Operations Project Authorization Form

Date Prepared: 12/01/19	**Project Title:** Eversource Energy Center
Company: Eversource CT	**Project ID Number: EEC20_22**
Organization: Distribution Electric	**Class(es) of Plant:** Software
Project Initiator: [redacted]	**Project Category:** [redacted] Energy Center
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Project Purpose:** Docket 17-10-46, Docket 12-07-06
Estimated in service date: 12/31/2022	**If Transmission Project: PTF?** N/A
Eng. /Constr. Resources Budgeted?	**Capital Investment Part of Original Operating Plan?** Y
Authorization Type: Full Funding	**O&M Expenses Part of the Original Operating Plan?** Y
Total Request: $5.825M	

Project Authorization
ERM: _____

FP&A: _____

Executive Summary

In accordance with the Settlement agreement in Docket N0.17-1046 , and the approved System Resiliency program in Docket No. 12-07-06RE01, this initiative helps fund UCONN's collaborative research and development center (Eversource Energy Center) focused on managing the impact of severe weather events, vegetation management, renewables, cyber and physical security, work force development and system resiliency.

Eversource has committed $5,824,830 over three years (2020-2022) to the Eversource Energy Center. Please refer to the project cost summary for the total project request amount, which includes the committed amount and all associated project costs to support the sponsored research projects at the Center.

The following payment schedule is from the signed MOU (Memorandum of Understanding) between UConn and Eversource:

Schedule A - Payment Schedule

Year	May 1	November 1	Total
2020	$970,805	$970,805	$1,941,610
2021	$970,805	$970,805	$1,941,610
2022	$970,805	$970,805	$1,941,610

Three Year Total			$5,824,830

Table 1.0

The following research and development projects are being funded in 2020-2022:

- Eversource Energy Center: Support the following eighteen UCONN projects : (1) UCONN Outage Prediction Model Research, Operational System & Center Support, (2) Improving Extreme Weather Forecasting Capabilities in support of Power Outage Prediction Activities, (3) The Development of a Real-Time Decision Support Tool to Optimize Storm Recovery, (4) Landowner Planning for Roadside Forest Management Given Multiple Stressors, (5) Vegetation Management and Modeling to Promote Resilient Trees, Power, and Communities, (6) Assessing Forest Risk to Infrastructure Using Satellite Time Series (7) Lidar Data Analysis (8) DER Model Development and Simulations through Eversource Energy Testbed (9) Pumped-Hydroelectric Energy Storage from Water Supply Reservoirs in New England, (10) High-Resolution Mapping of Renewable Energy Sources, (11) Fine Resolution Nowcasting of PV and Loads in Key Sections of the Eversource Energy Grid, (12) Expanding Electric Vehicle Adoption & Electric Grid Interface, (13) Power-bot Attack Mitigation Design , (14) Physical Security: Detection of UAVs (Phase II) , (15) Resilience and Grid Hardening , (16) Economics of Resilience, (17) Integration of the OPM and Resilience Projects to Support Grid Reliability , and (18) Evaluation of Eversource-CT Substations Vulnerability of Flooding in Current and Climate Change Scenarios.

Project Costs Summary

Note: Dollar values are in thousands

	Prior Authorized	2020	2021	2022	Totals
Capital Additions - Direct	$ -	$ 1,387,000	$ 1,387,000	$ 1,387,000	$ 4,161,000
Less Customer Contribution	$ -	$ -	$ -	$ -	$ -
Removals net of Salvage %	$ -	$ -	$ -	$ -	$ -
Total - Direct Spending	$ -	$ 1,387,000	$ 1,387,000	$ 1,387,000	$ 4,161,000
Capital Additions - Indirect	$ -	$ 27,740	$ 27,740	$ 27,740	$ 83,220
Subtotal Request	$ -	$ -	$ -	$ -	$ -
AFUDC	$ -	$ 13,870	$ 13,870	$ 13,870	$ 41,610
Total Capital Request	$ -	$ 1,428,610	$ 1,428,610	$ 1,428,610	$ 4,285,830
O&M	$ -	$ 513,000	$ 513,000	$ 513,000	$ 1,539,000
Total Request	$ -	$ 1,941,610	$ 1,941,610	$ 1,941,610	$ 5,824,830

Financial Evaluation
Note: Dollar values are in thousands

Direct Capital Costs	Year 1	Year 2	Year 3+	Total
Straight Time Labor				
Overtime Labor				
Outside Services	$ 1,387,000	$ 1,387,000	$ 1,387,000	$ 4,161,000
Materials				
Other, including contingency amounts (describe)				
Total Direct Costs	**$ 1,387,000**	**$ 1,387,000**	**$ 1,387,000**	**$ 4,161,000**

Indirect Capital Costs	Year 1	Year 2	Year 3+	Total
Indirects/Overheads (including benefits)	$ 27,740	$ 27,740	$ 27,740	$ 83,220
Capitalized interest or AFUDC, if any	$ 13,870	$ 13,870	$ 13,870	$ 41,610
Total Indirect Costs	**$ 41,610**	**$ 41,610**	**$ 41,610**	**$ 124,830**
Total Capital Costs	**$ 1,428,610**	**$ 1,428,610**	**$ 1,428,610**	**$ 4,285,830**
Less Total Customer Contribution	**$ -**	**$ -**	**$ -**	**$ -**
Total Capital Project Costs	**$ 1,428,610**	**$ 1,428,610**	**$ 1,428,610**	**$ 4,285,830**
Total O&M Project Costs	**$ 513,000**	**$ 513,000**	**$ 513,000**	**$ 1,539,000**
Total Project Costs	**$1,941,610**	**$1,941,610**	**$1,941,610**	**$5,824,830**

Note: Explain unique payment provisions, if applicable

Technical Justification:

Project Need Statement

The Center is a hub for interdisciplinary research, technology and software development, delivering important benefits for Eversource and position us as frontrunners in mitigating storm hazards, delivering improved reliability, renewable energy, resiliency and cyber and physical security.

Project Objectives

Statement of Work (SOWs) are in the design process and will be delivered to Eversource by late January 2020. Each statement of work will contain a list of objectives and deliverables. In general, objectives and deliverables are align with Eversource strategy and regulatory commitments.