

**BEFORE THE NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**

**Docket No. DE 16-576**

**DEVELOPMENT OF NEW ALTERNATIVE NET METERING TARIFFS AND/OR  
REGULATORY MECHANISMS AND TARIFFS FOR CUSTOMER-GENERATORS**

**COMMENTS OF THE OFFICE OF CONSUMER ADVOCATE ON THE COMMISSION'S  
REUQUEST FOR COMMENT ON CERTAIN MATTERS RELATING TO THE NON-WIRES  
ALTERNATIVE PILOT PROGRAMS**

In Order No. 26,029 (June 23, 2016), the Commission *inter alia* directed the state's electric utilities to “develop non-wires alternative [NWA] pilot programs *focused on* the installation of [distributed generation] in lieu of potential utility distribution system upgrades.” Order No. 26,029 at 64-65 (emphasis added).<sup>1</sup> One of the four working groups created pursuant to Order No. 26,029 was tasked with considering what NWA pilots the utilities should develop, after which the utilities are expected to submit detailed proposals for Commission approval. *Id.* at 65.

After an initial meeting of the NWA working group, it became clear that no consensus existed among stakeholders regarding whether the Commission's Order envisioned pilots solely focused on Distributed Generation (DG), or pilots that maintain an element of technology agnosticism by leaving any solicitation open to all Distributed Energy Resources (DERs). At the

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<sup>1</sup> The proposal originated in one of the rival two settlement agreements that were before the Commission – the so-called “Energy Future Coalition” (EFC) consisting of the Acadia Center, The Alliance for Solar Choice, Borrego Solar Systems, the Conservation Law Foundation, the Energy Freedom Coalition of America, the New Hampshire Sustainable Energy Association, Revision Energy, the Granite State Hydropower Association, Sunraise Investments LLC, Solar Endeavors LLC and Revolution Energy LLC. Elsewhere in the Order, the Commission described the EFC non-wires alternative pilot as “intended to test the concept of deploying **DER** [distributed energy resources] to identified locations where they may replace or defer traditional utility T&D [transmission and distribution] investments, such as new lines and substations, on a cost-effective basis, using incentive mechanisms that ‘drive investments to specific areas on the grid.’” Order No. 26,029 at 28 (emphasis added). In their supplemental testimony filed on March 10, 2017, the EFC also identified the subject of the non-wire alternative pilots as distributed energy resources (DERs), rather than distributed generation (DG). EFC Supplemental Settlement Testimony at 17.

recommendation of Staff, the Commission issued a secretarial letter on November 17, 2017 soliciting comment via seven specific questions.

The Office of the Consumer Advocate (OCA) commends the Commission's foresight in adopting the non-wires alternative (NWA) pilots and agrees with the implicit determination of the Commission that at least *some* of the NWA solicitations should require the evaluation of how distributed generation can facilitate the deferral distribution system upgrades. Below we provide specific responses to the issues identified the Commission.

**1. Should the NWA pilot programs be limited to distributed generation (DG) projects or should the pilot programs also be open to other distributed energy resources (DERs), such as demand response, energy efficiency measures, or battery storage, either on a standalone basis or in concert with DG installations?**

The NWA pilot programs should not be limited to distributed generation projects. Although the instant NWA solicitation opportunity was borne of a docket focused largely on distributed photovoltaic generation, limiting the reach of the solicitation to a single technology demonstration would be a missed cost-savings opportunity for New Hampshire's ratepayers.<sup>2</sup> The trend for NWA solutions has been toward technology-neutral solicitations of cost-effective portfolios, rather than solicitations focused on a single technology.<sup>3</sup> For example, in both California and New York, the states with the most experience in soliciting such projects, regulators have generally settled on NWA solicitation frameworks that are technology-neutral.<sup>4,5</sup>

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<sup>2</sup> See Munoz-Alvarez, D. (GTM Research), "Non-Wires Alternatives Projects. Emerging Utility Revenue Sources for the Distributed Energy Market" at slide 8 (describing photovoltaics as comprising less than one percent of all NWA capacity, and stating that "implemented and ongoing NWA projects suggest that energy efficiency is the most cost-effective DER utilized in NWA projects." Available at: [https://www.vermontspc.com/library/document/download/5936/GTMR\\_-\\_Non-Wires\\_Alternatives\\_Projects.pdf](https://www.vermontspc.com/library/document/download/5936/GTMR_-_Non-Wires_Alternatives_Projects.pdf)

<sup>3</sup> Exceptions to this trend exist. See, e.g., Orange and Rockland Utilities, Inc. *Request for Proposal Seeking Energy Storage Solutions for Pomona Distributed Energy Resources Program*. (December 6, 2017) Available at: <https://www.oru.com/-/media/files/oru/documents/business-partners/non-wires-alternatives/pomona-nwa-rfp.pdf?la=en>

<sup>4</sup> California Public Utilities Commission., Rulemaking 14-10-003. *Decision Addressing Competitive Solicitation Framework and Utility Regulatory Incentive Pilot*. (November 10, 2016) Page 10. Available at:

As the consulting firm ICF suggests in its July 2017 white paper on NWA procurement strategies, “[u]tilities should use their low-risk demonstration projects not just as a vehicle for field testing a resource’s technological viability, but as an opportunity to proactively experiment with applicable commercial terms.”<sup>6</sup> Here, the proactive experiment would be to use the five projects required by Order No. 26,029 to examine the value and cost-effectiveness of various NWA procurement methods, including one focused solely on DG, and others that possess a greater degree of technology agnosticism.

The OCA is unaware of any instance where photovoltaics alone have been used to avoid a traditional distribution infrastructure investment, and we are therefore deeply concerned that any DG-only NWA deferral pilot may fail due to its lack of resource diversity, resulting in unnecessary costs being borne by ratepayers.<sup>7</sup> The limited selection of NWA candidates put forth by the joint utilities at the initial working group session further compounds this problem by posing few real opportunities for additional NWA projects should the Commission choose to limit pilots in the current proceeding to distributed generation. For these reasons, the Commission should direct that any NWA solicitation be conducted on a technology-neutral basis to procure a portfolio of cost-effective measures, possibly requiring a DG *element* in each

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<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M169/K669/169669077.PDF> (Describing the 12 principles that should apply to the procurement Framework, including that it be “technology-neutral”).

<sup>5</sup> New York Public Service Commission Docket No. 16-M-0411. *Joint Utilities’ Supplemental Information on the Non-Wires Alternatives Identification and Sourcing Process and Notification Practices*. Pages 10-11. (May 8, 2017) (Stating “The joint utilities typically take a technology agnostic approach in [developing the RFP], resulting in a process that selects “the most cost-effective bid or portfolio of bids.”) Available at: <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={5DA604B3-9CDA-45D3-8642-92A4C4171787}>.

<sup>6</sup> Hile, S. and Murdock, D. (et al.) ICF. “*Procuring Distribution Non-Wires Alternatives: Practical Lessons from the Bleeding Edge*” at 5. Available at: <https://www.icf.com/-/media/files/icf/white-papers/2017/icf-procuring-distribution-non-wires-alternatives-july-2017.pdf>.

<sup>7</sup> See Maine Public Utilities Commission, Docket No. 2011-00138, *Recommended Decision Assessing the Boothbay Non-Transmission Alternative Pilot Project* (November 17, 2017) at 20 (finding that “the requirement to include resources on a basis other than cost most likely affected the overall cost of the Boothbay Pilot RFPs. In a non-pilot NTA process, the requirement for diversity of resources would not be present. Therefore, the most cost-effective combination of resources could be selected which may produce different costs than those resulting from the pilot RFPs.”).

proposal, rather than requiring the NWAs to focus solely on DG-enabled deferrals.<sup>8</sup> In the alternative, if the Commission declines to issue such a directive, it should delay any further guidance until after the Commission and Staff have had the opportunity to confer with the independent NWA consultant required by Order No. 26,029.

**2. If the NWA pilot programs are open to other DERs in addition to DG, will the pilots provide sufficient “experience and data demonstrating the effects of DG on potentially stressed components of the utility distribution system at specific locations,” per the June 23<sup>rd</sup> Order?**

Yes, if the NWA pilot programs are open to DERs other than DG, there is nothing that precludes resource-specific evaluation, measurement and verification (EM&V) to determine the effect of DG on potentially stressed components of the distribution system, particularly in light of Order No. 26,029’s requirement that all new DG installations require bi-directional meters. As such, any installations requiring measurement and verification (M&V) of a DG system should also be able to provide simultaneous M&V of co-located measures intended to shift or reduce load (i.e. energy efficiency, energy storage, or demand response).

Furthermore, certain NWA resources—such as energy efficiency—already have deemed savings assumptions that could be projected and then audited throughout a pilot. For example, in the Maine Public Utilities Commission’s Boothbay NWA Pilot, projections were made based on

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<sup>8</sup> If the Commission interprets the language in Order No. 26,029 as explicitly requiring each pilot to contain a DG element, any NWA solicitation should require a *portfolio of measures* which *includes* a DG element, so that the most cost-effective solutions for ratepayers may buoy less cost-effective DG elements that the Commission seeks to evaluate. Alternatively, if the Commission chooses to require that at least one of the NWA pilot projects focus on PV alone, the pilot should focus on volt/var opportunities and either encourage or require the installation of smart inverters in that pilot territory.

the capacity rating of a variety of resources chosen for the project portfolio,<sup>9</sup> with audits of those resources occurring at regular intervals to gauge resource reliability.<sup>10</sup>

**3. If the answer to question 2 above is negative or uncertain, should NWA pilot programs be undertaken in this docket?**

The answer to question two above is not negative or uncertain, but if it were, this would appear to be the wrong docket for the NWA discussion. If the Commission were to find that the answer to question two above is negative, then the Commission should immediately open a docket modeled on Maine’s Docket No. 2016-00049, which has taken two years to complete.

**4. If the answer to question 3 above is negative, should NWA pilot programs instead be deferred for potential implementation in other contexts, such as utility integrated resource planning dockets or grid modernization initiatives?**

No, the NWA pilot programs should not be deferred for potential implementation in other contexts. Every project not considered for deferral or elimination through the use of an NWA solicitation is a missed savings opportunity for ratepayers. Vermont first started geo-targeting energy efficiency to defer transmission and distribution system investments in the mid-1990s.<sup>11</sup> The New York Public Service Commission decided in 2016 that it would make NWAs an integral part of distribution system planning, and now has at least 49 projects in some stage of planning, development, or implementation.<sup>12</sup>

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<sup>9</sup> See Boothbay Pilot Project Final Report Appendix 8.4: Smart Grid Reliability Pilot Project Measurement and Verification Plan (March 18, 2017) Available at: <https://tinyurl.com/BoothbayMVPlan>.

<sup>10</sup> See Boothbay Pilot Project Final Report, Appendix 8.3: Testing and Audit Results – 2016 (March 18, 2017) Available at: <https://tinyurl.com/BoothbayAuditResults>

<sup>11</sup> See Grevatt, J., Neme, C. Energy Futures Group, on behalf of NEEP EM&V Forum, “Energy Efficiency as a T&D Resource: Lessons from Recent U.S. Efforts to Use Geographically Targeted Efficiency Programs to Defer T&D Investments” (January 2015) at 46-54. Available at: [http://www.neep.org/sites/default/files/products/EMV-Forum-Geo-Targeting\\_Final\\_2015-01-20.pdf](http://www.neep.org/sites/default/files/products/EMV-Forum-Geo-Targeting_Final_2015-01-20.pdf)

<sup>12</sup> See <https://nyrevconnect.com/non-wires-alternatives/>

The utilities have all summarily written off NWA pilot s programs in their least-cost integrated resource plans (LCIRPs) as recently as last year, and then produced extensive lists of potential candidates for the present docket. The grid modernization initiative remains only an investigation. We are likely years before any pilots related to the grid modernization will take place. Delaying that long would result in a missed opportunity to reduce costs for ratepayers.

**5. If NWA pilot programs are not undertaken in this docket, should studies be conducted to determine the potential benefits of DG deployment as a means of avoiding of deferring distribution system capital projects in specific locations?**

Yes. Though, the studies would likely look more like: 1) a DG monitoring and modeling exercise meant to enhance understanding of the peak coincidence and real-world degree of variability attributable to various photovoltaic installations; and 2) utility-specific de-averaged marginal cost of service studies meant to identify the locationally specific avoided costs associated with DERs (see response to question 7).

**6. If NWA pilot programs are not undertaken in this docket, should maps or other presentations be prepared showing locations where DG installations potentially would be beneficial as a means of avoiding or deferring distribution system capital projects?**

Yes. One example is the National Grid New York interactive map.<sup>13</sup>

**7. If NWA pilot programs are not undertaken in this docket, should some other methodology not identified above be used to determine the potential benefits of DG deployment as a means of avoiding or deferring distribution system capital projects?**

See response to question 5. Moreover, the Commission should re-consider directing the utilities to ascertain and provide de-averaged distribution system avoided costs in a manner similar to the Nexant study commissioned by Central Hudson in New York.<sup>14,15</sup> More

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<sup>13</sup> See <http://ngrid.maps.arcgis.com/apps/MapSeries/index.html?appid=4c8cfd75800b469abb8febca4d5dab59>

<sup>14</sup> For a discussion of the vital role that de-averaged distribution system values play in determining the “Value of D” see the New York Public Service Commission’s *Order on Net Metering Transition, Phase One Value of Distributed*

specifically, in order to truly determine the “value of D” for the purposes of this proceeding, the Commission should require each electric distribution to provide such an analysis *at the time of their next rate case* regardless of whether the NWA pilots are undertaken. As the New York Public Service Commission states in their net metering successor tariff order:

An important aspect of the compensation methodology being adopted is the recognition of locational value, specifically that related to the distribution system. The Commission’s goal is to have a methodology that balances per kWh price signals with kW price signals aligned with the system peak, kW signals aligned with local peaks, and price differentials to reflect temporal and locational differences in value. Under this approach, as DER providers work to maximize compensation, they will also maximize benefits to the system. In order to implement a more granular and accurate compensation system, we must move expeditiously so that each individual kWh is assigned an individual value based on when and where it is generated...

Central Hudson may be closest to meeting the need for a more granular, both spatially and temporally, MCOS study. Central Hudson filed marginal cost studies in the DLM and DSIP proceedings, which include granular estimates for 54 of its 70 substations, as well as Distribution Substation and Transmission at a system-wide level for 2016- 2025. Central Hudson’s estimates are developed using probabilistic load forecasting at the substation level, essentially providing confidence intervals around capital investments needed to maintain reliability and resiliency...

Locational indifference now can lead to unnecessary stranded costs in the future, as rapidly improving distributed generation technology outpaces traditional utility response.<sup>16</sup>

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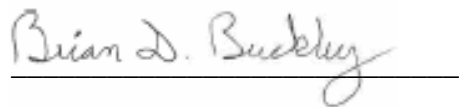
*Energy Resources, and Related Matters*. Page 15-16 and 107-119. (Describing the Demand Reduction Value (DRV) and Locational System Relief Value (LSRV) “based on “de-averaging of utility marginal cost of service (MCOS) studies [and] performance during the 10 peak hours.” Available at: <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7b5B69628E-2928-44A9-B83E-65CEA7326428%7d>

<sup>15</sup> See also, Dunskey Energy Consulting, prepared on behalf of National Grid. “*Geo-targeted DSM Cost Effectiveness Methodology on a Local Scale*.” (September 2016) Available at: <http://www.dunskey.com/wp-content/uploads/2016/09/NGrid-Geo-Targeted-DSM-Final-Redacted.pdf>

<sup>16</sup> *Supra*, note 14. at 113.

To the extent that concerns about controlling costs informed the Commission's decision not to order the utilities to conduct such a study (in light of various other such undertakings approved in Order No. 26,029), the OCA believes this question deserves another look. With the full understanding that all such costs are ultimately borne by customers, the utilities and the OCA agreed in their joint settlement submitted in March (the so-called Utility Consumer Coalition settlement which the Commission considered alongside the EFC proposal) that such a study would be useful exercise. Indeed, it would not simply be useful – it is arguably critical for stakeholders and the Commission to understand the distribution system impacts of DER and avoid unnecessary stranded costs in the future.

Respectfully submitted,

A handwritten signature in cursive script that reads "Brian D. Buckley". The signature is written in black ink and is positioned above a solid horizontal line.

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