Utility Scale PV – Facility Engineering, Procurement and Construction
Kingston Solar Project
Request for Proposal – Scope of Services

November 30, 2022

1 Project Description

Unitil views renewable energy as a valuable resource that provides benefits to the electric grid and the environment. Unitil is under agreement to purchase the properties of 2 Mill Road and 24 Towle Road in Kingston, NH and is currently performing due diligence exploration on the parcels. It is Unitil's intent to install a utility scale photovoltaic generating (PV) facility on the property.

To assist in this effort Unitil is issuing this Request for Proposal (RFP) for the engineering, procurement and construction (EPC) of the PV facility. It is Unitil's intention to "partner" with a vendor that will not only engineer, procure and design the facility, but also assist Unitil's site engineering consultants with the design and permitting of the facility and perform the necessary impact studies to interconnect the facility to the Unitil electric distribution system.

2 Property Description

2 Mill Road, Kingston, NH is a 63 acre vacant parcel that has two 34.5 kV "subtransmission" lines running through it and is adjacent to Unitil's Kingston 115-34.5 kV substation. 24 Towle Road, Kingston, NH is a 33 acre vacant parcel located directly adjacent to and to the northwest of 2 Mill Road. It is Unitil's intent to eventually site two PV facilities on these parcels, one as part of this RFP and another in the future after the first facility is complete.

Unitil has hired TF Moran, Inc. (TFM), a New-Hampshire based land planning firm specializing in civil and structural engineering to perform site due diligence activities, site plan development and construction permitting. Attached is the existing conditions plan for both parcels that indicates wetlands and the existing utility easement that contains the Unitil "subtransmission" lines that cross the property.

It is Unitil's intent to perform all site engineering, design (access road, drainage facilities, final site grading, etc.) utilizing TFM, but is looking to engage with a PV facility EPC vender that can assist Unitil and TFM in the site engineering and permitting components specific the PV facility. Unitil also intends to utilize its typical, local tree clearing and local site construction contractors for the site construction (access road, drainage facilities, final site grading, etc.), but will entertain options in which the PV facility EPC vendor performs/subcontracts those activities.

3 Pre-Procurement and Construction Activities

It is Unitil's expectation that the awarded vendor will support Unitil and Unitil's contractors/consultants with the site design and permitting processes as well as assist with developing/reviewing assumptions (facility generation expectations, facility installation and operating costs, etc.) used in the economic analysis for the justification of the project.

3.1 Facility Layout and Site Design Assistance

Develop an initial facility design (fence details, equipment location and spacing, conduit locations, etc.) that can be incorporated into the TFM site design and permitting package. Assist TFM in the development of the final site layout and provide PV facility specific information that is required in the permitting process.

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Assist TFM in developing the soil boring and geotechnical evaluation testing requirements.

3.2 Unitil System Impact Study

The selected vendor shall be responsible for performing or contracting a system impact study (SIS) for the Unitil electric system of the PV facility. The purpose of this SIS is to analyze the impacts that the facility may have on the Unitil electric distribution system and recommend system improvements to mitigate any adverse effects caused by the facility on Unitil's equipment, personnel and customers.

The SIS will review four possible interconnection circuits/lines all of which emanate from Unitil's Kingston 115-34.5 kV substation. Unitil will review the impacts and costs of interconnection of each of the four possible interconnection circuits/lines to determine which interconnection location is the most cost effective.

The SIS shall include the following analyses for each of the four interconnection circuits/lines:

- Load Flow Studies utilizing PSSE and/or Cyme. Unitil will provide existing conditions model(s) and it will be the responsibility of the vendor to update those models to include the PV facility.
  - Review and address voltage drop, regulation and flicker concerns and well as any operational effects on the electric power system under basecase and N-1 conditions.
- Protection and Short Circuit Analysis from Kingston Substation to the Point of Interconnection (POI) utilizing ASPEN OneLiner. Unitil will provide the existing conditions model and it will be the responsibility of the vendor to update the model to include the PV facility.
  - Review and address impacts on fault sensitivity, equipment interrupting ratings and protective device coordination.
- Analyze the risk of islanding and perform anti-islanding studies as necessary.
- Analyze the risk of transient over voltage (TOV) and perform TOV studies as necessary.
- Grounding Analyses
  - Risk of temporary overvoltage and transient issues.
  - Transformer winding evaluation at the POI
  - Verify effective grounding of the facility.
- Provide recommendations and project estimates of modifications to the Unitil electric system to address concerns identified due to the interconnection of the facility.

3.3 Transmission Study

The selected vendor shall represent Unitil and provide required information to ISO-NE and applicable neighboring transmission owners during the ISO-NE I.3.9 PPA application and transmission study process as necessary.

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3.4 Economic Modelling Assumption Development and Review

Assist Unitil in the development of facility specific economic modelling assumptions, including but not limited to estimated annual generation output, estimated generation output at typical system peak hours, capacity factors, efficiency degradation rates, etc.

The selected vendor will also be requested to assist Unitil in ensuring that the project qualifies for the maximum possible Investment Tax Credits (ITC) and other possible rebates and credits.

3.5 Regulatory Support

It is expected that the selected vendor will provide the supporting data and possibly act as an expert witness on Unitil's behalf regarding the responsibilities of the selected vendor as outlined in this RFP.

4 PV Facility Design Requirements

All components of the PV facility up to the POI, including PV modules, inverters, controllers, step-up transformers, equipment racking and foundations, facility fencing, site and fence grounding, etc., shall be considered in scope and included in responses to this RFP.

For the purposes of this RFP the POI shall be considered the utility side of the step-up transformer(s). Construction of the interconnection to the Unitil electric system, including the POI and up to the utility side of the step-up transformer(s) will be the responsibility of Unitil.

In an effort to improve capacity factor and output at typical system peak hours Unitil plans to "upsize" the DC side of the facility and will utilize single-axis tracking PV module mounting/racking systems. Unitil is also open to exploring other design options that may increase capacity factor and output at peak hours.

4.1 Ratings:

Maximum Nameplate AC Capacity:	4.99 MW AC (facility AC rating shall be less than 5 MW)
Nameplate DC Capacity:	Between 6 MW DC and 7 MW DC
Utility System at POI:	34.5 kV three-phase, four-wire, effectively grounded 200 kV BIL

A reasonable DC capacity of the facility shall be recommended by each vendor based on their past experience and knowledge.

4.2 General Design Requirements

- The facility and all its components shall be designed and installed in accordance with the latest versions of the 2023 National Electrical Safety Code (NESC), 2023 National Electrical Code (NEC), UL-1741, IEEE Standard 1547, International Building Code (IBC) and all other applicable local and state codes and standards.
- The final design, including all drawings and technical documents shall be approved and stamped by a registered professional engineer(s) that is licensed to practice engineering in the state of New Hampshire for the applicable disciplines (i.e. civil, electrical). The

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professional engineer shall certify that the system is designed and built in accordance with the NESC, NEC, IBC, and all local, state and federal codes.

4.3 Conduit and Junction Box Requirements

- Conduit shall be rigid (hot-dipped) galvanized steel (RGS) for all above-grade installations and transitions (e.g., 90-degree sweeps from below-grade to above-grade).
- Gray electrical grade Schedule 40 or 80 PVC conduit shall be utilized for all below-grade installations unless otherwise approved.
- Conduit fasteners and hardware throughout the system shall be stainless steel or materials of equivalent corrosion resistance
- Outdoor electrical equipment and enclosures, including but not limited to, disconnects and combiners shall have NEMA Type 3R or NEMA Type 4 ratings and be UL Listed. All other equipment enclosures shall be suitable for outdoor installation in New England, subject to sun, rain, wind, snow, etc.

4.4 Electrical Design Requirements

- Electrical engineering and design shall meet or exceed the current versions of all applicable industry standards such as the NESC, NEC, UL-1741, IEEE Standard 1547, and all other applicable local and state codes and standards.
- All equipment and enclosures, including but not limited to disconnects and combiners, shall be bonded and grounded as required by the NESC and NEC. String combiner boxes shall include properly-sized fusing.
- All protection equipment throughout the system shall be sized and specified to reduce damage on all components and the interconnection point in case of electrical failure.
- The design shall include the appropriate sizing of all cabling (above and below ground) that will connect the PV modules, arrays, inverters, transformer and switchgear to the POI. Wire sizing and layout should result in no more than 1.0% drop in the AC voltage between the inverter and the point of interconnection.
- The electrical systems, wiring, conduits, cables shall be neatly routed to facilitate access, troubleshooting, maintenance, etc.
- The electrical design shall include the design of equipment grounding, and lightning/surge protection for the entire PV installation up to the point of connection.
- PV facility site shall be effectively grounded including conduits, fencing, cabinets, structural steel, inverters, modules, and all other applicable equipment.
- A convenience outlet (120 V, 20 A) to provide power for test equipment and other diagnostic equipment shall be installed within fifteen feet of each inverter.

4.5 Structural Design Requirements

- Structural analysis and design of the photovoltaic arrays, mounting systems, foundations and/or piers shall be based upon the requirements of the applicable codes and standards as

well as the data supplied by the PV module, inverter, switchgear and mounting suppliers. At a minimum all equipment shall be suitable to withstand 110 mi/h winds and up to 1" of ice accretion. The Vender shall provide a professional engineer's stamped report describing and confirming that the final design meets the requirements of the applicable codes and standards.

4.6 Facility Fencing

The entirety of the PV facility shall be fenced per NESC section 110 and grounded per NESC section 9. The cost associated with the grounding design and installation of the fence and its grounding system shall be included in proposals to this RPF. The PV facility fence shall meet or exceed the following requirements.

- Fabric shall be #9 (minimum) steel wire gauge and 2" (maximum) diamond mesh chain link, 6' in width.
- Fabric shall be attached to posts and rails by means of #9 gauge galvanized steel 'Easy Twist Ties'.
- From height of the fence fabric (6' above final grade), three evenly spaced strands (totaling 1' in vertical height) of aluminum barbed wire tied with easy twist ties shall be attached to the posts at an angle of 45 degrees outward from the protected property. Top strand of barbed wire shall be a minimum of 7' above final grade.
- All corner posts and gate posts shall be a minimum of 4" schedule 40 galvanized steel pipe and shall be installed in 18" diameter sonotubes to a depth of 5'-0" (minimum) below finished grade.
- Line posts shall be a minimum 2'-1/2" schedule 40 galvanized steel pipe and shall be installed in 8" diameter sonotubes to a depth of 5'-0" (minimum) below finished grade.
- Rivets shall be stainless steel.
- Steel parts, including fence fabric shall be hot-dipped galvanized after fabrication.
- Outside diameter of top rails, bottom rails, and bracing rails shall be a minimum of 1-5/8".
- Assume two (2) 30' vehicle gates and two (2) 4' personnel gates.
- All gates shall match the height of the main fence and barb wire.
- Gates shall be provided with fork and turn latches that have provisions for padlocking.
- Gate rests shall be castings and shall not be pipe.
- All gates shall swing in both directions.
- Maximum spacing of posts shall be 10', except where wider gate openings are required.
- Gaps of no more than 2" between the bottom rail and final grade shall be allowed.
- All components (posts, fabric, gates, etc.) of the fence shall be per NESC requirements. It is the responsibility of the selected vender to design and install the fence grounding system.

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4.7 Other Design Requirements

- All fasteners and hardware throughout the system shall be stainless steel or materials of equivalent corrosion resistance with an expected life expectancy of at least 30 years.
- All non-metallic exposed materials shall be sunlight and UV resistant (30 year, minimum, life expectancy)

5 PV Facility Equipment Requirements

The manufacturers of all equipment shall have at least 10 years of experience manufacturing the selected components of the type and size proposed for this applications. All equipment shall be newly manufactured (not refurbished or reconditioned) from a reputable manufacturer, experienced in providing equipment for the application and site conditions. Preference will be given to equipment manufactured and assembled in the United States.

The PV facility as a whole shall be compliant with the requirements defined in IEEE 1547-2018.

5.1 Inverters

- Inverters shall be compliant with current versions of UL 1741, IEEE Standard 1547 and all other applicable codes and standards.
- Inverters must carry a UL 1741SB or equivalent certification.
- Inverters shall have the capability of accepting an additional DC input from a future DC coupled energy storage system (ESS).
- It is Unitil's intent to integrate the inverters and/or controllers with its SCADA system via DNP communications for remote monitoring (status, error/diagnostics codes, instantaneous AC and DC voltage and current, instantaneous AC power, daily cumulative kWh, etc.) and control (voltage control, power factor management, etc.).
  - Any equipment integrated with Unitil's SCADA system will be need to be secure, and at the least meet all the requirements of the NIST guidelines and NERC/CIP standards. Unitil expects the RFP responses to describe the type of security included in the inverters and/or controllers that will be integrated with SCADA and confirm that all components comply with the applicable cyber security standards.
- On-site commissioning of the inverters and/or controllers including their SCADA functionality, shall be included in the proposals.
- The proposed systems should have a CEC weighted efficiency of 97.5 % or higher.
- All inverters shall be warrantied for a minimum of 12 years (15 years or more is preferred) after energization.
- Inverter Configuration
  - Include integral AC and DC disconnects.
  - Provide galvanic isolation between AC and DC system conductors.
  - The cumulative inverter AC nameplate rating shall be less than 5 MW DC.

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- The inverters must have ground fault detection (GFDI) system on the DC side to protect the system from a PV ground-fault. The inverter must be able to detect, notify (store and show fault codes), and interrupt PV ground-faults.

5.2 PV Modules/Panels

- Solar Modules should be compliant with current versions of IEEE Standard 1547 UL 1703, ISO9001, IEC 61215, IEC 61730 and all other applicable codes and standards.
- Solar panels shall be mounted and installed for single-axis tracking.
- PV modules should be installed in a single contiguous area, with no more than 2% DC loss from the array to inverter equipment.
- The expected rating of the modules shall not fall below the cumulative rating of the inverter(s) throughout the expected life of the facility.
- Power loss due to module power mismatch is to be less than 2%. The Vendor is to provide Unitil with a strategy for achieving this. The modules shall be selected to eliminate output reduction by voltage mismatch within a string.
- The following details shall be provided:
  - Snow weight resistance – provide the maximum weight that the solar panels/frames/fixings can withstand before breaking or bending.
  - Wind resistance – provide the maximum wind speed that the panels/frames/fixings can withstand before breakage. Wind impacting on the upper and lower surfaces should be considered.
- All solar modules shall be warrantied for a minimum of 25 years (30 years or more is preferred) after energization.

5.3 Racking Requirements

- All structural materials shall have adequate corrosion and grounding protection for the soils (if ground mounted) and environment in which it is placed.
- Racking components shall be anodized aluminum, hot-dipped galvanized steel, or material of equivalent corrosion resistance with an expected life expectancy of 30 years or more in typical northern New England environmental conditions.
- All structural and nonstructural components will be designed to resist the effects of gravity, seismic, wind, weather and other applicable loads (including snow and ice) in accordance with the requirements of the ASCE Standard for Minimum Design Loads for Building and Other Structures and all other applicable codes and standards.
- All final structural drawings associated with the project must be stamped by a Professional Structural Engineer registered within the State of New Hampshire.

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5.4 Step-Up Transformer(s)

The step-up transformer(s) shall be padmounted with the following requirements:

- Rating Information:

  High-Voltage: 34.5/19.92 kV

  High-Voltage BIL: 200kV (dead-front bushings may be 150 kV BIL)

  Neutral H_0 BIL: 200 kV (if applicable)
- Transformer shall be oil filled, Class ONAN, 60 cycle, 65°C rise at rated kVA.
- Transformer shall be filled with highly refined mineral oil suitable for electric insulation. The oil shall meet or exceed the requirements of ANSI/ASTM D3487 for Inhibited Type II.
- The transformer oil shall be certified "Non-PCB" in accordance with current EPA regulations and shall contain PCB levels which are considered non-detectable. The transformer nameplates shall be permanently engraved with a statement that the transformer oil contained less than 1 ppm PCB's at the time of manufacture.
- The color of the unit shall be Munsell green or equivalent.
- Transformer shall be equipped with a standard dial type liquid level indicator located in the high voltage compartment. The indicator shall have the 25ºC level permanently marked on the gauge and have a range of at least 100ºC.
- Transformer shall be equipped with a standard dial type liquid temperature indicator located in the primary voltage compartment. The indicator shall be factory calibrated to indicate the top liquid temperature in degrees Celsius up to at least 120ºC and shall include a maximum reading pointer with an external reset.
- A combination drain and lower filter valve shall be provided for complete drainage of the oil to within one inch of the bottom of the tank. The drain valve shall be a 2” ball-type valve with NPT threads and a pipe plug in the open end. The valve shall be equipped with a built-in 3/8” sampling device located in the side of the valve between the main valve seat and the pipe plug. This valve shall be located in the high-voltage compartment and should be placed so as not to interfere with the training of cables to the bushings.
- An upper filter valve located below the 25ºC liquid level shall also be located in the high voltage compartment. This filter valve shall be a 1” ball-type valve, suitable for the return of filtered oil, with NPT threads and a pipe plug in the open end.
- Unit shall be supplied with an automatic, self-resealing, pressure relief system to prevent tank failure.
- The high-voltage terminals shall be of loop-feed design. The primary phase terminals shall be one piece, bolted-on, dead-front, load-break bushings three-phase rated (21.1/36.6) conforming to ANSI/IEEE 386 for 35kV class large interface load-break bushings (plum nose piece) and configured as per ANSI C57.12.34, Figure 18.

- The step-up transformer winding configuration should comply with the following table.

Utility Side	Generator Side	Added Requirements
Wye-Grounded	Delta	NGR (if necessary)
Wye-Grounded	Wye-Grounded	Effectively Grounded DER Source
Wye-Grounded	Wye-Grounded	Secondary Grounding Transformer

Table 1
Permitted Transformer Winding Configurations for Multi-Grounded Circuits

6 Energy Storage System

The PV facility shall be designed and constructed to accommodate a future DC coupled ESS of at least 2 MW/8 MWh in size.

6.1 ESS Option

Vendors may submit an option to include the design, procurement, installation and commissioning of an ESS that will be utilized to increase facility output during typical peak hours (3 to 4 hour period per day). The ESS shall only be capable of being charged from the solar modules/DC side of the PV facility.

Vendors shall propose a reasonable ESS size based on their past experience.

7 Project Manager

It is Unitil's desire to have one primary point of contact, Project Manager, for the coordination and completion of all tasks described in this RFP. Unitil will require routine updates regarding the progression of the Work to be provided by the Vendor's assigned Project Manager. This Project Manager should be experienced in Work of this nature and the importance of communicating with customers regarding the project's progress.

The Project Manager shall participate in routine project meetings to review the status of the construction project. The frequency of such meetings will be dependent on the on-going tasks being performed. For convenience remote meeting call-in information will be provided. Proposals shall include the assumed number of hours included for communication with the Company and the hourly rate in which this will billed.

8 Construction Field Representative

Vendor shall provide a construction field representative that will serve as the Company's on-site representation throughout the duration of construction of the facility. This individual shall have a good understanding of the various aspects of the project and have a broad understanding of current construction practices.

This effort shall include the monitoring of the quality and progress of construction, assisting the construction contractor(s) in understanding the intent of the construction documents, confirming the site is constructed as designed and submitting weekly progress reports to the Company. Proposals shall

include the assumed number of hours included for the construction field services representative's responsibilities and the hourly rate in which this will billed.

9 Contract Structure and Terms

Unitil is considering awarding the EPC contract for the construction of the PV facility prior to receiving regulatory approval and/or construction permits. This will allow the selected Vendor to assist Unitil in the pre-procurement aspects of the project. However, it is Unitil's intent to not order any PV facility material or execute any construction contracts until the NHPUC finds that the project is in the public interest and all construction permits are eminent.

It is Unitil's expectation that any contract executed in accordance with this RFP will include "re-quote"/"re-pricing" requirements for the procurement and construction components detailed in this RFP. At which time, Unitil at is sole discretion may elect to terminate this agreement for any reason including, but not limited to pricing changes that no longer make the project economically feasible, construction permit rejections, regulatory rejection, etc.

As part of their proposals vendors shall include contract terms and conditions as well as a "re-quoting"/"re-pricing" mechanism and payment schedule, if applicable for the pre-procurement components of the project in the event the procurement and construction of the facility does not move forward.

10 Proposal Requirements

Each proposal shall include the following as well as any additional information vendors would like to provide.

10.1 Vender Information

- Form of legal entity and year entity was established
- Location
- Describe any changes in ownership over past 10 years
- Outstanding Lawsuits and Disputes
- Describe general reputation and performance capabilities of firm.
- Number of year's Vendor has been engaged in providing services
- Number of full-time employees and full-time local (New Hampshire and New England) employees
- Accreditations or qualifications for work of those to be involved in the proposed project

10.2 Construction, Commissioning and Maintenance

- Detailed description of the proposed PV system – proposed technology, scope of work, features, installed capacity, equipment (inverters, transformer, PV modules, etc.) foundations/mounting details, and "cut-sheets" of major equipment (e.g., inverters, modules, transformer, etc.) to be installed.
- Preliminary layout and one-line of the proposed facility.

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- Environmental loading facility is/will be designed for.
- Description of all below grade equipment.
- Detail description of racking equipment, equipment pads and other structural support elements.
- Estimated clear area in acres required for the proposed facility.
- Expected life of the facility in years and anticipated inverter, PV module and ESS (if applicable) component replacements over the expected life of the facility.
- Equipment cutout sheets for all major equipment (inverters, OV modules, racking equipment, step-up transformer, etc.
- Inverter, PV modules, racking equipment, and (ESS if applicable) warranty terms and conditions.
- Expected life in years of the proposed inverters, PV module, racking equipment and ESS (if applicable).
- Estimated annual energy production and method utilized to perform the calculation for each year of the next 30 years.
- Estimated hourly energy production per day for each month of the year for the following hours and method utilized to perform the calculation:

  15:00-16:00
  16:00-17:00
  17:00-18:00
  18:00-19:00
  19:00-20:00
- Facility production curves.
- List of recommended spare equipment.
- Recommended periodic maintenance requirements.
- Sample testing and commissioning plan
- Country of manufacture of all major equipment (e.g., inverters, modules, transformers, racking equipment, etc.)
- Detailed schedule for engineering, procurement and construction
- Describe capability and cost to provide 5 years of PV and ESS (if applicable) facility operation and maintenance.
- Listing of all applicable statutes, ordinances, codes, standards, and/or regulations the facility will be designed to comply with.

10.3 Pricing Proposals

Price proposals shall be based on and will be evaluated on the information provided within this document. All pricing proposals shall be completed in the excel document entitled “2022 Kington Solar Project EPC RFP – Pricing Response”.

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Per section 9 above vendors shall include contract terms and conditions as well as a "re-quoting"/"re-pricing" mechanism and payment schedule, if applicable for the pre-procurement components of the project in the event the procurement and construction of the facility does not move forward.

10.4 Lead Time

Provide current lead time for all major equipment (PV modules, racking equipment, inverters, step-up transformer, etc.) and anticipated construction timeline.

10.5 Exceptions, Omissions, Additions or Modifications

Any and all exceptions, omission, additions or modifications to what is outlined in this RFP shall be clearly identified, including a detailed explanation of the reason(s) for the proposed exception/change.

10.6 Questions to Vendors

Each vendor is required to provide complete and detailed responses to all information requested, including responses to the questions below.

10.6.1 Experience

Describe at least 5 examples of previous projects installing "utility scale" PV facilities similar to the size and type specified in this RFP. Your response should include your responsibilities as well as the responsibilities of others.

10.6.2 References

Provide a listing of at least 3 clients that have engaged your organization in projects associated with the installation of "utility scale" PV facilities of similar size and type specified in this RFP on vacant land to be used as references. Please include company, name, address, phone number and contact person, along with a description of the projects completed and your company's role. It is preferred that the contacts be people who worked closely with your company on a daily basis.

10.6.3 Supply Chain

Indicate supply chain trends, including product pricing and lead times, of major equipment (PV modules, inverters, step-up transformer, ESS, etc.) over the past twelve months. Provide any insight on those trends continuing, stabilizing or improving over the next twelve months.

10.6.4 NESC

With this being a utility owned facility it is Unitil's understanding that it will need to comply with all applicable portions of the NESC. Describe your experience designing and constructing facilities that comply with the NESC.

10.6.5 Local Businesses

Briefly describe if/how you plan to involve local businesses and/or local labor in the design and/or construction of the facility.

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10.6.6 Investment Tax Credit

Briefly describe any known requirements for Unitil to achieve the maximum federal Investment Tax Credit (ITC)/Inflation Reduction Act (IRA) incentives and other tax incentives for this project and how your proposal assists in meeting those requirements.

The description shall include details on how your proposal will meet the IRS wage, apprentice requirements for Unitil to achieve the maximum IRA incentives for the project.

10.6.7 Work Planning

Discuss your plan to deliver the work described in the RFP throughout completion.

11 Attachments

- 2 Mill Road/24 Towle Road, Kingston, NH – Existing Conditions Plan – Progress Print
- 2022 Kington Solar Project EPC RFP – Pricing Response Spreadsheet

Exhibit SP-3 is filed as Confidential only
000059 - 000117

REVISION ENERGY

Kingston Solar Project EPC Proposal

Response to Request for Proposal for Utility Scale PV Facility Engineering, Procurement and Construction

January 20, 2023

ReVision Energy Inc.
An Employee-Owned Solar Company
New Hampshire, Maine, & Massachusetts
www.ReVisionEnergy.com
(603) 679-1777

Certified B Corporation

General Information

AC Nameplate Capacity	4875.0	kWh
Total Nameplate Capacity of PV Modules	6505.0	kWh
Estimated Required Clear Space	33	Acres
Expected Life of the Facility	40	Years

Equipment Life and Warranty Information

	Warrenty Term		Expected Life	
Inverters	20	Years	20	Years
PV Modules	25	Years	40	Years
Racking Equipment	20	Years	40	Years

Estimated Energy Production

Estimated Annual Energy Generated - Year 1	9,729,412	kWh
% Reduction from Year 1 to Year 2	2.0%	%
Annual % Reduction Year 2 to the End of Life of the Facility	0.5%	%

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Estimated Hourly Energy Produced per day 15:00-16:00													kWh
Estimated Hourly Energy Produced per day 16:00-17:00													kWh
Estimated Hourly Energy Produced per day 17:00-18:00													kWh
Estimated Hourly Energy Produced per day 18:00-19:00													kWh
Estimated Hourly Energy Produced per day 19:00-20:00													kWh

Pricing Information:

	$	
Pre-Procurement and Construction Activities (excluding SIS)	$	
SIS	$	
Site Construction	$	
Inverters and Associated Material	$	
PV Modules and Associated Material	$	
Racking Equipment and Associated Material	$	
Step-up Transformer and Associated Material	$	
Fence Material	$	incl. installation labor
All Other Material (excluding fence)	$	
Labor to Install and Commission Facility	$	

	Hours	$/hr	
Project Management		$	
Construction Field Representative		$	
One (1) Spare Step-Up Transformer	$		
One (1) Spare Inverter	$		
Five (5) Spare PV Modules	$		
Other Recommended Spare Equipment	$		
Total Project Cost (excluding maintenance plan)	$	$	
5 Year Maintenance Plan	$		

Option BESS Information:

Nameplate Capacity of BESS	kWh		kW

	Warrenty Term		Expected Life
BESS	Years		Years

	$
BESS	
All other material	
Labor to Install and Commission BESS	

	Hours	$/hr
BESS Project Management		
BESS Construction Field Representative		
BESS Recommended Spare Equipment		
Total Project Adder for BESS (excluding maintenance plan)		
BESS 5 Year Maintenance Plan		

12% OH

Notes and Comments

Initial Question to ReVision Energy

Responses Submitted January 26, 2023
Dan Weeks, VP of Business Development
dweeks@revisionenergy.com
Direct: (603) 264-2877

1. Could you provide an example of contract terms for a project such as this when pre-procurement activities will take place prior to the purchase of equipment with the purchase of equipment being contingent upon regulatory approval and/or final economic analysis? See section 9 of the RFP.

ReVision understands the importance of deferring equipment purchases and construction until after the project has been fully or substantially de-risked by obtaining the requisite regulatory/permitting approvals and ensuring the financial viability of the project. As stated on page 26 of our RPF proposal, ReVision's industry-standard EPC contract contains a Notice to Proceed (NTP) clause, which [redacted] Our standard NTP clause reads as follows (equipment procurement is contained within the definition of Construction Work):

[redacted]

In the event the Kingston Solar Project did not reach NTP and move to procurement and construction, ReVision would only charge Unitil for [redacted] as stipulated in our EPC contract, in accordance with the scope of pre-procurement development activities agreed upon in advance by both parties.

2. What type of foundations are proposed for Racking/Modules – Driven Pile, Ground Screw or concrete ballast?

ReVision proposes to use ground screws as the solar array foundation. As we noted on page 19 of the RFP, "ReVision's single-axis tracker (SAT) racking system, provided by our longtime US-based racking partner TerraSmart (UL 3703), is uniquely suited to uneven and environmentally sensitive terrain like the two Kingston parcels. ReVision's experience installing hundreds of ground-mounted solar arrays throughout New Hampshire and in neighboring states has made us keenly aware of the costly impact of ledge, frost heaves, and other sub-surface conditions

limiting site development when using conventional driven pile foundations. We therefore favor TerraSmart's ground screw foundation, with its corrosion resistant galvanized coating, which eliminates 100% refusal risks while also reducing the amount of expensive land grading and related civil work."

3. Can you provide an estimated replacement cost for each of the following components for each year in the life of the facility?

The replacement cost of major components naturally depends on the extent of replacements required as well as future equipment cost inflation and the availability of specific components and compatible successor technologies in the future. It is therefore not possible to provide accurate guidance regarding replacement costs in each future year over the 40-year expected commercial life of the facility. That said, we would refer Unitil to the itemized pricing included in the Pricing Response sheet for an accurate representation of the year 1 pricing, which we are showing on a per-unit basis below (including industry-standard overhead), and recommend Unitil apply a 3% annual inflation index for future-year estimates.

- Racking equipment incl. tracking motors: [redacted] per kilowatt (approx. 2 modules)
- PV modules: [redacted] per module
- Inverters: [redacted] per inverter

Fortunately, over the course of ReVision's more than 14,000 clean energy system installations in northern New England since 2003, the failure rate of our racking, modules, and inverters (and other components) has been extremely low, with a fraction of 1% of components requiring service in a given year. In almost all such cases, the replacement or repair is covered by the manufacturer's warranty, and ReVision serves as the manufacturer point of contact and service provider on behalf of our clients. This high performance rate is particularly true for commercial systems that are regularly maintained by ReVision's in-house Service team under an Operations and Maintenance (O&M) contract such as the one recommended in the RFP. We therefore advise that Unitil proceed with confidence in the future performance of the PV system, knowing ReVision provides comprehensive O&M services and a 5-year wraparound workmanship warranty on top of the 5-25 year warranties on major components.

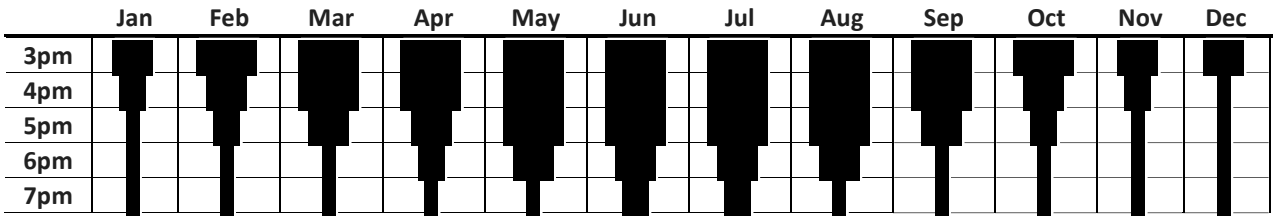
4. Can you provide and estimated cost to remove and dispose of all equipment associated with the facility (minus salvage cost) at the end of the facility life?

Given the very low quantity of installed solar arrays that have reached or are approaching their end of life, as well as the steady advances being made in solar panel recycling, it is not possible to provide a confident estimate of decommissioning costs. We recommend [redacted] as a placeholder value for the Kingston solar array. This is based on analysis of numerous decommissioning agreements in the public domain for megawatt-scale solar arrays in Massachusetts and Vermont that were approved by municipal Planning Boards, which carried an average decommissioning cost of [redacted] per MW. We believe these values are conservative based on the emerging secondary market for recycled solar equipment, which is expected to grow significantly over the next few decades as global adoption of solar increases exponentially and demand for lower-cost refurbished solar modules in developing countries continues to rise.

ReVision already recycles solar panels with a locally-based recycling operation, on favorable terms, in the rare instances when a module is damaged and needs to be replaced.

5. Please confirm Estimated Hourly Energy Produced is watt-hours for a single day for the month/hour specified? The values provided are about 25% higher than what Unitil had been assuming previously.

Yes, the estimate hourly energy produced is in watt-hours for the average hour and day of the month shown. We apologize for erroneously noting *kilowatt*-hours in Figure 4 of the RFP and are supplying the updated table with kWh as follows:



As noted on page 12 of the RFP response, these production data are taken directly from the Helioscope production report's 8,760-Hour Annual Generation Profile, which shows the watt-hours of electricity produced each hour of the year based on the specific system components, design characteristics, and thirty years of federal weather data from the nearest Typical Meteorological Year (TMY2) weather station at Concord Municipal Airport. The only missing input in the solar production model is local shade conditions, which will be dependent on the final site plan and permitting conditions (esp. extent of tree removal); based on the site layout and our experience permitting similar sites for solar, we anticipate only nominal shade losses which are likely to be offset through increased bifacial gain relative to the very conservative 4% bifacial factor we modeled (see page 11 of the RPF response). Although the modeled production is substantially higher than that of an equivalently-sized fixed-tilt solar array (the most common form of ground-mounted solar installation by far), the production premium is consistent with industry data showing single-axis trackers produce 15-20% more power than fixed-tilt arrays on an annual basis. That production premium rises to 25% or more during the early morning and late afternoon hours, especially in summer, when single-axis trackers attain optimal eastern and western orientation compared to the standard south-facing fixed-tilt array, that only receives sunlight at a slant.

6. Could you please provide a list of what is included in site construction costs?

Recognizing that Unitil plans to utilize its local tree clearing and other civil contractors for the bulk of site preparation/construction work, and that specific permitting requirements for the work are unknown at this stage, ReVision chose to include a conservative site construction support budget of [redacted]. This placeholder figure is meant to cover portions of the solar-specific site preparation/construction work that may fall outside the core competencies of Unitil's site contractors, such as geotechnical survey work for earth screw foundations, trenching earthworks, and landscape reseeding for animal grazing/pollinator habitat, as well as substantial site construction coordination work between Unitil's site contractors and our Project Manager and Construction Field Representative.

We wish to provide Unitil maximum flexibility/optionality. We are fully capable of owning the complete site construction scope, if Unitil prefers to delegate this authority, and we are also prepared to reduce the foregoing budget substantially to focus on basic coordination if Unitil and its site contractors manage the full site construction scope in accordance with the system mechanical and electrical specifications. We look forward to entering into detailed discussions regarding the optimal scope and budget for site construction.

7. Could you provide a list of what is included in the Pre-Construction Activities?

Because the RFP called for Engineering, Procurement and Construction (EPC) pricing and noted that Unitil has already commenced pre-construction development activities with TJ Moran, including site surveying for environmental permitting, ReVision did not carry our standard full scope of development work. Instead, our more limited proposed [redacted] budget for pre-construction activities includes but is not limited to:

- Conducting professional site visits of the two parcels by our Project Manager (master electrician), Project Designer and other staff to verify project feasibility and collect necessary information to inform full system mechanical and electrical designs;
- Developing multiple iterations of the PV system engineering design and Helioscope production report by ReVision's in-house Engineering team (incl. Project Designer, CAD specialists, and electrical engineers) based on site visits and TF Moran surveys for Unitil's final approval;
- Developing multiple comprehensive EPC pricing estimates (in the event of design changes) by our in-house estimators consisting of detailed vendor and subcontractor pricing for all major equipment suppliers and contractors;
- Producing full mechanical and electrical engineering drawings of the approved solar PV system, stamped by our in-house Professional Engineers, to enable TF Moran to obtain all local, state, and federal permits;
- Providing active coordination and support for TF Moran throughout the permitting process by our Project Manager and Project Designer, with additional support as needed from our electrical engineers, Director of Development, Director of Construction, and Chief Operating Officer;
- Providing active policy and regulatory support for Unitil and TF Moran, as needed, throughout the design and interconnection process by our Director of Regulatory Affairs, Director of Policy and Advocacy, and Vice President of Business Development who are actively involved in all relevant proceedings at the state legislature, Public Utilities Commission, Department of Energy, Department of Environmental Services, US Army Corps of Engineers, and US Fish & Wildlife Service[1];

[1] The recent federal reclassification of the Northern Long-Eared Bat (NLEB) from threatened to endangered provides a relevant case in point of ReVision's ability to deliver substantial (unanticipated) regulatory support, at no additional cost to our clients. Within days of the federal reclassification, which threatened to delay or derail one of our utility scale solar projects, ReVision had obtained expert opinions from multiple bat biologists, conservation professionals, and environmental attorneys (including a former DES commissioner); assembled relevant desktop and physical site survey data concerning the potential existence of bat hibernacula on the solar site in question; initiated substantive consultations with the relevant permitting agencies including US Fish & Wildlife Service (FWS), US Army Corps of Engineers, and state Department of Environmental Services in advance of FWS guidelines being released; developed and submitted a detailed report with our environmental engineering consultant concerning NLEB impacts; and obtained the first negative determination showing no adverse NLEB impacts provided by FWS under their new (beta) determination key. The prompt and successful outcome of this unanticipated pre-construction activity

- Attending and actively participating in local Planning Board, Zoning Board of Adjustment, and other permitting proceedings by our Project Manager and senior staff members as appropriate (including our Chief Operating Officer who resides in Kingston and maintains active involvement with the relevant local boards and commissions);
- Providing active support for the utility System Impact Study contractor by our in-house electrical engineers and Director of Development, who have collaborated extensively with Unitil and other utilities on prior System Impact Studies (including value engineering solutions to reduce interconnection costs while fully adhering to NESC and other safety and reliability requirements.

8. Please confirm all quoted costs include standard warranties and not optional extensions.

Confirmed

9. Would the project still qualify for the 10% bonus ITC (40% total) is construction began in 2023 and was completed in 2024 or would all construction activities need to take place in 2024?

Yes, we are confident the project would still qualify for the 10% bonus ITC, assuming domestic content requirements are met, if construction began in 2023 and was completed in 2024. Nothing in the Inflation Reduction Act (IRA) indicates construction must be completed within a single calendar year to qualify, which is rarely the case with utility scale solar projects. As noted on page 31 of ReVision's RFP response, the US Treasury Department has yet to release its detailed guidelines concerning domestic content so we cannot be certain of the precise requirements in terms of construction schedules and equipment eligibility at this time. We are actively tracking the federal IRA rulemaking anticipate receiving final guidance in the next few months.

was made possible by our extensive in-house development and permitting capabilities (as the most experienced full-service commercial solar development and EPC contractor in the region) as well as our strong and extensive connections with all relevant local/state/federal permitting authorities. At the conclusion of the process, which enabled our utility scale solar farm to proceed, we were commended by the federal authorities for providing them with a level of insight into NLEB impacts and permitting that they had not been able to obtain from official or other sources. The experience reinforced ReVision's longstanding commitment to approach all development (as well as EPC) activities with the utmost diligence, in deference to both our clients and the numerous permitting authorities charged with protecting our natural environment.

Estimated Hourly Energy Produced per Day from Vendor

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Estimated Hourly Energy Produced 15:00-16:00													Wh
Estimated Hourly Energy Produced 16:00-17:00													Wh
Estimated Hourly Energy Produced 17:00-18:00													Wh
Estimated Hourly Energy Produced 18:00-19:00													Wh
Estimated Hourly Energy Produced 19:00-20:00													Wh

Historical ISO Peak

	Peak Hour Begin	Peak Hour End
8/09/2001	14:00	15:00
8/14/2002	14:00	15:00
8/22/2003	14:00	15:00
8/30/2004	15:00	16:00
7/27/2005	14:00	15:00
8/02/2006	14:00	15:00
8/03/2007	14:00	15:00
6/10/2008	14:00	15:00
8/18/2009	14:00	15:00
7/06/2010	14:00	15:00
7/22/2011	14:00	15:00
7/17/2012	16:00	17:00
7/19/2013	16:00	17:00
7/02/2014	14:00	15:00
7/29/2015	16:00	17:00
8/12/2016	14:00	15:00
6/13/2017	16:00	17:00
8/29/2018	16:00	17:00
7/30/2019	17:00	18:00
7/27/2020	17:00	18:00
6/29/2021	16:00	17:00

	# from 2012-2021			
	June	July	Aug	
1400-1500			1	1
1500-1600				
1600-1700		2	3	1
1700-1800			2	

Calculated Estimated Output at the ISO Peak Hour

	Wh	kWh	% of AC Capacit	AC Capacity (MW)	
Average of Estimated Output at Historical Month/Hour	2,885,581	2,886	59.2%	4.875	Utilized 15:00-16:00 for 14:00-15:00 ISO Peak Hour
Average of Estimated Output at Historical Month/Hour (excluding 14:00-15:00)	2,761,470	2,761	56.6%		
Average of 16:00-17:00 and 17:00-18:00 for months of June, July and August)	2,379,122	**2,379**	**48.8%**		

Estimated Hourly Energy Produced per Day from Vender

	Hour Ending	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Estimated Hourly Energy Produced 15:00-16:00	16													Wh
Estimated Hourly Energy Produced 16:00-17:00	17													Wh
Estimated Hourly Energy Produced 17:00-18:00	18													Wh
Estimated Hourly Energy Produced 18:00-19:00	19													Wh
Estimated Hourly Energy Produced 19:00-20:00	20													Wh

Historical Eversource Peak

	Time of Peak Hour (hour ending @)											
Month	1	2	3	4	5	6	7	8	9	10	11	12
2017				18	18	16	17	17	17	19	18	18
2018	18	18	19	20	18	17	17	17	15		18	18
2019	18	19	19		18	18	18	16	18	15	18	19
2020	18	19	18	18	18	18	18	18	18	19	18	18
2021	19	18	19	20	18	18	17	18	18	19	18	18
2022	18	19	19	20								

Estimates Output at Historical Eversource Peak Hour

	Time of Peak Hour (hour ending @)											
Month	1	2	3	4	5	6	7	8	9	10	11	12
2017				795,788	1,408,428	3,319,212	3,101,147	2,735,347	1,594,315	0	0	0
2018	0	15,611	1,284	0	1,408,428	3,047,611	3,101,147	2,735,347		0	0	0
2019	0	0	1,284		1,408,428	2,039,929	1,978,873	3,263,253	210,922	0	0	0
2020	0	0	244,161	795,788	1,408,428	2,039,929	1,978,873	1,371,822	210,922	0	0	0
2021	0	15,611	1,284	0	1,408,428	2,039,929	3,101,147	1,371,822	210,922	0	0	0
2022	0	0	1,284	0								

Historical ISO-NE Peak

	Time of Peak Hour (hour ending @)											
Month	1	2	3	4	5	6	7	8	9	10	11	12
2017				18	18	17	18	17	17	19	18	18
2018	18	18	19	20	18	17	18	17	16	19	18	18
2019	18	19	19	20	18	18	18	16	17		18	18
2020	18	19	19	18	18	18	18	18	18	19	18	18
2021	18	18	19		18	16	16	18	17	19	18	18
2022	18	18	19	20								

Estimates Output at Historical ISO-NE Peak Hour

	Time of Peak Hour (hour ending @)											
Month	1	2	3	4	5	6	7	8	9	10	11	12
2017				795,788	1,408,428	3,047,611	1,978,873	2,735,347	1,594,315	0	0	0
2018	0	15,611	1,284	0	1,408,428	3,047,611	1,978,873	2,735,347	2,758,121	0	0	0
2019	0	0	1,284	0	1,408,428	2,039,929	1,978,873	3,263,253	1,594,315	0	0	0
2020	0	0	1,284	795,788	1,408,428	2,039,929	1,978,873	1,371,822	210,922	0	0	0
2021	0	15,611	1,284		1,408,428	3,319,212	3,500,796	1,371,822	1,594,315	0	0	0
2022	0	15,611	1,284	0								

Calculated Estimated Output at the ISO Peak Hour

	Wh	kWh	% of AC Capacity	AC Capacity (MW)	
Average of Estimated Output at Historical Month/Hour (Eversource)	819,775	**820**	**16.8%**	4.875	Excludes 14:00-15:00 Peak Hour
Average of Estimated Output at Historical Month/Hour (ISO-NE)	880,452	880	18.1%		Excludes 14:00-15:00 Peak Hour
Average of Estimated Output at Historical Month/Hour (ISO-NE and Eversource)	850,368	850	17.4%		Excludes 14:00-15:00 Peak Hour

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis

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Schedule 1
Summary

Line No.	Description	Reference	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1	Direct Customer Benefits											
2	Avoided Energy Costs	Direct Customer Benefits, Line 12	$ 882,458	$ 725,600	$ 701,977	$ 686,108	$ 696,223	$ 706,468	$ 716,844	$ 727,353	$ 737,995	$ 748,773
3	Avoided Capacity Costs	Direct Customer Benefits, Line 19	100,203	98,199	97,698	97,197	96,696	96,195	95,694	95,193	94,692	94,191
4	Local Transmission Benefits	Direct Customer Benefits, Line 27	16,103	16,096	16,335	16,576	16,820	17,068	17,318	17,572	17,829	18,090
5	Regional Transmission Benefits	Direct Customer Benefits, Line 37	118,949	118,901	120,660	122,442	124,247	126,076	127,927	129,803	131,702	133,625
6	Renewable Energy Credit Savings	Direct Customer Benefits, Line 42	357,556	350,405	348,617	346,829	345,041	343,254	341,466	339,678	337,890	336,103
7	Total Direct Customer Benefits	Sum Lines 2 through 6	$ 1,475,268	$ 1,309,202	$ 1,285,287	$ 1,269,153	$ 1,279,028	$ 1,289,060	$ 1,299,250	$ 1,309,599	$ 1,320,109	$ 1,330,781
8												
9	Costs											
10	Revenue Requirement	Rate Base & Revenue Requirement, Line 28	$ 1,571,340	$ 1,461,528	$ 1,347,158	$ 1,263,995	$ 1,192,492	$ 1,154,353	$ 1,109,591	$ 1,073,564	$ 1,037,476	$ 1,001,326
11	Total Costs	Line 10	$ 1,571,340	$ 1,461,528	$ 1,347,158	$ 1,263,995	$ 1,192,492	$ 1,154,353	$ 1,109,591	$ 1,073,564	$ 1,037,476	$ 1,001,326
12												
13	Net Benefit (Cost) to Customers	Line 7 - Line 11	$ (96,071)	$ (152,326)	$ (61,871)	$ 5,158	$ 86,536	$ 134,708	$ 189,659	$ 236,035	$ 282,633	$ 329,456
14												
15	Required Rate of Return	Cost of Capital, Line 8, Column (h)	6.71%									
16												
17	Present Value (PV)											
18	PV of Direct Customer Benefits	PV of Line 7	$ 19,291,559									
19	PV of Costs	PV of Line 11	16,747,851									
20	Net Present Value	Line 18 - Line 19	$ 2,543,708									
21												
22	Internal Rate of Return	Internal Rate of Return of Line 13	28.90%									
23												
24	Benefit-Cost Ratio (BCR)	Line 18 ÷ Line 19	1.15									

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Line No.	Description	Reference	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
1	Direct Customer Benefits											
2	Avoided Energy Costs	Direct Customer Benefits, Line 12	$ 759,685	$ 770,735	$ 781,924	$ 793,251	$ 804,719	$ 816,328	$ 828,079	$ 839,974	$ 852,014	$ 864,199
3	Avoided Capacity Costs	Direct Customer Benefits, Line 19	93,690	93,189	94,542	95,912	97,298	98,702	100,123	101,561	103,017	104,490
4	Local Transmission Benefits	Direct Customer Benefits, Line 27	18,353	18,620	18,891	19,164	19,441	19,722	20,006	20,293	20,584	20,878
5	Regional Transmission Benefits	Direct Customer Benefits, Line 37	135,573	137,545	139,541	141,563	143,609	145,681	147,778	149,901	152,050	154,224
6	Renewable Energy Credit Savings	Direct Customer Benefits, Line 42	334,315	332,527	330,739	328,951	327,164	325,376	323,588	321,800	320,013	318,225
7	Total Direct Customer Benefits	Sum Lines 2 through 6	$ 1,341,617	$ 1,352,617	$ 1,365,637	$ 1,378,841	$ 1,392,231	$ 1,405,808	$ 1,419,574	$ 1,433,529	$ 1,447,676	$ 1,462,016
8												
9	Costs											
10	Revenue Requirement	Rate Base & Revenue Requirement, Line 28	$ 1,399,120	$ 1,369,157	$ 1,339,210	$ 1,309,279	$ 1,279,364	$ 1,249,466	$ 1,219,585	$ 1,189,722	$ 1,159,876	$ 1,195,418
11	Total Costs	Line 10	$ 1,399,120	$ 1,369,157	$ 1,339,210	$ 1,309,279	$ 1,279,364	$ 1,249,466	$ 1,219,585	$ 1,189,722	$ 1,159,876	$ 1,195,418
12												
13	Net Benefit (Cost) to Customers	Line 7 - Line 11	$ (57,504)	$ (16,541)	$ 26,427	$ 69,562	$ 112,867	$ 156,342	$ 199,988	$ 243,807	$ 287,800	$ 266,598
14												
15	Required Rate of Return	Cost of Capital, Line 8, Column (h)										
16												
17	Present Value (PV)											
18	PV of Direct Customer Benefits	PV of Line 7										
19	PV of Costs	PV of Line 11										
20	Net Present Value	Line 18 - Line 19										
21												
22	Internal Rate of Return	Internal Rate of Return of Line 13										
23												
24	Benefit-Cost Ratio (BCR)	Line 18 ÷ Line 19										

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Schedule 1
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Line No.	Description	Reference	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
1	Direct Customer Benefits											
2	Avoided Energy Costs	Direct Customer Benefits, Line 12	$ 876,531	$ 889,010	$ 901,638	$ 914,416	$ 927,344	$ 940,423	$ 953,655	$ 967,039	$ 980,578	$ 994,271
3	Avoided Capacity Costs	Direct Customer Benefits, Line 19	105,981	107,490	109,017	110,562	112,125	113,706	115,306	116,924	118,561	120,217
4	Local Transmission Benefits	Direct Customer Benefits, Line 27	21,176	21,478	21,783	22,091	22,404	22,720	23,039	23,363	23,690	24,021
5	Regional Transmission Benefits	Direct Customer Benefits, Line 37	156,425	158,652	160,906	163,186	165,493	167,827	170,188	172,577	174,993	177,437
6	Renewable Energy Credit Savings	Direct Customer Benefits, Line 42	316,437	314,649	312,861	311,074	309,286	307,498	305,710	303,923	302,135	300,347
7	Total Direct Customer Benefits	Sum Lines 2 through 6	$ 1,476,550	$ 1,491,279	$ 1,506,205	$ 1,521,328	$ 1,536,651	$ 1,552,174	$ 1,567,898	$ 1,583,826	$ 1,599,956	$ 1,616,292
8												
9	Costs											
10	Revenue Requirement	Rate Base & Revenue Requirement, Line 28	$ 1,219,712	$ 1,186,708	$ 1,153,641	$ 1,122,735	$ 1,092,613	$ 1,065,845	$ 1,042,833	$ 1,020,243	$ 997,536	$ 974,749
11	Total Costs	Line 10	$ 1,219,712	$ 1,186,708	$ 1,153,641	$ 1,122,735	$ 1,092,613	$ 1,065,845	$ 1,042,833	$ 1,020,243	$ 997,536	$ 974,749
12												
13	Net Benefit (Cost) to Customers	Line 7 - Line 11	$ 256,838	$ 304,571	$ 352,563	$ 398,593	$ 444,038	$ 486,329	$ 525,065	$ 563,583	$ 602,420	$ 641,543
14												
15	Required Rate of Return	Cost of Capital, Line 8, Column (h)										
16												
17	Present Value (PV)											
18	PV of Direct Customer Benefits	PV of Line 7										
19	PV of Costs	PV of Line 11										
20	Net Present Value	Line 18 - Line 19										
21												
22	Internal Rate of Return	Internal Rate of Return of Line 13										
23												
24	Benefit-Cost Ratio (BCR)	Line 18 ÷ Line 19										

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Line No.	Description	Reference	Year 31	Year 32	Year 33	Year 34	Year 35	Year 36	Year 37	Year 38	Year 39	Year 40
1	Direct Customer Benefits											
2	Avoided Energy Costs	Direct Customer Benefits, Line 12	$ 1,008,120	$ 1,022,125	$ 1,036,287	$ 1,050,606	$ 1,065,084	$ 1,079,721	$ 1,094,517	$ 1,109,473	$ 1,124,590	$ 1,139,867
3	Avoided Capacity Costs	Direct Customer Benefits, Line 19	121,891	123,585	125,297	127,028	128,779	130,549	132,338	134,146	135,974	137,821
4	Local Transmission Benefits	Direct Customer Benefits, Line 27	24,355	24,694	25,036	25,382	25,731	26,085	26,443	26,804	27,169	27,538
5	Regional Transmission Benefits	Direct Customer Benefits, Line 37	179,908	182,407	184,935	187,490	190,074	192,686	195,327	197,996	200,693	203,420
6	Renewable Energy Credit Savings	Direct Customer Benefits, Line 42	298,559	296,771	294,984	293,196	291,408	289,620	287,832	286,045	284,257	282,469
7	Total Direct Customer Benefits	Sum Lines 2 through 6	$ 1,632,834	$ 1,649,582	$ 1,666,538	$ 1,683,702	$ 1,701,076	$ 1,718,661	$ 1,736,456	$ 1,754,463	$ 1,772,683	$ 1,791,115
8												
9	Costs											
10	Revenue Requirement	Rate Base & Revenue Requirement, Line 28	$ 954,377	$ 936,235	$ 917,911	$ 899,490	$ 881,002	$ 865,838	$ 853,717	$ 841,345	$ 828,834	$ 816,227
11	Total Costs	Line 10	$ 954,377	$ 936,235	$ 917,911	$ 899,490	$ 881,002	$ 865,838	$ 853,717	$ 841,345	$ 828,834	$ 816,227
12												
13	Net Benefit (Cost) to Customers	Line 7 - Line 11	$ 678,456	$ 713,347	$ 748,627	$ 784,213	$ 820,074	$ 852,823	$ 882,739	$ 913,119	$ 943,849	$ 974,888
14												
15	Required Rate of Return	Cost of Capital, Line 8, Column (h)										
16												
17	Present Value (PV)											
18	PV of Direct Customer Benefits	PV of Line 7										
19	PV of Costs	PV of Line 11										
20	Net Present Value	Line 18 - Line 19										
21												
22	Internal Rate of Return	Internal Rate of Return of Line 13										
23												
24	Benefit-Cost Ratio (BCR)	Line 18 ÷ Line 19										

Unitil Energy Systems d/b/a Unitil
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Schedule 2
Direct Customer Benefits

Line No.	Description	Reference	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1	Capacity - Nameplate	Exhibit SP-4	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW
2	Degradation Rate	Exhibit SP-4		2.0%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
3	Efficiency Rate	PY Line 3 - CY Line 2	100.0%	98.0%	97.5%	97.0%	96.5%	96.0%	95.5%	95.0%	94.5%	94.0%
4	Capacity - Adjusted for Efficiency Rate	Line 1 x Line 3	4.88 MW	4.78 MW	4.75 MW	4.73 MW	4.70 MW	4.68 MW	4.66 MW	4.63 MW	4.61 MW	4.58 MW
5												
6	EIA Energy Outlook 2022 - Escalation Rate [1]	Annual Escalation Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
7												
8	Avoided Energy Costs											
9	Annual Capacity Factor	Exhibit SP-4	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%
10	Annual Production (kWh)	Line 4 x Line 9 x 1000 x 365 x 24	9,729,412	9,534,824	9,486,177	9,437,530	9,388,883	9,340,236	9,291,588	9,242,941	9,194,294	9,145,647
11	Energy Rate ($ Per kWh) [2]	See Footnote	$ 0.0907	$ 0.0761	$ 0.0740	$ 0.0727	$ 0.0742	$ 0.0756	$ 0.0771	$ 0.0787	$ 0.0803	$ 0.0819
12	Annual Avoided Energy Costs	Line 10 x Line 11	$ 882,458	$ 725,600	$ 701,977	$ 686,108	$ 696,223	$ 706,468	$ 716,844	$ 727,353	$ 737,995	$ 748,773
13												
14	Avoided Capacity Costs											
15	PV Capacity at Annual Peak	Exhibit SP-6	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%
16	Capacity at Peak Hour (kW)	Line 4 x Line 15 x 1000	2,379	2,331	2,320	2,308	2,296	2,284	2,272	2,260	2,248	2,236
17	Capacity Clearing Price ($ kW-Month) [3]	See Footnote	$ 3.51	$ 3.51	$ 3.51	$ 3.51	$ 3.51	$ 3.51	$ 3.51	$ 3.51	$ 3.51	$ 3.51
18	Monthly Avoided Capacity Costs	Line 16 x Line 17	$ 8,350	$ 8,183	$ 8,142	$ 8,100	$ 8,058	$ 8,016	$ 7,975	$ 7,933	$ 7,891	$ 7,849
19	Annual Avoided Capacity Costs	Line 18 x 12	$ 100,203	$ 98,199	$ 97,698	$ 97,197	$ 96,696	$ 96,195	$ 95,694	$ 95,193	$ 94,692	$ 94,191
20												
21	Local Transmission Benefits											
22	PV Capacity at Monthly Peak	Exhibit SP-6	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%
23	Capacity at Peak Hour (MW-Month)	Line 4 x Line 22	0.82	0.80	0.80	0.79	0.79	0.79	0.78	0.78	0.77	0.77
24	Transmission Rate ($ Per MW-Month) [4]	Annual Escalation, Line 5	$ 1,630.95	$ 1,663.57	$ 1,696.84	$ 1,730.78	$ 1,765.39	$ 1,800.70	$ 1,836.71	$ 1,873.45	$ 1,910.92	$ 1,949.14
25	Ancillary Services Rate ($ Per MW-Month) [4]	Annual Escalation, Line 5	7.51	7.66	7.81	7.97	8.13	8.29	8.46	8.63	8.80	8.98
26	Monthly Local Transmission Benefits	Line 23 x (Line 24 + Line 25)	$ 1,342	$ 1,341	$ 1,361	$ 1,381	$ 1,402	$ 1,422	$ 1,443	$ 1,464	$ 1,486	$ 1,507
27	Annual Local Transmission Benefits	Line 26 x 12	$ 16,103	$ 16,096	$ 16,335	$ 16,576	$ 16,820	$ 17,068	$ 17,318	$ 17,572	$ 17,829	$ 18,090
28												
29	Regional Transmission Benefits											
30	PV Capacity at Monthly Peak	Exhibit SP-6	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%
31	Capacity at Peak Hour (kW-Month)	Line 4 x Line 30 x 1000	819	803	799	794	790	786	782	778	774	770
32	ISO NE Section 4A, Schedule 1 Rate ($ kW-Month) [5]	Annual Escalation, Line 5	$ 0.2048	$ 0.2088	$ 0.2130	$ 0.2173	$ 0.2216	$ 0.2261	$ 0.2306	$ 0.2352	$ 0.2399	$ 0.2447
33	ISO NE Section 4A, Schedule 5 Rate ($ kW-Month) [6]	Annual Escalation, Line 5	0.0070	0.0072	0.0073	0.0074	0.0076	0.0077	0.0079	0.0081	0.0082	0.0084
34	ISO NE Section 2, Schedule 1 Rate ($ kW-Month) [7]	Annual Escalation, Line 5	0.1459	0.1489	0.1518	0.1549	0.1580	0.1611	0.1643	0.1676	0.1710	0.1744
35	ISO NE Section 2, Schedule 9 Rate ($ kW-Month) [8]	Annual Escalation, Line 5	11.7453	11.9802	12.2198	12.4642	12.7135	12.9678	13.2272	13.4917	13.7615	14.0368
36	Monthly Regional Transmission Benefits	Line 31 x (Sum Lines 32 through 35)	$ 9,912	$ 9,908	$ 10,055	$ 10,204	$ 10,354	$ 10,506	$ 10,661	$ 10,817	$ 10,975	$ 11,135
37	Annual Regional Transmission Benefits	Line 36 x 12	$ 118,949	$ 118,901	$ 120,660	$ 122,442	$ 124,247	$ 126,076	$ 127,927	$ 129,803	$ 131,702	$ 133,625
38												
39	Renewable Energy Credits (REC) Savings											
40	Annual Production (MWh)	Line 10 ÷ 1000	9,729	9,535	9,486	9,438	9,389	9,340	9,292	9,243	9,194	9,146
41	REC II Rate ($ Per MWh) [9]	New England Power Pool	$									
42	Annual REC Savings	Line 40 x Line 41	$									
43												
44	Total Direct Customer Benefits	Line 12 + Line 19 + Line 27 + Line 37 + Line 42	$ 1,475,268	$ 1,309,202	$ 1,285,287	$ 1,269,153	$ 1,279,028	$ 1,289,060	$ 1,299,250	$ 1,309,599	$ 1,320,109	$ 1,330,781

Notes
(1) EIA Annual Energy Outlook 2022, Table 8. End-Use Price, All Sectors Average
(2) Using ISO New England Futures from Year 1 through Year 4. Annual escalation beginning in Year 5
(3) 'Avoided Energy Supply Components in New England' 2021 Report, Page 123, Table 40. Counter-factual #1: 15-year Levelized Cost. Annual escalation beginning in Year 13
(4) Eversource, Schedule 21-ES (Part A) ISO-NE Transmission Markets and Services Tariff, Rates effective January 1, 2023
(5) ISO New England Tariff Rates, Section 4A. Recovery of ISO Administrative Expenses, Schedule 1. Scheduling, System Control and Dispatch Service, Rates effective January 1, 2023
(6) ISO New England Tariff Rates, Section 4A. Recovery of ISO Administrative Expenses, Schedule 3. Reliability Administration Service, Rates effective January 1, 2023
(7) ISO New England Tariff Rates, Section 2. ISO New England Open Access Transmission Tariff (OATT), Schedule 1. Scheduling, System Control and Dispatch Service, Rates effective June 1, 2022. Divided by 12
(8) ISO New England Tariff Rates, Section 2. ISO New England Open Access Transmission Tariff (OATT), Schedule 9. Regional Network Service (RNS), Rates effective January 1, 2023. Divided by 12
(9) NH Class II REC 2023 Term

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 2
Direct Customer Benefits

Line No.	Description	Reference	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
1	Capacity - Nameplate	Exhibit SP-4	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW
2	Degradation Rate	Exhibit SP-4	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
3	Efficiency Rate	PY Line 3 - CY Line 2	93.5%	93.0%	92.5%	92.0%	91.5%	91.0%	90.5%	90.0%	89.5%	89.0%
4	Capacity - Adjusted for Efficiency Rate	Line 1 x Line 3	4.56 MW	4.53 MW	4.51 MW	4.49 MW	4.46 MW	4.44 MW	4.41 MW	4.39 MW	4.36 MW	4.34 MW
5												
6	EIA Energy Outlook 2022 - Escalation Rate [1]	Annual Escalation Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
7												
8	Avoided Energy Costs											
9	Annual Capacity Factor	Exhibit SP-4	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%
10	Annual Production (kWh)	Line 4 x Line 9 x 1000 x 365 x 24	9,097,000	9,048,353	8,999,706	8,951,059	8,902,412	8,853,765	8,805,118	8,756,471	8,707,824	8,659,177
11	Energy Rate ($ Per kWh) [2]	See Footnote	$ 0.0835	$ 0.0852	$ 0.0869	$ 0.0886	$ 0.0904	$ 0.0922	$ 0.0940	$ 0.0959	$ 0.0978	$ 0.0998
12	Annual Avoided Energy Costs	Line 10 x Line 11	$ 759,685	$ 770,735	$ 781,924	$ 793,251	$ 804,719	$ 816,328	$ 828,079	$ 839,974	$ 852,014	$ 864,199
13												
14	Avoided Capacity Costs											
15	PV Capacity at Annual Peak	Exhibit SP-6	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%
16	Capacity at Peak Hour (kW)	Line 4 x Line 15 x 1000	2,224	2,212	2,201	2,189	2,177	2,165	2,153	2,141	2,129	2,117
17	Capacity Clearing Price ($ kW-Month) [3]	See Footnote	$ 3.51	$ 3.51	$ 3.58	$ 3.65	$ 3.72	$ 3.80	$ 3.88	$ 3.95	$ 4.03	$ 4.11
18	Monthly Avoided Capacity Costs	Line 16 x Line 17	$ 7,808	$ 7,766	$ 7,878	$ 7,993	$ 8,108	$ 8,225	$ 8,344	$ 8,463	$ 8,585	$ 8,707
19	Annual Avoided Capacity Costs	Line 18 x 12	$ 93,690	$ 93,189	$ 94,542	$ 95,912	$ 97,298	$ 98,702	$ 100,123	$ 101,561	$ 103,017	$ 104,490
20												
21	Local Transmission Benefits											
22	PV Capacity at Monthly Peak	Exhibit SP-6	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%
23	Capacity at Peak Hour (MW-Month)	Line 4 x Line 22	0.77	0.76	0.76	0.75	0.75	0.75	0.74	0.74	0.73	0.73
24	Transmission Rate ($ Per MW-Month) [4]	Annual Escalation, Line 5	$ 1,988.12	$ 2,027.88	$ 2,068.44	$ 2,109.81	$ 2,152.00	$ 2,195.04	$ 2,238.94	$ 2,283.72	$ 2,329.40	$ 2,375.99
25	Ancillary Services Rate ($ Per MW-Month) [4]	Annual Escalation, Line 5	9.15	9.34	9.52	9.71	9.91	10.11	10.31	10.52	10.73	10.94
26	Monthly Local Transmission Benefits	Line 23 x (Line 24 + Line 25)	$ 1,529	$ 1,552	$ 1,574	$ 1,597	$ 1,620	$ 1,643	$ 1,667	$ 1,691	$ 1,715	$ 1,740
27	Annual Local Transmission Benefits	Line 26 x 12	$ 18,353	$ 18,620	$ 18,891	$ 19,164	$ 19,441	$ 19,722	$ 20,006	$ 20,293	$ 20,584	$ 20,878
28												
29	Regional Transmission Benefits											
30	PV Capacity at Monthly Peak	Exhibit SP-6	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%
31	Capacity at Peak Hour (kW-Month)	Line 4 x Line 30 x 1000	766	762	758	753	749	745	741	737	733	729
32	ISO NE Section 4A, Schedule 1 Rate ($ kW-Month) [5]	Annual Escalation, Line 5	$ 0.2496	$ 0.2546	$ 0.2597	$ 0.2649	$ 0.2702	$ 0.2756	$ 0.2811	$ 0.2867	$ 0.2924	$ 0.2983
33	ISO NE Section 4A, Schedule 5 Rate ($ kW-Month) [6]	Annual Escalation, Line 5	0.0085	0.0087	0.0089	0.0091	0.0092	0.0094	0.0096	0.0098	0.0100	0.0102
34	ISO NE Section 2, Schedule 1 Rate ($ kW-Month) [7]	Annual Escalation, Line 5	0.1779	0.1814	0.1851	0.1888	0.1926	0.1964	0.2003	0.2043	0.2084	0.2126
35	ISO NE Section 2, Schedule 9 Rate ($ kW-Month) [8]	Annual Escalation, Line 5	14.3175	14.6038	14.8959	15.1938	15.4977	15.8077	16.1238	16.4463	16.7752	17.1107
36	Monthly Regional Transmission Benefits	Line 31 x (Sum Lines 32 through 35)	$ 11,298	$ 11,462	$ 11,628	$ 11,797	$ 11,967	$ 12,140	$ 12,315	$ 12,492	$ 12,671	$ 12,852
37	Annual Regional Transmission Benefits	Line 36 x 12	$ 135,573	$ 137,545	$ 139,541	$ 141,563	$ 143,609	$ 145,681	$ 147,778	$ 149,901	$ 152,050	$ 154,224
38												
39	Renewable Energy Credits (REC) Savings											
40	Annual Production (MWh)	Line 10 ÷ 1000	9,097	9,048	9,000	8,951	8,902	8,854	8,805	8,756	8,708	8,659
41	REC II Rate ($ Per MWh) [9]	New England Power Pool	$									
42	Annual REC Savings	Line 40 x Line 41	$									
43												
44	Total Direct Customer Benefits	Line 12 + Line 19 + Line 27 + Line 37 + Line 42	$ 1,341,617	$ 1,352,617	$ 1,365,637	$ 1,378,841	$ 1,392,231	$ 1,405,808	$ 1,419,574	$ 1,433,529	$ 1,447,676	$ 1,462,016

Notes
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(6) ISO New England Tariff Rates, Section 4A. Recovery of ISO Administrative Expenses, Schedule 3. Reliability Administration Service, Rates effective January 1, 2023
(7) ISO New England Tariff Rates, Section 2. ISO New England Open Access Transmission Tariff (OATT), Schedule 1. Scheduling, System Control and Dispatch Service, Rates effective June 1, 2022. Divided by 12
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(9) NH Class II REC 2023 Term

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 2
Direct Customer Benefits

Line No.	Description	Reference	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
1	Capacity - Nameplate	Exhibit SP-4	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW
2	Degradation Rate	Exhibit SP-4	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
3	Efficiency Rate	PY Line 3 - CY Line 2	88.5%	88.0%	87.5%	87.0%	86.5%	86.0%	85.5%	85.0%	84.5%	84.0%
4	Capacity - Adjusted for Efficiency Rate	Line 1 x Line 3	4.31 MW	4.29 MW	4.27 MW	4.24 MW	4.22 MW	4.19 MW	4.17 MW	4.14 MW	4.12 MW	4.10 MW
5												
6	EIA Energy Outlook 2022 - Escalation Rate [1]	Annual Escalation Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
7												
8	Avoided Energy Costs											
9	Annual Capacity Factor	Exhibit SP-4	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%
10	Annual Production (kWh)	Line 4 x Line 9 x 1000 x 365 x 24	8,610,530	8,561,883	8,513,235	8,464,588	8,415,941	8,367,294	8,318,647	8,270,000	8,221,353	8,172,706
11	Energy Rate ($ Per kWh) [2]	See Footnote	$ 0.1018	$ 0.1038	$ 0.1059	$ 0.1080	$ 0.1102	$ 0.1124	$ 0.1146	$ 0.1169	$ 0.1193	$ 0.1217
12	Annual Avoided Energy Costs	Line 10 x Line 11	$ 876,531	$ 889,010	$ 901,638	$ 914,416	$ 927,344	$ 940,423	$ 953,655	$ 967,039	$ 980,578	$ 994,271
13												
14	Avoided Capacity Costs											
15	PV Capacity at Annual Peak	Exhibit SP-6	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%
16	Capacity at Peak Hour (kW)	Line 4 x Line 15 x 1000	2,105	2,094	2,082	2,070	2,058	2,046	2,034	2,022	2,010	1,998
17	Capacity Clearing Price ($ kW-Month) [3]	See Footnote	$ 4.19	$ 4.28	$ 4.36	$ 4.45	$ 4.54	$ 4.63	$ 4.72	$ 4.82	$ 4.91	$ 5.01
18	Monthly Avoided Capacity Costs	Line 16 x Line 17	$ 8,832	$ 8,957	$ 9,085	$ 9,213	$ 9,344	$ 9,476	$ 9,609	$ 9,744	$ 9,880	$ 10,018
19	Annual Avoided Capacity Costs	Line 18 x 12	$ 105,981	$ 107,490	$ 109,017	$ 110,562	$ 112,125	$ 113,706	$ 115,306	$ 116,924	$ 118,561	$ 120,217
20												
21	Local Transmission Benefits											
22	PV Capacity at Monthly Peak	Exhibit SP-6	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%
23	Capacity at Peak Hour (MW-Month)	Line 4 x Line 22	0.72	0.72	0.72	0.71	0.71	0.70	0.70	0.70	0.69	0.69
24	Transmission Rate ($ Per MW-Month) [4]	Annual Escalation, Line 5	$ 2,423.51	$ 2,471.98	$ 2,521.42	$ 2,571.84	$ 2,623.28	$ 2,675.75	$ 2,729.26	$ 2,783.85	$ 2,839.52	$ 2,896.31
25	Ancillary Services Rate ($ Per MW-Month) [4]	Annual Escalation, Line 5	11.16	11.38	11.61	11.84	12.08	12.32	12.57	12.82	13.08	13.34
26	Monthly Local Transmission Benefits	Line 23 x (Line 24 + Line 25)	$ 1,765	$ 1,790	$ 1,815	$ 1,841	$ 1,867	$ 1,893	$ 1,920	$ 1,947	$ 1,974	$ 2,002
27	Annual Local Transmission Benefits	Line 26 x 12	$ 21,176	$ 21,478	$ 21,783	$ 22,091	$ 22,404	$ 22,720	$ 23,039	$ 23,363	$ 23,690	$ 24,021
28												
29	Regional Transmission Benefits											
30	PV Capacity at Monthly Peak	Exhibit SP-6	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%
31	Capacity at Peak Hour (kW-Month)	Line 4 x Line 30 x 1000	725	721	717	713	708	704	700	696	692	688
32	ISO NE Section 4A, Schedule 1 Rate ($ kW-Month) [5]	Annual Escalation, Line 5	$ 0.3042	$ 0.3103	$ 0.3165	$ 0.3229	$ 0.3293	$ 0.3359	$ 0.3426	$ 0.3495	$ 0.3565	$ 0.3636
33	ISO NE Section 4A, Schedule 5 Rate ($ kW-Month) [6]	Annual Escalation, Line 5	0.0104	0.0106	0.0108	0.0111	0.0113	0.0115	0.0117	0.0120	0.0122	0.0124
34	ISO NE Section 2, Schedule 1 Rate ($ kW-Month) [7]	Annual Escalation, Line 5	0.2168	0.2212	0.2256	0.2301	0.2347	0.2394	0.2442	0.2491	0.2541	0.2592
35	ISO NE Section 2, Schedule 9 Rate ($ kW-Month) [8]	Annual Escalation, Line 5	17.4529	17.8020	18.1580	18.5212	18.8916	19.2695	19.6549	20.0480	20.4489	20.8579
36	Monthly Regional Transmission Benefits	Line 31 x (Sum Lines 32 through 35)	$ 13,035	$ 13,221	$ 13,409	$ 13,599	$ 13,791	$ 13,986	$ 14,182	$ 14,381	$ 14,583	$ 14,786
37	Annual Regional Transmission Benefits	Line 36 x 12	$ 156,425	$ 158,652	$ 160,906	$ 163,186	$ 165,493	$ 167,827	$ 170,188	$ 172,577	$ 174,993	$ 177,437
38												
39	Renewable Energy Credits (REC) Savings											
40	Annual Production (MWh)	Line 10 ÷ 1000	8,611	8,562	8,513	8,465	8,416	8,367	8,319	8,270	8,221	8,173
41	REC II Rate ($ Per MWh) [9]	New England Power Pool	$									
42	Annual REC Savings	Line 40 x Line 41	$									
43												
44	Total Direct Customer Benefits	Line 12 + Line 19 + Line 27 + Line 37 + Line 42	$ 1,476,550	$ 1,491,279	$ 1,506,205	$ 1,521,328	$ 1,536,651	$ 1,552,174	$ 1,567,898	$ 1,583,826	$ 1,599,956	$ 1,616,292

Notes
(1) EIA Annual Energy Outlook 2022, Table 8. End-Use Price, All Sectors Average
(2) Using ISO New England Futures from Year 1 through Year 4. Annual escalation beginning in Year 5
(3) 'Avoided Energy Supply Components in New England' 2021 Report, Page 123, Table 40. Counter-factual #1: 15-year Levelized Cost. Annual escalation beginning in Year 13
(4) Eversource, Schedule 21-ES (Part A) ISO-NE Transmission Markets and Services Tariff, Rates effective January 1, 2023
(5) ISO New England Tariff Rates, Section 4A. Recovery of ISO Administrative Expenses, Schedule 1. Scheduling, System Control and Dispatch Service, Rates effective January 1, 2023
(6) ISO New England Tariff Rates, Section 4A. Recovery of ISO Administrative Expenses, Schedule 3. Reliability Administration Service, Rates effective January 1, 2023
(7) ISO New England Tariff Rates, Section 2. ISO New England Open Access Transmission Tariff (OATT), Schedule 1. Scheduling, System Control and Dispatch Service, Rates effective June 1, 2022. Divided by 12
(8) ISO New England Tariff Rates, Section 2. ISO New England Open Access Transmission Tariff (OATT), Schedule 9. Regional Network Service (RNS), Rates effective January 1, 2023. Divided by 12
(9) NH Class II REC 2023 Term

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 2
Direct Customer Benefits

Line No.	Description	Reference	Year 31	Year 32	Year 33	Year 34	Year 35	Year 36	Year 37	Year 38	Year 39	Year 40
1	Capacity - Nameplate	Exhibit SP-4	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW	4.88 MW
2	Degradation Rate	Exhibit SP-4	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
3	Efficiency Rate	PY Line 3 - CY Line 2	83.5%	83.0%	82.5%	82.0%	81.5%	81.0%	80.5%	80.0%	79.5%	79.0%
4	Capacity - Adjusted for Efficiency Rate	Line 1 x Line 3	4.07 MW	4.05 MW	4.02 MW	4.00 MW	3.97 MW	3.95 MW	3.92 MW	3.90 MW	3.88 MW	3.85 MW
5												
6	EIA Energy Outlook 2022 - Escalation Rate [1]	Annual Escalation Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
7												
8	Avoided Energy Costs											
9	Annual Capacity Factor	Exhibit SP-4	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%	22.78%
10	Annual Production (kWh)	Line 4 x Line 9 x 1000 x 365 x 24	8,124,059	8,075,412	8,026,765	7,978,118	7,929,471	7,880,824	7,832,177	7,783,530	7,734,883	7,686,235
11	Energy Rate ($ Per kWh) [2]	See Footnote	$ 0.1241	$ 0.1266	$ 0.1291	$ 0.1317	$ 0.1343	$ 0.1370	$ 0.1397	$ 0.1425	$ 0.1454	$ 0.1483
12	Annual Avoided Energy Costs	Line 10 x Line 11	$ 1,008,120	$ 1,022,125	$ 1,036,287	$ 1,050,606	$ 1,065,084	$ 1,079,721	$ 1,094,517	$ 1,109,473	$ 1,124,590	$ 1,139,867
13												
14	Avoided Capacity Costs											
15	PV Capacity at Annual Peak	Exhibit SP-6	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%	48.8%
16	Capacity at Peak Hour (kW)	Line 4 x Line 15 x 1000	1,986	1,975	1,963	1,951	1,939	1,927	1,915	1,903	1,891	1,879
17	Capacity Clearing Price ($ kW-Month) [3]	See Footnote	$ 5.11	$ 5.22	$ 5.32	$ 5.43	$ 5.53	$ 5.65	$ 5.76	$ 5.87	$ 5.99	$ 6.11
18	Monthly Avoided Capacity Costs	Line 16 x Line 17	$ 10,158	$ 10,299	$ 10,441	$ 10,586	$ 10,732	$ 10,879	$ 11,028	$ 11,179	$ 11,331	$ 11,485
19	Annual Avoided Capacity Costs	Line 18 x 12	$ 121,891	$ 123,585	$ 125,297	$ 127,028	$ 128,779	$ 130,549	$ 132,338	$ 134,146	$ 135,974	$ 137,821
20												
21	Local Transmission Benefits											
22	PV Capacity at Monthly Peak	Exhibit SP-6	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%
23	Capacity at Peak Hour (MW-Month)	Line 4 x Line 22	0.68	0.68	0.68	0.67	0.67	0.66	0.66	0.66	0.65	0.65
24	Transmission Rate ($ Per MW-Month) [4]	Annual Escalation, Line 5	$ 2,954.24	$ 3,013.32	$ 3,073.59	$ 3,135.06	$ 3,197.76	$ 3,261.72	$ 3,326.95	$ 3,393.49	$ 3,461.36	$ 3,530.59
25	Ancillary Services Rate ($ Per MW-Month) [4]	Annual Escalation, Line 5	13.60	13.88	14.15	14.44	14.72	15.02	15.32	15.63	15.94	16.26
26	Monthly Local Transmission Benefits	Line 23 x (Line 24 + Line 25)	$ 2,030	$ 2,058	$ 2,086	$ 2,115	$ 2,144	$ 2,174	$ 2,204	$ 2,234	$ 2,264	$ 2,295
27	Annual Local Transmission Benefits	Line 26 x 12	$ 24,355	$ 24,694	$ 25,036	$ 25,382	$ 25,731	$ 26,085	$ 26,443	$ 26,804	$ 27,169	$ 27,538
28												
29	Regional Transmission Benefits											
30	PV Capacity at Monthly Peak	Exhibit SP-6	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%	16.8%
31	Capacity at Peak Hour (kW-Month)	Line 4 x Line 30 x 1000	684	680	676	672	667	663	659	655	651	647
32	ISO NE Section 4A, Schedule 1 Rate ($ kW-Month) [5]	Annual Escalation, Line 5	$ 0.3709	$ 0.3783	$ 0.3859	$ 0.3936	$ 0.4014	$ 0.4095	$ 0.4177	$ 0.4260	$ 0.4345	$ 0.4432
33	ISO NE Section 4A, Schedule 5 Rate ($ kW-Month) [6]	Annual Escalation, Line 5	0.0127	0.0130	0.0132	0.0135	0.0137	0.0140	0.0143	0.0146	0.0149	0.0152
34	ISO NE Section 2, Schedule 1 Rate ($ kW-Month) [7]	Annual Escalation, Line 5	0.2643	0.2696	0.2750	0.2805	0.2861	0.2918	0.2977	0.3036	0.3097	0.3159
35	ISO NE Section 2, Schedule 9 Rate ($ kW-Month) [8]	Annual Escalation, Line 5	21.2750	21.7005	22.1346	22.5773	23.0288	23.4894	23.9592	24.4383	24.9271	25.4257
36	Monthly Regional Transmission Benefits	Line 31 x (Sum Lines 32 through 35)	$ 14,992	$ 15,201	$ 15,411	$ 15,624	$ 15,839	$ 16,057	$ 16,277	$ 16,500	$ 16,724	$ 16,952
37	Annual Regional Transmission Benefits	Line 36 x 12	$ 179,908	$ 182,407	$ 184,935	$ 187,490	$ 190,074	$ 192,686	$ 195,327	$ 197,996	$ 200,693	$ 203,420
38												
39	Renewable Energy Credits (REC) Savings											
40	Annual Production (MWh)	Line 10 ÷ 1000	8,124	8,075	8,027	7,978	7,929	7,881	7,832	7,784	7,735	7,686
41	REC II Rate ($ Per MWh) [9]	New England Power Pool	$									
42	Annual REC Savings	Line 40 x Line 41	$									
43												
44	Total Direct Customer Benefits	Line 12 + Line 19 + Line 27 + Line 37 + Line 42	$ 1,632,834	$ 1,649,582	$ 1,666,538	$ 1,683,702	$ 1,701,076	$ 1,718,661	$ 1,736,456	$ 1,754,463	$ 1,772,683	$ 1,791,115

Notes
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(9) NH Class II REC 2023 Term

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 3
Rate Base & Revenue Requirement

Line No.	Description	Reference	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1	**Investments**												
2	PV Modules	Capital Costs, Line 46, Maintenance Capital Costs, Line 7	$ [redacted]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	Racking Equipment	Capital Costs, Line 47, Maintenance Capital Costs, Line 14	[redacted]	-	-	-	-	-	-	-	-	-	-
4	Balance of Plant	Capital Costs, Line 48											
5	Electric System Upgrades	Capital Costs, Line 49	560,000										
6	Solar Inverter 1	Capital Costs, Line 50	[redacted]										
7	Solar Inverter 2	Capital Costs, Line 51											
8	Land Improvements	Capital Costs, Line 55	[redacted]										
9	Land Acquisition	Capital Costs, Line 56	820,438										
10	Total Investments	Sum Lines 2 through 9	$ 13,918,488	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11													
12	**Rate Base Calculation**												
13	Gross Plant [1]	CY Line 10 + PY Line 13	$ 13,918,488	$ 13,918,488	$ 13,918,488	$ 13,918,488	$ 13,918,488	$ 13,918,488	$ 13,918,488	$ 13,918,488	$ 13,918,488	$ 13,918,488	$ 13,918,488
14	Accumulated Depreciation [1]	Book Depreciation Schedule, Line 44		(323,772)	(647,543)	(971,315)	(1,295,086)	(1,618,858)	(1,942,629)	(2,266,401)	(2,590,172)	(2,913,944)	(3,237,715)
15	Net Plant	Line 13 + Line 14	13,918,488	13,594,716	13,270,945	12,947,173	12,623,402	12,299,630	11,975,859	11,652,087	11,328,316	11,004,544	10,680,773
16	Deferred Income Tax	Deferred Tax Calculation, Line - 27		(578,124)	(1,555,428)	(2,106,941)	(2,402,978)	(2,699,015)	(2,803,446)	(2,716,271)	(2,629,095)	(2,541,920)	(2,454,744)
17	Year End Rate Base	Line 15 + Line 16	$ 13,918,488	$ 13,016,592	$ 11,715,516	$ 10,840,233	$ 10,220,424	$ 9,600,615	$ 9,172,413	$ 8,935,817	$ 8,699,221	$ 8,462,625	$ 8,226,029
18													
19	**Revenue Requirement**												
20	Average Rate Base	(CY Line 17 + PY Line 17) ÷ 2		$ 13,467,540	$ 12,366,054	$ 11,277,875	$ 10,530,328	$ 9,910,520	$ 9,386,514	$ 9,054,115	$ 8,817,519	$ 8,580,923	$ 8,344,327
21	Pre-Tax Rate of Return	Cost of Capital, Line 8, Column (f)		9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%
22	Return and Taxes	Line 20 x Line 21		$ 1,236,576	$ 1,135,439	$ 1,035,523	$ 966,884	$ 909,974	$ 861,860	$ 831,340	$ 809,616	$ 787,892	$ 766,168
23	Operations & Maintenance	O&M Expense, Line 7		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
24	Decommissioning Expense	Decommissioning Expense, Line 2											
25	Book Depreciation	Book Depreciation Schedule, Line 43		323,772	323,772	323,772	323,772	323,772	323,772	323,772	323,772	323,772	323,772
26	Property Taxes	Property Tax Expense, Line 4		379,021	369,994	360,967	351,940	342,914	333,887	324,860	315,833	306,807	297,780
27	Production Tax Credit & Tax Gross up	Production Tax Credit, Line - 11		(380,788)	(380,636)	(386,268)	(391,973)	(397,751)	(403,604)	(409,532)	(415,536)	(421,616)	(427,773)
28	Annual Revenue Requirement	Sum Lines 22 through 27		$ 1,571,340	$ 1,461,528	$ 1,347,158	$ 1,263,995	$ 1,192,492	$ 1,154,353	$ 1,109,591	$ 1,073,564	$ 1,037,476	$ 1,001,326

Notes
(1) Beginning in Year 20 Gross Plant and Accumulated Depreciation are reduced by the retirement of Solar Inverter 1

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 3
Rate Base & Revenue Requirement

Line No.	Description	Reference	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
1	**Investments**											
2	PV Modules	Capital Costs, Line 46, Maintenance Capital Costs, Line 7	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	Racking Equipment	Capital Costs, Line 47, Maintenance Capital Costs, Line 14	-	-	-	-	-	-	-	-	-	-
4	Balance of Plant	Capital Costs, Line 48										
5	Electric System Upgrades	Capital Costs, Line 49										
6	Solar Inverter 1	Capital Costs, Line 50										$ [redacted]
7	Solar Inverter 2	Capital Costs, Line 51										$ [redacted]
8	Land Improvements	Capital Costs, Line 55										
9	Land Acquisition	Capital Costs, Line 56										
10	Total Investments	Sum Lines 2 through 9	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ [redacted]
11												
12	**Rate Base Calculation**											
13	Gross Plant [1]	CY Line 10 + PY Line 13	$ 13,918,488	$ 13,918,488	$ 13,918,488	$ 13,918,488	$ 13,918,488	$ 13,918,488	$ 13,918,488	$ 13,918,488	$ 13,918,488	$ 14,208,198
14	Accumulated Depreciation [1]	Book Depreciation Schedule, Line 44	(3,561,487)	(3,885,258)	(4,209,030)	(4,532,802)	(4,856,573)	(5,180,345)	(5,504,116)	(5,827,888)	(6,151,659)	(5,879,254)
15	Net Plant	Line 13 + Line 14	10,357,001	10,033,230	9,709,458	9,385,686	9,061,915	8,738,143	8,414,372	8,090,600	7,766,829	8,328,944
16	Deferred Income Tax	Deferred Tax Calculation, Line - 27	(2,367,569)	(2,280,393)	(2,193,218)	(2,106,042)	(2,018,867)	(1,931,691)	(1,844,516)	(1,757,340)	(1,670,165)	(1,582,989)
17	Year End Rate Base	Line 15 + Line 16	$ 7,989,432	$ 7,752,836	$ 7,516,240	$ 7,279,644	$ 7,043,048	$ 6,806,452	$ 6,569,856	$ 6,333,260	$ 6,096,664	$ 6,745,955
18												
19	**Revenue Requirement**											
20	Average Rate Base	(CY Line 17 + PY Line 17) ÷ 2	$ 8,107,731	$ 7,871,134	$ 7,634,538	$ 7,397,942	$ 7,161,346	$ 6,924,750	$ 6,688,154	$ 6,451,558	$ 6,214,962	$ 6,421,310
21	Pre-Tax Rate of Return	Cost of Capital, Line 8, Column (f)	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%
22	Return and Taxes	Line 20 x Line 21	$ 744,444	$ 722,720	$ 700,996	$ 679,272	$ 657,548	$ 635,824	$ 614,100	$ 592,376	$ 570,652	$ 589,598
23	Operations & Maintenance	O&M Expense, Line 7	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
24	Decommissioning Expense	Decommissioning Expense, Line 2										
25	Book Depreciation	Book Depreciation Schedule, Line 43	323,772	323,772	323,772	323,772	323,772	323,772	323,772	323,772	323,772	323,772
26	Property Taxes	Property Tax Expense, Line 4	288,753	279,726	270,700	261,673	252,646	243,619	234,593	225,566	216,539	232,211
27	Production Tax Credit & Tax Gross up	Production Tax Credit, Line - 11	-	-	-	-	-	-	-	-	-	-
28	Annual Revenue Requirement	Sum Lines 22 through 27	$ 1,399,120	$ 1,369,157	$ 1,339,210	$ 1,309,279	$ 1,279,364	$ 1,249,466	$ 1,219,585	$ 1,189,722	$ 1,159,876	$ 1,195,418

Notes
(1) Beginning in Year 20 Gross Plant and Accumulated Depreciation are reduced by the retirement of Solar Inverter 1

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 3
Rate Base & Revenue Requirement

Line No.	Description	Reference	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
1	**Investments**											
2	PV Modules	Capital Costs, Line 46, Maintenance Capital Costs, Line 7	$ -	$ -	$ -	$ -	$ -	$ [redacted]	$ [redacted]	$ [redacted]	$ [redacted]	$ [redacted]
3	Racking Equipment	Capital Costs, Line 47, Maintenance Capital Costs, Line 14	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]					
4	Balance of Plant	Capital Costs, Line 48										
5	Electric System Upgrades	Capital Costs, Line 49										
6	Solar Inverter 1	Capital Costs, Line 50										
7	Solar Inverter 2	Capital Costs, Line 51										
8	Land Improvements	Capital Costs, Line 55										
9	Land Acquisition	Capital Costs, Line 56										
10	Total Investments	Sum Lines 2 through 9	$ [redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
11												
12	**Rate Base Calculation**											
13	Gross Plant [1]	CY Line 10 + PY Line 13	$ 14,236,623	$ 14,265,616	$ 14,295,189	$ 14,325,353	$ 14,356,121	$ 14,426,224	$ 14,497,729	$ 14,570,663	$ 14,645,057	$ 14,720,938
14	Accumulated Depreciation [1]	Book Depreciation Schedule, Line 44	(6,217,511)	(6,556,479)	(6,896,171)	(7,236,603)	(7,577,789)	(7,919,744)	(8,263,452)	(8,608,947)	(8,956,266)	(9,305,445)
15	Net Plant	Line 13 + Line 14	8,019,112	7,709,137	7,399,018	7,088,750	6,778,332	6,506,480	6,234,277	5,961,716	5,688,791	5,415,494
16	Deferred Income Tax	Deferred Tax Calculation, Line - 27	(1,541,149)	(1,530,220)	(1,490,115)	(1,432,485)	(1,375,664)	(1,307,574)	(1,228,815)	(1,151,851)	(1,075,919)	(1,001,039)
17	Year End Rate Base	Line 15 + Line 16	$ 6,477,963	$ 6,178,917	$ 5,908,903	$ 5,656,265	$ 5,402,668	$ 5,198,905	$ 5,005,462	$ 4,809,865	$ 4,612,872	$ 4,414,455
18												
19	**Revenue Requirement**											
20	Average Rate Base	(CY Line 17 + PY Line 17) ÷ 2	$ 6,611,959	$ 6,328,440	$ 6,043,910	$ 5,782,584	$ 5,529,467	$ 5,300,786	$ 5,102,183	$ 4,907,663	$ 4,711,368	$ 4,513,664
21	Pre-Tax Rate of Return	Cost of Capital, Line 8, Column (f)	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%
22	Return and Taxes	Line 20 x Line 21	$ 607,103	$ 581,071	$ 554,946	$ 530,951	$ 507,710	$ 486,713	$ 468,477	$ 450,617	$ 432,593	$ 414,440
23	Operations & Maintenance	O&M Expense, Line 7	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
24	Decommissioning Expense	Decommissioning Expense, Line 2										
25	Book Depreciation	Book Depreciation Schedule, Line 43	338,257	338,968	339,693	340,432	341,186	341,955	343,708	345,495	347,319	349,179
26	Property Taxes	Property Tax Expense, Line 4	223,573	214,931	206,285	197,634	188,980	181,401	173,812	166,213	158,603	150,984
27	Production Tax Credit & Tax Gross up	Production Tax Credit, Line - 11	-	-	-	-	-	-	-	-	-	-
28	Annual Revenue Requirement	Sum Lines 22 through 27	$ 1,219,712	$ 1,186,708	$ 1,153,641	$ 1,122,735	$ 1,092,613	$ 1,065,845	$ 1,042,833	$ 1,020,243	$ 997,536	$ 974,749

Notes
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Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 3
Rate Base & Revenue Requirement

Line No.	Description	Reference	Year 31	Year 32	Year 33	Year 34	Year 35	Year 36	Year 37	Year 38	Year 39	Year 40
1	**Investments**											
2	PV Modules	Capital Costs, Line 46, Maintenance Capital Costs, Line 7	$ [redacted]									
3	Racking Equipment	Capital Costs, Line 47, Maintenance Capital Costs, Line 14										
4	Balance of Plant	Capital Costs, Line 48										
5	Electric System Upgrades	Capital Costs, Line 49										
6	Solar Inverter 1	Capital Costs, Line 50										
7	Solar Inverter 2	Capital Costs, Line 51										
8	Land Improvements	Capital Costs, Line 55										
9	Land Acquisition	Capital Costs, Line 56										
10	Total Investments	Sum Lines 2 through 9	[redacted]									
11												
12	**Rate Base Calculation**											
13	Gross Plant [1]	CY Line 10 + PY Line 13	$ 14,832,987	$ 14,947,276	$ 15,063,852	$ 15,182,758	$ 15,304,043	$ 15,474,953	$ 15,649,281	$ 15,827,095	$ 16,008,466	$ 16,193,464
14	Accumulated Depreciation [1]	Book Depreciation Schedule, Line 44	(9,656,520)	(10,010,397)	(10,367,131)	(10,726,779)	(11,089,400)	(11,455,054)	(11,824,979)	(12,199,264)	(12,577,993)	(12,961,257)
15	Net Plant	Line 13 + Line 14	5,176,467	4,936,879	4,696,721	4,455,979	4,214,643	4,019,899	3,824,301	3,627,831	3,430,473	3,232,207
16	Deferred Income Tax	Deferred Tax Calculation, Line - 27	(928,496)	(858,625)	(790,284)	(722,787)	(656,151)	(592,398)	(532,255)	(474,168)	(417,202)	(361,379)
17	Year End Rate Base	Line 15 + Line 16	$ 4,247,970	$ 4,078,254	$ 3,906,437	$ 3,733,192	$ 3,558,491	$ 3,427,501	$ 3,292,046	$ 3,153,663	$ 3,013,271	$ 2,870,828
18												
19	**Revenue Requirement**											
20	Average Rate Base	(CY Line 17 + PY Line 17) ÷ 2	$ 4,331,213	$ 4,163,112	$ 3,992,345	$ 3,819,814	$ 3,645,842	$ 3,492,996	$ 3,359,773	$ 3,222,854	$ 3,083,467	$ 2,942,049
21	Pre-Tax Rate of Return	Cost of Capital, Line 8, Column (f)	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%	9.18%
22	Return and Taxes	Line 20 x Line 21	$ 397,688	$ 382,253	$ 366,573	$ 350,731	$ 334,757	$ 320,723	$ 308,491	$ 295,919	$ 283,121	$ 270,136
23	Operations & Maintenance	O&M Expense, Line 7	[redacted]									
24	Decommissioning Expense	Decommissioning Expense, Line 2										
25	Book Depreciation	Book Depreciation Schedule, Line 43	351,076	353,877	356,734	359,648	362,621	365,653	369,926	374,284	378,729	383,264
26	Property Taxes	Property Tax Expense, Line 4	144,320	137,640	130,945	124,233	117,504	112,075	106,622	101,144	95,642	90,114
27	Production Tax Credit & Tax Gross up	Production Tax Credit, Line - 11	-	-	-	-	-	-	-	-	-	-
28	Annual Revenue Requirement	Sum Lines 22 through 27	$ 954,377	$ 936,235	$ 917,911	$ 899,490	$ 881,002	$ 865,838	$ 853,717	$ 841,345	$ 828,834	$ 816,227

Notes
(1) Beginning in Year 20 Gross Plant and Accumulated Depreciation are reduced by the retirement of Solar Inverter 1

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 4
Production Tax Credit

Line No.	Description	Reference	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1	Annual Escalation Rate	2% Escalation Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
2												
3	Production Tax Credit (PTC)											
4	Annual Production (kWh)	Direct Customer Benefits, Line 10	9,729,412	9,534,824	9,486,177	9,437,530	9,388,883	9,340,236	9,291,588	9,242,941	9,194,294	9,145,647
5	PTC Base Credit (per kWh) [1]	Annual Escalation, Line 1	$ 0.0286	$ 0.0292	$ 0.0298	$ 0.0304	$ 0.0310	$ 0.0316	$ 0.0322	$ 0.0329	$ 0.0335	$ 0.0342
6	PTC Base Credit (Annual)	Line 4 x Line 5	$ 278,261	$ 278,150	$ 282,265	$ 286,434	$ 290,657	$ 294,934	$ 299,266	$ 303,653	$ 308,096	$ 312,595
7												
8	Tax Gross Up											
9	Production Tax Credit Tax Gross Up	Line 6 x (Cost of Capital, Line 20 - 1)	$ 102,527	$ 102,486	$ 104,003	$ 105,539	$ 107,095	$ 108,670	$ 110,267	$ 111,883	$ 113,520	$ 115,178
10												
11	Total PTC & Tax Gross Up	Line 6 + Line 9	$ 380,788	$ 380,636	$ 386,268	$ 391,973	$ 397,751	$ 403,604	$ 409,532	$ 415,536	$ 421,616	$ 427,773

Notes
(1) The Internal Revenue Service published a 2022 PTC Rate of 2.75 cents per kWh. Year 1 (2024) is the future value of the current PTC rate of 2.75 cents per kWh with 2% annual escalation rate. This does not include the 10% Bonus Credit for Domestic Content qualification

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 4
Production Tax Credit

Line No.	Description	Reference	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
1	Annual Escalation Rate	2% Escalation Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
2												
3	Production Tax Credit (PTC)											
4	Annual Production (kWh)	Direct Customer Benefits, Line 10	9,097,000	9,048,353	8,999,706	8,951,059	8,902,412	8,853,765	8,805,118	8,756,471	8,707,824	8,659,177
5	PTC Base Credit (per kWh) [1]	Annual Escalation, Line 1										
6	PTC Base Credit (Annual)	Line 4 x Line 5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7												
8	Tax Gross Up											
9	Production Tax Credit Tax Gross Up	Line 6 x (Cost of Capital, Line 20 - 1)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10												
11	Total PTC & Tax Gross Up	Line 6 + Line 9	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Notes
(1) The Internal Revenue Service published a 2022 PTC Rate of 2.75 cents per kWh. Year 1 (2024) is the future value of the current PTC rate of 2.75 cents per kWh with 2% annual escalation rate. This does not include the 10% Bonus Credit for Domestic Content qualification

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 4
Production Tax Credit

Line No.	Description	Reference	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
1	Annual Escalation Rate	2% Escalation Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
2												
3	Production Tax Credit (PTC)											
4	Annual Production (kWh)	Direct Customer Benefits, Line 10	8,610,530	8,561,883	8,513,235	8,464,588	8,415,941	8,367,294	8,318,647	8,270,000	8,221,353	8,172,706
5	PTC Base Credit (per kWh) [1]	Annual Escalation, Line 1										
6	PTC Base Credit (Annual)	Line 4 x Line 5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7												
8	Tax Gross Up											
9	Production Tax Credit Tax Gross Up	Line 6 x (Cost of Capital, Line 20 - 1)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10												
11	Total PTC & Tax Gross Up	Line 6 + Line 9	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Notes
(1) The Internal Revenue Service published a 2022 PTC Rate of 2.75 cents per kWh. Year 1 (2024) is the future value of the current PTC rate of 2.75 cents per kWh with 2% annual escalation rate. This does not include the 10% Bonus Credit for Domestic Content qualification

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 4
Production Tax Credit

Line No.	Description	Reference	Year 31	Year 32	Year 33	Year 34	Year 35	Year 36	Year 37	Year 38	Year 39	Year 40
1	Annual Escalation Rate	2% Escalation Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
2												
3	Production Tax Credit (PTC)											
4	Annual Production (kWh)	Direct Customer Benefits, Line 10	8,124,059	8,075,412	8,026,765	7,978,118	7,929,471	7,880,824	7,832,177	7,783,530	7,734,883	7,686,235
5	PTC Base Credit (per kWh) [1]	Annual Escalation, Line 1										
6	PTC Base Credit (Annual)	Line 4 x Line 5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7												
8	Tax Gross Up											
9	Production Tax Credit Tax Gross Up	Line 6 x (Cost of Capital, Line 20 - 1)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10												
11	Total PTC & Tax Gross Up	Line 6 + Line 9	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Notes
(1) The Internal Revenue Service published a 2022 PTC Rate of 2.75 cents per kWh. Year 1 (2024) is the future value of the current PTC rate of 2.75 cents per kWh with 2% annual escalation rate. This does not include the 10% Bonus Credit for Domestic Content qualification

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 5
O&M Expense

Line No.	Description	Reference	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1	Annual Escalation Rate	2% Escalation Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
2												
3	Vegetation Management Expense[(1)]	Annual Escalation Rate, Line 1	$ [redacted]									
4												
5	Annual Maintenance Expense[(2)]	Annual Escalation Rate, Line 1						$ [redacted]				
6												
7	O&M Expense	Line 3 + Line 5	$ [redacted]									

Notes
(1) Exhibit SP-1

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 5
O&M Expense

Line No.	Description	Reference	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
1	Annual Escalation Rate	2% Escalation Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
2												
3	Vegetation Management Expense[(1)]	Annual Escalation Rate, Line 1	[redacted]									
4												
5	Annual Maintenance Expense[(2)]	Annual Escalation Rate, Line 1	[redacted]									
6												
7	O&M Expense	Line 3 + Line 5	[redacted]									

Notes
(1) Exhibit SP-1

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 5
O&M Expense

Line No.	Description	Reference	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
1	Annual Escalation Rate	2% Escalation Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
2												
3	Vegetation Management Expense[(1)]	Annual Escalation Rate, Line 1	[redacted]									
4												
5	Annual Maintenance Expense[(2)]	Annual Escalation Rate, Line 1	[redacted]									
6												
7	O&M Expense	Line 3 + Line 5	[redacted]									

Notes
(1) Exhibit SP-1

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 5
O&M Expense

Line No.	Description	Reference	Year 31	Year 32	Year 33	Year 34	Year 35	Year 36	Year 37	Year 38	Year 39	Year 40
1	Annual Escalation Rate	2% Escalation Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
2												
3	Vegetation Management Expense[(1)]	Annual Escalation Rate, Line 1	[redacted]									
4												
5	Annual Maintenance Expense[(2)]	Annual Escalation Rate, Line 1	[redacted]									
6												
7	O&M Expense	Line 3 + Line 5	[redacted]									

Notes
(1) Exhibit SP-1

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 6
Decommissioning Expense

Line No.	Description	Reference	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1	Net Decommissioning Cost[1]	Exhibit SP-5										
2	Annual Decommissioning Expense[2]	Annual Expense of Line 1 Cost										

Notes
(1) Assumed decommissioning cost is net of of salvage value. Future value of expected decommissioning cost of in 40 years at 2.0% escalation rate.
(2) Future value of Decommissioning cost expensed evenly over 40 year life of the project

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 6
Decommissioning Expense

Line No.	Description	Reference	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
1	Net Decommissioning Cost[1]	Exhibit SP-5										
2	Annual Decommissioning Expense[2]	Annual Expense of Line 1 Cost										

Notes
(1) Assumed [redacted] decommissioning cost is net of of salvage value. Future value of expected decommissioning cost of [redacted] in 40 years at 2.0% escalation rate.
(2) Future value of Decommissioning cost expensed evenly over 40 year life of the project

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 6
Decommissioning Expense

Line No.	Description	Reference	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
1	Net Decommissioning Cost[1]	Exhibit SP-5										
2	Annual Decommissioning Expense[2]	Annual Expense of Line 1 Cost										

Notes
(1) Assumed [redacted] decommissioning cost is net of of salvage value. Future value of expected decommissioning cost of [redacted] in 40 years at 2.0% escalation rate.
(2) Future value of Decommissioning cost expensed evenly over 40 year life of the project

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 6
Decommissioning Expense

Line No.	Description	Reference	Year 31	Year 32	Year 33	Year 34	Year 35	Year 36	Year 37	Year 38	Year 39	Year 40
1	Net Decommissioning Cost[1]	Exhibit SP-5										
2	Annual Decommissioning Expense[2]	Annual Expense of Line 1 Cost										

Notes
(1) Assumed decommissioning cost is net of of salvage value. Future value of expected decommissioning cost of in 40 years at 2.0% escalation rate.
(2) Future value of Decommissioning cost expensed evenly over 40 year life of the project

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 7
Property Tax Expense

Line No.	Description	Reference	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1	Property Tax Expense											
2	Net Plant	Rate Base & Revenue Requirement, Line 15	$ 13,594,716	$ 13,270,945	$ 12,947,173	$ 12,623,402	$ 12,299,630	$ 11,975,859	$ 11,652,087	$ 11,328,316	$ 11,004,544	$ 10,680,773
3	Property Tax Rate per $1000	Kingston, NH Rate of $21.28 + NH State Rate $6.60	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88
4	Annual Property Tax	Line 2 x (Line 3 ÷ 1000)	$ 379,021	$ 369,994	$ 360,967	$ 351,940	$ 342,914	$ 333,887	$ 324,860	$ 315,833	$ 306,807	$ 297,780

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 7
Property Tax Expense

Line No.	Description	Reference	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
1	Property Tax Expense											
2	Net Plant	Rate Base & Revenue Requirement, Line 15	$ 10,357,001	$ 10,033,230	$ 9,709,458	$ 9,385,686	$ 9,061,915	$ 8,738,143	$ 8,414,372	$ 8,090,600	$ 7,766,829	$ 8,328,944
3	Property Tax Rate per $1000	Kingston, NH Rate of $21.28 + NH State Rate $6.60	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88
4	Annual Property Tax	Line 2 x (Line 3 ÷ 1000)	$ 288,753	$ 279,726	$ 270,700	$ 261,673	$ 252,646	$ 243,619	$ 234,593	$ 225,566	$ 216,539	$ 232,211

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 7
Property Tax Expense

Line No.	Description	Reference	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
1	Property Tax Expense											
2	Net Plant	Rate Base & Revenue Requirement, Line 15	$ 8,019,112	$ 7,709,137	$ 7,399,018	$ 7,088,750	$ 6,778,332	$ 6,506,480	$ 6,234,277	$ 5,961,716	$ 5,688,791	$ 5,415,494
3	Property Tax Rate per $1000	Kingston, NH Rate of $21.28 + NH State Rate $6.60	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88
4	Annual Property Tax	Line 2 x (Line 3 ÷ 1000)	$ 223,573	$ 214,931	$ 206,285	$ 197,634	$ 188,980	$ 181,401	$ 173,812	$ 166,213	$ 158,603	$ 150,984

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 7
Property Tax Expense

Line No.	Description	Reference	Year 31	Year 32	Year 33	Year 34	Year 35	Year 36	Year 37	Year 38	Year 39	Year 40
1	Property Tax Expense											
2	Net Plant	Rate Base & Revenue Requirement, Line 15	$ 5,176,467	$ 4,936,879	$ 4,696,721	$ 4,455,979	$ 4,214,643	$ 4,019,899	$ 3,824,301	$ 3,627,831	$ 3,430,473	$ 3,232,207
3	Property Tax Rate per $1000	Kingston, NH Rate of $21.28 + NH State Rate $6.60	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88
4	Annual Property Tax	Line 2 x (Line 3 ÷ 1000)	$ 144,320	$ 137,640	$ 130,945	$ 124,233	$ 117,504	$ 112,075	$ 106,622	$ 101,144	$ 95,642	$ 90,114

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 8
Deferred Tax Calculation

Line No.	Description	Reference	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1	Deferred Tax Calculation											
2	Annual Federal Tax Depreciation	Tax Depreciation Schedule 10, Line 32 + Tax Depreciation Schedule 11, Line 91	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	$ -	$ -	$ -	$ -
3	Cumulative Federal Tax Depreciation	CY Line 2 + PY Line 3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
4												
5	Total Annual State Tax Depreciation	Tax Depreciation Schedule 10, Line 34 + Tax Depreciation Schedule 11, Line 92	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	$ -	$ -	$ -	$ -
6	Cumulative State Tax Depreciation	CY Line 5 + PY Line 6	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
7												
8	Book Depreciation: PV Modules	Book Depreciation Schedule, Line 5	$ [redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
9	Book Depreciation: Racking Equipment	Book Depreciation Schedule, Line 12	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
10	Book Depreciation: Balance of Plant	Book Depreciation Schedule, Line 19	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
11	Book Depreciation: Electric System Upgrades	Book Depreciation Schedule, Line 26	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
12	Book Depreciation: Solar Inverter 1	Book Depreciation Schedule, Line 33	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000
13	Book Depreciation: Solar Inverter 2	Book Depreciation Schedule, Line 40	-	-	-	-	-	-	-	-	-	-
14	Total Book Depreciation	Sum Lines 8 through 13	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
15	Cumulative Book Depreciation	CY Line 14 + PY Line 15	$ [redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
16												
17	Cumulative Book / Tax Timer	Line 3 - Line 15	$ [redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
18	Federal Tax Rate	Cost of Capital, Line 14 Column (a)	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%
19	Deferred Federal Tax Reserve	Line 17 x Line 18	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
20	Less: Federal Deduction for Deferred State Taxes	Line 18 x - Line 25	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
21	Net Deferred Federal Tax Reserve	Line 19 + Line 20	$ [redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
22												
23	Cumulative Book / Tax Timer	Line 6 - Line 15	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
24	State Tax Rate	Cost of Capital, Line 12 Column (a)	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%
25	Deferred State Tax Reserve	Line 23 x Line 24	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
26												
27	Total Deferred Taxes	Line 21 + Line 25	$ 578,124	$ 1,555,428	$ 2,106,941	$ 2,402,978	$ 2,699,015	$ 2,803,446	$ 2,716,271	$ 2,629,095	$ 2,541,920	$ 2,454,744

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 8
Deferred Tax Calculation

Line No.	Description	Reference	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
1	Deferred Tax Calculation											
2	Annual Federal Tax Depreciation	Tax Depreciation Schedule 10, Line 32 + Tax Depreciation Schedule 11, Line 91	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	Cumulative Federal Tax Depreciation	CY Line 2 + PY Line 3	$ [redacted]									
4												
5	Total Annual State Tax Depreciation	Tax Depreciation Schedule 10, Line 34 + Tax Depreciation Schedule 11, Line 92	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	Cumulative State Tax Depreciation	CY Line 5 + PY Line 6	$ [redacted]									
7												
8	Book Depreciation: PV Modules	Book Depreciation Schedule, Line 5	$ [redacted]									
9	Book Depreciation: Racking Equipment	Book Depreciation Schedule, Line 12	[redacted]									
10	Book Depreciation: Balance of Plant	Book Depreciation Schedule, Line 19	[redacted]									
11	Book Depreciation: Electric System Upgrades	Book Depreciation Schedule, Line 26	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000
12	Book Depreciation: Solar Inverter 1	Book Depreciation Schedule, Line 33	[redacted]									
13	Book Depreciation: Solar Inverter 2	Book Depreciation Schedule, Line 40	-	-	-	-	-	-	-	-	-	-
14	Total Book Depreciation	Sum Lines 8 through 13	[redacted]									
15	Cumulative Book Depreciation	CY Line 14 + PY Line 15	[redacted]									
16												
17	Cumulative Book / Tax Timer	Line 3 - Line 15	[redacted]									
18	Federal Tax Rate	Cost of Capital, Line 14 Column (a)	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%
19	Deferred Federal Tax Reserve	Line 17 x Line 18	[redacted]									
20	Less: Federal Deduction for Deferred State Taxes	Line 18 x - Line 25	[redacted]									
21	Net Deferred Federal Tax Reserve	Line 19 + Line 20	[redacted]									
22												
23	Cumulative Book / Tax Timer	Line 6 - Line 15	[redacted]									
24	State Tax Rate	Cost of Capital, Line 12 Column (a)	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%
25	Deferred State Tax Reserve	Line 23 x Line 24	[redacted]									
26												
27	Total Deferred Taxes	Line 21 + Line 25	$ 2,367,569	$ 2,280,393	$ 2,193,218	$ 2,106,042	$ 2,018,867	$ 1,931,691	$ 1,844,516	$ 1,757,340	$ 1,670,165	$ 1,582,989

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 8
Deferred Tax Calculation

Line No.	Description	Reference	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
1	Deferred Tax Calculation											
2	Annual Federal Tax Depreciation	Tax Depreciation Schedule 10, Line 32 + Tax Depreciation Schedule 11, Line 91	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
3	Cumulative Federal Tax Depreciation	CY Line 2 + PY Line 3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
4												
5	Total Annual State Tax Depreciation	Tax Depreciation Schedule 10, Line 34 + Tax Depreciation Schedule 11, Line 92	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
6	Cumulative State Tax Depreciation	CY Line 5 + PY Line 6	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
7												
8	Book Depreciation: PV Modules	Book Depreciation Schedule, Line 5	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
9	Book Depreciation: Racking Equipment	Book Depreciation Schedule, Line 12	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
10	Book Depreciation: Balance of Plant	Book Depreciation Schedule, Line 19	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
11	Book Depreciation: Electric System Upgrades	Book Depreciation Schedule, Line 26	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000
12	Book Depreciation: Solar Inverter 1	Book Depreciation Schedule, Line 33	-	-	-	-	-	-	-	-	-	-
13	Book Depreciation: Solar Inverter 2	Book Depreciation Schedule, Line 40	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
14	Total Book Depreciation	Sum Lines 8 through 13	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
15	Cumulative Book Depreciation	CY Line 14 + PY Line 15	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
16												
17	Cumulative Book / Tax Timer	Line 3 - Line 15	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
18	Federal Tax Rate	Cost of Capital, Line 14 Column (a)	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%
19	Deferred Federal Tax Reserve	Line 17 x Line 18	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
20	Less: Federal Deduction for Deferred State Taxes	Line 18 x - Line 25	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
21	Net Deferred Federal Tax Reserve	Line 19 + Line 20	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
22												
23	Cumulative Book / Tax Timer	Line 6 - Line 15	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
24	State Tax Rate	Cost of Capital, Line 12 Column (a)	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%
25	Deferred State Tax Reserve	Line 23 x Line 24	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
26												
27	Total Deferred Taxes	Line 21 + Line 25	$ 1,541,149	$ 1,530,220	$ 1,490,115	$ 1,432,485	$ 1,375,664	$ 1,307,574	$ 1,228,815	$ 1,151,851	$ 1,075,919	$ 1,001,039

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Schedule 8
Deferred Tax Calculation

Line No.	Description	Reference	Year 31	Year 32	Year 33	Year 34	Year 35	Year 36	Year 37	Year 38	Year 39	Year 40
1	Deferred Tax Calculation											
2	Annual Federal Tax Depreciation	Tax Depreciation Schedule 10, Line 32 + Tax Depreciation Schedule 11, Line 91	[redacted]									
3	Cumulative Federal Tax Depreciation	CY Line 2 + PY Line 3	[redacted]									
4												
5	Total Annual State Tax Depreciation	Tax Depreciation Schedule 10, Line 34 + Tax Depreciation Schedule 11, Line 92	[redacted]									
6	Cumulative State Tax Depreciation	CY Line 5 + PY Line 6	[redacted]									
7												
8	Book Depreciation: PV Modules	Book Depreciation Schedule, Line 5	[redacted]									
9	Book Depreciation: Racking Equipment	Book Depreciation Schedule, Line 12	[redacted]									
10	Book Depreciation: Balance of Plant	Book Depreciation Schedule, Line 19	[redacted]									
11	Book Depreciation: Electric System Upgrades	Book Depreciation Schedule, Line 26	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000
12	Book Depreciation: Solar Inverter 1	Book Depreciation Schedule, Line 33	-	-	-	-	-	-	-	-	-	-
13	Book Depreciation: Solar Inverter 2	Book Depreciation Schedule, Line 40	[redacted]									
14	Total Book Depreciation	Sum Lines 8 through 13	[redacted]									
15	Cumulative Book Depreciation	CY Line 14 + PY Line 15	[redacted]									
16												
17	Cumulative Book / Tax Timer	Line 3 - Line 15	[redacted]									
18	Federal Tax Rate	Cost of Capital, Line 14 Column (a)	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%
19	Deferred Federal Tax Reserve	Line 17 x Line 18	[redacted]									
20	Less: Federal Deduction for Deferred State Taxes	Line 18 x - Line 25	[redacted]									
21	Net Deferred Federal Tax Reserve	Line 19 + Line 20	[redacted]									
22												
23	Cumulative Book / Tax Timer	Line 6 - Line 15	[redacted]									
24	State Tax Rate	Cost of Capital, Line 12 Column (a)	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%	7 50%
25	Deferred State Tax Reserve	Line 23 x Line 24	[redacted]									
26												
27	Total Deferred Taxes	Line 21 + Line 25	$ 928,496	$ 858,625	$ 790,284	$ 722,787	$ 656,151	$ 592,398	$ 532,255	$ 474,168	$ 417,202	$ 361,379

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Schedule 9
Book Depreciation Schedule

Line No.	Description	Reference	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
1	40 Year Property										
2	PV Modules	Capital Costs, Line 46 + Maintenance Capital Costs, Line 7	$ [redacted]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	Cumulative Capital Investment	CY Line 2 + PY Line 3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
4	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
5	Annual Book Depreciation	Line 3 x Line 4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
6	Cumulative Book Depreciation	CY Line 5 + PY Line 6	$ [redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
7											
8	40 Year Property										
9	Racking Equipment	Capital Costs, Line 47 + Maintenance Capital Costs, Line 14	$ [redacted]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	Cumulative Capital Investment	CY Line 9 + PY Line 10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
11	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
12	Annual Book Depreciation	Line 10 x Line 11	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
13	Cumulative Book Depreciation	CY Line 12 + PY Line 13	$ [redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
14											
15	40 Year Property										
16	Balance of Plant	Capital Costs, Line 48	$ [redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
17	Cumulative Capital Investment	CY Line 16 + PY Line 17	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
18	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
19	Annual Book Depreciation	Line 17 x Line 18	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
20	Cumulative Book Depreciation	CY Line 19 + PY Line 20	$ [redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
21											
22	40 Year Property										
23	Electric System Upgrades	Capital Costs, Line 49	$ 560,000								
24	Cumulative Capital Investment	CY Line 23 + PY Line 24	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000
25	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
26	Annual Book Depreciation	Line 24 x Line 25	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000
27	Cumulative Book Depreciation	CY Line 26 + PY Line 27	$ 14,000	$ 28,000	$ 42,000	$ 56,000	$ 70,000	$ 84,000	$ 98,000	$ 112,000	$ 126,000
28											
29	20 Year Property										
30	Solar Inverter 1	Capital Costs, Line 50	$ [redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
31	Cumulative Capital Investment	CY Line 30 + PY Line 31	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
32	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
33	Annual Book Depreciation	Line 31 x Line 32	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
34	Cumulative Book Depreciation	CY Line 33 + PY Line 34	$ [redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
35											
36	20 Year Property										
37	Solar Inverter 2	Capital Costs, Line 51									
38	Cumulative Capital Investment	CY Line 37 + PY Line 38									
39	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%									
40	Annual Book Depreciation	Line 38 x Line 39									
41	Cumulative Book Depreciation	CY Line 40 + PY Line 41									
42											
43	Total Annual Book Depreciation	Sum Lines 5, 12, 19, 26, 33, and 40	$ 323,772	$ 323,772	$ 323,772	$ 323,772	$ 323,772	$ 323,772	$ 323,772	$ 323,772	$ 323,772
44	Total Cumulative Book Depreciation	CY Line 43 + PY Line 44	$ 323,772	$ 647,543	$ 971,315	$ 1,295,086	$ 1,618,858	$ 1,942,629	$ 2,266,401	$ 2,590,172	$ 2,913,944

Unitil Energy Systems d/b/a Unitil
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Schedule 9
Book Depreciation Schedule

Line No.	Description	Reference	Year 10
1	40 Year Property		
2	PV Modules	Capital Costs, Line 46 + Maintenance Capital Costs, Line 7	$ -
3	Cumulative Capital Investment	CY Line 2 + PY Line 3	[redacted]
4	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
5	Annual Book Depreciation	Line 3 x Line 4	[redacted]
6	Cumulative Book Depreciation	CY Line 5 + PY Line 6	$ [redacted]
7			
8	40 Year Property		
9	Racking Equipment	Capital Costs, Line 47 + Maintenance Capital Costs, Line 14	$ -
10	Cumulative Capital Investment	CY Line 9 + PY Line 10	[redacted]
11	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
12	Annual Book Depreciation	Line 10 x Line 11	[redacted]
13	Cumulative Book Depreciation	CY Line 12 + PY Line 13	$ [redacted]
14			
15	40 Year Property		
16	Balance of Plant	Capital Costs, Line 48	
17	Cumulative Capital Investment	CY Line 16 + PY Line 17	[redacted]
18	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
19	Annual Book Depreciation	Line 17 x Line 18	[redacted]
20	Cumulative Book Depreciation	CY Line 19 + PY Line 20	$ [redacted]
21			
22	40 Year Property		
23	Electric System Upgrades	Capital Costs, Line 49	
24	Cumulative Capital Investment	CY Line 23 + PY Line 24	560,000
25	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
26	Annual Book Depreciation	Line 24 x Line 25	14,000
27	Cumulative Book Depreciation	CY Line 26 + PY Line 27	$ 140,000
28			
29	20 Year Property		
30	Solar Inverter 1	Capital Costs, Line 50	
31	Cumulative Capital Investment	CY Line 30 + PY Line 31	[redacted]
32	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%	5.0%
33	Annual Book Depreciation	Line 31 x Line 32	[redacted]
34	Cumulative Book Depreciation	CY Line 33 + PY Line 34	$ [redacted]
35			
36	20 Year Property		
37	Solar Inverter 2	Capital Costs, Line 51	
38	Cumulative Capital Investment	CY Line 37 + PY Line 38	
39	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%	
40	Annual Book Depreciation	Line 38 x Line 39	
41	Cumulative Book Depreciation	CY Line 40 + PY Line 41	
42			
43	Total Annual Book Depreciation	Sum Lines 5, 12, 19, 26, 33, and 40	$ 323,772
44	Total Cumulative Book Depreciation	CY Line 43 + PY Line 44	$ 3,237,715

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 9
Book Depreciation Schedule

Line No.	Description	Reference	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 19
1	40 Year Property								
2	PV Modules	Capital Costs, Line 46 + Maintenance Capital Costs, Line 7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	Cumulative Capital Investment	CY Line 2 + PY Line 3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
4	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
5	Annual Book Depreciation	Line 3 x Line 4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
6	Cumulative Book Depreciation	CY Line 5 + PY Line 6	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
7									
8	40 Year Property								
9	Racking Equipment	Capital Costs, Line 47 + Maintenance Capital Costs, Line 14	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	Cumulative Capital Investment	CY Line 9 + PY Line 10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
11	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
12	Annual Book Depreciation	Line 10 x Line 11	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
13	Cumulative Book Depreciation	CY Line 12 + PY Line 13	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
14									
15	40 Year Property								
16	Balance of Plant	Capital Costs, Line 48							
17	Cumulative Capital Investment	CY Line 16 + PY Line 17	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
18	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
19	Annual Book Depreciation	Line 17 x Line 18	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
20	Cumulative Book Depreciation	CY Line 19 + PY Line 20	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
21									
22	40 Year Property								
23	Electric System Upgrades	Capital Costs, Line 49							
24	Cumulative Capital Investment	CY Line 23 + PY Line 24	560,000	560,000	560,000	560,000	560,000	560,000	560,000
25	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
26	Annual Book Depreciation	Line 24 x Line 25	14,000	14,000	14,000	14,000	14,000	14,000	14,000
27	Cumulative Book Depreciation	CY Line 26 + PY Line 27	$ 154,000	$ 168,000	$ 182,000	$ 196,000	$ 210,000	$ 224,000	$ 266,000
28									
29	20 Year Property								
30	Solar Inverter 1	Capital Costs, Line 50							
31	Cumulative Capital Investment	CY Line 30 + PY Line 31	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
32	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
33	Annual Book Depreciation	Line 31 x Line 32	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
34	Cumulative Book Depreciation	CY Line 33 + PY Line 34	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
35									
36	20 Year Property								
37	Solar Inverter 2	Capital Costs, Line 51							
38	Cumulative Capital Investment	CY Line 37 + PY Line 38							
39	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%							
40	Annual Book Depreciation	Line 38 x Line 39							
41	Cumulative Book Depreciation	CY Line 40 + PY Line 41							
42									
43	Total Annual Book Depreciation	Sum Lines 5, 12, 19, 26, 33, and 40	$ 323,772	$ 323,772	$ 323,772	$ 323,772	$ 323,772	$ 323,772	$ 323,772
44	Total Cumulative Book Depreciation	CY Line 43 + PY Line 44	$ 3,561,487	$ 3,885,258	$ 4,209,030	$ 4,532,802	$ 4,856,573	$ 5,180,345	$ 6,151,659

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Schedule 9
Book Depreciation Schedule

Line No.	Description	Reference	Year 20
1	40 Year Property		
2	PV Modules	Capital Costs, Line 46 + Maintenance Capital Costs, Line 7	$ -
3	Cumulative Capital Investment	CY Line 2 + PY Line 3	[redacted]
4	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
5	Annual Book Depreciation	Line 3 x Line 4	[redacted]
6	Cumulative Book Depreciation	CY Line 5 + PY Line 6	$ [redacted]
7			
8	40 Year Property		
9	Racking Equipment	Capital Costs, Line 47 + Maintenance Capital Costs, Line 14	$ -
10	Cumulative Capital Investment	CY Line 9 + PY Line 10	[redacted]
11	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
12	Annual Book Depreciation	Line 10 x Line 11	[redacted]
13	Cumulative Book Depreciation	CY Line 12 + PY Line 13	$ [redacted]
14			
15	40 Year Property		
16	Balance of Plant	Capital Costs, Line 48	
17	Cumulative Capital Investment	CY Line 16 + PY Line 17	[redacted]
18	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
19	Annual Book Depreciation	Line 17 x Line 18	[redacted]
20	Cumulative Book Depreciation	CY Line 19 + PY Line 20	$ [redacted]
21			
22	40 Year Property		
23	Electric System Upgrades	Capital Costs, Line 49	
24	Cumulative Capital Investment	CY Line 23 + PY Line 24	560,000
25	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
26	Annual Book Depreciation	Line 24 x Line 25	14,000
27	Cumulative Book Depreciation	CY Line 26 + PY Line 27	$ 280,000
28			
29	20 Year Property		
30	Solar Inverter 1	Capital Costs, Line 50	
31	Cumulative Capital Investment	CY Line 30 + PY Line 31	[redacted]
32	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%	5.0%
33	Annual Book Depreciation	Line 31 x Line 32	[redacted]
34	Cumulative Book Depreciation	CY Line 33 + PY Line 34	$ [redacted]
35			
36	20 Year Property		
37	Solar Inverter 2	Capital Costs, Line 51	
38	Cumulative Capital Investment	CY Line 37 + PY Line 38	
39	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%	
40	Annual Book Depreciation	Line 38 x Line 39	
41	Cumulative Book Depreciation	CY Line 40 + PY Line 41	
42			
43	Total Annual Book Depreciation	Sum Lines 5, 12, 19, 26, 33, and 40	$ 323,772
44	Total Cumulative Book Depreciation	CY Line 43 + PY Line 44	$ 6,475,431

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 9
Book Depreciation Schedule

Line No.	Description	Reference	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29
1	40 Year Property										
2	PV Modules	Capital Costs, Line 46 + Maintenance Capital Costs, Line 7	$ -	$ -	$ -	$ -	$ -	$ -	$ [redacted]	[redacted]	[redacted]
3	Cumulative Capital Investment	CY Line 2 + PY Line 3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
4	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
5	Annual Book Depreciation	Line 3 x Line 4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
6	Cumulative Book Depreciation	CY Line 5 + PY Line 6	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
7											
8	40 Year Property										
9	Racking Equipment	Capital Costs, Line 47 + Maintenance Capital Costs, Line 14	$ -	$ [redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
10	Cumulative Capital Investment	CY Line 9 + PY Line 10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
11	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
12	Annual Book Depreciation	Line 10 x Line 11	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
13	Cumulative Book Depreciation	CY Line 12 + PY Line 13	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
14											
15	40 Year Property										
16	Balance of Plant	Capital Costs, Line 48									
17	Cumulative Capital Investment	CY Line 16 + PY Line 17	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
18	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
19	Annual Book Depreciation	Line 17 x Line 18	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
20	Cumulative Book Depreciation	CY Line 19 + PY Line 20	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
21											
22	40 Year Property										
23	Electric System Upgrades	Capital Costs, Line 49									
24	Cumulative Capital Investment	CY Line 23 + PY Line 24	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000
25	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
26	Annual Book Depreciation	Line 24 x Line 25	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000
27	Cumulative Book Depreciation	CY Line 26 + PY Line 27	$ 294,000	$ 308,000	$ 322,000	$ 336,000	$ 350,000	$ 364,000	$ 378,000	$ 392,000	$ 406,000
28											
29	20 Year Property										
30	Solar Inverter 1	Capital Costs, Line 50									
31	Cumulative Capital Investment	CY Line 30 + PY Line 31									
32	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%									
33	Annual Book Depreciation	Line 31 x Line 32									
34	Cumulative Book Depreciation	CY Line 33 + PY Line 34									
35											
36	20 Year Property										
37	Solar Inverter 2	Capital Costs, Line 51	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
38	Cumulative Capital Investment	CY Line 37 + PY Line 38	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
39	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
40	Annual Book Depreciation	Line 38 x Line 39	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
41	Cumulative Book Depreciation	CY Line 40 + PY Line 41	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
42											
43	Total Annual Book Depreciation	Sum Lines 5, 12, 19, 26, 33, and 40	$ 338,257	$ 338,968	$ 339,693	$ 340,432	$ 341,186	$ 341,955	$ 343,708	$ 345,495	$ 347,319
44	Total Cumulative Book Depreciation	CY Line 43 + PY Line 44	$ 6,813,688	$ 7,152,655	$ 7,492,348	$ 7,832,780	$ 8,173,966	$ 8,515,921	$ 8,859,629	$ 9,205,124	$ 9,552,443

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 9
Book Depreciation Schedule

Line No.	Description	Reference	Year 30
1	40 Year Property		
2	PV Modules	Capital Costs, Line 46 + Maintenance Capital Costs, Line 7	$ [redacted]
3	Cumulative Capital Investment	CY Line 2 + PY Line 3	[redacted]
4	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
5	Annual Book Depreciation	Line 3 x Line 4	[redacted]
6	Cumulative Book Depreciation	CY Line 5 + PY Line 6	$ [redacted]
7			
8	40 Year Property		
9	Racking Equipment	Capital Costs, Line 47 + Maintenance Capital Costs, Line 14	$ [redacted]
10	Cumulative Capital Investment	CY Line 9 + PY Line 10	[redacted]
11	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
12	Annual Book Depreciation	Line 10 x Line 11	[redacted]
13	Cumulative Book Depreciation	CY Line 12 + PY Line 13	$ [redacted]
14			
15	40 Year Property		
16	Balance of Plant	Capital Costs, Line 48	
17	Cumulative Capital Investment	CY Line 16 + PY Line 17	[redacted]
18	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
19	Annual Book Depreciation	Line 17 x Line 18	[redacted]
20	Cumulative Book Depreciation	CY Line 19 + PY Line 20	$ [redacted]
21			
22	40 Year Property		
23	Electric System Upgrades	Capital Costs, Line 49	
24	Cumulative Capital Investment	CY Line 23 + PY Line 24	560,000
25	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
26	Annual Book Depreciation	Line 24 x Line 25	14,000
27	Cumulative Book Depreciation	CY Line 26 + PY Line 27	$ 420,000
28			
29	20 Year Property		
30	Solar Inverter 1	Capital Costs, Line 50	
31	Cumulative Capital Investment	CY Line 30 + PY Line 31	
32	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%	
33	Annual Book Depreciation	Line 31 x Line 32	
34	Cumulative Book Depreciation	CY Line 33 + PY Line 34	
35			
36	20 Year Property		
37	Solar Inverter 2	Capital Costs, Line 51	
38	Cumulative Capital Investment	CY Line 37 + PY Line 38	[redacted]
39	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%	5.0%
40	Annual Book Depreciation	Line 38 x Line 39	[redacted]
41	Cumulative Book Depreciation	CY Line 40 + PY Line 41	$ [redacted]
42			
43	Total Annual Book Depreciation	Sum Lines 5, 12, 19, 26, 33, and 40	$ 349,179
44	Total Cumulative Book Depreciation	CY Line 43 + PY Line 44	$ 9,901,621

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 9
Book Depreciation Schedule

Line No.	Description	Reference	Year 31	Year 32	Year 33	Year 34	Year 35	Year 36	Year 37	Year 38	Year 39
1	40 Year Property										
2	PV Modules	Capital Costs, Line 46 + Maintenance Capital Costs, Line 7	$ [redacted]								
3	Cumulative Capital Investment	CY Line 2 + PY Line 3									
4	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
5	Annual Book Depreciation	Line 3 x Line 4									
6	Cumulative Book Depreciation	CY Line 5 + PY Line 6	[redacted]								
7											
8	40 Year Property										
9	Racking Equipment	Capital Costs, Line 47 + Maintenance Capital Costs, Line 14	$ [redacted]								
10	Cumulative Capital Investment	CY Line 9 + PY Line 10									
11	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
12	Annual Book Depreciation	Line 10 x Line 11									
13	Cumulative Book Depreciation	CY Line 12 + PY Line 13	[redacted]								
14											
15	40 Year Property										
16	Balance of Plant	Capital Costs, Line 48									
17	Cumulative Capital Investment	CY Line 16 + PY Line 17	[redacted]								
18	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
19	Annual Book Depreciation	Line 17 x Line 18									
20	Cumulative Book Depreciation	CY Line 19 + PY Line 20	[redacted]								
21											
22	40 Year Property										
23	Electric System Upgrades	Capital Costs, Line 49									
24	Cumulative Capital Investment	CY Line 23 + PY Line 24	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000
25	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
26	Annual Book Depreciation	Line 24 x Line 25	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000
27	Cumulative Book Depreciation	CY Line 26 + PY Line 27	$ 434,000	$ 448,000	$ 462,000	$ 476,000	$ 490,000	$ 504,000	$ 518,000	$ 532,000	$ 546,000
28											
29	20 Year Property										
30	Solar Inverter 1	Capital Costs, Line 50									
31	Cumulative Capital Investment	CY Line 30 + PY Line 31									
32	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%									
33	Annual Book Depreciation	Line 31 x Line 32									
34	Cumulative Book Depreciation	CY Line 33 + PY Line 34									
35											
36	20 Year Property										
37	Solar Inverter 2	Capital Costs, Line 51									
38	Cumulative Capital Investment	CY Line 37 + PY Line 38	[redacted]								
39	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
40	Annual Book Depreciation	Line 38 x Line 39									
41	Cumulative Book Depreciation	CY Line 40 + PY Line 41	[redacted]								
42											
43	Total Annual Book Depreciation	Sum Lines 5, 12, 19, 26, 33, and 40	$ 351,076	$ 353,877	$ 356,734	$ 359,648	$ 362,621	$ 365,653	$ 369,926	$ 374,284	$ 378,729
44	Total Cumulative Book Depreciation	CY Line 43 + PY Line 44	$ 10,252,697	$ 10,606,573	$ 10,963,307	$ 11,322,956	$ 11,685,577	$ 12,051,230	$ 12,421,156	$ 12,795,440	$ 13,174,170

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 9
Book Depreciation Schedule

Line No.	Description	Reference	Year 40
1	40 Year Property		
2	PV Modules	Capital Costs, Line 46 + Maintenance Capital Costs, Line 7	$ [redacted]
3	Cumulative Capital Investment	CY Line 2 + PY Line 3	[redacted]
4	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
5	Annual Book Depreciation	Line 3 x Line 4	[redacted]
6	Cumulative Book Depreciation	CY Line 5 + PY Line 6	$ [redacted]
7			
8	40 Year Property		
9	Racking Equipment	Capital Costs, Line 47 + Maintenance Capital Costs, Line 14	$ [redacted]
10	Cumulative Capital Investment	CY Line 9 + PY Line 10	[redacted]
11	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
12	Annual Book Depreciation	Line 10 x Line 11	[redacted]
13	Cumulative Book Depreciation	CY Line 12 + PY Line 13	$ [redacted]
14			
15	40 Year Property		
16	Balance of Plant	Capital Costs, Line 48	
17	Cumulative Capital Investment	CY Line 16 + PY Line 17	[redacted]
18	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
19	Annual Book Depreciation	Line 17 x Line 18	[redacted]
20	Cumulative Book Depreciation	CY Line 19 + PY Line 20	$ [redacted]
21			
22	40 Year Property		
23	Electric System Upgrades	Capital Costs, Line 49	
24	Cumulative Capital Investment	CY Line 23 + PY Line 24	560,000
25	Annual Depreciation Rate	Annual Depreciation Rate @ 2.5%	2.5%
26	Annual Book Depreciation	Line 24 x Line 25	14,000
27	Cumulative Book Depreciation	CY Line 26 + PY Line 27	$ 560,000
28			
29	20 Year Property		
30	Solar Inverter 1	Capital Costs, Line 50	
31	Cumulative Capital Investment	CY Line 30 + PY Line 31	
32	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%	
33	Annual Book Depreciation	Line 31 x Line 32	
34	Cumulative Book Depreciation	CY Line 33 + PY Line 34	
35			
36	20 Year Property		
37	Solar Inverter 2	Capital Costs, Line 51	
38	Cumulative Capital Investment	CY Line 37 + PY Line 38	[redacted]
39	Annual Depreciation Rate	Annual Depreciation Rate @ 5.0%	5.0%
40	Annual Book Depreciation	Line 38 x Line 39	[redacted]
41	Cumulative Book Depreciation	CY Line 40 + PY Line 41	$ [redacted]
42			
43	Total Annual Book Depreciation	Sum Lines 5, 12, 19, 26, 33, and 40	$ 383,264
44	Total Cumulative Book Depreciation	CY Line 43 + PY Line 44	$ 13,557,433

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 10
Tax Depreciation Schedule 10 (Excludes Maintenance Capital Cost)

Line No.	Description	Reference	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1												
2	PV Modules and Associated Materials	Capital Costs, Line 46	$ [redacted]									
3	Cumulative Investment Tax Basis	CY Line 2 + PY Line 3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]				
4	Annual 5 Year MACRS	MACRS Rate Table, Line 2	20.00%	32.00%	19.20%	11.52%	11.52%	5.76%				
5	Tax Depreciation	Line 3 x Line 4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]				
6												
7	Racking Equipment and Associated Materials	Capital Costs, Line 47	$ [redacted]									
8	Cumulative Investment Tax Basis	CY Line 7 + PY Line 8	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]				
9	Annual 5 Year MACRS	MACRS Rate Table, Line 2	20.00%	32.00%	19.20%	11.52%	11.52%	5.76%				
10	Tax Depreciation	Line 8 x Line 9	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]				
11												
12	Balance of Plant	Capital Costs, Line 48	$ [redacted]									
13	Cumulative Investment Tax Basis	CY Line 12 + PY Line 13	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]				
14	Annual 5 Year MACRS	MACRS Rate Table, Line 2	20.00%	32.00%	19.20%	11.52%	11.52%	5.76%				
15	Tax Depreciation	Line 13 x Line 14	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]				
16												
17	Electric System Upgrades	Capital Costs, Line 49	$ 560,000									
18	Cumulative Investment Tax Basis	CY Line 17 + PY Line 18	560,000	560,000	560,000	560,000	560,000	560,000				
19	Annual 5 Year MACRS	MACRS Rate Table, Line 2	20.00%	32.00%	19.20%	11.52%	11.52%	5.76%				
20	Tax Depreciation	Line 18 x Line 19	112,000	179,200	107,520	64,512	64,512	32,256				
21												
22	Solar Inverter 1	Capital Costs, Line 50	$ [redacted]									
23	Cumulative Investment Tax Basis	CY Line 22 + PY Line 23	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]				
24	Annual 5 Year MACRS	MACRS Rate Table, Line 2	20.00%	32.00%	19.20%	11.52%	11.52%	5.76%				
25	Tax Depreciation	Line 23 x Line 24	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]				
26												
27	Solar Inverter 2	Capital Costs, Line 51										
28	Cumulative Investment Tax Basis	CY Line 27 + PY Line 28										
29	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
30	Tax Depreciation	Line 28 x Line 29										
31												
32	Total Federal Tax Depreciation[1]	Sum Lines 5, 10, 15, 20, 25, and 30	$ [redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	$ -	$ -	$ -	$ -
33												
34	Total State Tax Depreciation[1]	Sum Lines 5, 10, 15, 20, 25, and 30	$ [redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	$ -	$ -	$ -	$ -

Notes
(1) Federal & State Tax are calculated at the same MACRS rate on Tax Depreciation Schedule

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 10
Tax Depreciation Schedule 10 (Excludes Maintenance Capital Cost)

Line No.	Description	Reference	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
1												
2	PV Modules and Associated Materials	Capital Costs, Line 46										
3	Cumulative Investment Tax Basis	CY Line 2 + PY Line 3										
4	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
5	Tax Depreciation	Line 3 x Line 4										
6												
7	Racking Equipment and Associated Materials	Capital Costs, Line 47										
8	Cumulative Investment Tax Basis	CY Line 7 + PY Line 8										
9	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
10	Tax Depreciation	Line 8 x Line 9										
11												
12	Balance of Plant	Capital Costs, Line 48										
13	Cumulative Investment Tax Basis	CY Line 12 + PY Line 13										
14	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
15	Tax Depreciation	Line 13 x Line 14										
16												
17	Electric System Upgrades	Capital Costs, Line 49										
18	Cumulative Investment Tax Basis	CY Line 17 + PY Line 18										
19	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
20	Tax Depreciation	Line 18 x Line 19										
21												
22	Solar Inverter 1	Capital Costs, Line 50										
23	Cumulative Investment Tax Basis	CY Line 22 + PY Line 23										
24	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
25	Tax Depreciation	Line 23 x Line 24										
26												
27	Solar Inverter 2	Capital Costs, Line 51										
28	Cumulative Investment Tax Basis	CY Line 27 + PY Line 28										
29	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
30	Tax Depreciation	Line 28 x Line 29										
31												
32	Total Federal Tax Depreciation[(1)]	Sum Lines 5, 10, 15, 20, 25, and 30	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33												
34	Total State Tax Depreciation[(1)]	Sum Lines 5, 10, 15, 20, 25, and 30	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Notes
(1) Federal & State Tax are calculated at the same MACRS rate on Tax Depreciation Schedule

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 10
Tax Depreciation Schedule 10 (Excludes Maintenance Capital Cost)

Line No.	Description	Reference	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
1												
2	PV Modules and Associated Materials	Capital Costs, Line 46										
3	Cumulative Investment Tax Basis	CY Line 2 + PY Line 3										
4	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
5	Tax Depreciation	Line 3 x Line 4										
6												
7	Racking Equipment and Associated Materials	Capital Costs, Line 47										
8	Cumulative Investment Tax Basis	CY Line 7 + PY Line 8										
9	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
10	Tax Depreciation	Line 8 x Line 9										
11												
12	Balance of Plant	Capital Costs, Line 48										
13	Cumulative Investment Tax Basis	CY Line 12 + PY Line 13										
14	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
15	Tax Depreciation	Line 13 x Line 14										
16												
17	Electric System Upgrades	Capital Costs, Line 49										
18	Cumulative Investment Tax Basis	CY Line 17 + PY Line 18										
19	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
20	Tax Depreciation	Line 18 x Line 19										
21												
22	Solar Inverter 1	Capital Costs, Line 50										
23	Cumulative Investment Tax Basis	CY Line 22 + PY Line 23										
24	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
25	Tax Depreciation	Line 23 x Line 24										
26												
27	Solar Inverter 2	Capital Costs, Line 51	$ [redacted]									
28	Cumulative Investment Tax Basis	CY Line 27 + PY Line 28										
29	Annual 5 Year MACRS	MACRS Rate Table, Line 2	20.00%	32.00%	19.20%	11.52%	11.52%	5.76%				
30	Tax Depreciation	Line 28 x Line 29	$ [redacted]									
31												
32	Total Federal Tax Depreciation[1]	Sum Lines 5, 10, 15, 20, 25, and 30	$ [redacted]						$ -	$ -	$ -	$ -
33												
34	Total State Tax Depreciation[1]	Sum Lines 5, 10, 15, 20, 25, and 30	$ [redacted]						$ -	$ -	$ -	$ -

Notes
(1) Federal & State Tax are calculated at the same MACRS rate on Tax Depreciation Schedule

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 10
Tax Depreciation Schedule 10 (Excludes Maintenance Capital Cost)

Line No.	Description	Reference	Year 31	Year 32	Year 33	Year 34	Year 35	Year 36	Year 37	Year 38	Year 39	Year 40
1												
2	PV Modules and Associated Materials	Capital Costs, Line 46										
3	Cumulative Investment Tax Basis	CY Line 2 + PY Line 3										
4	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
5	Tax Depreciation	Line 3 x Line 4										
6												
7	Racking Equipment and Associated Materials	Capital Costs, Line 47										
8	Cumulative Investment Tax Basis	CY Line 7 + PY Line 8										
9	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
10	Tax Depreciation	Line 8 x Line 9										
11												
12	Balance of Plant	Capital Costs, Line 48										
13	Cumulative Investment Tax Basis	CY Line 12 + PY Line 13										
14	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
15	Tax Depreciation	Line 13 x Line 14										
16												
17	Electric System Upgrades	Capital Costs, Line 49										
18	Cumulative Investment Tax Basis	CY Line 17 + PY Line 18										
19	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
20	Tax Depreciation	Line 18 x Line 19										
21												
22	Solar Inverter 1	Capital Costs, Line 50										
23	Cumulative Investment Tax Basis	CY Line 22 + PY Line 23										
24	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
25	Tax Depreciation	Line 23 x Line 24										
26												
27	Solar Inverter 2	Capital Costs, Line 51										
28	Cumulative Investment Tax Basis	CY Line 27 + PY Line 28										
29	Annual 5 Year MACRS	MACRS Rate Table, Line 2										
30	Tax Depreciation	Line 28 x Line 29										
31												
32	Total Federal Tax Depreciation[1]	Sum Lines 5, 10, 15, 20, 25, and 30	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33												
34	Total State Tax Depreciation[1]	Sum Lines 5, 10, 15, 20, 25, and 30	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Notes
(1) Federal & State Tax are calculated at the same MACRS rate on Tax Depreciation Schedule

Unitil Energy Systems d/b/a Unitil
Exhibit SP 7, Updated Benefit Cost Analysis
Schedule 11
Tax Depreciation Schedule 11 (Maintenance Capital Cost)

Line No.	Description	(a) Maintenance Capital Costs	(b) Reference	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1	5 Year MACRS		MACRS Rate Table, Line 2	20.0%	32.0%	19.2%	11.5%	11.5%	5.8%				
2													
3	PV Modules Vintage Year	Maintenance Capital Costs, Line 7											
4	Year 1	$	Column (a) depreciated by Line 1	$	$	$	$	$	$				
5	Year 2		Column (a) depreciated by Line 1										
6	Year 3		Column (a) depreciated by Line 1										
7	Year 4		Column (a) depreciated by Line 1										
8	Year 5		Column (a) depreciated by Line 1										
9	Year 6		Column (a) depreciated by Line 1										
10	Year 7		Column (a) depreciated by Line 1										
11	Year 8		Column (a) depreciated by Line 1										
12	Year 9		Column (a) depreciated by Line 1										
13	Year 10		Column (a) depreciated by Line 1										
14	Year 11		Column (a) depreciated by Line 1										
15	Year 12		Column (a) depreciated by Line 1										
16	Year 13		Column (a) depreciated by Line 1										
17	Year 14		Column (a) depreciated by Line 1										
18	Year 15		Column (a) depreciated by Line 1										
19	Year 16		Column (a) depreciated by Line 1										
20	Year 17		Column (a) depreciated by Line 1										
21	Year 18		Column (a) depreciated by Line 1										
22	Year 19		Column (a) depreciated by Line 1										
23	Year 20		Column (a) depreciated by Line 1										
24	Year 21		Column (a) depreciated by Line 1										
25	Year 22		Column (a) depreciated by Line 1										
26	Year 23		Column (a) depreciated by Line 1										
27	Year 24		Column (a) depreciated by Line 1										
28	Year 25		Column (a) depreciated by Line 1										
29	Year 26	[redacted]	Column (a) depreciated by Line 1										
30	Year 27		Column (a) depreciated by Line 1										
31	Year 28		Column (a) depreciated by Line 1										
32	Year 29		Column (a) depreciated by Line 1										
33	Year 30		Column (a) depreciated by Line 1										
34	Year 31		Column (a) depreciated by Line 1										
35	Year 32		Column (a) depreciated by Line 1										
36	Year 33		Column (a) depreciated by Line 1										
37	Year 34		Column (a) depreciated by Line 1										
38	Year 35		Column (a) depreciated by Line 1										
39	Year 36		Column (a) depreciated by Line 1										
40	Year 37		Column (a) depreciated by Line 1										
41	Year 38		Column (a) depreciated by Line 1										
42	Year 39		Column (a) depreciated by Line 1										
43	Year 40	$	Column (a) depreciated by Line 1										
44	Federal Tax Depreciation[1]		Sum Lines 4 through 43										
45	State Tax Depreciation[1]		Sum Lines 4 through 43										
46													
47	Racking Equipment Vintage Year	Maintenance Capital Costs, Line 14											
48	Year 1	$	Column (a) depreciated by Line 1	$	$	$	$	$	$				
49	Year 2		Column (a) depreciated by Line 1										
50	Year 3		Column (a) depreciated by Line 1										
51	Year 4		Column (a) depreciated by Line 1										
52	Year 5		Column (a) depreciated by Line 1										
53	Year 6		Column (a) depreciated by Line 1										
54	Year 7		Column (a) depreciated by Line 1										
55	Year 8		Column (a) depreciated by Line 1										
56	Year 9		Column (a) depreciated by Line 1										
57	Year 10		Column (a) depreciated by Line 1										
58	Year 11		Column (a) depreciated by Line 1										
59	Year 12		Column (a) depreciated by Line 1										
60	Year 13		Column (a) depreciated by Line 1										
61	Year 14		Column (a) depreciated by Line 1										
62	Year 15		Column (a) depreciated by Line 1										
63	Year 16		Column (a) depreciated by Line 1										
64	Year 17		Column (a) depreciated by Line 1										
65	Year 18		Column (a) depreciated by Line 1										
66	Year 19		Column (a) depreciated by Line 1										
67	Year 20		Column (a) depreciated by Line 1										
68	Year 21	[redacted]	Column (a) depreciated by Line 1										
69	Year 22		Column (a) depreciated by Line 1										
70	Year 23		Column (a) depreciated by Line 1										
71	Year 24		Column (a) depreciated by Line 1										
72	Year 25		Column (a) depreciated by Line 1										
73	Year 26		Column (a) depreciated by Line 1										
74	Year 27		Column (a) depreciated by Line 1										
75	Year 28		Column (a) depreciated by Line 1										
76	Year 29		Column (a) depreciated by Line 1										
77	Year 30		Column (a) depreciated by Line 1										
78	Year 31		Column (a) depreciated by Line 1										
79	Year 32		Column (a) depreciated by Line 1										
80	Year 33		Column (a) depreciated by Line 1										
81	Year 34		Column (a) depreciated by Line 1										
82	Year 35		Column (a) depreciated by Line 1										
83	Year 36		Column (a) depreciated by Line 1										
84	Year 37		Column (a) depreciated by Line 1										
85	Year 38		Column (a) depreciated by Line 1										
86	Year 39		Column (a) depreciated by Line 1										
87	Year 40	$	Column (a) depreciated by Line 1										
88	Federal Tax Depreciation[1]		Sum Lines 48 through 87										
89	State Tax Depreciation[1]		Sum Lines 48 through 87										
90													
91	Total Federal Tax Depreciation[1]		Line 44 + Line 88	$	$	$	$	$	$	$	$	$	$
92	Total State Tax Depreciation[1]		Line 45 + Line 89	$	$	$	$	$	$	$	$	$	$

Unitil Energy Systems d/b/a Unitil
Exhibit SP 7, Updated Benefit Cost Analysis
Schedule 11
Tax Depreciation Schedule 11 (Maintenance Capital Cost)

Line No.	Description	(a) Maintenance Capital Costs	(b) Reference	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
1	5 Year MACRS		MACRS Rate Table, Line 2										
2													
3	PV Modules Vintage Year	Maintenance Capital Costs, Line 7											
4	Year 1	$	Column (a) depreciated by Line 1										
5	Year 2		Column (a) depreciated by Line 1										
6	Year 3		Column (a) depreciated by Line 1										
7	Year 4		Column (a) depreciated by Line 1										
8	Year 5		Column (a) depreciated by Line 1										
9	Year 6		Column (a) depreciated by Line 1										
10	Year 7		Column (a) depreciated by Line 1										
11	Year 8		Column (a) depreciated by Line 1										
12	Year 9		Column (a) depreciated by Line 1										
13	Year 10		Column (a) depreciated by Line 1										
14	Year 11		Column (a) depreciated by Line 1										
15	Year 12		Column (a) depreciated by Line 1										
16	Year 13		Column (a) depreciated by Line 1										
17	Year 14		Column (a) depreciated by Line 1										
18	Year 15		Column (a) depreciated by Line 1										
19	Year 16		Column (a) depreciated by Line 1										
20	Year 17		Column (a) depreciated by Line 1										
21	Year 18		Column (a) depreciated by Line 1										
22	Year 19		Column (a) depreciated by Line 1										
23	Year 20		Column (a) depreciated by Line 1										
24	Year 21		Column (a) depreciated by Line 1										
25	Year 22		Column (a) depreciated by Line 1										
26	Year 23		Column (a) depreciated by Line 1										
27	Year 24		Column (a) depreciated by Line 1										
28	Year 25		Column (a) depreciated by Line 1										
29	Year 26	[redacted]	Column (a) depreciated by Line 1										
30	Year 27		Column (a) depreciated by Line 1										
31	Year 28		Column (a) depreciated by Line 1										
32	Year 29		Column (a) depreciated by Line 1										
33	Year 30		Column (a) depreciated by Line 1										
34	Year 31		Column (a) depreciated by Line 1										
35	Year 32		Column (a) depreciated by Line 1										
36	Year 33		Column (a) depreciated by Line 1										
37	Year 34		Column (a) depreciated by Line 1										
38	Year 35		Column (a) depreciated by Line 1										
39	Year 36		Column (a) depreciated by Line 1										
40	Year 37		Column (a) depreciated by Line 1										
41	Year 38		Column (a) depreciated by Line 1										
42	Year 39		Column (a) depreciated by Line 1										
43	Year 40	$	Column (a) depreciated by Line 1										
44	Federal Tax Depreciation[1]		Sum Lines 4 through 43										
45	State Tax Depreciation[1]		Sum Lines 4 through 43										
46													
47	Racking Equipment Vintage Year	Maintenance Capital Costs, Line 14											
48	Year 1	$	Column (a) depreciated by Line 1										
49	Year 2		Column (a) depreciated by Line 1										
50	Year 3		Column (a) depreciated by Line 1										
51	Year 4		Column (a) depreciated by Line 1										
52	Year 5		Column (a) depreciated by Line 1										
53	Year 6		Column (a) depreciated by Line 1										
54	Year 7		Column (a) depreciated by Line 1										
55	Year 8		Column (a) depreciated by Line 1										
56	Year 9		Column (a) depreciated by Line 1										
57	Year 10		Column (a) depreciated by Line 1										
58	Year 11		Column (a) depreciated by Line 1										
59	Year 12		Column (a) depreciated by Line 1										
60	Year 13		Column (a) depreciated by Line 1										
61	Year 14		Column (a) depreciated by Line 1										
62	Year 15		Column (a) depreciated by Line 1										
63	Year 16		Column (a) depreciated by Line 1										
64	Year 17		Column (a) depreciated by Line 1										
65	Year 18		Column (a) depreciated by Line 1										
66	Year 19		Column (a) depreciated by Line 1										
67	Year 20		Column (a) depreciated by Line 1										
68	Year 21	[redacted]	Column (a) depreciated by Line 1										
69	Year 22		Column (a) depreciated by Line 1										
70	Year 23		Column (a) depreciated by Line 1										
71	Year 24		Column (a) depreciated by Line 1										
72	Year 25		Column (a) depreciated by Line 1										
73	Year 26		Column (a) depreciated by Line 1										
74	Year 27		Column (a) depreciated by Line 1										
75	Year 28		Column (a) depreciated by Line 1										
76	Year 29		Column (a) depreciated by Line 1										
77	Year 30		Column (a) depreciated by Line 1										
78	Year 31		Column (a) depreciated by Line 1										
79	Year 32		Column (a) depreciated by Line 1										
80	Year 33		Column (a) depreciated by Line 1										
81	Year 34		Column (a) depreciated by Line 1										
82	Year 35		Column (a) depreciated by Line 1										
83	Year 36		Column (a) depreciated by Line 1										
84	Year 37		Column (a) depreciated by Line 1										
85	Year 38		Column (a) depreciated by Line 1										
86	Year 39		Column (a) depreciated by Line 1										
87	Year 40	$	Column (a) depreciated by Line 1										
88	Federal Tax Depreciation[1]		Sum Lines 48 through 87										
89	State Tax Depreciation[1]		Sum Lines 48 through 87										
90													
91	Total Federal Tax Depreciation[1]		Line 44 + Line 88	$	$	$	$	$	$	$	$	$	$
92	Total State Tax Depreciation[1]		Line 45 + Line 89	$	$	$	$	$	$	$	$	$	$

Unitil Energy Systems d/b/a Unitil
Exhibit SP 7, Updated Benefit Cost Analysis
Schedule 11
Tax Depreciation Schedule 11 (Maintenance Capital Cost)

Line No.	Description	(a) Maintenance Capital Costs	(b) Reference	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
1	5 Year MACRS		MACRS Rate Table, Line 2										
2													
3	PV Modules Vintage Year	Maintenance Capital Costs, Line 7											
4	Year 1	$	Column (a) depreciated by Line 1										
5	Year 2		Column (a) depreciated by Line 1										
6	Year 3		Column (a) depreciated by Line 1										
7	Year 4		Column (a) depreciated by Line 1										
8	Year 5		Column (a) depreciated by Line 1										
9	Year 6		Column (a) depreciated by Line 1										
10	Year 7		Column (a) depreciated by Line 1										
11	Year 8		Column (a) depreciated by Line 1										
12	Year 9		Column (a) depreciated by Line 1										
13	Year 10		Column (a) depreciated by Line 1										
14	Year 11		Column (a) depreciated by Line 1										
15	Year 12		Column (a) depreciated by Line 1										
16	Year 13		Column (a) depreciated by Line 1										
17	Year 14		Column (a) depreciated by Line 1										
18	Year 15		Column (a) depreciated by Line 1										
19	Year 16		Column (a) depreciated by Line 1										
20	Year 17		Column (a) depreciated by Line 1										
21	Year 18		Column (a) depreciated by Line 1										
22	Year 19		Column (a) depreciated by Line 1										
23	Year 20		Column (a) depreciated by Line 1										
24	Year 21		Column (a) depreciated by Line 1										
25	Year 22		Column (a) depreciated by Line 1										
26	Year 23		Column (a) depreciated by Line 1										
27	Year 24		Column (a) depreciated by Line 1										
28	Year 25		Column (a) depreciated by Line 1										
29	Year 26	[redacted]	Column (a) depreciated by Line 1						[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
30	Year 27		Column (a) depreciated by Line 1										
31	Year 28		Column (a) depreciated by Line 1										
32	Year 29		Column (a) depreciated by Line 1										
33	Year 30		Column (a) depreciated by Line 1										
34	Year 31		Column (a) depreciated by Line 1										
35	Year 32		Column (a) depreciated by Line 1										
36	Year 33		Column (a) depreciated by Line 1										
37	Year 34		Column (a) depreciated by Line 1										
38	Year 35		Column (a) depreciated by Line 1										
39	Year 36		Column (a) depreciated by Line 1										
40	Year 37		Column (a) depreciated by Line 1										
41	Year 38		Column (a) depreciated by Line 1										
42	Year 39		Column (a) depreciated by Line 1										
43	Year 40	$	Column (a) depreciated by Line 1										
44	Federal Tax Depreciation[1]		Sum Lines 4 through 43										
45	State Tax Depreciation[1]		Sum Lines 4 through 43										
46													
47	Racking Equipment Vintage Year	Maintenance Capital Costs, Line 14											
48	Year 1	$	Column (a) depreciated by Line 1										
49	Year 2		Column (a) depreciated by Line 1										
50	Year 3		Column (a) depreciated by Line 1										
51	Year 4		Column (a) depreciated by Line 1										
52	Year 5		Column (a) depreciated by Line 1										
53	Year 6		Column (a) depreciated by Line 1										
54	Year 7		Column (a) depreciated by Line 1										
55	Year 8		Column (a) depreciated by Line 1										
56	Year 9		Column (a) depreciated by Line 1										
57	Year 10		Column (a) depreciated by Line 1										
58	Year 11		Column (a) depreciated by Line 1										
59	Year 12		Column (a) depreciated by Line 1										
60	Year 13		Column (a) depreciated by Line 1										
61	Year 14		Column (a) depreciated by Line 1										
62	Year 15		Column (a) depreciated by Line 1										
63	Year 16		Column (a) depreciated by Line 1										
64	Year 17		Column (a) depreciated by Line 1										
65	Year 18		Column (a) depreciated by Line 1										
66	Year 19		Column (a) depreciated by Line 1										
67	Year 20		Column (a) depreciated by Line 1										
68	Year 21	[redacted]	Column (a) depreciated by Line 1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
69	Year 22		Column (a) depreciated by Line 1										
70	Year 23		Column (a) depreciated by Line 1										
71	Year 24		Column (a) depreciated by Line 1										
72	Year 25		Column (a) depreciated by Line 1										
73	Year 26		Column (a) depreciated by Line 1										
74	Year 27		Column (a) depreciated by Line 1										
75	Year 28		Column (a) depreciated by Line 1										
76	Year 29		Column (a) depreciated by Line 1										
77	Year 30		Column (a) depreciated by Line 1										
78	Year 31		Column (a) depreciated by Line 1										
79	Year 32		Column (a) depreciated by Line 1										
80	Year 33		Column (a) depreciated by Line 1										
81	Year 34		Column (a) depreciated by Line 1										
82	Year 35		Column (a) depreciated by Line 1										
83	Year 36		Column (a) depreciated by Line 1										
84	Year 37		Column (a) depreciated by Line 1										
85	Year 38		Column (a) depreciated by Line 1										
86	Year 39		Column (a) depreciated by Line 1										
87	Year 40	$	Column (a) depreciated by Line 1										
88	Federal Tax Depreciation[1]		Sum Lines 48 through 87										
89	State Tax Depreciation[1]		Sum Lines 48 through 87										
90													
91	Total Federal Tax Depreciation[1]		Line 44 + Line 88	[redacted]									
92	Total State Tax Depreciation[1]		Line 45 + Line 89										

Unitil Energy Systems d/b/a Unitil
Exhibit SP 7, Updated Benefit Cost Analysis
Schedule 11
Tax Depreciation Schedule 11 (Maintenance Capital Cost)

Line No.	Description	(a) Maintenance Capital Costs	(b) Reference	Year 31	Year 32	Year 33	Year 34	Year 35	Year 36	Year 37	Year 38	Year 39	Year 40
1	5 Year MACRS		MACRS Rate Table, Line 2										
2													
3	PV Modules Vintage Year	Maintenance Capital Costs, Line 7											
4	Year 1	$	Column (a) depreciated by Line 1										
5	Year 2		Column (a) depreciated by Line 1										
6	Year 3		Column (a) depreciated by Line 1										
7	Year 4		Column (a) depreciated by Line 1										
8	Year 5		Column (a) depreciated by Line 1										
9	Year 6		Column (a) depreciated by Line 1										
10	Year 7		Column (a) depreciated by Line 1										
11	Year 8		Column (a) depreciated by Line 1										
12	Year 9		Column (a) depreciated by Line 1										
13	Year 10		Column (a) depreciated by Line 1										
14	Year 11		Column (a) depreciated by Line 1										
15	Year 12		Column (a) depreciated by Line 1										
16	Year 13		Column (a) depreciated by Line 1										
17	Year 14		Column (a) depreciated by Line 1										
18	Year 15		Column (a) depreciated by Line 1										
19	Year 16		Column (a) depreciated by Line 1										
20	Year 17		Column (a) depreciated by Line 1										
21	Year 18		Column (a) depreciated by Line 1										
22	Year 19		Column (a) depreciated by Line 1										
23	Year 20		Column (a) depreciated by Line 1										
24	Year 21		Column (a) depreciated by Line 1										
25	Year 22		Column (a) depreciated by Line 1										
26	Year 23		Column (a) depreciated by Line 1										
27	Year 24		Column (a) depreciated by Line 1										
28	Year 25		Column (a) depreciated by Line 1										
29	Year 26	[redacted]	Column (a) depreciated by Line 1	[redacted]									
30	Year 27		Column (a) depreciated by Line 1		[redacted]								
31	Year 28		Column (a) depreciated by Line 1			[redacted]							
32	Year 29		Column (a) depreciated by Line 1				[redacted]						
33	Year 30		Column (a) depreciated by Line 1					[redacted]					
34	Year 31		Column (a) depreciated by Line 1						[redacted]				
35	Year 32		Column (a) depreciated by Line 1							[redacted]			
36	Year 33		Column (a) depreciated by Line 1								[redacted]		
37	Year 34		Column (a) depreciated by Line 1									[redacted]	
38	Year 35		Column (a) depreciated by Line 1										[redacted]
39	Year 36		Column (a) depreciated by Line 1										
40	Year 37		Column (a) depreciated by Line 1										
41	Year 38		Column (a) depreciated by Line 1										
42	Year 39		Column (a) depreciated by Line 1										
43	Year 40	$	Column (a) depreciated by Line 1										
44	Federal Tax Depreciation[1]		Sum Lines 4 through 43	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
45	State Tax Depreciation[1]		Sum Lines 4 through 43										
46													
47	Racking Equipment Vintage Year	Maintenance Capital Costs, Line 14											
48	Year 1	$	Column (a) depreciated by Line 1										
49	Year 2		Column (a) depreciated by Line 1										
50	Year 3		Column (a) depreciated by Line 1										
51	Year 4		Column (a) depreciated by Line 1										
52	Year 5		Column (a) depreciated by Line 1										
53	Year 6		Column (a) depreciated by Line 1										
54	Year 7		Column (a) depreciated by Line 1										
55	Year 8		Column (a) depreciated by Line 1										
56	Year 9		Column (a) depreciated by Line 1										
57	Year 10		Column (a) depreciated by Line 1										
58	Year 11		Column (a) depreciated by Line 1										
59	Year 12		Column (a) depreciated by Line 1										
60	Year 13		Column (a) depreciated by Line 1										
61	Year 14		Column (a) depreciated by Line 1										
62	Year 15		Column (a) depreciated by Line 1										
63	Year 16		Column (a) depreciated by Line 1										
64	Year 17		Column (a) depreciated by Line 1										
65	Year 18		Column (a) depreciated by Line 1										
66	Year 19		Column (a) depreciated by Line 1										
67	Year 20		Column (a) depreciated by Line 1										
68	Year 21	[redacted]	Column (a) depreciated by Line 1	[redacted]									
69	Year 22		Column (a) depreciated by Line 1		[redacted]								
70	Year 23		Column (a) depreciated by Line 1			[redacted]							
71	Year 24		Column (a) depreciated by Line 1				[redacted]						
72	Year 25		Column (a) depreciated by Line 1					[redacted]					
73	Year 26		Column (a) depreciated by Line 1						[redacted]				
74	Year 27		Column (a) depreciated by Line 1							[redacted]			
75	Year 28		Column (a) depreciated by Line 1								[redacted]		
76	Year 29		Column (a) depreciated by Line 1									[redacted]	
77	Year 30		Column (a) depreciated by Line 1										[redacted]
78	Year 31		Column (a) depreciated by Line 1										
79	Year 32		Column (a) depreciated by Line 1										
80	Year 33		Column (a) depreciated by Line 1										
81	Year 34		Column (a) depreciated by Line 1										
82	Year 35		Column (a) depreciated by Line 1										
83	Year 36		Column (a) depreciated by Line 1										
84	Year 37		Column (a) depreciated by Line 1										
85	Year 38		Column (a) depreciated by Line 1										
86	Year 39		Column (a) depreciated by Line 1										
87	Year 40	$	Column (a) depreciated by Line 1										
88	Federal Tax Depreciation[1]		Sum Lines 48 through 87	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
89	State Tax Depreciation[1]		Sum Lines 48 through 87										
90													
91	Total Federal Tax Depreciation[1]		Line 44 + Line 88	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
92	Total State Tax Depreciation[1]		Line 45 + Line 89	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 12
Capital Cost Estimate Schedule

Line No.	Description	Reference		(a)	(b)
1	**Detailed Capital Cost Estimates**				
2					
3	**Facility Costs**			Cost	Labor & Engineering Adjustment
4	Solar Inverter 1 and Associated Material	Exhibit SP-4	$	[redacted]	5.1%
5	PV Modules and Associated Material	Exhibit SP-4			39.2%
6	Racking Equipment and Associated Materials	Exhibit SP-4			31.8%
7	Step-up Transformer and Associated Material	Exhibit SP-4			7.9%
8	Fencing	Exhibit SP-4			3.2%
9	All Other Material	Exhibit SP-4			5.9%
10	Project Management	Exhibit SP-4			1.8%
11	5-Year Maintenance	Exhibit SP-4			1.5%
12	Construction Field Representative	Exhibit SP-4			1.7%
13	Spare Step-Up Transformer	Exhibit SP-4			1.7%
14	Spare Inverter	Exhibit SP-4			0.1%
15	Spare PV Modules (5)	Exhibit SP-4			0.0%
16	Other Rec Spare Equipment	Exhibit SP-4			0.2%
17	Labor & Engineering	Exhibit SP-4			
18	Total Facility Costs	Sum Lines 4 through 17	$	[redacted]	100.0%
19					
20	**Electric System Upgrades**			Cost	
21	System Impact Study	Exhibit SP-4	$	35,000	
22	POI Material & Installation	Exhibit JSD-1		350,000	
23	Tap 3345 Line with GOAB	Exhibit JSD-1		50,000	
24	Kingston Relaying Upgrades	Exhibit JSD-1		125,000	
25	Total Electric System Upgrades	Sum Lines 21 through 24	$	560,000	
26					
27	**Land Improvements**			Cost	
28	Site Due Diligence, Design and Permitting	Exhibit JSD-4(b)	$	[redacted]	
29	Site Work	Exhibit JSD-1		550,000	
30	Total Land Improvements	Line 28 + Line 29	$	[redacted]	
31					
32	**Land Acquisition Costs**			Cost	
33	Site Identification	Exhibit SP-4	$	25,000	
34	Purchase Price	Exhibit SP-1		[redacted]	
35	Transfer Tax	Exhibit JSD-1			
36	Commission covered by Unitil	Exhibit JSD-1			
37	CU Penalty	Exhibit JSD-1			
38	Title Search	Exhibit JSD-1		10,500	
39	Appraisal	Exhibit JSD-7		[redacted]	
40	Total Land Acquisitions Costs		$	1,640,876	
41					
42	Total Capital Costs	Line 18 + Line 25 + Line 30 + Line 40	$	14,738,926	

Line No.	Description	Reference		(a)
43	**Summarized Capital Cost Estimates**			
44				
45	**Depreciable Plant Additions**			Cost
46	PV Modules and Associated Materials	Line 5, Column (c)	$	[redacted]
47	Racking Equipment and Associated Materials	Line 6, Column (c)		
48	Balance of Plant	Sum Column (c) Lines 7 through 16		
49	Electric System Upgrades	Line 25, Column (a)		560,000
50	Solar Inverter 1	Line 4, Column (c)		[redacted]
51	Solar Inverter 2 (Year 20) [2]	Future Value of Solar Inverter 1		
52	Total	Sum Lines 46 through 51	$	13,240,572
53				
54	**Non-Depreciable Plant Additions**			Cost
55	Land Improvements	Line 30	$	[redacted]
56	Land Acquisition Costs[3]	Line 40 x 50%		820,438
57	Total	Line 55 + Line 56	$	[redacted]

Notes
(1) Labor and Facility Engineering allocated based on proportional cost of line item
(2) Assumes a 20-year life with a 2.00% annual escalation rate
(3) Including 50% of total Land Acquisition Costs to estimate cost transferred to UES

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 12
Capital Cost Estimate Schedule

Line No.	Description	Reference	(c)
1	**Detailed Capital Cost Estimates**		
2			
3	**Facility Costs**		Adjusted Cost [1]
4	Solar Inverter 1 and Associated Material	Exhibit SP-4	$ [redacted]
5	PV Modules and Associated Material	Exhibit SP-4	
6	Racking Equipment and Associated Materials	Exhibit SP-4	
7	Step-up Transformer and Associated Material	Exhibit SP-4	
8	Fencing	Exhibit SP-4	
9	All Other Material	Exhibit SP-4	
10	Project Management	Exhibit SP-4	
11	5-Year Maintenance	Exhibit SP-4	
12	Construction Field Representative	Exhibit SP-4	
13	Spare Step-Up Transformer	Exhibit SP-4	
14	Spare Inverter	Exhibit SP-4	
15	Spare PV Modules (5)	Exhibit SP-4	
16	Other Rec Spare Equipment	Exhibit SP-4	
17	Labor & Engineering	Exhibit SP-4	
18	Total Facility Costs	Sum Lines 4 through 17	$ [redacted]
19			
20	**Electric System Upgrades**		
21	System Impact Study	Exhibit SP-4	
22	POI Material & Installation	Exhibit JSD-1	
23	Tap 3345 Line with GOAB	Exhibit JSD-1	
24	Kingston Relaying Upgrades	Exhibit JSD-1	
25	Total Electric System Upgrades	Sum Lines 21 through 24	
26			
27	**Land Improvements**		
28	Site Due Diligence, Design and Permitting	Exhibit JSD-4(b)	
29	Site Work	Exhibit JSD-1	
30	Total Land Improvements	Line 28 + Line 29	
31			
32	**Land Acquisition Costs**		
33	Site Identification	Exhibit SP-4	
34	Purchase Price	Exhibit SP-1	
35	Transfer Tax	Exhibit JSD-1	
36	Commission covered by Unitil	Exhibit JSD-1	
37	CU Penalty	Exhibit JSD-1	
38	Title Search	Exhibit JSD-1	
39	Appraisal	Exhibit JSD-7	
40	Total Land Acquisitions Costs		
41			
42	Total Capital Costs	Line 18 + Line 25 + Line 30 + Line 40	

Line No.	Description	Reference
43	**Summarized Capital Cost Estimates**	
44		
45	**Depreciable Plant Additions**	
46	PV Modules and Associated Materials	Line 5, Column (c)
47	Racking Equipment and Associated Materials	Line 6, Column (c)
48	Balance of Plant	Sum Column (c) Lines 7 through 16
49	Electric System Upgrades	Line 25, Column (a)
50	Solar Inverter 1	Line 4, Column (c)
51	Solar Inverter 2 (Year 20) [2]	Future Value of Solar Inverter 1
52	Total	Sum Lines 46 through 51
53		
54	**Non-Depreciable Plant Additions**	
55	Land Improvements	Line 30
56	Land Acquisition Costs[3]	Line 40 x 50%
57	Total	Line 55 + Line 56

Notes
(1) Labor and Facility Engineering allocated based on proportional cost of line item
(2) Assumes a 20-year life with a 2.00% annual escalation rate
(3) Including 50% of total Land Acquisition Costs to estimate cost transferred to UES

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 13
Maintenance Capital Costs

Line No.	Description	Reference	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1	Annual Escalation Rate	2% Escalation Rate		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
2													
3	PV Modules & Associated Materials												
4	Original Cost	Capital Cost Estimate Schedule, Line 46	$ [redacted]										
5	Expected Replacement % [(1)]	Exhibit SP-1		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
6	Time Value Factor	Annual Escalation Rate, Line 1		1.02	1.04	1.06	1.08	1.10	1.13	1.15	1.17	1.20	1.22
7	Annual Maintenance Cost	Line 4 x Line 5 x Line 6		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8													
9													
10	Racking Equipment & Associated Materials												
11	Original Cost	Capital Cost Estimate Schedule, Line 47	[redacted]										
12	Expected Replacement %[(1)]	Exhibit SP-1		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
13	Time Value Factor	Annual Escalation Rate, Line 1		1.02	1.04	1.06	1.08	1.10	1.13	1.15	1.17	1.20	1.22
14	Annual Maintenance Cost	Line 11 x Line 12 x Line 13		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15													
16	Total Annual Maintenance Capital	Line 7 + Line 14	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Notes
(1) Expected maintenance capital begins after warranty period ends

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 13
Maintenance Capital Costs

Line No.	Description	Reference	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
1	Annual Escalation Rate	2% Escalation Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
2												
3	PV Modules & Associated Materials											
4	Original Cost	Capital Cost Estimate Schedule, Line 46	$ [redacted]									
5	Expected Replacement % [(1)]	Exhibit SP-1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
6	Time Value Factor	Annual Escalation Rate, Line 1	1.24	1.27	1.29	1.32	1.35	1.37	1.40	1.43	1.46	1.49
7	Annual Maintenance Cost	Line 4 x Line 5 x Line 6	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8												
9												
10	Racking Equipment & Associated Materials											
11	Original Cost	Capital Cost Estimate Schedule, Line 47	[redacted]									
12	Expected Replacement %[(1)]	Exhibit SP-1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
13	Time Value Factor	Annual Escalation Rate, Line 1	1.24	1.27	1.29	1.32	1.35	1.37	1.40	1.43	1.46	1.49
14	Annual Maintenance Cost	Line 11 x Line 12 x Line 13	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15												
16	Total Annual Maintenance Capital	Line 7 + Line 14	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Notes
(1) Expected maintenance capital begins after warranty period ends

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 13
Maintenance Capital Costs

Line No.	Description	Reference	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
1	Annual Escalation Rate	2% Escalation Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
2												
3	PV Modules & Associated Materials											
4	Original Cost	Capital Cost Estimate Schedule, Line 46	[redacted]									
5	Expected Replacement % [(1)]	Exhibit SP-1	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.5%	0.5%	0.5%	0.5%
6	Time Value Factor	Annual Escalation Rate, Line 1	1.52	1.55	1.58	1.61	1.64	1.67	1.71	1.74	1.78	1.81
7	Annual Maintenance Cost	Line 4 x Line 5 x Line 6	$ -	$ -	$ -	$ -	$ -	$ [redacted]	[redacted]	[redacted]	[redacted]	[redacted]
8												
9												
10	Racking Equipment & Associated Materials											
11	Original Cost	Capital Cost Estimate Schedule, Line 47	[redacted]									
12	Expected Replacement %[(1)]	Exhibit SP-1	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
13	Time Value Factor	Annual Escalation Rate, Line 1	1.52	1.55	1.58	1.61	1.64	1.67	1.71	1.74	1.78	1.81
14	Annual Maintenance Cost	Line 11 x Line 12 x Line 13	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
15												
16	Total Annual Maintenance Capital	Line 7 + Line 14	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Notes
(1) Expected maintenance capital begins after warranty period ends

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 13
Maintenance Capital Costs

Line No.	Description	Reference	Year 31	Year 32	Year 33	Year 34	Year 35	Year 36	Year 37	Year 38	Year 39	Year 40
1	Annual Escalation Rate	2% Escalation Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
2												
3	PV Modules & Associated Materials											
4	Original Cost	Capital Cost Estimate Schedule, Line 46	[redacted]									
5	Expected Replacement % [1]	Exhibit SP-1	0.5%	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%	1.0%	1.0%	1.0%
6	Time Value Factor	Annual Escalation Rate, Line 1	1.85	1.88	1.92	1.96	2.00	2.04	2.08	2.12	2.16	2.21
7	Annual Maintenance Cost	Line 4 x Line 5 x Line 6	[redacted]									
8												
9												
10	Racking Equipment & Associated Materials											
11	Original Cost	Capital Cost Estimate Schedule, Line 47	[redacted]									
12	Expected Replacement %[1]	Exhibit SP-1	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
13	Time Value Factor	Annual Escalation Rate, Line 1	1.85	1.88	1.92	1.96	2.00	2.04	2.08	2.12	2.16	2.21
14	Annual Maintenance Cost	Line 11 x Line 12 x Line 13	[redacted]									
15												
16	Total Annual Maintenance Capital	Line 7 + Line 14	[redacted]									

Notes
(1) Expected maintenance capital begins after warranty period ends

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 14
Cost of Capital

Line No.	Description	Reference	(a) Capital Structure	(b) Cost of Capital	(c) = (a) x (b) Weighted Cost of Capital	(e) PRE-TAX Tax Factor	(f) = (c) x (e) PRE-TAX Weighted Cost of Capital	(g) AFTER-TAX Adjusted Capital Structure [1]	(h) = (a) x (g) AFTER-TAX Weighted Cost of Capital
1	Cost of Capital Calculation								
2	Common Stock Equity	DE 21-030	52.00%	9.20%	4.78%	1.3685	6.55%	9.20%	4.78%
3									
4	Preferred Stock Equity	DE 21-030	0.00%	6.00%	0.00%	1.0000	0.00%	6.00%	0.00%
5									
6	Long Term Debt	DE 21-030	48.00%	5.49%	2.64%	1.0000	2.64%	4.01%	1.93%
7									
8	Total	Line 2 + Line 4 + Line 6	100.00%		7.42%		9.18%		6.71%
9									
10			(a)						
11	Tax Rate Calculation		Rate						
12	State - NH [2]		7.50%						
13									
14	Federal		21.00%						
15									
16	Federal Benefit of State Income Tax	- (Line 12 x Line 14)	-1.58%						
17									
18	Effective Tax Rate	Line 12 + Line 14 + Line 16	26.93%						
19									
20	Gross-Up Factor	(1 ÷ (1 - Line 18)	1.3685						

Notes
(1) Tax Effected Cost of Long-Term Debt
(2) N.H. Business Profit Tax rate on or after 12/31/2023

Unitil Energy Systems d/b/a Unitil
Exhibit SP-7, Updated Benefit-Cost Analysis
Schedule 15
IRS Publication 946 Table A-1
MACRS Half Year Depreciation Rates

Line No.	Recovery Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21
1	3	33.33%	44.45%	14.81%	7.41%																	
2	5	20.00%	32.00%	19.20%	11.52%	11.52%	5.76%															
3	7	14.29%	24.49%	17.49%	12.49%	8.93%	8.92%	8.93%	4.46%													
4	10	10.00%	18.00%	14.40%	11.52%	9.22%	7.37%	6.55%	6.55%	6.56%	6.55%	3.28%										
5	15	5.00%	9.50%	8.55%	7.70%	6.93%	6.23%	5.90%	5.90%	5.91%	5.90%	5.91%	5.90%	5.91%	5.90%	5.91%	2.95%					
6	20	3.75%	7.22%	6.68%	6.18%	5.71%	5.29%	4.89%	4.52%	4.46%	4.46%	4.46%	4.46%	4.46%	4.46%	4.46%	4.46%	4.46%	4.46%	4.46%	4.46%	2.23%

UNITIL ENERGY SYSTEMS, INC. D/B/A UNITIL
BILL IMPACT ANALYSIS
YEAR 1 THROUGH YEAR 40

Line #	Rate Class	Source	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
1	Residential:															
2	Customer Charge	Page 3, Line 13 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	Distribution kWh Charge	Page 3, Line 14 Change over Current Rates	$ 0.00135	$ 0.00126	$ 0.00116	$ 0.00109	$ 0.00103	$ 0.00099	$ 0.00096	$ 0.00093	$ 0.00089	$ 0.00086	$ 0.00121	$ 0.00118	$ 0.00115	$ 0.00113
4	External Delivery Charge	Page 2, Line 5	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)
5	Default Service	Page 2, Line 8	$ (0.00085)	$ (0.00071)	$ (0.00069)	$ (0.00068)	$ (0.00068)	$ (0.00069)	$ (0.00070)	$ (0.00071)	$ (0.00072)	$ (0.00073)	$ (0.00074)	$ (0.00074)	$ (0.00076)	$ (0.00077)
6	Average Usage kWh	Page 3, Line 16 / Line 15	633	633	633	633	633	633	633	633	633	633	633	633	633	633
7	**Average Residential Monthly Bill Impact**	**(Line 3 + Line 4 + Line 5) * Line 6**	**$ 0.05**	**$ 0.08**	**$ 0.03**	**$ (0.00)**	**$ (0.05)**	**$ (0.07)**	**$ (0.10)**	**$ (0.13)**	**$ (0.15)**	**$ (0.18)**	**$ 0.03**	**$ 0.01**	**$ (0.01)**	**$ (0.04)**
8	Regular General (G2 kWh):															
9	Customer Charge	Page 3, Line 21 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	Distribution kWh Charge	Page 3, Line 22 Change over Current Rates	$ 0.00135	$ 0.00126	$ 0.00116	$ 0.00109	$ 0.00103	$ 0.00099	$ 0.00096	$ 0.00093	$ 0.00089	$ 0.00086	$ 0.00121	$ 0.00118	$ 0.00115	$ 0.00113
11	External Delivery Charge	Page 2, Line 5	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)
12	Default Service	Page 2, Line 8	$ (0.00085)	$ (0.00071)	$ (0.00069)	$ (0.00068)	$ (0.00068)	$ (0.00069)	$ (0.00070)	$ (0.00071)	$ (0.00072)	$ (0.00073)	$ (0.00074)	$ (0.00074)	$ (0.00076)	$ (0.00077)
13	Average Usage kWh	Page 3, Line 24 / Line 23	97	97	97	97	97	97	97	97	97	97	97	97	97	97
14	**Average Regular General (G2 kWh) Monthly Bill Impact**	**(Line 10 + Line 11 + Line 12) * Line 13**	**$ 0.01**	**$ 0.01**	**$ 0.01**	**$ (0.00)**	**$ (0.01)**	**$ (0.01)**	**$ (0.02)**	**$ (0.02)**	**$ (0.02)**	**$ (0.03)**	**$ 0.00**	**$ 0.00**	**$ (0.00)**	**$ (0.01)**
15	Regular General (G2 QR WH/SH):															
16	Customer Charge	Page 3, Line 29 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	Distribution kWh Charge	Page 3, Line 30 Change over Current Rates	$ 0.00135	$ 0.00126	$ 0.00116	$ 0.00109	$ 0.00103	$ 0.00099	$ 0.00096	$ 0.00093	$ 0.00089	$ 0.00086	$ 0.00121	$ 0.00118	$ 0.00115	$ 0.00113
18	External Delivery Charge	Page 2, Line 5	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)
19	Default Service	Page 2, Line 8	$ (0.00085)	$ (0.00071)	$ (0.00069)	$ (0.00068)	$ (0.00068)	$ (0.00069)	$ (0.00070)	$ (0.00071)	$ (0.00072)	$ (0.00073)	$ (0.00074)	$ (0.00074)	$ (0.00076)	$ (0.00077)
20	Average Usage kWh	Page 3, Line 32 / Line 31	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451
21	**Average Regular General (G2 QR WH/SH) Monthly Bill Impact**	**(Line 17 + Line 18 + Line 19) * Line 20**	**$ 0.12**	**$ 0.19**	**$ 0.08**	**$ (0.01)**	**$ (0.11)**	**$ (0.17)**	**$ (0.24)**	**$ (0.30)**	**$ (0.35)**	**$ (0.41)**	**$ 0.07**	**$ 0.02**	**$ (0.03)**	**$ (0.09)**
22	Regular General (G2 Demand):															
23	Customer Charge	Page 3, Line 37 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24	Distribution kWh Charge	Page 3, Line 38 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25	Distribution kW Demand Charge	Page 3, Line 39 Change over Current Rates	$ 0.34237	$ 0.31844	$ 0.29352	$ 0.27540	$ 0.25982	$ 0.25151	$ 0.24176	$ 0.23391	$ 0.22605	$ 0.21817	$ 0.30485	$ 0.29832	$ 0.29179	$ 0.28527
26	External Delivery Charge	Page 2, Line 5	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)
27	Default Service	Page 2, Line 8	$ (0.00085)	$ (0.00071)	$ (0.00069)	$ (0.00068)	$ (0.00068)	$ (0.00069)	$ (0.00070)	$ (0.00071)	$ (0.00072)	$ (0.00073)	$ (0.00074)	$ (0.00074)	$ (0.00076)	$ (0.00077)
28	Average Usage kWh	Page 3, Line 42 / Line 41	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463
29	Average Usage kW	Page 3, Line 43 / Line 41	10	10	10	10	10	10	10	10	10	10	10	10	10	10
30	**Average Regular General (G2 Demand) Monthly Bill Impact**	**(Line 26 + Line 27) * Line 28 + Line 25 * Line 29**	**$ 0.20**	**$ 0.32**	**$ 0.13**	**$ (0.01)**	**$ (0.18)**	**$ (0.29)**	**$ (0.40)**	**$ (0.50)**	**$ (0.60)**	**$ (0.70)**	**$ 0.12**	**$ 0.04**	**$ (0.06)**	**$ (0.15)**
31	Large General (G1 Demand):															
32	Customer Charge	Page 3, Line 51 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33	Distribution kWh Charge	Page 3, Line 52 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34	Distribution kVA Demand Charge	Page 3, Line 53 Change over Current Rates	$ 0.43288	$ 0.40263	$ 0.37112	$ 0.34821	$ 0.32851	$ 0.31801	$ 0.30567	$ 0.29575	$ 0.28581	$ 0.27585	$ 0.38544	$ 0.37718	$ 0.36893	$ 0.36069
35	External Delivery Charge	Page 2, Line 5	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)
36	Default Service	Page 2, Line 8	$ (0.00085)	$ (0.00071)	$ (0.00069)	$ (0.00068)	$ (0.00068)	$ (0.00069)	$ (0.00070)	$ (0.00071)	$ (0.00072)	$ (0.00073)	$ (0.00074)	$ (0.00074)	$ (0.00076)	$ (0.00077)
37	Average Usage kWh	Page 3, Line 56 / Line 55	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088
38	Average Usage kVA	Page 3, Line 57 / Line 55	498	498	498	498	498	498	498	498	498	498	498	498	498	498
39	**Average Large General (G1 Demand) Monthly Bill Impact**	**(Line 35 + Line 36) * Line 37 + Line 34 * Line 54**	**$ 13.17**	**$ 20.88**	**$ 8.48**	**$ (0.71)**	**$ (11.86)**	**$ (18.47)**	**$ (26.00)**	**$ (32.36)**	**$ (38.75)**	**$ (45.17)**	**$ 7.88**	**$ 2.27**	**$ (3.62)**	**$ (9.54)**
40	Outdoor Lighting (OL):															
41	Average Luminaire Charge	Page 3, Line 65 Change over Current Rates	$ 0.10	$ 0.09	$ 0.08	$ 0.08	$ 0.07	$ 0.07	$ 0.07	$ 0.06	$ 0.06	$ 0.06	$ 0.08	$ 0.08	$ 0.08	$ 0.08
42	Distribution kWh Charge ($/kWh)	Page 3, Line 66 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
43	External Delivery Charge	Page 2, Line 5	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)
44	Default Service	Page 2, Line 8	$ (0.00085)	$ (0.00071)	$ (0.00069)	$ (0.00068)	$ (0.00068)	$ (0.00069)	$ (0.00070)	$ (0.00071)	$ (0.00072)	$ (0.00073)	$ (0.00074)	$ (0.00074)	$ (0.00076)	$ (0.00077)
45	Average Usage kWh	Page 3, Line 68 / Line 67	70	70	70	70	70	70	70	70	70	70	70	70	70	70
46	**Average Outdoor Lighting (OL) Monthly Bill Impact**	**(Line 43 + Line 44) * Line 45 + Line 40**	**$ 0.01**	**$ 0.01**	**$ 0.00**	**$ (0.00)**	**$ (0.01)**	**$ (0.01)**	**$ (0.01)**	**$ (0.01)**	**$ (0.02)**	**$ (0.02)**	**$ 0.00**	**$ 0.00**	**$ (0.00)**	**$ (0.00)**

UNITIL ENERGY SYSTEMS, INC. D/B/A UNITIL
BILL IMPACT ANALYSIS
YEAR 1 THROUGH YEAR 40

Line #	Rate Class	Source	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28
	(a)	(b)	(q)	(r)	(s)	(t)	(u)	(v)	(w)	(x)	(y)	(z)	(aa)	(ab)	(ac)	(ad)
1	Residential:															
2	Customer Charge	Page 3, Line 13 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	Distribution kWh Charge	Page 3, Line 14 Change over Current Rates	$ 0.00110	$ 0.00108	$ 0.00105	$ 0.00103	$ 0.00100	$ 0.00103	$ 0.00105	$ 0.00102	$ 0.00099	$ 0.00097	$ 0.00094	$ 0.00092	$ 0.00090	$ 0.00088
4	External Delivery Charge	Page 2, Line 5	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)
5	Default Service	Page 2, Line 8	$ (0.00078)	$ (0.00079)	$ (0.00080)	$ (0.00081)	$ (0.00082)	$ (0.00083)	$ (0.00085)	$ (0.00086)	$ (0.00087)	$ (0.00088)	$ (0.00090)	$ (0.00091)	$ (0.00092)	$ (0.00093)
6	Average Usage kWh	Page 3, Line 16 / Line 15	633	633	633	633	633	633	633	633	633	633	633	633	633	633
7	**Average Residential Monthly Bill Impact**	**(Line 3 + Line 4 + Line 5) * Line 6**	**$ (0.06)**	**$ (0.09)**	**$ (0.11)**	**$ (0.13)**	**$ (0.16)**	**$ (0.15)**	**$ (0.14)**	**$ (0.17)**	**$ (0.19)**	**$ (0.22)**	**$ (0.24)**	**$ (0.27)**	**$ (0.29)**	**$ (0.31)**
8	Regular General (G2 kWh):															
9	Customer Charge	Page 3, Line 21 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	Distribution kWh Charge	Page 3, Line 22 Change over Current Rates	$ 0.00110	$ 0.00108	$ 0.00105	$ 0.00103	$ 0.00100	$ 0.00103	$ 0.00105	$ 0.00102	$ 0.00099	$ 0.00097	$ 0.00094	$ 0.00092	$ 0.00090	$ 0.00088
11	External Delivery Charge	Page 2, Line 5	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)
12	Default Service	Page 2, Line 8	$ (0.00078)	$ (0.00079)	$ (0.00080)	$ (0.00081)	$ (0.00082)	$ (0.00083)	$ (0.00085)	$ (0.00086)	$ (0.00087)	$ (0.00088)	$ (0.00090)	$ (0.00091)	$ (0.00092)	$ (0.00093)
13	Average Usage kWh	Page 3, Line 24 / Line 23	97	97	97	97	97	97	97	97	97	97	97	97	97	97
14	**Average Regular General (G2 kWh) Monthly Bill Impact**	**(Line 10 + Line 11 + Line 12) * Line 13**	**$ (0.01)**	**$ (0.01)**	**$ (0.02)**	**$ (0.02)**	**$ (0.02)**	**$ (0.02)**	**$ (0.02)**	**$ (0.03)**	**$ (0.03)**	**$ (0.03)**	**$ (0.04)**	**$ (0.04)**	**$ (0.04)**	**$ (0.05)**
15	Regular General (G2 QR WH/SH):															
16	Customer Charge	Page 3, Line 29 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	Distribution kWh Charge	Page 3, Line 30 Change over Current Rates	$ 0.00110	$ 0.00108	$ 0.00105	$ 0.00103	$ 0.00100	$ 0.00103	$ 0.00105	$ 0.00102	$ 0.00099	$ 0.00097	$ 0.00094	$ 0.00092	$ 0.00090	$ 0.00088
18	External Delivery Charge	Page 2, Line 5	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)
19	Default Service	Page 2, Line 8	$ (0.00078)	$ (0.00079)	$ (0.00080)	$ (0.00081)	$ (0.00082)	$ (0.00083)	$ (0.00085)	$ (0.00086)	$ (0.00087)	$ (0.00088)	$ (0.00090)	$ (0.00091)	$ (0.00092)	$ (0.00093)
20	Average Usage kWh	Page 3, Line 32 / Line 31	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451
21	**Average Regular General (G2 QR WH/SH) Monthly Bill Impact**	**(Line 17 + Line 18 + Line 19) * Line 20**	**$ (0.14)**	**$ (0.20)**	**$ (0.25)**	**$ (0.30)**	**$ (0.36)**	**$ (0.33)**	**$ (0.32)**	**$ (0.38)**	**$ (0.44)**	**$ (0.50)**	**$ (0.56)**	**$ (0.61)**	**$ (0.66)**	**$ (0.70)**
22	Regular General (G2 Demand):															
23	Customer Charge	Page 3, Line 37 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24	Distribution kWh Charge	Page 3, Line 38 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25	Distribution kW Demand Charge	Page 3, Line 39 Change over Current Rates	$ 0.27875	$ 0.27224	$ 0.26573	$ 0.25922	$ 0.25272	$ 0.26046	$ 0.26576	$ 0.25856	$ 0.25136	$ 0.24463	$ 0.23806	$ 0.23223	$ 0.22722	$ 0.22229
26	External Delivery Charge	Page 2, Line 5	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)
27	Default Service	Page 2, Line 8	$ (0.00078)	$ (0.00079)	$ (0.00080)	$ (0.00081)	$ (0.00082)	$ (0.00083)	$ (0.00085)	$ (0.00086)	$ (0.00087)	$ (0.00088)	$ (0.00090)	$ (0.00091)	$ (0.00092)	$ (0.00093)
28	Average Usage kWh	Page 3, Line 42 / Line 41	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463
29	Average Usage kW	Page 3, Line 43 / Line 41	10	10	10	10	10	10	10	10	10	10	10	10	10	10
30	**Average Regular General (G2 Demand) Monthly Bill Impact**	**(Line 26 + Line 27) * Line 28 + Line 25 * Line 29**	**$ (0.24)**	**$ (0.33)**	**$ (0.42)**	**$ (0.52)**	**$ (0.61)**	**$ (0.57)**	**$ (0.55)**	**$ (0.65)**	**$ (0.75)**	**$ (0.85)**	**$ (0.94)**	**$ (1.03)**	**$ (1.11)**	**$ (1.20)**
31	Large General (G1 Demand):															
32	Customer Charge	Page 3, Line 51 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33	Distribution kWh Charge	Page 3, Line 52 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34	Distribution kVA Demand Charge	Page 3, Line 53 Change over Current Rates	$ 0.35244	$ 0.34421	$ 0.33598	$ 0.32775	$ 0.31953	$ 0.32932	$ 0.33601	$ 0.32692	$ 0.31781	$ 0.30930	$ 0.30100	$ 0.29362	$ 0.28728	$ 0.28106
35	External Delivery Charge	Page 2, Line 5	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)
36	Default Service	Page 2, Line 8	$ (0.00078)	$ (0.00079)	$ (0.00080)	$ (0.00081)	$ (0.00082)	$ (0.00083)	$ (0.00085)	$ (0.00086)	$ (0.00087)	$ (0.00088)	$ (0.00090)	$ (0.00091)	$ (0.00092)	$ (0.00093)
37	Average Usage kWh	Page 3, Line 56 / Line 55	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088
38	Average Usage kVA	Page 3, Line 57 / Line 55	498	498	498	498	498	498	498	498	498	498	498	498	498	498
39	**Average Large General (G1 Demand) Monthly Bill Impact**	**(Line 35 + Line 36) * Line 37 + Line 34 * Line 54**	**$ (15.47)**	**$ (21.43)**	**$ (27.42)**	**$ (33.42)**	**$ (39.46)**	**$ (36.55)**	**$ (35.21)**	**$ (41.76)**	**$ (48.33)**	**$ (54.65)**	**$ (60.88)**	**$ (66.67)**	**$ (71.98)**	**$ (77.26)**
40	Outdoor Lighting (OL):															
41	Average Luminaire Charge	Page 3, Line 65 Change over Current Rates	$ 0.08	$ 0.08	$ 0.07	$ 0.07	$ 0.07	$ 0.07	$ 0.07	$ 0.07	$ 0.07	$ 0.07	$ 0.07	$ 0.06	$ 0.06	$ 0.06
42	Distribution kWh Charge ($/kWh)	Page 3, Line 66 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
43	External Delivery Charge	Page 2, Line 5	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00042)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)
44	Default Service	Page 2, Line 8	$ (0.00078)	$ (0.00079)	$ (0.00080)	$ (0.00081)	$ (0.00082)	$ (0.00083)	$ (0.00085)	$ (0.00086)	$ (0.00087)	$ (0.00088)	$ (0.00090)	$ (0.00091)	$ (0.00092)	$ (0.00093)
45	Average Usage kWh	Page 3, Line 68 / Line 67	70	70	70	70	70	70	70	70	70	70	70	70	70	70
46	**Average Outdoor Lighting (OL) Monthly Bill Impact**	**(Line 43 + Line 44) * Line 45 + Line 40**	**$ (0.01)**	**$ (0.01)**	**$ (0.01)**	**$ (0.01)**	**$ (0.02)**	**$ (0.02)**	**$ (0.02)**	**$ (0.02)**	**$ (0.02)**	**$ (0.02)**	**$ (0.03)**	**$ (0.03)**	**$ (0.03)**	**$ (0.03)**

UNITIL ENERGY SYSTEMS, INC. D/B/A UNITIL
BILL IMPACT ANALYSIS
YEAR 1 THROUGH YEAR 40

Line #	Rate Class	Source	Year 29	Year 30	Year 31	Year 32	Year 33	Year 34	Year 35	Year 36	Year 37	Year 38	Year 39	Year 40
	(a)	(b)	(ae)	(af)	(ag)	(ah)	(ai)	(aj)	(ak)	(al)	(am)	(an)	(ao)	(ap)
1	Residential:													
2	Customer Charge	Page 3, Line 13 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	Distribution kWh Charge	Page 3, Line 14 Change over Current Rates	$ 0.00086	$ 0.00084	$ 0.00082	$ 0.00081	$ 0.00079	$ 0.00078	$ 0.00076	$ 0.00075	$ 0.00074	$ 0.00073	$ 0.00071	$ 0.00070
4	External Delivery Charge	Page 2, Line 5	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)
5	Default Service	Page 2, Line 8	$ (0.00095)	$ (0.00096)	$ (0.00097)	$ (0.00099)	$ (0.00100)	$ (0.00101)	$ (0.00103)	$ (0.00104)	$ (0.00106)	$ (0.00107)	$ (0.00109)	$ (0.00110)
6	Average Usage kWh	Page 3, Line 16 / Line 15	633	633	633	633	633	633	633	633	633	633	633	633
7	**Average Residential Monthly Bill Impact**	**(Line 3 + Line 4 + Line 5) * Line 6**	**$ (0.33)**	**$ (0.35)**	**$ (0.37)**	**$ (0.39)**	**$ (0.41)**	**$ (0.43)**	**$ (0.45)**	**$ (0.47)**	**$ (0.48)**	**$ (0.50)**	**$ (0.51)**	**$ (0.53)**
8	Regular General (G2 kWh):													
9	Customer Charge	Page 3, Line 21 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	Distribution kWh Charge	Page 3, Line 22 Change over Current Rates	$ 0.00086	$ 0.00084	$ 0.00082	$ 0.00081	$ 0.00079	$ 0.00078	$ 0.00076	$ 0.00075	$ 0.00074	$ 0.00073	$ 0.00071	$ 0.00070
11	External Delivery Charge	Page 2, Line 5	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)
12	Default Service	Page 2, Line 8	$ (0.00095)	$ (0.00096)	$ (0.00097)	$ (0.00099)	$ (0.00100)	$ (0.00101)	$ (0.00103)	$ (0.00104)	$ (0.00106)	$ (0.00107)	$ (0.00109)	$ (0.00110)
13	Average Usage kWh	Page 3, Line 24 / Line 23	97	97	97	97	97	97	97	97	97	97	97	97
14	**Average Regular General (G2 kWh) Monthly Bill Impact**	**(Line 10 + Line 11 + Line 12) * Line 13**	**$ (0.05)**	**$ (0.05)**	**$ (0.06)**	**$ (0.06)**	**$ (0.06)**	**$ (0.07)**	**$ (0.07)**	**$ (0.07)**	**$ (0.07)**	**$ (0.08)**	**$ (0.08)**	**$ (0.08)**
15	Regular General (G2 QR WH/SH):													
16	Customer Charge	Page 3, Line 29 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	Distribution kWh Charge	Page 3, Line 30 Change over Current Rates	$ 0.00086	$ 0.00084	$ 0.00082	$ 0.00081	$ 0.00079	$ 0.00078	$ 0.00076	$ 0.00075	$ 0.00074	$ 0.00073	$ 0.00071	$ 0.00070
18	External Delivery Charge	Page 2, Line 5	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)
19	Default Service	Page 2, Line 8	$ (0.00095)	$ (0.00096)	$ (0.00097)	$ (0.00099)	$ (0.00100)	$ (0.00101)	$ (0.00103)	$ (0.00104)	$ (0.00106)	$ (0.00107)	$ (0.00109)	$ (0.00110)
20	Average Usage kWh	Page 3, Line 32 / Line 31	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451	1,451
21	**Average Regular General (G2 QR WH/SH) Monthly Bill Impact**	**(Line 17 + Line 18 + Line 19) * Line 20**	**$ (0.75)**	**$ (0.80)**	**$ (0.85)**	**$ (0.89)**	**$ (0.94)**	**$ (0.98)**	**$ (1.03)**	**$ (1.07)**	**$ (1.10)**	**$ (1.14)**	**$ (1.18)**	**$ (1.22)**
22	Regular General (G2 Demand):													
23	Customer Charge	Page 3, Line 37 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24	Distribution kWh Charge	Page 3, Line 38 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
25	Distribution kW Demand Charge	Page 3, Line 39 Change over Current Rates	$ 0.21735	$ 0.21238	$ 0.20794	$ 0.20399	$ 0.20000	$ 0.19598	$ 0.19196	$ 0.18865	$ 0.18601	$ 0.18332	$ 0.18059	$ 0.17784
26	External Delivery Charge	Page 2, Line 5	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)
27	Default Service	Page 2, Line 8	$ (0.00095)	$ (0.00096)	$ (0.00097)	$ (0.00099)	$ (0.00100)	$ (0.00101)	$ (0.00103)	$ (0.00104)	$ (0.00106)	$ (0.00107)	$ (0.00109)	$ (0.00110)
28	Average Usage kWh	Page 3, Line 42 / Line 41	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463
29	Average Usage kW	Page 3, Line 43 / Line 41	10	10	10	10	10	10	10	10	10	10	10	10
30	**Average Regular General (G2 Demand) Monthly Bill Impact**	**(Line 26 + Line 27) * Line 28 + Line 25 * Line 29**	**$ (1.28)**	**$ (1.36)**	**$ (1.44)**	**$ (1.51)**	**$ (1.59)**	**$ (1.66)**	**$ (1.74)**	**$ (1.81)**	**$ (1.87)**	**$ (1.94)**	**$ (2.00)**	**$ (2.07)**
31	Large General (G1 Demand):													
32	Customer Charge	Page 3, Line 51 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33	Distribution kWh Charge	Page 3, Line 52 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34	Distribution kVA Demand Charge	Page 3, Line 53 Change over Current Rates	$ 0.27481	$ 0.26853	$ 0.26292	$ 0.25792	$ 0.25287	$ 0.24780	$ 0.24270	$ 0.23852	$ 0.23519	$ 0.23178	$ 0.22833	$ 0.22486
35	External Delivery Charge	Page 2, Line 5	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)
36	Default Service	Page 2, Line 8	$ (0.00095)	$ (0.00096)	$ (0.00097)	$ (0.00099)	$ (0.00100)	$ (0.00101)	$ (0.00103)	$ (0.00104)	$ (0.00106)	$ (0.00107)	$ (0.00109)	$ (0.00110)
37	Average Usage kWh	Page 3, Line 56 / Line 55	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088	159,088
38	Average Usage kVA	Page 3, Line 57 / Line 55	498	498	498	498	498	498	498	498	498	498	498	498
39	**Average Large General (G1 Demand) Monthly Bill Impact**	**(Line 35 + Line 36) * Line 37 + Line 34 * Line 54**	**$ (82.59)**	**$ (87.95)**	**$ (93.01)**	**$ (97.80)**	**$ (102.63)**	**$ (107.51)**	**$ (112.43)**	**$ (116.92)**	**$ (121.02)**	**$ (125.18)**	**$ (129.40)**	**$ (133.65)**
40	Outdoor Lighting (OL):													
41	Average Luminaire Charge	Page 3, Line 65 Change over Current Rates	$ 0.06	$ 0.06	$ 0.06	$ 0.06	$ 0.06	$ 0.05	$ 0.05	$ 0.05	$ 0.05	$ 0.05	$ 0.05	$ 0.05
42	Distribution kWh Charge ($/kWh)	Page 3, Line 66 Change over Current Rates	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
43	External Delivery Charge	Page 2, Line 5	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00043)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)	$ (0.00044)
44	Default Service	Page 2, Line 8	$ (0.00095)	$ (0.00096)	$ (0.00097)	$ (0.00099)	$ (0.00100)	$ (0.00101)	$ (0.00103)	$ (0.00104)	$ (0.00106)	$ (0.00107)	$ (0.00109)	$ (0.00110)
45	Average Usage kWh	Page 3, Line 68 / Line 67	70	70	70	70	70	70	70	70	70	70	70	70
46	**Average Outdoor Lighting (OL) Monthly Bill Impact**	**(Line 43 + Line 44) * Line 45 + Line 40**	**$ (0.04)**	**$ (0.04)**	**$ (0.04)**	**$ (0.04)**	**$ (0.05)**	**$ (0.05)**	**$ (0.05)**	**$ (0.05)**	**$ (0.05)**	**$ (0.06)**	**$ (0.06)**	**$ (0.06)**

UNITIL ENERGY SYSTEMS, INC. D/B/A UNITIL
BILL IMPACT ANALYSIS
CUSTOMER BENEFIT ESTIMATED RATE IMPACT

Line #	Customer Benefits	Recovery Mechanism	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
1	Reduction in Allocated LNS Cost		$ 16,103	$ 16,096	$ 16,335	$ 16,576	$ 16,820	$ 17,068	$ 17,318	$ 17,572	$ 17,829	$ 18,090
2	Reduction in Allocated RNS Cost		118,949	118,901	120,660	122,442	124,247	126,076	127,927	129,803	131,702	133,625
3	Total Transmission Cost Savings[1]	External Delivery Charge ("EDC")	$ 135,051	$ 134,997	$ 136,995	$ 139,018	$ 141,067	$ 143,143	$ 145,246	$ 147,375	$ 149,531	$ 151,715
4	REC Revenues[2]	External Delivery Charge ("EDC")	357,556	350,405	348,617	346,829	345,041	343,254	341,466	339,678	337,890	336,103
5	**External Delivery Charge Impact $/kWh**		**$ (0.00042)**	**$ (0.00042)**	**$ (0.00042)**	**$ (0.00042)**	**$ (0.00042)**	**$ (0.00042)**	**$ (0.00042)**	**$ (0.00042)**	**$ (0.00042)**	**$ (0.00042)**
6	Reduction in Energy Cost		$ 882,458	$ 725,600	$ 701,977	$ 686,108	$ 696,223	$ 706,468	$ 716,844	$ 727,353	$ 737,995	$ 748,773
7	Reduction in Capacity Cost		100,203	98,199	97,698	97,197	96,696	96,195	95,694	95,193	94,692	94,191
8	Total Avoided Cost of Energy/Capacity	Energy Service for All Customers	$ 982,661	$ 823,799	$ 799,675	$ 783,306	$ 792,920	$ 802,663	$ 812,539	$ 822,546	$ 832,688	$ 842,964
9	**Average Energy Service Impact $/kWh**		**$ (0.00085)**	**$ (0.00071)**	**$ (0.00069)**	**$ (0.00068)**	**$ (0.00068)**	**$ (0.00069)**	**$ (0.00070)**	**$ (0.00071)**	**$ (0.00072)**	**$ (0.00073)**
10	2020 TY Billing Units (kWh)											
11	Residential		515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592
12	Regular General		317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821
13	Larger General		319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459
14	Outdoor Lighting		7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729
15	Total Sales		1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601

(1) Lower Allocated Costs based on lower peak load
(2) Lower wholesale supplier costs
(3) No impact to Default b/c transferring at market price

UNITIL ENERGY SYSTEMS, INC. D/B/A UNITIL
BILL IMPACT ANALYSIS
CUSTOMER BENEFIT ESTIMATED RATE IMPACT

Line #	Customer Benefits	Recovery Mechanism	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
	(a)	(b)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	(t)	(u)	(v)
1	Reduction in Allocated LNS Cost		$ 18,353	$ 18,620	$ 18,891	$ 19,164	$ 19,441	$ 19,722	$ 20,006	$ 20,293	$ 20,584	$ 20,878
2	Reduction in Allocated RNS Cost		135,573	137,545	139,541	141,563	143,609	145,681	147,778	149,901	152,050	154,224
3	Total Transmission Cost Savings[1]	External Delivery Charge ("EDC")	$ 153,926	$ 156,165	$ 158,432	$ 160,727	$ 163,051	$ 165,403	$ 167,784	$ 170,194	$ 172,633	$ 175,102
4	REC Revenues[2]	External Delivery Charge ("EDC")	334,315	332,527	330,739	328,951	327,164	325,376	323,588	321,800	320,013	318,225
5	**External Delivery Charge Impact $/kWh**		**$ (0.00042)**	**$ (0.00042)**	**$ (0.00042)**	**$ (0.00042)**	**$ (0.00042)**	**$ (0.00042)**	**$ (0.00042)**	**$ (0.00042)**	**$ (0.00042)**	**$ (0.00043)**
6	Reduction in Energy Cost		$ 759,685	$ 770,735	$ 781,924	$ 793,251	$ 804,719	$ 816,328	$ 828,079	$ 839,974	$ 852,014	$ 864,199
7	Reduction in Capacity Cost		93,690	93,189	94,542	95,912	97,298	98,702	100,123	101,561	103,017	104,490
8	Total Avoided Cost of Energy/Capacity	Energy Service for All Customers	$ 853,376	$ 863,925	$ 876,466	$ 889,162	$ 902,017	$ 915,029	$ 928,202	$ 941,535	$ 955,030	$ 968,689
9	**Average Energy Service Impact $/kWh**		**$ (0.00074)**	**$ (0.00074)**	**$ (0.00076)**	**$ (0.00077)**	**$ (0.00078)**	**$ (0.00079)**	**$ (0.00080)**	**$ (0.00081)**	**$ (0.00082)**	**$ (0.00083)**
10	2020 TY Billing Units (kWh)											
11	Residential		515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592
12	Regular General		317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821
13	Larger General		319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459
14	Outdoor Lighting		7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729
15	Total Sales		1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601

(1) Lower Allocated Costs based on lower peak load
(2) Lower wholesale supplier costs
(3) No impact to Default b/c transferring at market price

UNITIL ENERGY SYSTEMS, INC. D/B/A UNITIL
BILL IMPACT ANALYSIS
CUSTOMER BENEFIT ESTIMATED RATE IMPACT

Line #	Customer Benefits	Recovery Mechanism	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
	(a)	(b)	(w)	(x)	(y)	(z)	(aa)	(ab)	(ac)	(ad)	(ae)	(af)
1	Reduction in Allocated LNS Cost		$ 21,176	$ 21,478	$ 21,783	$ 22,091	$ 22,404	$ 22,720	$ 23,039	$ 23,363	$ 23,690	$ 24,021
2	Reduction in Allocated RNS Cost		156,425	158,652	160,906	163,186	165,493	167,827	170,188	172,577	174,993	177,437
3	Total Transmission Cost Savings[1]	External Delivery Charge ("EDC")	$ 177,601	$ 180,130	$ 182,688	$ 185,277	$ 187,897	$ 190,547	$ 193,228	$ 195,940	$ 198,683	$ 201,457
4	REC Revenues[2]	External Delivery Charge ("EDC")	316,437	314,649	312,861	311,074	309,286	307,498	305,710	303,923	302,135	300,347
5	**External Delivery Charge Impact $/kWh**		**$ (0.00043)**	**$ (0.00043)**	**$ (0.00043)**	**$ (0.00043)**	**$ (0.00043)**	**$ (0.00043)**	**$ (0.00043)**	**$ (0.00043)**	**$ (0.00043)**	**$ (0.00043)**
6	Reduction in Energy Cost		$ 876,531	$ 889,010	$ 901,638	$ 914,416	$ 927,344	$ 940,423	$ 953,655	$ 967,039	$ 980,578	$ 994,271
7	Reduction in Capacity Cost		105,981	107,490	109,017	110,562	112,125	113,706	115,306	116,924	118,561	120,217
8	Total Avoided Cost of Energy/Capacity	Energy Service for All Customers	$ 982,512	$ 996,500	$ 1,010,655	$ 1,024,977	$ 1,039,468	$ 1,054,129	$ 1,068,960	$ 1,083,963	$ 1,099,139	$ 1,114,488
9	**Average Energy Service Impact $/kWh**		**$ (0.00085)**	**$ (0.00086)**	**$ (0.00087)**	**$ (0.00088)**	**$ (0.00090)**	**$ (0.00091)**	**$ (0.00092)**	**$ (0.00093)**	**$ (0.00095)**	**$ (0.00096)**
10	2020 TY Billing Units (kWh)											
11	Residential		515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592
12	Regular General		317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821
13	Larger General		319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459
14	Outdoor Lighting		7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729
15	Total Sales		1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601

(1) Lower Allocated Costs based on lower peak load
(2) Lower wholesale supplier costs
(3) No impact to Default b/c transferring at market price

UNITIL ENERGY SYSTEMS, INC. D/B/A UNITIL
BILL IMPACT ANALYSIS
CUSTOMER BENEFIT ESTIMATED RATE IMPACT

Line #	Customer Benefits	Recovery Mechanism	Year 31	Year 32	Year 33	Year 34	Year 35	Year 36	Year 37	Year 38	Year 39	Year 40
	(a)	(b)	(ag)	(ah)	(ai)	(aj)	(ak)	(al)	(am)	(an)	(ao)	(ap)
1	Reduction in Allocated LNS Cost		$ 24,355	$ 24,694	$ 25,036	$ 25,382	$ 25,731	$ 26,085	$ 26,443	$ 26,804	$ 27,169	$ 27,538
2	Reduction in Allocated RNS Cost		179,908	182,407	184,935	187,490	190,074	192,686	195,327	197,996	200,693	203,420
3	Total Transmission Cost Savings[1]	External Delivery Charge ("EDC")	$ 204,263	$ 207,101	$ 209,971	$ 212,872	$ 215,805	$ 218,771	$ 221,769	$ 224,799	$ 227,862	$ 230,958
4	REC Revenues[2]	External Delivery Charge ("EDC")	298,559	296,771	294,984	293,196	291,408	289,620	287,832	286,045	284,257	282,469
5	**External Delivery Charge Impact $/kWh**		**$ (0.00043)**	**$ (0.00043)**	**$ (0.00044)**	**$ (0.00044)**	**$ (0.00044)**	**$ (0.00044)**	**$ (0.00044)**	**$ (0.00044)**	**$ (0.00044)**	**$ (0.00044)**
6	Reduction in Energy Cost		$ 1,008,120	$ 1,022,125	$ 1,036,287	$ 1,050,606	$ 1,065,084	$ 1,079,721	$ 1,094,517	$ 1,109,473	$ 1,124,590	$ 1,139,867
7	Reduction in Capacity Cost		121,891	123,585	125,297	127,028	128,779	130,549	132,338	134,146	135,974	137,821
8	Total Avoided Cost of Energy/Capacity	Energy Service for All Customers	$ 1,130,011	$ 1,145,709	$ 1,161,584	$ 1,177,635	$ 1,193,863	$ 1,210,269	$ 1,226,855	$ 1,243,619	$ 1,260,563	$ 1,277,688
9	**Average Energy Service Impact $/kWh**		**$ (0.00097)**	**$ (0.00099)**	**$ (0.00100)**	**$ (0.00101)**	**$ (0.00103)**	**$ (0.00104)**	**$ (0.00106)**	**$ (0.00107)**	**$ (0.00109)**	**$ (0.00110)**
10	2020 TY Billing Units (kWh)											
11	Residential		515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592
12	Regular General		317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821	317,056,821
13	Larger General		319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459
14	Outdoor Lighting		7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729
15	Total Sales		1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601	1,160,418,601

(1) Lower Allocated Costs based on lower peak load
(2) Lower wholesale supplier costs
(3) No impact to Default b/c transferring at market price

UNITIL ENERGY SYSTEMS, INC. D/B/A UNITIL
BILL IMPACT ANALYSIS
ESTIMATED DISTRIBUTION RATE IMPACT

Line #	Customer Benefits	Calculation/Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)
1	Annual Revenue Requirement		$ 1,571,340	$ 1,461,528	$ 1,347,158	$ 1,263,995	$ 1,192,492	$ 1,154,353	$ 1,109,591	$ 1,073,564	$ 1,037,476	$ 1,001,326	$ 1,399,120	$ 1,369,157
2	Revenue Requirement Change		$ 1,571,340	$ (109,812)	$ (114,370)	$ (83,162)	$ (71,503)	$ (38,139)	$ (44,762)	$ (36,027)	$ (36,088)	$ (36,150)	$ 397,794	$ (29,963)
3	**Allocation based on 2020 TY kWh:**													
4	Residential (Rate D)		$ 698,681	$ (48,827)	$ (50,854)	$ (36,977)	$ (31,793)	$ (16,958)	$ (19,903)	$ (16,019)	$ (16,046)	$ (16,074)	$ 176,875	$ (13,323)
5	Regular General (Rate G2-kWh)		594	(42)	(43)	(31)	(27)	(14)	(17)	(14)	(14)	(14)	150	(11)
6	Regular General (Rate G2 - QR WH/SH)		6,071	(424)	(442)	(321)	(276)	(147)	(173)	(139)	(139)	(140)	1,537	(116)
7	Regular General (Rate G2)		422,666	(29,538)	(30,764)	(22,369)	(19,233)	(10,259)	(12,040)	(9,691)	(9,707)	(9,724)	107,001	(8,060)
8	Large General (Rate G1)		433,002	(30,260)	(31,516)	(22,916)	(19,704)	(10,510)	(12,335)	(9,928)	(9,945)	(9,962)	109,617	(8,257)
9	Outdoor Lighting (Rate OL)		10,326	(722)	(752)	(547)	(470)	(251)	(294)	(237)	(237)	(238)	2,614	(197)
10	**Total**		$ 1,571,340	$ (109,812)	$ (114,370)	$ (83,162)	$ (71,503)	$ (38,139)	$ (44,762)	$ (36,027)	$ (36,088)	$ (36,150)	$ 397,794	$ (29,963)
11	**Approved Rates (DE 22-026)**													
12	**Residential Rate D**													
13	Customer Charge	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22
14	Distribution kWh Charge ($/kWh)	$ 0.04511	$ 0.04646	$ 0.04637	$ 0.04627	$ 0.04620	$ 0.04614	$ 0.04611	$ 0.04607	$ 0.04604	$ 0.04600	$ 0.04597	$ 0.04632	$ 0.04629
15	TY 2020 Customer Bills	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280
16	TY 2020 kWh Billing Determinants	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592
17	Customer Charge Revenues	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834
18	Distribution kWh Charge Revenues	23,275,483	23,974,163	23,925,336	23,874,483	23,837,505	23,805,712	23,788,754	23,768,851	23,752,832	23,736,786	23,720,712	23,897,587	23,884,265
19	Total Rate D Revenues	$ 36,499,316	$ 37,197,997	$ 37,149,170	$ 37,098,316	$ 37,061,339	$ 37,029,546	$ 37,012,588	$ 36,992,685	$ 36,976,666	$ 36,960,620	$ 36,944,546	$ 37,121,421	$ 37,108,098
20	**Regular General Rate G2-kWh**													
21	Customer Charge	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38
22	Distribution kWh Charge ($/kWh)	$ 0.02933	$ 0.03068	$ 0.03059	$ 0.03049	$ 0.03042	$ 0.03036	$ 0.03032	$ 0.03029	$ 0.03026	$ 0.03022	$ 0.03019	$ 0.03054	$ 0.03051
23	TY 2020 Customer Bills	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543
24	TY 2020 kWh Billing Determinants	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744
25	Customer Charge Revenues	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500
26	Distribution kWh Charge Revenues	12,868	13,463	13,421	13,378	13,346	13,319	13,305	13,288	13,274	13,261	13,247	13,397	13,386
27	Total Rate G2-kWh Revenues	$ 96,369	$ 96,963	$ 96,921	$ 96,878	$ 96,847	$ 96,820	$ 96,805	$ 96,788	$ 96,775	$ 96,761	$ 96,747	$ 96,898	$ 96,886
28	**Regular General Rate G2 QR WH/SH**													
29	Customer Charge	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73
30	Distribution kWh Charge ($/kWh)	$ 0.03599	$ 0.03734	$ 0.03725	$ 0.03715	$ 0.03708	$ 0.03701	$ 0.03698	$ 0.03694	$ 0.03691	$ 0.03688	$ 0.03685	$ 0.03719	$ 0.03717
31	TY 2020 Customer Bills	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089
32	TY 2020 kWh Billing Determinants	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579
33	Customer Charge Revenues	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056
34	Distribution kWh Charge Revenues	161,350	167,421	166,997	166,555	166,233	165,957	165,810	165,637	165,498	165,358	165,219	166,755	166,640
35	Total Rate G2 Qr W/H Revenues	$ 191,406	$ 197,477	$ 197,053	$ 196,611	$ 196,289	$ 196,013	$ 195,866	$ 195,693	$ 195,554	$ 195,414	$ 195,274	$ 196,811	$ 196,696
36	**Regular General Rate G2 Demand**													
37	Customer Charge	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19
38	Distribution kWh Charge ($/kWh)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39	Distribution kW Charge ($/kW)	$ 11.91	$ 12.25	$ 12.23	$ 12.20	$ 12.19	$ 12.17	$ 12.16	$ 12.15	$ 12.14	$ 12.14	$ 12.13	$ 12.22	$ 12.21
40	Transformer Ownership Credit	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)
41	TY 2020 Customer Bills	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712
42	TY 2020 kWh Billing Determinants	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498
43	TY 2020 kW Billing Determinants	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532
44	Transformer Units	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843
45	Customer Charge Revenues	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724
46	Distribution kWh Charge Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-
47	Distribution Demand Revenues	14,704,548	15,127,214	15,097,676	15,066,912	15,044,543	15,025,310	15,015,051	15,003,010	14,993,320	14,983,613	14,973,889	15,080,889	15,072,830
48	Transformer Ownership Credit	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)
49	Total Rate G2 Demand Revenues	$ 18,384,850	$ 18,807,516	$ 18,777,978	$ 18,747,215	$ 18,724,845	$ 18,705,612	$ 18,695,353	$ 18,683,313	$ 18,673,622	$ 18,663,915	$ 18,654,191	$ 18,761,192	$ 18,753,132
50	**Large General Rate G1 Demand**													
51	Customer Charge (Average)	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31
52	Distribution kWh Charge ($/kWh)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
53	Distribution kVA Charge ($/kVA)	$ 8.40	$ 8.83	$ 8.80	$ 8.77	$ 8.75	$ 8.73	$ 8.72	$ 8.71	$ 8.70	$ 8.69	$ 8.68	$ 8.79	$ 8.78
54	Transformer Ownership Credit	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)
55	TY 2020 Customer Bills	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010
56	TY 2020 kWh Billing Determinants	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459
57	TY 2020 kVA Billing Determinants	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283
58	Transformer Units	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647
59	Customer Charge Revenues	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084
60	Distribution kWh Charge Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-
61	Distribution Demand Revenues	8,404,156	8,837,157	8,806,897	8,775,381	8,752,465	8,732,761	8,722,252	8,709,917	8,699,989	8,690,045	8,680,083	8,789,700	8,781,444
62	Transformer Ownership Credit	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)
63	Total Rate G1 Demand Revenues	$ 8,538,416	$ 8,971,418	$ 8,941,158	$ 8,909,642	$ 8,886,726	$ 8,867,022	$ 8,856,512	$ 8,844,178	$ 8,834,250	$ 8,824,305	$ 8,814,344	$ 8,923,961	$ 8,915,704
64	**Outdoor Lighting (Rate OL)**													
65	Average Luminaire Charge	$ 16.71	$ 16.81	$ 16.80	$ 16.80	$ 16.79	$ 16.79	$ 16.78	$ 16.78	$ 16.78	$ 16.78	$ 16.78	$ 16.80	$ 16.80
66	Distribution kWh Charge ($/kWh)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67	TY 2020 Luminaires	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600
68	TY 2020 kWh Billing Determinants	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729
69	Luminaire Charge Revenues	$ 1,815,201	$ 1,825,527	$ 1,824,805	$ 1,824,054	$ 1,823,507	$ 1,823,037	$ 1,822,787	$ 1,822,492	$ 1,822,256	$ 1,822,019	$ 1,821,781	$ 1,824,395	$ 1,824,198
70	Distribution kWh Charge Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-
71	Pole Charges	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639
72	Total Rate OL Revenues	$ 1,823,840	$ 1,834,166	$ 1,833,444	$ 1,832,693	$ 1,832,146	$ 1,831,676	$ 1,831,426	$ 1,831,132	$ 1,830,895	$ 1,830,658	$ 1,830,420	$ 1,833,034	$ 1,832,837

UNITIL ENERGY SYSTEMS, INC. D/B/A UNITIL
BILL IMPACT ANALYSIS
ESTIMATED DISTRIBUTION RATE IMPACT

Line #	Customer Benefits	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26
	(a)	(o)	(p)	(q)	(r)	(s)	(t)	(u)	(v)	(w)	(x)	(y)	(z)	(aa)	(ab)
1	Annual Revenue Requirement	$ 1,339,210	$ 1,309,279	$ 1,279,364	$ 1,249,466	$ 1,219,585	$ 1,189,722	$ 1,159,876	$ 1,195,418	$ 1,219,712	$ 1,186,708	$ 1,153,641	$ 1,122,735	$ 1,092,613	$ 1,065,845
2	Revenue Requirement Change	$ (29,947)	$ (29,931)	$ (29,915)	$ (29,898)	$ (29,881)	$ (29,864)	$ (29,846)	$ 35,541	$ 24,294	$ (33,004)	$ (33,067)	$ (30,906)	$ (30,122)	$ (26,768)
3	**Allocation based on 2020 TY kWh:**														
4	Residential (Rate D)	$ (13,316)	$ (13,309)	$ (13,301)	$ (13,294)	$ (13,286)	$ (13,279)	$ (13,271)	$ 15,803	$ 10,802	$ (14,675)	$ (14,703)	$ (13,742)	$ (13,394)	$ (11,902)
5	Regular General (Rate G2-kWh)	(11)	(11)	(11)	(11)	(11)	(11)	(11)	13	9	(12)	(13)	(12)	(11)	(10)
6	Regular General (Rate G2 - QR WH/SH)	(116)	(116)	(116)	(116)	(115)	(115)	(115)	137	94	(128)	(128)	(119)	(116)	(103)
7	Regular General (Rate G2)	(8,055)	(8,051)	(8,047)	(8,042)	(8,038)	(8,033)	(8,028)	9,560	6,535	(8,877)	(8,895)	(8,313)	(8,102)	(7,200)
8	Large General (Rate G1)	(8,252)	(8,248)	(8,243)	(8,239)	(8,234)	(8,229)	(8,224)	9,794	6,695	(9,095)	(9,112)	(8,517)	(8,301)	(7,376)
9	Outdoor Lighting (Rate OL)	(197)	(197)	(197)	(196)	(196)	(196)	(196)	234	160	(217)	(217)	(203)	(198)	(176)
10	**Total**	$ (29,947)	$ (29,931)	$ (29,915)	$ (29,898)	$ (29,881)	$ (29,864)	$ (29,846)	$ 35,541	$ 24,294	$ (33,004)	$ (33,067)	$ (30,906)	$ (30,122)	$ (26,768)
11	**Approved Rates (DE 22-026)**														
12	**Residential Rate D**														
13	Customer Charge	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22
14	Distribution kWh Charge ($/kWh)	$ 0.04626	$ 0.04624	$ 0.04621	$ 0.04619	$ 0.04616	$ 0.04614	$ 0.04611	$ 0.04614	$ 0.04616	$ 0.04613	$ 0.04610	$ 0.04608	$ 0.04605	$ 0.04603
15	TY 2020 Customer Bills	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280
16	TY 2020 kWh Billing Determinants	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592
17	Customer Charge Revenues	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834
18	Distribution kWh Charge Revenues	23,870,949	23,857,640	23,844,339	23,831,045	23,817,759	23,804,481	23,791,210	23,807,013	23,817,815	23,803,141	23,788,438	23,774,695	23,761,302	23,749,400
19	Total Rate D Revenues	$ 37,094,783	$ 37,081,474	$ 37,068,173	$ 37,054,879	$ 37,041,593	$ 37,028,314	$ 37,015,043	$ 37,030,847	$ 37,041,649	$ 37,026,974	$ 37,012,271	$ 36,998,529	$ 36,985,135	$ 36,973,233
20	**Regular General Rate G2-kWh**														
21	Customer Charge	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38
22	Distribution kWh Charge ($/kWh)	$ 0.03048	$ 0.03046	$ 0.03043	$ 0.03041	$ 0.03038	$ 0.03036	$ 0.03033	$ 0.03036	$ 0.03038	$ 0.03035	$ 0.03032	$ 0.03030	$ 0.03027	$ 0.03025
23	TY 2020 Customer Bills	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543
24	TY 2020 kWh Billing Determinants	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744
25	Customer Charge Revenues	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500
26	Distribution kWh Charge Revenues	13,375	13,363	13,352	13,341	13,330	13,318	13,307	13,320	13,330	13,317	13,305	13,293	13,281	13,271
27	Total Rate G2-kWh Revenues	$ 96,875	$ 96,864	$ 96,852	$ 96,841	$ 96,830	$ 96,819	$ 96,807	$ 96,821	$ 96,830	$ 96,817	$ 96,805	$ 96,793	$ 96,782	$ 96,772
28	**Regular General Rate G2 QR WH/SH**														
29	Customer Charge	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73
30	Distribution kWh Charge ($/kWh)	$ 0.03714	$ 0.03712	$ 0.03709	$ 0.03706	$ 0.03704	$ 0.03701	$ 0.03699	$ 0.03702	$ 0.03704	$ 0.03701	$ 0.03698	$ 0.03695	$ 0.03693	$ 0.03691
31	TY 2020 Customer Bills	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089
32	TY 2020 kWh Billing Determinants	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579
33	Customer Charge Revenues	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056
34	Distribution kWh Charge Revenues	166,524	166,408	166,293	166,177	166,062	165,946	165,831	165,968	166,062	165,935	165,807	165,688	165,571	165,468
35	Total Rate G2 Qr W/H Revenues	$ 196,580	$ 196,464	$ 196,349	$ 196,233	$ 196,118	$ 196,002	$ 195,887	$ 196,024	$ 196,118	$ 195,991	$ 195,863	$ 195,744	$ 195,627	$ 195,524
36	**Regular General Rate G2 Demand**														
37	Customer Charge	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19
38	Distribution kWh Charge ($/kWh)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39	Distribution kW Charge ($/kW)	$ 12.20	$ 12.20	$ 12.19	$ 12.18	$ 12.18	$ 12.17	$ 12.16	$ 12.17	$ 12.18	$ 12.17	$ 12.16	$ 12.16	$ 12.15	$ 12.14
40	Transformer Ownership Credit	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)
41	TY 2020 Customer Bills	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712
42	TY 2020 kWh Billing Determinants	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498
43	TY 2020 kW Billing Determinants	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532
44	Transformer Units	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843
45	Customer Charge Revenues	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724
46	Distribution kWh Charge Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	Distribution Demand Revenues	15,064,774	15,056,723	15,048,677	15,040,635	15,032,597	15,024,564	15,016,536	15,026,096	15,032,631	15,023,754	15,014,859	15,006,546	14,998,444	14,991,243
48	Transformer Ownership Credit	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)
49	Total Rate G2 Demand Revenues	$ 18,745,077	$ 18,737,026	$ 18,728,979	$ 18,720,937	$ 18,712,900	$ 18,704,867	$ 18,696,839	$ 18,706,399	$ 18,712,934	$ 18,704,056	$ 18,695,162	$ 18,686,848	$ 18,678,746	$ 18,671,546
50	**Large General Rate G1 Demand**														
51	Customer Charge (Average)	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31
52	Distribution kWh Charge ($/kWh)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
53	Distribution kVA Charge ($/kVA)	$ 8.77	$ 8.76	$ 8.75	$ 8.75	$ 8.74	$ 8.73	$ 8.72	$ 8.73	$ 8.74	$ 8.73	$ 8.72	$ 8.71	$ 8.70	$ 8.70
54	Transformer Ownership Credit	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)
55	TY 2020 Customer Bills	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010
56	TY 2020 kWh Billing Determinants	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459
57	TY 2020 kVA Billing Determinants	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283
58	Transformer Units	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647
59	Customer Charge Revenues	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084
60	Distribution kWh Charge Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	Distribution Demand Revenues	8,773,191	8,764,943	8,756,700	8,748,461	8,740,227	8,731,998	8,723,774	8,733,568	8,740,262	8,731,168	8,722,056	8,713,539	8,705,238	8,697,862
62	Transformer Ownership Credit	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)
63	Total Rate G1 Demand Revenues	$ 8,907,452	$ 8,899,204	$ 8,890,961	$ 8,882,722	$ 8,874,488	$ 8,866,259	$ 8,858,034	$ 8,867,828	$ 8,874,523	$ 8,865,428	$ 8,856,316	$ 8,847,799	$ 8,839,499	$ 8,832,123
64	**Outdoor Lighting (Rate OL)**														
65	Average Luminaire Charge	$ 16.80	$ 16.79	$ 16.79	$ 16.79	$ 16.79	$ 16.79	$ 16.78	$ 16.79	$ 16.79	$ 16.79	$ 16.78	$ 16.78	$ 16.78	$ 16.78
66	Distribution kWh Charge ($/kWh)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67	TY 2020 Luminaires	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600
68	TY 2020 kWh Billing Determinants	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729
69	Luminaire Charge Revenues	$ 1,824,001	$ 1,823,805	$ 1,823,608	$ 1,823,412	$ 1,823,215	$ 1,823,019	$ 1,822,823	$ 1,823,056	$ 1,823,216	$ 1,822,999	$ 1,822,782	$ 1,822,579	$ 1,822,381	$ 1,822,205
70	Distribution kWh Charge Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-	-
71	Pole Charges	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639
72	Total Rate OL Revenues	$ 1,832,641	$ 1,832,444	$ 1,832,247	$ 1,832,051	$ 1,831,854	$ 1,831,658	$ 1,831,462	$ 1,831,696	$ 1,831,855	$ 1,831,638	$ 1,831,421	$ 1,831,218	$ 1,831,020	$ 1,830,844

UNITIL ENERGY SYSTEMS, INC. D/B/A UNITIL
BILL IMPACT ANALYSIS
ESTIMATED DISTRIBUTION RATE IMPACT

Line #	Customer Benefits	Year 27	Year 28	Year 29	Year 30	Year 31	Year 32	Year 33	Year 34	Year 35	Year 36	Year 37	Year 38	Year 39	Year 40
	(a)	(ac)	(ad)	(ae)	(af)	(ag)	(ah)	(ai)	(aj)	(ak)	(al)	(am)	(an)	(ao)	(ap)
1	Annual Revenue Requirement	$ 1,042,833	$ 1,020,243	$ 997,536	$ 974,749	$ 954,377	$ 936,235	$ 917,911	$ 899,490	$ 881,002	$ 865,838	$ 853,717	$ 841,345	$ 828,834	$ 816,227
2	Revenue Requirement Change	$ (23,012)	$ (22,590)	$ (22,706)	$ (22,788)	$ (20,372)	$ (18,143)	$ (18,324)	$ (18,421)	$ (18,487)	$ (15,164)	$ (12,120)	$ (12,373)	$ (12,511)	$ (12,607)
3	**Allocation based on 2020 TY kWh:**														
4	Residential (Rate D)	$ (10,232)	$ (10,045)	$ (10,096)	$ (10,132)	$ (9,058)	$ (8,067)	$ (8,148)	$ (8,191)	$ (8,220)	$ (6,743)	$ (5,389)	$ (5,501)	$ (5,563)	$ (5,605)
5	Regular General (Rate G2-kWh)	(9)	(9)	(9)	(9)	(8)	(7)	(7)	(7)	(7)	(6)	(5)	(5)	(5)	(5)
6	Regular General (Rate G2 - QR WH/SH)	(89)	(87)	(88)	(88)	(79)	(70)	(71)	(71)	(71)	(59)	(47)	(48)	(48)	(49)
7	Regular General (Rate G2)	(6,190)	(6,076)	(6,108)	(6,129)	(5,480)	(4,880)	(4,929)	(4,955)	(4,973)	(4,079)	(3,260)	(3,328)	(3,365)	(3,391)
8	Large General (Rate G1)	(6,341)	(6,225)	(6,257)	(6,279)	(5,614)	(4,999)	(5,049)	(5,076)	(5,094)	(4,179)	(3,340)	(3,409)	(3,447)	(3,474)
9	Outdoor Lighting (Rate OL)	(151)	(148)	(149)	(150)	(134)	(119)	(120)	(121)	(121)	(100)	(80)	(81)	(82)	(83)
10	**Total**	$ (23,012)	$ (22,590)	$ (22,706)	$ (22,788)	$ (20,372)	$ (18,143)	$ (18,324)	$ (18,421)	$ (18,487)	$ (15,164)	$ (12,120)	$ (12,373)	$ (12,511)	$ (12,607)
11	**Approved Rates (DE 22-026)**														
12	**Residential Rate D**														
13	Customer Charge	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.22
14	Distribution kWh Charge ($/kWh)	$ 0.04601	$ 0.04599	$ 0.04597	$ 0.04595	$ 0.04593	$ 0.04592	$ 0.04590	$ 0.04589	$ 0.04587	$ 0.04586	$ 0.04585	$ 0.04584	$ 0.04582	$ 0.04581
15	TY 2020 Customer Bills	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280	815,280
16	TY 2020 kWh Billing Determinants	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592	515,968,592
17	Customer Charge Revenues	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834	$ 13,223,834
18	Distribution kWh Charge Revenues	23,739,168	23,729,123	23,719,027	23,708,895	23,699,837	23,691,770	23,683,622	23,675,432	23,667,211	23,660,469	23,655,080	23,649,578	23,644,015	23,638,410
19	Total Rate D Revenues	$ 36,963,002	$ 36,952,957	$ 36,942,861	$ 36,932,729	$ 36,923,670	$ 36,915,604	$ 36,907,456	$ 36,899,265	$ 36,891,045	$ 36,884,302	$ 36,878,913	$ 36,873,412	$ 36,867,849	$ 36,862,244
20	**Regular General Rate G2-kWh**														
21	Customer Charge	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38	$ 18.38
22	Distribution kWh Charge ($/kWh)	$ 0.03023	$ 0.03021	$ 0.03019	$ 0.03017	$ 0.03015	$ 0.03014	$ 0.03012	$ 0.03011	$ 0.03009	$ 0.03008	$ 0.03007	$ 0.03006	$ 0.03004	$ 0.03003
23	TY 2020 Customer Bills	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543	4,543
24	TY 2020 kWh Billing Determinants	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744	438,744
25	Customer Charge Revenues	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500	$ 83,500
26	Distribution kWh Charge Revenues	13,263	13,254	13,246	13,237	13,229	13,222	13,215	13,208	13,201	13,196	13,191	13,186	13,182	13,177
27	Total Rate G2-kWh Revenues	$ 96,763	$ 96,754	$ 96,746	$ 96,737	$ 96,730	$ 96,723	$ 96,716	$ 96,709	$ 96,702	$ 96,696	$ 96,692	$ 96,687	$ 96,682	$ 96,677
28	**Regular General Rate G2 QR WH/SH**														
29	Customer Charge	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73	$ 9.73
30	Distribution kWh Charge ($/kWh)	$ 0.03689	$ 0.03687	$ 0.03685	$ 0.03683	$ 0.03681	$ 0.03679	$ 0.03678	$ 0.03676	$ 0.03675	$ 0.03673	$ 0.03672	$ 0.03671	$ 0.03670	$ 0.03669
31	TY 2020 Customer Bills	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089
32	TY 2020 kWh Billing Determinants	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579	4,483,579
33	Customer Charge Revenues	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056	$ 30,056
34	Distribution kWh Charge Revenues	165,379	165,292	165,204	165,116	165,037	164,967	164,896	164,825	164,754	164,695	164,648	164,600	164,552	164,503
35	Total Rate G2 Qr W/H Revenues	$ 195,435	$ 195,348	$ 195,260	$ 195,172	$ 195,093	$ 195,023	$ 194,952	$ 194,881	$ 194,810	$ 194,751	$ 194,704	$ 194,656	$ 194,608	$ 194,559
36	**Regular General Rate G2 Demand**														
37	Customer Charge	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19	$ 29.19
38	Distribution kWh Charge ($/kWh)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39	Distribution kW Charge ($/kW)	$ 12.14	$ 12.13	$ 12.13	$ 12.12	$ 12.12	$ 12.12	$ 12.11	$ 12.11	$ 12.10	$ 12.10	$ 12.10	$ 12.09	$ 12.09	$ 12.09
40	Transformer Ownership Credit	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)
41	TY 2020 Customer Bills	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712	126,712
42	TY 2020 kWh Billing Determinants	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498	312,134,498
43	TY 2020 kW Billing Determinants	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532	1,234,532
44	Transformer Units	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843	36,843
45	Customer Charge Revenues	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724	$ 3,698,724
46	Distribution kWh Charge Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	Distribution Demand Revenues	14,985,054	14,978,977	14,972,870	14,966,740	14,961,260	14,956,380	14,951,451	14,946,496	14,941,524	14,937,445	14,934,184	14,930,856	14,927,491	14,924,100
48	Transformer Ownership Credit	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)	(18,421)
49	Total Rate G2 Demand Revenues	$ 18,665,356	$ 18,659,280	$ 18,653,172	$ 18,647,042	$ 18,641,563	$ 18,636,683	$ 18,631,754	$ 18,626,799	$ 18,621,826	$ 18,617,747	$ 18,614,487	$ 18,611,159	$ 18,607,794	$ 18,604,403
50	**Large General Rate G1 Demand**														
51	Customer Charge (Average)	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31	$ 147.31
52	Distribution kWh Charge ($/kWh)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
53	Distribution kVA Charge ($/kVA)	$ 8.69	$ 8.68	$ 8.68	$ 8.67	$ 8.66	$ 8.66	$ 8.65	$ 8.65	$ 8.64	$ 8.64	$ 8.64	$ 8.63	$ 8.63	$ 8.63
54	Transformer Ownership Credit	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)	$ (0.50)
55	TY 2020 Customer Bills	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010	2,010
56	TY 2020 kWh Billing Determinants	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459	319,767,459
57	TY 2020 kVA Billing Determinants	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283	1,000,283
58	Transformer Units	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647	323,647
59	Customer Charge Revenues	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084	$ 296,084
60	Distribution kWh Charge Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	Distribution Demand Revenues	8,691,521	8,685,296	8,679,039	8,672,760	8,667,146	8,662,147	8,657,097	8,652,021	8,646,927	8,642,748	8,639,408	8,635,998	8,632,551	8,629,077
62	Transformer Ownership Credit	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)	(161,824)
63	Total Rate G1 Demand Revenues	$ 8,825,782	$ 8,819,557	$ 8,813,300	$ 8,807,020	$ 8,801,407	$ 8,796,407	$ 8,791,358	$ 8,786,282	$ 8,781,187	$ 8,777,008	$ 8,773,668	$ 8,770,259	$ 8,766,812	$ 8,763,338
64	**Outdoor Lighting (Rate OL)**														
65	Average Luminaire Charge	$ 16.78	$ 16.78	$ 16.77	$ 16.77	$ 16.77	$ 16.77	$ 16.77	$ 16.77	$ 16.77	$ 16.77	$ 16.77	$ 16.77	$ 16.76	$ 16.76
66	Distribution kWh Charge ($/kWh)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67	TY 2020 Luminaires	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600	108,600
68	TY 2020 kWh Billing Determinants	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729	7,625,729
69	Luminaire Charge Revenues	$ 1,822,054	$ 1,821,905	$ 1,821,756	$ 1,821,606	$ 1,821,472	$ 1,821,353	$ 1,821,233	$ 1,821,112	$ 1,820,990	$ 1,820,891	$ 1,820,811	$ 1,820,730	$ 1,820,647	$ 1,820,565
70	Distribution kWh Charge Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-	-
71	Pole Charges	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639	8,639
72	Total Rate OL Revenues	$ 1,830,693	$ 1,830,544	$ 1,830,395	$ 1,830,245	$ 1,830,112	$ 1,829,992	$ 1,829,872	$ 1,829,751	$ 1,829,629	$ 1,829,530	$ 1,829,450	$ 1,829,369	$ 1,829,287	$ 1,829,204