

BEFORE THE STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION



In the matter of:)
Electric Distribution Utilities)
Docket No. DE 16-576)
Development of New Alternative Net Metering Tariffs)
And/or Other Regulatory Mechanisms and Tariffs for)
Customer Generators)

Rebuttal Testimony

Of

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Dated: December 21, 2016

OFFICE OF CONSUMER ADVOCATE

TESTIMONY

Docket No. DE 16-576 Development of New Alternative Net Metering Tariffs
and/or Other Regulatory Mechanisms and Tariffs for Customer-Generators

1 Introduction

2

3 **Q. As the result of discovery and informal interactions among the parties, does the OCA**
4 **have any concerns that it feels is necessary to address?**

5 A. Yes. In the interest of developing a clear and comprehensive record, the following summary
6 is provided to help parties that might have questions about OCA’s TOU proposal and even after the
7 first round of discovery:

8

9 The starting place for designing an appropriate DG TOU rate is the presumption that for a standard
10 non-DG customer, the rate would collect the same amount of revenue for embedded delivery-
11 related costs as would a standard residential retail rate (i.e. it is revenue neutral). The TOU feature is
12 introduced to encourage customers to reduce energy use during times that roughly coincide with the
13 system peak.¹ This is accomplished by increasing rates during the on-peak period, and reducing them
14 during the off-peak period, while maintaining revenue neutrality. As a result, the majority of revenue
15 for delivery-related costs is collected during the peak time period.

16

17 Next, the beneficial impact of DG is considered. Our presumption is that DG production can
18 effectively avoid certain costs, but not others. At this time there are three general categories of costs

1 The “system” in this case is interpreted broadly and meant to capture to the generation, transmission, and distribution systems to which customers are connected, while recognizing that there may be some differences for each individual customer.

1 that are not entirely avoided by DG and are ultimately recovered from non-DG customers: 1)
2 existing non-bypassable charges, 2) embedded transmission system costs, and 3) embedded
3 distribution system costs. In order to allow the utility to recover these unavoided costs in a manner
4 that is fair, additional rate elements are introduced. For categories 1 and 2, the rate elements
5 introduced are in the form of non-bypassable charges. For category 3, the element introduced is in
6 the form of an export charge.

7

8 OCA recognizes that residential DG has not yet resulted in a significant amount of reverse power
9 flow. Thus, the proposed export charge is only intended to recover a portion of embedded
10 distribution system costs. Additionally, OCA believes that some gradualism should occur both in
11 terms of DG compensation and rate design sophistication. OCA believes the proposed export
12 charge balances all of these different considerations.

13

14 **Corrections, Clarifications, and Updates**

15

16 **Q. As a result of review and analysis conducted during the discovery process, does OCA**
17 **have any corrections to its original testimony?**

18 A. Yes. These are listed below:

- 19 • Page 26, line 17 should be revised from “embedded cost of service studies” to “embedded
20 and marginal cost of service studies.”
- 21 • Page 26, line 21 should be revised from “primary distribution” to “secondary distribution.”
- 22 • Page 27, line 2 should be revised from “55 percent” to “45 percent.”
- 23 • Page 42 line, 3 should be revised from “54-66 percent” to “58-66 percent.”
- 24 • Page 42, line 4 should be revised from “84-88 percent” to “86-88 percent.”

1

2 **Q. Has the OCA made any refinements to its preliminary value of solar calculation since**
3 **the submission of its initial testimony?**

4 A. Yes. For the long-term (20-year) valuation OCA has made adjustments to the avoided energy
5 cost calculation resulting in a reduced energy benefit and a total value of solar estimated to be 13.1
6 cents/kWh. Additionally, OCA has also conducted a new “high value” long-term valuation which
7 includes a higher capacity benefit (4.5 cents versus 1.5 cents) and total value of solar estimated to be
8 16.6 cents/kWh.

9

10 **Q. Please explain the difference between high value case and the original case.**

11 A. Our original calculation drew from the fact that according to ISO-NE analysis, solar PV only
12 provides capacity value in terms of Seasonal Claimed Capability during the summer months of June
13 through September and not during the winter months of October through May.² Thus the annual
14 capacity value was discounted accordingly. Since the overall annual peak occurs in the summer,
15 however, it may be appropriate to consider PV’s contribution on an annual basis. The high and low
16 case represent the range of possibilities for solar PV’s true contribution to avoiding capacity costs.

17

18 **Q. How does this compare to estimates from TASC?**

19 A. TASC estimates total direct benefits ranging from 19.6 to 20.6 cents/kWh. However, this
20 estimate includes several categories that OCA believes are considerably uncertain and may not be
21 appropriate to include. These include Distribution and Avoided Fuel Price Uncertainty. If these
22 categories are excluded, the resulting direct benefits using TASC’s methodology range from 14.1
23 cents to 15.6 cents.

2 See revised Draft 2016 PV Forecast: http://www.iso-ne.com/static-assets/documents/2016/03/2016_draftpvforecast_20160224revised.pdf

1

2 **Q. How does OCA’s calculation differ from the value of solar analysis presented by**
3 **TASC?**

4 A. OCA only considered direct monetary benefits to utility customers and did not include
5 societal benefits. The table below describes some of the discrepancies between each direct benefit
6 category calculated by TASC and by OCA. In addition to these differences, TASC’s analysis
7 considers benefits over a 25-year period versus the 20-year period used by OCA.

8

Benefit Category	OCA (\$/MWh)	TASC (\$/MWh)	Key Reasons for Discrepancies
Energy	67	62-63	<ul style="list-style-type: none"> • Different forecasts are used for avoided energy costs. • Different discount rates are applied.
Capacity	15-45	55-66	<ul style="list-style-type: none"> • Use of Net CONE as basis of avoided capacity costs versus AESC forecast of capacity market values. • Use of 40-50% capacity value for PV versus ISO-NE’s projection of seasonal claimed capability (<40%).
Reserves	3-8	8-9	<ul style="list-style-type: none"> • No major discrepancy in approach. Based on percentage of capacity savings. Values differ due different levels of capacity benefit.
Transmission	12	17-20	<ul style="list-style-type: none"> • TASC applied peak coincidence percentage to RNL values. • OCA applied peak coincidence percentage current retail transmission costs.
DRIPE	1	3	<ul style="list-style-type: none"> • Use of 2015 AESC versus average of 2013 & 2015 AESC studies.
Fuel Uncertainty	0	27-32	<ul style="list-style-type: none"> • Too uncertain to be included in OCA’s analysis with any precision
Distribution	0	17-29	<ul style="list-style-type: none"> • Too uncertain to be included in OCA’s analysis with any precision

Integration/Admin	-5	-5	--
RECs	38	0	<ul style="list-style-type: none"> • Not included in TASC's analysis due to the assumption that the customer retains their RECs. • OCA assumed REC transfer

1

2 **Q. What does TASC's methodology suggest regarding the value of avoided**
3 **transmission costs?**

4 A. TASC reports that solar PV provides up to 2 cents in avoided transmission benefits for each
5 kWh produced. This is close to the full retail transmission rate charged by New Hampshire utilities.
6 Meanwhile, TASC also reports that PV's coincidence factor (load match) for transmission is only in
7 the 15-18 percent range. These facts seem to be in conflict -- that is, it seems unlikely that a resource
8 reducing load (for determining transmission costs) by 15-18 percent would yield a nearly 100 percent
9 reduction in retail transmission costs.

10

11 **Data and Analysis Required for a Decision**

12

13 **Q. Did other parties submit testimony in this proceeding regarding the sufficiency of**
14 **data and analysis to support a decision on net metering?**

15 A. Yes. Several parties have claimed that there is insufficient information to support a decision
16 in this proceeding. For example, EFCA claims that "the absence of relevant utility data in New
17 Hampshire virtually eliminates the ability to make intelligent decisions about changing net
18 metering."³ Similarly, CLF claims that "A change in the net-metering approach might be appropriate
19 once the Commission has access to additional load and cost data."⁴ TASC's witness also states that

3 Direct testimony of Patrick Bean, page 4, lines 22-24

4 Direct testimony of Paul Chernick, page 31 lines 1-2.

1 “any future review of net metering tariffs and associated rate designs should occur within the data-
2 rich context of a utility’s general rate case (GRC).”⁵

3
4 **Q. Does OCA agree that there is insufficient data and analysis at this time?**

5 A. No. While more data and analysis is always preferable, OCA does not believe that a decision
6 in this matter requires the amount of additional data and analysis specified by these parties.

7
8 **Q. Why not?**

9 A. One of the primary arguments for more data and analysis is that there is insufficient
10 evidence to suggest that the costs of net metering outweigh the benefits. Thus, more data and
11 analysis is needed to prove the existence of any cost shift or cross-subsidy that would justify a
12 change to net metering. OCA contends that a more robust analysis, while informative, is not
13 necessary in this case. It is intuitive that there are certain embedded costs of the utility distribution
14 system (e.g. poles and repair trucks) that are not recovered by DG customers and must be recovered
15 by other customers. Additionally, OCA does not dispute the notion that DG provides certain long-
16 term benefits. However, a precise determination of the total balance of benefits to costs should not
17 be viewed as a prerequisite for making a decision. For example, no matter how large the benefits of
18 DG are, non-participating customers will ultimately be better off if they can receive those benefits
19 for a lower overall cost. No amount of data or analysis will ever change this fact.

20 Finally, OCA interprets HB 1116 as requiring the Commission to make a determination about the
21 future pathway of rooftop solar in the immediate future, with best available data, not after years of
22 study.

23
24

5 Direct testimony of Tom Beach, page v, lines 4-5.

1 **Q. Does this conclude your Rebuttal Testimony?**

2 **A. Yes it does.**