29,783.50
Direct	2016	Labor	Exempt Hours Beyond Schedule-Unpaid		104.07	26.70	130.77
Direct	2016	Labor	Labor Overtime Non-Exempt		163.22	41.88	205.10
Direct	2016	Labor	Labor Straight Time Exempt		3,984.72	1,022.24	5,006.96
Direct	2016	Labor	Labor Straight Time Non-Exempt		158.94	40.78	199.72
Direct	2016	Labor	Unvouchered Liablities		-	-	-
		Labor Total		-	4,410.95	1,131.60	5,542.55
Direct	2016	Misc Other	Mileage		23.21	5.95	29.16
		Misc Other Total		-	23.21	5.95	29.16
	2016 Total			-	28,136.75	7,218.46	35,355.21
Direct	2017	Contractors	Contractor Labor		12,269.52	3,147.74	15,417.26
Direct	2017	Contractors	Engineering Design Services		2,470.08	633.71	3,103.79
Direct	2017	Contractors	UVL-Contractor Labor		108,914.06	27,941.94	136,856.00
		Contractors Total		-	123,653.66	31,723.39	155,377.05
Direct	2017	Labor	Labor Overtime Non-Exempt		1,071.00	274.77	1,345.77
Direct	2017	Labor	Labor Premium and Special Non-Exempt		301.02	77.21	378.23
Direct	2017	Labor	Labor Straight Time Exempt		18,544.92	4,757.70	23,302.62
Direct	2017	Labor	Labor Straight Time Non-Exempt		2,952.10	757.34	3,709.44
		Labor Total		-	22,869.04	5,867.02	28,736.06
Direct	2017	Materials	Materials- Stores		25,592.16		25,592.16
		Materials Total		-	25,592.16	-	25,592.16
Direct	2017	Misc Other	Meals		63.67	16.33	80.00
Direct	2017	Misc Other	Mileage		141.78	36.38	178.16
		Misc Other Total		-	205.45	52.71	258.16
	2017 Total			-	172,320.31	37,643.12	209,963.43
Direct	2018	Contractors	Contractor Labor		189,291.77	48,562.86	237,854.63
Direct	2018	Contractors	UVL-Contractor Labor		(108,914.06)	(27,941.94)	(136,856.00)
		Contractors Total		-	80,377.71	20,620.92	100,998.63
Direct	2018	Labor	Labor Overtime Non-Exempt		1,528.96	392.25	1,921.21
Direct	2018	Labor	Labor Premium and Special Non-Exempt		247.50	63.49	310.99
Direct	2018	Labor	Labor Straight Time Exempt		6,929.08	1,777.66	8,706.74
Direct	2018	Labor	Labor Straight Time Non-Exempt		3,220.32	826.17	4,046.49
		Labor Total		-	11,925.86	3,059.57	14,985.43
Direct	2018	Materials	Materials- Stores		1,618.08		1,618.08
		Materials Total		-	1,618.08	-	1,618.08
Direct	2018	Misc Other	Meals		63.67	16.33	80.00
Direct	2018	Misc Other	Mileage		60.29	15.47	75.76
Direct	2018	Misc Other	Miscellaneous Accounting Adjustments	472,235.52	(472,235.52)		-
		Misc Other Total		472,235.52	(472,111.56)	31.80	155.76
	2018 Total			472,235.52	(378,189.91)	23,712.29	117,757.90
Direct Total				472,235.52	(177,732.85)	68,573.87	363,076.54
Indirect	2016	Indirect	Admin and Eng OH- Acct Use Only		571.57	146.64	718.21
Indirect	2016	Indirect	Engin and Super OH- Acct Use Only		6,931.80	1,778.33	8,710.13
Indirect	2016	Indirect	Gen Ser Co Benefit Loader- Acct Use Only		3,208.79	823.21	4,032.00
Indirect	2016	Indirect	Misc Dist Exp Capitalized OH-Acct Use Only		1,208.00	309.88	1,517.88
Indirect	2016	Indirect	Non Productive Time Loader- Acct Use Only		767.05	196.78	963.83
Indirect	2016	Indirect	Service Company Allocations- Acct Use Only				-
Indirect	2016	Indirect	Vehicle Costs Clearing- Acct Use Only		4.32	1.10	5.42
		Indirect Total		-	12,691.53	3,255.94	15,947.47
Indirect	2016	Misc Other	AFUDC Debt		297.56		297.56
Indirect	2016	Misc Other	AFUDC Equity		505.71		505.71
		Misc Other Total		-	803.27	-	803.27
	2016 Total			-	13,494.80	3,255.94	16,750.74
Indirect	2017	Indirect	Admin and Eng OH- Acct Use Only		1,016.49	179.77	1,196.26
Indirect	2017	Indirect	Engin and Super OH- Acct Use Only		36,090.75	9,259.10	45,349.85
Indirect	2017	Indirect	Gen Ser Co Benefit Loader- Acct Use Only		14,656.77	3,760.20	18,416.97
Indirect	2017	Indirect	Misc Dist Exp Capitalized OH-Acct Use Only		7,023.20	1,801.82	8,825.02
Indirect	2017	Indirect	Non Productive Time Loader- Acct Use Only		3,755.35	963.45	4,718.80
Indirect	2017	Indirect	Payroll Benefit Loader- Acct Use Only		1,863.51	478.08	2,341.59
Indirect	2017	Indirect	Service Company Allocations- Acct Use Only				-
Indirect	2017	Indirect	Stores Loader- Acct Use Only		7,389.30		7,389.30
Indirect	2017	Indirect	Vehicle Costs Clearing- Acct Use Only		586.82	150.55	737.37
		Indirect Total		-	72,382.19	16,592.97	88,975.16
Indirect	2017	Misc Other	AFUDC Debt		1,442.03		1,442.03
Indirect	2017	Misc Other	AFUDC Equity		3,064.81		3,064.81
		Misc Other Total		-	4,506.84	-	4,506.84
	2017 Total			-	76,889.03	16,592.97	93,482.00
Indirect	2018	Indirect	Admin and Eng OH- Acct Use Only		1,364.73	347.53	1,712.26
Indirect	2018	Indirect	Alloc- E+S OH Subst- Acct Use Only		4,690.82	1,203.44	5,894.26
Indirect	2018	Indirect	Engin and Super OH- Acct Use Only		49,264.89	12,638.93	61,903.82
Indirect	2018	Indirect	Gen Ser Co Benefit Loader- Acct Use Only		6,962.31	1,786.17	8,748.48
Indirect	2018	Indirect	Misc Dist Exp Capitalized OH-Acct Use Only		5,139.50	1,318.55	6,458.05
Indirect	2018	Indirect	Non Productive Time Loader- Acct Use Only		2,031.47	521.17	2,552.64
Indirect	2018	Indirect	Payroll Benefit Loader- Acct Use Only		1,492.18	382.82	1,875.00
Indirect	2018	Indirect	Service Company Allocations- Acct Use Only				-
Indirect	2018	Indirect	Stores Loader- Acct Use Only		412.68		412.68
Indirect	2018	Indirect	Vehicle Costs Clearing- Acct Use Only		823.15	211.21	1,034.36
		Indirect Total		-	72,181.73	18,409.82	90,591.55
Indirect	2018	Misc Other	AFUDC Debt		4,819.35		4,819.35
Indirect	2018	Misc Other	AFUDC Equity		10,347.94		10,347.94
		Misc Other Total		-	15,167.29	-	15,167.29
	2018 Total			-	87,349.02	18,409.82	105,758.84
Indirect Total				-	177,732.85	38,258.73	215,991.58
Grand Total				472,235.52	(0.00)	106,832.60	579,068.12