

Appendix E: Recent Utility Proposals for Residential Demand Charges or Proto-Demand Charges

State / Utility	Docket	Utility Proposal	Outcome
<p>California Residential Rate Design Rulemaking</p> <ul style="list-style-type: none"> • PG&E • SCE • SDG&E 	CPUC R. 12-06-013	SDG&E proposed an optional rate with a schedule of increasing fixed monthly charges differentiated by the customer's maximum demand in the prior month.	CPUC Decision 15-07-001 rejected the SDG&E proposal for a demand-differentiated fixed monthly charge, finding that such a rate design was not aligned with the Commission's central focus on expanding the use of TOU rates. See D. 15-07-001, pp. 182-184 and Finding of Fact 160.
<p>California Net Metering Successor Tariff (NEM 2.0) Rulemaking</p> <ul style="list-style-type: none"> • PG&E • SCE • SDG&E 	CPUC R. 14-07-002	PG&E and SDG&E proposed non-coincident demand charges for NEM 2.0 customers.	CPUC Decision 16-01-044 rejected these PG&E and SDG&E demand charge proposals, finding that "demand charges can be complex and hard for residential customers to understand" (p. 75). The order instead requires NEM 2.0 customers in California to take service under any available TOU rate, and removes certain public benefit charges from NEM export rates. The order found that "[r]equiring participation in available TOU rates can be an effective way to align the incentives of customers on the NEM successor tariff with system needs" (p. 75).
Nevada - NV Energy 2015 NEM case	PUCN Dockets 15-07041 and 15-07042	NV Energy proposed that NEM customers should be in a separate customer class with a three-part rate design that includes a non-coincident demand charge.	PUCN order dated December 23, 2015 rejected the proposed demand charge for NEM customers finding that "ratepayer acceptance of this potential rate change is unknown" (p. 91).
Texas - El Paso Electric 2015 – 2016 GRC	Texas PUC Docket No. 44941	EPE proposed a separate partial requirements class for DG customers, with a non-coincident demand charge to cover distribution costs.	Case resolved by settlements. EPE dropped its proposed partial requirements class and proposed distribution demand charge for DG customers. The EPE GRC settlements were approved by the Texas PUC in an order dated August 25, 2016.
Massachusetts - National Grid 2015 GRC	MA DPU Docket 15-155	National Grid proposed a proto-demand charge in the form of a tiered monthly	National Grid's proposed tiered customer charge was rejected by the MA DPU in an order dated

		customer charge. The charge would have been based on the customer's maximum monthly kWh usage over the past twelve months, and would have covered customer costs and a portion of demand-related distribution costs.	September 30, 2016 (see pp. 457-462). The MA DPU found that such a rate design element did not meet its goals for either simplicity or efficiency.
Colorado - Public Service of Colorado (Xcel Energy) 2016 GRC Phase II	CoPUC Docket No. 16AL-0048E (Phase II)	PSCo proposed a proto-demand charge, the Grid Use Charge, for all residential customers. This would have been a tiered monthly customer charge covering distribution costs and based on the customer's kWh usage in the prior year.	Case resolved by settlements. In settlement, PSCo dropped its proposed Grid Use Charge. PSCo will be implementing optional pilot programs for both volumetric TOU and demand-based residential rates. The PSCo GRC settlements were approved by the CoPUC in an order dated November 23, 2016. (Note: A pending application for rehearing addresses an unrelated matter).
Arizona - UNSE territory in Arizona -- 2016 GRC	ACC Docket No. E-04204A-15-0142	UNES proposed a mandatory residential demand charge for all customers.	ACC rejected the proposed mandatory residential demand charge in Order 75697 dated August 18, 2016. Future rate design for NEM customers is pending in a Phase 2 of this case to be conducted in 2017 (see pp. 115- 119).

Appendix F

Selected Data Responses

**Public Service of New Hampshire d/b/a Eversource Energy
Docket No. DE 16-576**

Date Request Received: 06/28/2016

Date of Response: 08/08/2016

Request No. EFCA-TASC 1-002

Page 1 of 1

Request from: The Alliance for Solar Choices & Energy Freedom Coalition of America

Witness:

Request:

Basic load research data on (a) the average customer in each customer class, (b) the customer classes that include DG customers, and (c) the average customer in each class who has installed DG. Please provide:

- a. The most recent load research data on the hourly load profile over an annual period (i.e. the 8,760 hourly loads over the year) for an average customer in each of the company's rate classes. This data can be limited only to those rate classes that include customers who have installed DG, as indicated in the response to Question 1.
- b. At least one year of hourly load research data (i.e. the 8,760 hourly loads over the year) for all of the load research customers that the company samples in each of the rate classes that include customers who have installed DG, as indicated in the response to Question 1. If possible, please specify which, if any, of the customers in these samples have installed solar DG, and provide the installed capacity (in kW-AC) of each such DG installation.
- c. Please provide, if available, the most recent load research data on the hourly load profile over an annual period (i.e. the 8,760 hourly loads over the year) for an average customer who has installed DG, for each of the rate classes in which customers have installed DG as indicated in the response to Question 1. Please include and provide the average installed capacity (in kW-AC) of the average DG installation for each such rate class.

Response:

- a. Refer to response to Lebanon 1-009 for load profiles of rate classes that include customers with installed DG.
- b. and c. Please see response to part a. for class profiles. The company has not conducted load research analysis of customers within those classes that have installed DG but is providing individual customer hourly load data for such customers where it is available. Please see Attachment EFCA-TASC 1-002.

Unitil Energy Systems, Inc.
Docket No. DE 16-576
Alternative Net Metering Tariffs/Mechanisms
EFCA-TASC Set 1 Information Requests

Received: June 29, 2016
Request No. EFCA-TASC 1-2

Date of Response: July 25, 2016

Request:

Basic load research data on (a) the average customer in each customer class, (b) the customer classes that include DG customers, and (c) the average customer in each class who has installed DG.

Please provide:

- a. The most recent load research data on the hourly load profile over an annual period (i.e. the 8,760 hourly loads over the year) for an average customer in each of the company's rate classes. This data can be limited only to those rate classes that include customers who have installed DG, as indicated in the response to Question 1.
- b. At least one year of hourly load research data (i.e. the 8,760 hourly loads over the year) for all of the load research customers that the company samples in each of the rate classes that include customers who have installed DG, as indicated in the response to Question 1. If possible, please specify which, if any, of the customers in these samples have installed solar DG, and provide the installed capacity (in kW-AC) of each such DG installation.
- c. Please provide, if available, the most recent load research data on the hourly load profile over an annual period (i.e. the 8,760 hourly loads over the year) for an average customer who has installed DG, for each of the rate classes in which customers have installed DG as indicated in the response to Question 1. Please include and provide the average installed capacity (in kW-AC) of the average DG installation for each such rate class.

Response:

- a. See UES response to Lebanon 1-8 for class average load profile data.
- b. UES does not have load profile data for DG customers other than three G1 customers. These customers' 2015 hourly load data is shown in EFCA-TASC 1-2 Attachment 1.xlsx.
- c. See response to b.

Public Service of New Hampshire d/b/a Eversource Energy
Docket No. DE 16-576

Date Request Received: 11/04/2016

Request No. TASC 3-011

Request from: The Alliance for Solar Choice

Date of Response: 11/14/2016

Page 1 of 2

Witness: Richard C. Labrecque

Request:

These questions concern the proposed demand charges in the new DG rate. a. Please explain whether Eversource will provide a means for residential DG customers on the proposed new DG rate will be able to know what their 30- minute demand is in real time. b. If the answer to part (a) is “no,” please explain how residential customers will be notified of when their 30-minute peak demand occurred during a billing period. c. Given Eversource’s responses to parts [a] and [b], please explain how residential customers will have the information necessary to take action to reduce their 30- minute peak demands. d. Please explain how a residential customer who is contemplating the installation of solar DG will be able to know what their historical monthly 30-minute peak demand has been, so that they can understand the economics and bill savings available from the installation of solar DG on their home. e. Please explain whether Eversource currently measures the 30-minute demands of all of its residential customers, and reports that data to customers. If Eversource does not today, when does it plan to do so? f. Why is Eversource not proposing to move all of its residential customers onto 30- minute demand charges for transmission and distribution costs? What distinguishes DG from non-DG customers such that the former should have demand charges and the latter can retain volumetric rates, especially if the reason for implementing demand charges for residential DG customers is that they better reflect the cost to serve residential customers? See Labrecque/Johnson testimony, at p. 8, lines 20-22. See Davis testimony, at p. 4, line 24 to p. 5, line 1, and p. 6, lines 9-11. g. Please comment on whether a large, affluent, high-load-factor residential customer with a large home will have an incentive to install a very small solar system in order to access the demand charge-based rate, and thus realize significant bill savings due to the rate design alone.

Response:

a. There is a growing market for third-party provided home energy management solutions (see attached article for a sample). Eversource would provide education and assistance to customers looking for options to understand and control their demand.

<https://www.electronichouse.com/home-energy-management/4-smart-energy-management-systems-help-control-electricity-bill/>

b. Customers will be notified of their maximum 30-minute demand for a billing period when they receive their monthly billing statement. The bill will not include the exact time that the maximum demand occurred.

c. Eversource expects that many customers choosing to install DG (e.g. Solar PV) under the proposed tariff will also be interested in the types of usage monitoring technology noted in part A of this

response. Customers that choose not to consider these technology options can still reduce their maximum demands without knowing exactly when that maximum demand occurs. With customer outreach and marketing, the Company can help customers understand the demands imposed by their appliances, and the potential for reductions in peak demand through staggering their use. In addition to behavioral changes, technologies such as smart thermostats and timers can assist customers in reducing peak demands.

d. Customers contemplating a long-term investment in solar PV often do so over a period of multiple months. This period could be used to install usage monitoring technology in order to understand the potential bill savings.

e. No, Eversource does not measure or report this data to residential customers. It has no short-term plans to do so.

f. Eversource does believe that demand charges for all residential customers would better reflect cost-causation for distribution and transmission. However, it has no short-term plans to propose such a rate structure. The Company cannot change its standard residential rate structure outside of a general distribution rate case. Additionally, instituting demand charges for the entire class would require replacement of over 400,000 meters as well as education and outreach to a large customer population. Since partial requirements customers impose nearly the same demands on the system as full requirements customers, demand charges are justified since kWh charges will not recover the costs of serving these customers.

g. The Company does not believe this is likely. The customer still has an incentive to size his solar system appropriately to offset other kWh-based charges and to receive compensation for his excess generation.

Unitil Energy Systems, Inc.
Docket No. DE 16-576
Alternative Net Metering Tariffs/Mechanisms
The Alliance for Solar Choice Set 3 to UNITIL Information Requests

Received: November 4, 2016
Request No. TASC-UES 3-07

Date of Response: November 14, 2016
Witness: H. Edwin Overcast

Request:

These questions concern the proposed demand charge in the new DG rate.

- a. Please explain whether Unitil will provide a means for residential DG customers on the proposed new DG rate to be able to know what their 15-minute demand is in real time.
- b. If the answer to part (a) is “no,” please explain how residential customers will be notified of when their 15-minute peak demand occurred during a billing period.
- c. Given Unitil’s responses to parts [a] and [b], please explain how residential customers will have the information necessary to take action to reduce their 15-minute peak demands.
- d. Please explain how a residential customer who is contemplating the installation of solar DG will be able to know what their historical monthly 15-minute peak demand has been, so that they can understand the economics and bill savings available from the installation of solar DG on their home.
- e. Please explain whether Unitil currently measures the 15-minute demands of all of its residential customers, and reports that data to customers. If Unitil does not today, when does it plan to do so?
- f. Why is Unitil not proposing to move all of its residential customers onto 15-minute demand charges for transmission and distribution costs? What distinguishes DG from non-DG customers such that the former should have demand charges and the latter can retain volumetric rates, especially if the reason for implementing demand charges for residential DG customers is that they better reflect the cost to serve residential customers?
- g. Please comment on whether a large, affluent, high-load-factor residential customer with a large home will have an incentive to install a very small solar system in order to access the demand charge-based rate, and thus realize significant bill savings due to the rate design alone.

Unitil Energy Systems, Inc.
Docket No. DE 16-576
Alternative Net Metering Tariffs/Mechanisms
The Alliance for Solar Choice Set 3 to UNITIL Information Requests

Received: November 4, 2016
Request No. TASC-UES 3-07

Date of Response: November 14, 2016
Witness: H. Edwin Overcast

Response:

- a. Nothing is contemplated at this time. Most commercial customers do not and have not been provided this information historically.
- b. There is no intention to provide the time of the fifteen minute demand at this time nor is this a reasonable requirement unless the customer wants to pay for the metering and in-home device to obtain this information.
- c. Customers will be provided educational outreach related to understanding how demand is determined and their end use applications that contribute to that demand.
- d. The customer can use the information provided by the solar DG suppliers who make these estimates.
- e. The Company does not measure demand for all residential customers. The Company has no plan as to when this might occur.
- f. Two-part volumetric rates cannot track costs for partial requirements customers as proven by the UES cost studies. These customers are properly separated from the full requirements customers based on the services they require. The proposal complies fully with the FERC regulations implementing PURPA as it relates to rates for sales to QF customers.
- g. No such incentive exists given the cost of solar.

Docket No. 15-576
Development of New Alternative Net Metering Tariffs and/or Other Regulatory Mechanisms and Tariffs for Customer-Generators

OCA Responses to TASC

Date Request Received: 11/04/16
Request Number: TASC 1-9
Witness: Lon Huber

Date of Response: 11/14/2016
Page 1 of 2

Data Request:

The following questions relate to OCA's proposed export charge.

- a. In reference to pages 26 through 27, please provide the workpapers and calculations used to derive OCA's proposed export charge of "about 4 cents per kWh" to cover delivery costs including secondary distribution, metering, and billing.
- b. In reference to page 26, lines 20-22, please provide the multiple cost-of-service studies that OCA used to calculate that primary distribution costs comprise about 45% of distribution costs.
- c. In reference to page 26, lines 19-20, does the export charge covering the other 55% of delivery costs include metering & billing costs in addition to secondary distribution costs? If it does, please explain whether this is double-recovering metering & billing costs from NEM customers, because such costs are also in the monthly fixed customer charge.
- d. Please explain why NEM customers should pay for secondary distribution costs for both imported and exported power.
- e. When a neighbor of the NEM customer consumes the NEM customer's exported power at a standard retail rate, please confirm or deny whether that neighbor pays the utility a rate that cover the secondary distribution costs used to deliver that power.

Response:

- a. Please refer to workpapers LH9, provided by OCA in response to request TASC_OCA 1-2. Please note that the export charge is not intended to recover metering and billing costs.
- b. OCA examined the following:
 - Eversource's Embedded Cost of Service Study prepared by witness Goodwin and submitted in docket DE 09-035.
 - Unutil's Marginal Cost of Service Study prepared by witness Overcast and submitted in docket DE 16-384.

We relied primarily on Unutil's cost of service study since it is the most recent. Please note that Mr. Huber's testimony on page 26 the words "secondary" and "primary" were inadvertently switched. Line 21 should be corrected to say that the *secondary* distribution system comprises approximately 45 percent of costs (rather than the primary distribution system), while other distribution related costs equal approximately 55 percent.

c. No, metering and billing costs were not included when determining the export charge. Please refer to workpapers LH9, provided by OCA in response to request TASC_OCA 1-2.

d. NEM customers currently do not pay secondary distribution costs for exported power. It is OCA's opinion (as reflected by the proposal) that DG TOU should be required to pay for their access of the distribution system to essentially store their exported electrons.

e. The secondary distribution system does not shrink if a customer uses less kWhs. For simplicity, pricing has been allocated on a volumetric basis. As long as that neighbor uses the average amount of kWhs, they are covering the costs of the secondary distribution system unlike the NEM customer.

CERTIFICATE OF SERVICE

RE: Docket # DE 16-576, Development of New Alternative Net Metering Tariffs and/or Other Regulatory Mechanisms and Tariffs for Customer-Generators

I hereby certify that I have this day served a true copy of the foregoing document upon parties of record on the attached service list in accordance with the requirements of N.H. Admin. Rule Puc 203.11.

Dated this December 21, 2016.

/s/ Blake Elder
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SERVICE LIST - EMAIL ADDRESSES - DOCKET RELATED

Pursuant to N.H. Admin Rule Puc 203.11 (a) (1): Serve an electronic copy on each person identified on the service list.

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FILING INSTRUCTIONS:

a) Pursuant to N.H. Admin Rule Puc 203.02 (a), with the exception of Discovery, file 7 copies, as well as an electronic copy, of all documents including cover letter with:

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b) Serve an electronic copy with each person identified on the Commission's service list and with the Office of Consumer Advocate.

c) Serve a written copy on each person on the service list not able to receive electronic mail.

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