

Unitil Energy Systems Request for Information

37 Line / 4X1 Non-Wires Alternative Project
for Distribution Load Relief



Issued March 29, 2019



Request for Information

37 Line/4X1Non-Wires Alternative Project for Distribution Load Relief

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1 INTRODUCTION

Unitil Energy Systems (Unitil) is requesting conceptual/high level information from qualified and experienced developers with the capability to deliver innovative non-wires alternative (NWA) solutions that provide distribution system load relief.

2 INFORMATION ABOUT UNITIL

Unitil Corporation is a public utility holding company with electric and gas utility operations in New Hampshire, Massachusetts and Maine. Unitil Corporation is the parent company of three wholly-owned distribution utilities.

Unitil Energy Systems, Inc. provides electric service in the southeastern seacoast and state capital regions of New Hampshire, including the capital city of Concord, New Hampshire;

Fitchburg Gas and Electric Light Company provides both electric and natural gas service in the greater Fitchburg area of north central Massachusetts; and,

Northern Utilities, Inc. provides natural gas service in southeastern New Hampshire, and parts of southern and central Maine, including the city of Portland, which is the largest city in Northern New England.

Together, these 3 distribution utilities serve approximately 102,700 electric customers and 77,900 natural gas customers in their service areas.

3 DEFINITIONS

Non-Wires Alternative (NWA) – a solution proposed in an identified area as an alternative to a traditional infrastructure improvement project to resolve a distribution planning violation. Non-wires alternative projects may be a singular project or portfolio of multiple Distributed Energy Resource (DER) projects.

Distributed Energy Resource (DER) – targeted energy efficiency, demand response, distributed generation, energy storage, or other resource that prove to be feasible to address the identified constraint(s).

Traditional Infrastructure Project – Conventional electric system upgrades such as reconductoring, voltage conversion, equipment upgrades, etc.

4 PURPOSE

Unitil is issuing this request for information (RFI) to determine the feasibility of implementing NWA projects to defer the costs of traditional infrastructure improvements.



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This RFI is open to all DER approaches that display the potential to provide the load relief described in this RFI.

Each RFI response shall outline the suggested approach, load relief impact, conceptual/high level cost estimate of completing the project, project schedule and any additional benefits the suggested approach provides above and beyond the load reduction. Developer(s) may submit multiple proposals that utilize a combination of DER technologies.

Along with traditional alternatives, the RFI responses will be evaluated by Unitil to determine if a request for proposals will be issued for NWA project(s).

5 SCHEDULE

The following lists the activities relevant to the RFI process. Unitil reserves the right to change these dates and will notify Vendors in such a case.

| Key Dates | | |
|------------------------|---------|------------|
| Release of RFI | 3:00 PM | 03/29/2019 |
| Intent to Submit | 5:00 PM | 04/05/2019 |
| Deadline for Questions | 5:00 PM | 04/19/2019 |
| Responses to Questions | 5:00 PM | 04/26/2019 |
| Submission Due Date | 5:00 PM | 05/17/2019 |

6 CONTACT INFORMATION

All questions, including requests for clarification and additional information as it relates to this RFI, must be directed via e-mail to the following;

Penny Jett - Manager, Unitil Procurement ProcurementRFX@unitil.com

7 37 LINE / 4X1 AREA

The 37 Line / 4X1 area is located in the northern portion of Unitil’s Capital service territory shown in diagram 1 below. It includes the following towns in New Hampshire; Salisbury and Boscawen and portions of Canterbury, Webster, Penacook and Concord. This area serves approximately 18 MW of load under peak load times and supplies approximately 4,500 residential customers, 400 commercial customers and one large commercial/industrial customer. Additionally, four “large” generators are interconnected to this portion of the Unitil system.

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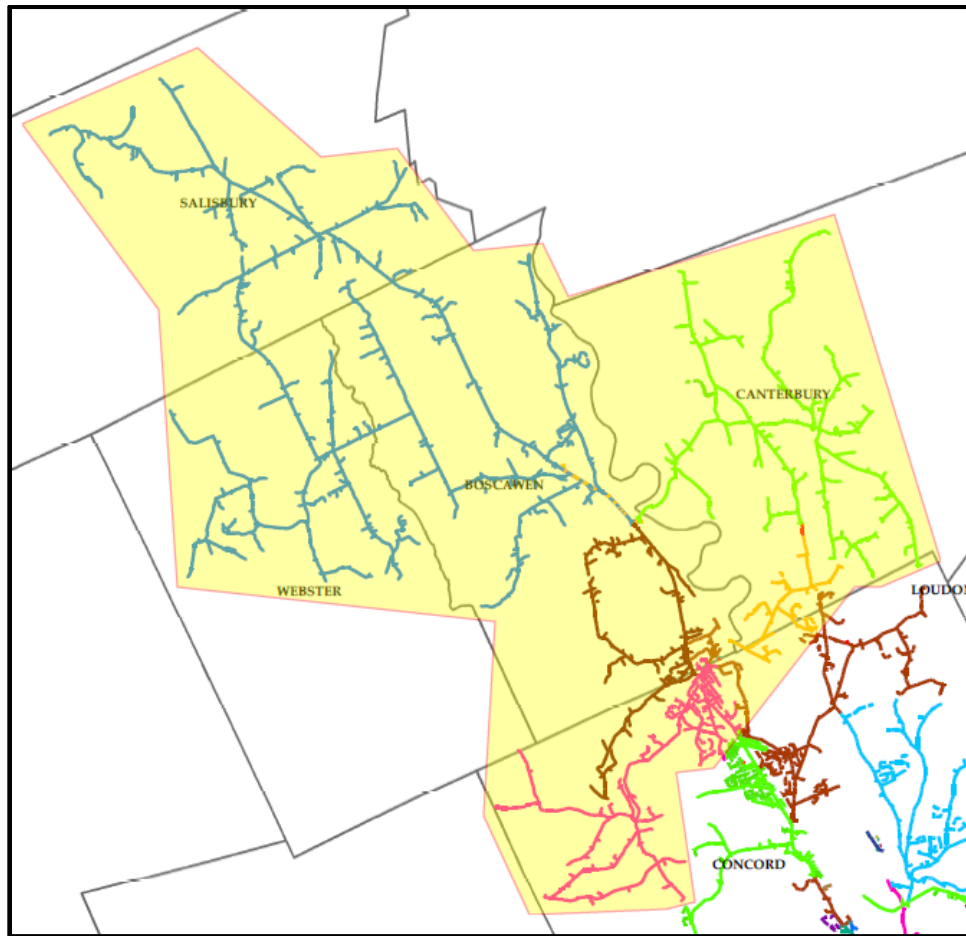


Diagram 1 – 37 Line / 4X1 Load Area

This portion of the Unitil system typically peaks in the late afternoon between the hours of 3PM and 7PM during the months of July and August.

Unitil has identified a possible overload of the 37 line conductor following the switching to restore all load for contingent loss of the 4X1 supply. The recommended traditional option to resolve this constraint is to rebuild approximately 1.6 miles of the 37 line.

8 37 LINE / 4X1 NWA LOAD REDUCTION REQUIREMENTS

Unitil has elected to issue this RFI for NWA alternative projects to possibly defer the implementation of the traditional infrastructure improvement project. In order for the NWA project/portfolio of projects to be considered the project(s) must reduce load in the area by approximately 3.5 MW by 2022 and 0.3 MW per year from 2023 to 2029 at the time of peak.

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9 **RESPONSE REQUIREMENTS**

Each response shall include the following information at a conceptual/high level.

- Executive summary of the proposal
- Examples of prior industry specific work that is similar in nature to the proposed project(s)
 - Relevant project experience
 - Specific locations of successful project deployment
- Proposed Solution Description
 - Technology/solution description
 - Performance characteristics of technology (including peak capacity and duration of time the peak capacity is available)
 - Reliability, availability and expected lifespan of the proposed solution
 - Description and estimate of the annual operating costs
 - Seasonal and hourly load reduction impact provided by the solution
 - Community and environmental impacts of the proposed solution
 - Possible risks/challenges with implementing proposed solution
 - Permitting requirement
 - Detailed description of non-energy benefits associated with the proposed solutions
 - Ability of solution to increase and/or decrease in scale
 - Description of the ownership model (i.e. utility ownership, customer owned, other)
- Requirements of Unitil to implement the proposed solution (i.e. detailed breakdown of the work require to be completed by Unitil and the work to be completed by the bidder.)
- Measurement and Verification plan for verifying the project's load reduction.
- Proposed cost of the proposal and payment terms
- Include other sources of funding, such as incentives e.g. Unitil EE programs and/or any statewide SOLAR if applicable.
- Maintenance requirements and costs
- Information required from Unitil to further refine the proposal
- Proposed Schedule
 - Market the installation of DER to customers (if applicable)
 - Design
 - Implementation
 - Measurement and verification
- Additional benefits the suggested approach provides above and beyond load reduction