Project Authorization Form

General Information

Date Prepared: October, 2016

Project Title: Remote Disconnect Plus

Class(es) of Plant Hardware

Project Initiator: [redacted]

Project Owner/Manager: [redacted]

Project Sponsor: [redacted]

Project ID Number: TBD

Organization: Customer Operations

Company: Eversource (EMA, CT, NH)

Part of Original Operating Plan? Yes/ No
If no, offset by elimination of another budgeted amount? Yes / No

O&M Expenses Part of the Original Operating Plan? Yes / No

Authorization for additional resources? Yes / No
If so obtain required VP approval
Is this PAF for a transfer of a significant amount? Yes/ No

If Chief Executive Officer or subsidiary board approval is required, document the review by Enterprise Risk Management (ERM) and financial evaluation completed with the designated representative of the Chief Financial Officer (CFO) organization.

ERM _____
CFO _____

Timing of project 2017 - 2018

Estimated in service date Ongoing during project time period

Project **X**** Annual _____ Preliminary _____

****The current assumptions for remote-disconnect meter replacement in E-MA and CT, as well as the remaining manually probed interval meters in NH and remaining electromechanical meters in E-MA and CT have been estimated in advance of requirements gathering. If required, a supplemental PAF will be submitted for review and approval based upon completion of the detailed requirements.**

Executive Summary

Project Costs Summary

	Prior Authorized Amount (if applicable)	Amount of This Authorization	Total Project Cost
Capital (details below)	$	$39,000,000	$39,000,000
O&M	$	$-	$-
Total	$	$39,000,000	$39,000,000

Provide in the table below estimated details of total Capital spending above:

Cost Components	Description of the Cost Component	Estimated Cost
Material	Meters, locking bands	$ 18,800,000
Labor	Cost of First Install, NH meter exchange system update processing, Warrant costs	$ 18,500,000
Outside Services	Televox campaign plus 2 mailings	$ 150,000
Software	N/A	$ 0
Hardware	N/A	$ 0
Other (please list):	Socket Upgrade Program Contingency (2.9%)	$ 1,069,000
Total Capital Spending		**$ 39,000,000**

By Entity, by project breakdown:

State	Project ID	2017	2018	Total Project Cost
MA (East)	ETRMTR17	$20,949,413	$7,223,936	$28,173,349
CT	CTRMTR17	$7,131,794	$2,459,239	$9,591,033
NH	NHRMTR17	$918,793	$316,825	$1,235,618
Total		**$29,000,000**	**$10,000,000**	**$39,000,000**

Summary Project Description

The primary goal of this project is to address hard-to-access meters that are preventing bad debt reductions and further savings achievable by installing a meter with remote disconnect functionality. In support of the Customer Group's Credit Strategy and the exchanges of E-MA lifecycle meters, this project will:

- In E-MA, replace 21,000 hard to access (CGI) credit meters, 51,000 non-credit meters in the same hard to access (CGI) locations along with an additional 18,000 indoor meters at credit premises over an 18 month period in E-MA with remote disconnect meter technology.
- In CT, prioritize the replacement of 13,300 credit CGI electric meters along with 26,500 meters at those premises and/or in 2 man zone areas with remote disconnect meter technology.

This project also aims to achieve O&M reductions and prevent loss of stored data by eliminating the final manually read Eversource meters, including:

- In NH, replace 1,800 manually probed interval meters
- In CT & E-MA, replace 180 remaining mechanical meters with AMR meter technology.

Project Authorization

Project authorization below must be obtained from each approver listed below in accordance with the approval levels included in the Delegation of Authority Policy (DOA).

Approver	Approver Name	Approver Signature	Date
Project initiator	[redacted]		
Project Manager EMA &NH			
Project Manager CT & WMA			
Project Manager Materials			
Plant Accounting			
Budgeting and Internal Reporting*			
Investment Planning**	N/A		
DOA	[redacted]		
DOA			
CIO or VP, Supply Chain, Environmental Affairs and Property Management or their designee ***	N/A		

* For Corporate / Shared Services projects only

** For Massachusetts Operations projects only

*** For IT or Facilities and Environmental projects only

Overall Justification

Problem statement

Mitigating a population of hard-to-reach meters will lead to increased operational savings, decreased write-offs and further bad debt reduction.

Project objectives

1. Reduce bad debt
2. Eliminate manual reading of final non-AMR meters
3. Reduce time spent performing disconnects/reconnects
4. Continue to replace hard to access, end-of-life meters with remote disconnect meters

Project scope

The project will facilitate the deployment of 132,000 electric meters with remote disconnect/reconnect functionality. 90,000 meters have been identified in E-MA (of which 65,000 are at end-of-life). 40,000 credit, hard-to-access or 2 man zone meters have been identified in CT. In addition, 1800 manually probed interval data meters in NH will be replaced with remote read functionality, and the final 180 non-AMR mechanical meters in CT and E-MA will be replaced with AMR meters.

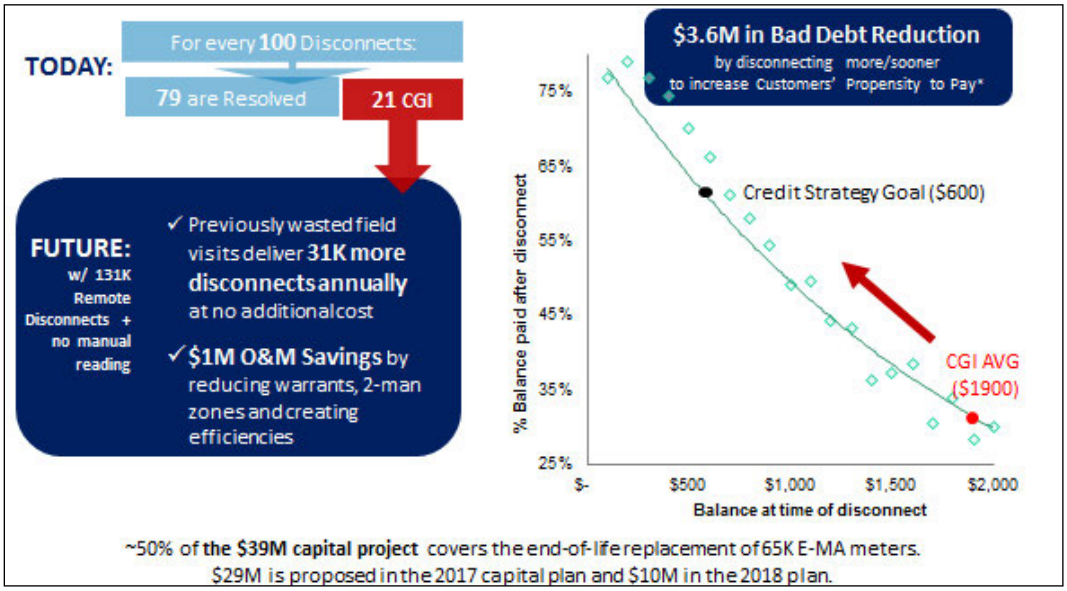
This project assumes an outbound customer call campaign, as well as to two standard mail notifications prior to meter exchange.

In addition to the cost of the meters, Cost of First Install was calculated for CT, NH and E-MA, which includes meter programming, travel to and from site, installation time, and assumes multiple visits for inside locations.

Additional cost assumptions include a 10% rate for a warrant to access the premise in E-MA, 100% utilization of heavy-duty locking bands, meter population percentages by type and state and a “socket upgrade program” for a known population of meters that cannot be exchanged without a service upgrade or repair.

Benefits

Total steady state benefits of $4.6M, includes reduction in bad debt, O&M savings from reduced amount of time for disconnect, reduced amount of time to perform a reconnect, disconnects and reconnects performed by drive-by-AMR and savings from two-person zones. The ratio of bad debt and O&M savings may change depending on the greatest benefit to the company by optimizing labor versus bad debt value.



Alternatives considered

The following alternatives were considered for the project.

- Replacing all indoor meters with remote disconnect meters
- Replacing high-risk CGI ("Can't Get In") meters with remote disconnect meters by area work center
- Replacing credit customers with indoor meters with remote disconnect meters
- Replacing credit customers with indoor meters with remote disconnect meters plus outside meters in both E-MA and CT

While the impact to the total incremental avoided write-off changes in each scenario, the solution chosen was decided based on corporate business strategy, cost and schedule.

Assessment of solutions utilized by and applicability to other Eversource Companies

The solution chosen is fully aligned with the existing type of technologies used for metering in Eversource's tri-state territory.

Safety assessments

Increased personal safety of field meter resources.

Financial Evaluation

Describe the project schedule and milestones

Milestones and Actions	Responsible Party	Completion Date (MM/YYYY)
Deployment Phase 1A: 54k E-MA meters which will include 21,000 CGI, credit meters, 18,000 indoor credit meters, 51,000 non-credit meters at CGI locations inclusive of life cycle replacement meters at visited locations	Meter Operations	12/2018
Deployment Phase 1B: 40k CT meters (all); exchanged for remote disconnect meters	Meter Operations	12/2017
Deployment Phase 1C: 1800 NH probed interval meters exchanged for remote read capability	Meter Operations	12/2017
Deployment Phase 1D: 180 electro-mechanical meters for AMR meters in E-MA and CT Electric	Meter Operations	12/2018

Explain unique payment provisions, if applicable

There are no unique payment provisions for this project at this time, unless contractors are utilized within CT.

Provide the following financial information (attach additional detail if summarized items are significant or additional information is needed)

Direct Capital Costs	2017	2018	Total
Labor	TBD	TBD	$18,500,000
Outside services (non-payroll)	TBD	TBD	$ 150,000
Materials	TBD	TBD	$ 18,800,000
IT Supplier Costs	N/A	N/A	
Software	N/A	N/A	
Total	**$28,400,000**	**$9,500,000**	**$37,900,000**

Indirect Capital Costs	2017	2018	Total
Benefits 17% Non Prod	TBD	TBD	
Loaders – Gen Svcs Co (Indirects)	N/A	N/A	N/A

Capitalized interest or AFUDC, if any	N/A	N/A	N/A
Other, including contingency amounts (describe) Socket Repair Program 2.9% Contingency	$569,000	$500,000	$1,069,000
Total	**$569,000**	**$500,000**	**$1,069,000**

Total Capital Costs	**$29,000,000**	**$10,000,000**	**$39,000,000**

Total O&M Costs	N/A	N/A	N/A

Total Project Costs	**$29,000,000**	**$10,000,000**	**$39,000,000**

Vendor software payments (indicate whether or not included in the above)*	N/A	N/A	N/A

*Accounting for vendor software payments for SaaS or other agreements involving the right to use software is to be determined by a separate analysis, and approval by Plant Accounting and Budgeting and Internal Reporting is required. Plant Accounting maintains a checklist to aid in this analysis.

Provide below and describe the estimated future costs that will result from the project

Future Costs	2017	2018	Total Future Project Costs
O&M	$23,500	$47,000	$47,000 Annually
Capital			
Other (describe)			
Total	**$X**	**$X**	**$X**

Compare these future costs to amounts that are in the approved Operating Plan

$47,000 is the annual expense of telephony in NH to remotely read the exchanged interval meters. For the 1st year our assumption includes 6 months of telephony charges.

Provide below and describe the estimated financial benefits (reductions from current year Operating Plan) that will result from the project

Financial Benefits	2017	2018	Total Financial Benefits
O&M	$ -	$900,000	$900,000

Capital			
Revenues			
Other (describe) Bad Debt Reduction	$200,000	$2,400,000	$3,600,000
Total	**$200,000**	**$3,300,000**	**$4,500,000**

Include the benefits going forward using current year Operating Plan amounts

Benefit:

What is the project's IRR? _____

What is the project's NPV? _____

What is the project's payback period? _____

Use appropriate discount rate by company (can be provided by Budgeting and Internal Reporting).

If the above items are not applicable, explain why (e.g., if negative but there are other reasons to proceed)

Regulatory Approvals

Indicate what regulatory approvals are needed for the project

Regulatory approvals are not needed for this project.

Risks and Risk Mitigation Plans

Describe the applicable risks and associated risk mitigation plans: e.g., construction, customer, reputational, schedule, financial, regulatory, environmental and IT risks. Indicate discussions with relevant subject matter experts.

CATEGORY	RISK DESCRIPTION	MITIGATION STEPS
Business	The same resources for this project will be working on other initiatives simultaneously.	Work together with the team on managing the schedules and goals. Set realistic expectations.
Customer	Entering customer premise	Project assumes customer outreach program, 10% warrant rate for E-MA as well as total "cost of first install"
Financial	Budget adherence	Reviews of estimate and actual costs throughout the project life
Financial	Accelerated Depreciation on	

	replaced meters	
Schedule	Dependencies include meter manufacture lead times, component issues, current meter reading, disconnect and reconnect targets, as well as cooperation with other departments	
Technical	Implementation/upgrade of FCS to include security features. Network (3G-4G) and MV-90 upgrades.	
Labor Strategy Assessment	Potential use of contractors in CT for exchanges; potential reduction in E-MA OT if performed over 3 years; potential labor issues with elimination of two-man zones for disconnect/reconnects	Advance notification to appropriate teams
Regulatory	Regulatory pushback	