STATE OF NEW HAMPSHIRE

CONSUMER ADVOCATE
D. Maurice Kreis

ASSISTANT CONSUMER ADVOCATE
Pradip K. Chattopadhyay



TDD Access: Relay NH 1-800-735-2964

Tel. (603) 271-1172

Website: www.oca.nh.gov

OFFICE OF CONSUMER ADVOCATE

21 S. Fruit St., Suite 18 Concord, NH 03301-2441

May 19, 2017

Ms. Debra A. Howland Executive Director New Hampshire Public Utilities Commission 21 South Fruit Street, Suite 10 Concord, New Hampshire 03301 19 MAY '17 AH11:10

Re:

Docket No. IR 15-296, Electric Distribution Utilities

Investigation into Grid Modernization

Comments in Response to Report of Grid Modernization Working Group

Dear Ms. Howland:

Pursuant to the secretarial letter issued in the above-referenced docket on April 20, 2017, please treat this letter as the response of the Office of the Consumer Advocate (OCA) to "Grid Modernization in New Hampshire," the March 20, 2017 final report of the Grid Modernization Working Group.

As you know, the Working Group issued its report after nine monthly meetings, and various deliberations and drafting efforts during the interstices, all conducted pursuant to Order No. 25,877 (April 1, 2016), entitled "Order on Scope and Process." Order No. 25,877 tasked the Working Group with "identify[ing] the grid modernization technologies and practices most relevant and appropriate for New Hampshire," *id.* at 12-13, and "develop[ing] recommendations on the issues and questions outlined in this scoping order," *id.* at 10. The questions concerned distribution system planning, customer engagement with distributed energy resources (including advanced metering functionality), as well as utility cost recovery and possible financial incentives. The OCA participated in the working group on behalf of residential utility customers as contemplated by RSA 363:28.

We are grateful to have had the opportunity to labor alongside the other members of the Working Group to craft what we are confident is a useful framework for "how New Hampshire should move decisively toward a fully modernized grid that will meet the needs of its citizens and businesses in the decades to come." Working Group Report at 32. The Working Group forthrightly acknowledged that "key uncertainties and disagreements remain to be resolved." *Id.* This letter focuses on those uncertainties and disagreements but we remain confident that the stakeholders can and will continue to collaborate effectively and creatively in the realm of grid modernization.

We are endeavoring to keep our comments at a relatively high level given that we participated actively in the development of the Report and agree with the consensus recommendations included therein, including the recommended next steps described in Section 7 of the report. Section 7 calls for the Commission to open a contested case proceeding "to fully adjudicate the non-consensus and other relevant items." Given the importance of grid modernization to New Hampshire's residential utility customers, and the Granite State generally, we strongly urge the Commission to commence the proceeding as contemplated. This would provide a full and fair opportunity for stakeholders and the Commission to address the issues we highlight here – and the additional ones that are being offered by other stakeholders.

1. Least Cost Integrated Resource Planning is in urgent need of reform.

Charting the future of least-cost integrated resource planning is the most significant task the Commission confronts in the realm of grid modernization. The Least Cost Energy Planning subdivision of RSA 378 (sections 37, 38, 38-a, 39 and 40) requires all three investor-owned electric utilities to file for Commission approval a least-cost integrated resource plan (LCIRP) on a regular basis. At present, all three utilities have a plan under advisement to the Commission. In each instance, based on recent Commission practice, the utility used its LCIRP to describe how it plans rather than what it plans.

This practice is inconsistent with the requirements in RSA 378 for LCIRP review. RSA 378:39 instructs the Commission, in deciding whether to approve an LCIRP, to consider "potential environmental, economic, and health-related impacts of *each proposed option*" (emphasis added), language that clearly contemplates substantive review of the strategic decisions described in an LCIRP. As specified in section 39, the overall thrust of LCIRP review is to consider the extent to which the utility's resource development plan is consistent with the state energy policy described in RSA 378:37, which is

to meet the energy needs of the citizens and businesses of the state at the lowest reasonable cost while providing for the reliability and diversity of energy sources; to maximize the use of cost effective energy efficiency and other demand side resources; and to protect the safety and health of the citizens, the physical environment of the state, and the future supplies of resources, with consideration of the financial stability of the state's utilities.

To facilitate the review, RSA 378:38 lists seven specific assessments each LCIRP must contain (future demand, demand-side energy management, supply options, distribution and transmission requirements including "smart grid" technologies, impact on compliance with the federal Clean Air Act, general environmental and economic impacts and consistency with the RSA 4-E:1 state energy strategy). The Commission may waive any of these requirements "for good cause." RSA 378:38-a.

¹ See Docket Nos. DE 15-248 (Public Service Co. of New Hampshire d/b/a Eversource), DE 16-097 (Granite State Electric Co. d/b/a Liberty Utilities), and DE 16-463 (Unitil Energy Systems).

The Working Group Report recommends in essence that the Commission take advantage of this waiver provision by allowing the utilities to replace LCIRPs with Grid Modernization Plans filed every three years. *See* Working Group Report at 9-10. It is altogether fitting and proper that they should do this. Least-cost integrated resource planning is a concept developed during, and well-suited to, the era of vertically integrated utilities relying on Twentieth Century analog technologies and the opposite of distributed resources. Such a paradigm is at best an awkward fit in an era when transmission planning is conducted regionally and overseen federally, power is sold on an ostensibly competitive basis at wholesale by non-utility producers, customers are able to purchase energy from competitive suppliers, *all* cost effective energy efficiency is an officially adopted goal to be supported via the system benefits charge on customer bills, ² and it is increasingly cost-effective for customers and third parties to add value to the grid as opposed to relying on utilities and utility-scale competitive suppliers.

Notably, the Working Group did not recommend repeal or replacement of the LCIRP provisions in RSA 378. If the Commission is to work within the existing statutory LCIRP requirements and suitably adapt them to the evolving grid, it must do so boldly and not simply expect the utilities to produce brilliant work based on the vague specifications the consensus-seeking processes employed by the Working Group yielded.

Moreover, although RSA 378:38-a explicitly permits the Commission to grant waivers of LCIRP filing requirements in the manner contemplated by the Working Group report, the Legislature did *not* grant the Commission authority to waive the legal determination in RSA 378:39 that "[t]he commission's approval of a utility's plan shall not be deemed a pre-approval of any actions taken or proposed by the utility in implementing the plan." This may present difficulties for the recommendation of the Working Group for pre-approval of utility investments via Commission review of grid modernization plans.

2. "Business Case Framework" may prove unworkable as a standard for evaluating grid modernization investments.

The Commission should via the recommended adjudicative proceeding require the utilities to define with precision the "business case framework" they successfully urged on the rest of the Working Group as the appropriate standard for evaluating the cost effectiveness of potential investments in grid modernization. The concept is described in some detail at pages 79 to 85 of the 2013 report of the Massachusetts Grid Modernization Working Group, which has served as the template for, and which relied on the same facilitative consultants as, its subsequent New Hampshire counterpart. Unfortunately, it appears the framework as interpreted by the utilities in Massachusetts has proven itself inadequate.

Tim Woolf, the consulting economist and former Massachusetts utility commissioner who advised both the Massachusetts and New Hampshire working groups, recently recommended in written testimony that regulators in the Bay State reject the grid modernization plans submitted by Massachusetts utilities. *See* Testimony of Tim Woolf and Ariel Horowitz (March 10, 2017)

² See Order No. 25,932 (Aug. 2, 2016) in Docket No. DE 15-157 (adopting energy efficiency resource standard as the means for achieving all cost-effective energy efficiency).

in Mass. D.P.U. Dockets 15-122 and 12-123 at 4, lines 1-12. Mr. Woolf and his colleague Ariel Horowitz concluded that the Grid Modernization Plans submitted after approval of the Massachusetts Grid Modernization Working Group's recommendations "do not provide sufficient information to justify the grid modernization investments proposed by the Companies" and should be rejected with instructions to provide "significantly more detailed business plans with thorough analysis of costs, benefits and other implications for customers." *Id.* at lines 8-12; *see also id.* at 5, lines 22-26 (requesting instructions that utilities provide "[a] clear and comprehensive business case analysis of the key resources that the Company proposes to use to meet distribution needs throughout the planning period" including "all relevant costs, benefits, and qualitative factors considered in the business case, as well as a detailed narrative justification of proposed investments").³

This recent critique of the grid modernization plans submitted in Massachusetts suggests that the model developed by our neighbors to the south may not be as efficacious as the New Hampshire Working Group assumed when conducting its deliberations. In these circumstances, the Commission can and should consider other potential models. This is precisely the course contemplated by the State Energy Plan adopted in 2014, which recommended a grid modernization docket that would "take advantage of the knowledge gained from similar dockets in New York, Massachusetts, Connecticut, and Maryland."

3. New York's "Distributed System Implementation Plans" provide a compelling template for grid modernization planning in New Hampshire.

In particular, the Commission should consider following a trail blazed in New York by that state's Public Service Commission. Unlike the proposed Grid Modernization Plans pending in Massachusetts, the New York grid modernization plans – known as Distributed System Implementation Plans (DSIPs) – are already in the implementation stage, having received final approval in March 2017. The DSIPs are similar to the Massachusetts proposals in that they request approval of investments in advanced metering infrastructure (AMI) and other grid-facing enhancements, but differ from the Massachusetts proposals because they fundamentally change

³ As a practical example of the consequences of relying on an ill-defined "business case" framework, the Woolf-Horowitz testimony refers to Eversource's embrace in Massachusetts of an opt-in time-varying rate proposal with a benefit-cost ratio of only 0.3. Woolf/Horowitz Testimony at 47, lines 12-15. According to Woolf and Horowitz, Eversource provided no explanation for why it focused its grid modernization plan "on an opt-in time-varying rate design as compared to other opportunities available for developing a modern grid, apart from including an extensive critique of opt-out time-varying rates." *Id.* at lines 15-18. Of course all three New Hampshire electric utilities have already made plain their dislike of opt-out time-varying rates for the Granite State. *See* Working Group Report at 18-19 ("Unitil and Eversource's experience in Massachusetts indicated a poor benefit/cost ratio for Opt-Out TVR and does not recommend this approach until compelling evidence is presented to contradict the current conclusion. . . . In addition, any recommendation for Opt-Out TVR shoud take into account other factors such as customer bill impacts, potential impacts to customer satisfaction, potential impacts to reliability, and resource availability").

⁴ New Hampshire State Energy Plan at 21. available at <u>www.nh.gov/oep/energy/programs/documents/energy-strategy.pdf</u>.

⁵ NY PSC. Docket No. 14-M-0101. Order on Distributed System Implementation Plan Filing. Available at: http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={35E255DD-92FF-420B-8363-895892992103}

the framework for distribution system planning, opening the process to distributed solutions offered by third parties.

One of the first major steps on the road to DSIP approval was the REV Track I Order. Developed through use of a straw proposal, public comment period, and months of stakeholder engagement sessions, the Order Adopting a Regulatory Policy Framework and Implementation Plan (as the REV Track I Order is formally denominated) outlined the New York Public Service Commission's long term vision for the a new utility role as distributed system platform provider (DSPP). In this role, the utility would be incentivized to embrace an entirely new responsibility: facilitating the least-cost deployment of distributed energy resources (DERs) on the distribution system. To do this, the utilities were directed to acquire in a cost-effective fashion the equipment, information technologies, and institutional capacity necessary to assign locational and temporal values to circuit-level distribution system capacity, which would resonate with the initiative by the regional grid operator NYSO to develop more granular (i.e., sub-zonal) pricing mechanisms for wholesale electricity. The goal is to animate markets for DER by sending the right price signals to DER providers about the locational and temporal value of DERs on the distribution system.

As an interim step, the New York regulators Commission directed each utility to identify at least one planned capital project that could be deferred or eliminated through a technology-agnostic

⁶ NY PSC. Docket No. 14-M-0101. Order Adopting Regulatory Policy Framework and Implementation Plan. Page 130. Available at: http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7b0B599D87-445B-4197-9815-24C27623A6A0%7d

⁷ Other states have developed frameworks where a third party is responsible for managing DER deployment, particularly in areas where that DER would serve to relieve system constraints or otherwise defer capital investments. *See generally*, Maine Public Utility Commission Docket No. 2016-00049. Commission Initiated Investigation into Designation of a Non-transmission Alternative Coordinator. Available at: https://mpuc-cms.maine.gov/CQM.Public.WebUI/Common/CaseMaster.aspx?CaseNumber=2016-00049; *See also*, Grevatt, J., Neme, C. Energy Efficiency as a T&D Resource: Lessons from Recent U.S. Efforts to Use Geographically Targeted Efficiency Programs to Defer T&D Investments. Page 54. (Describing responsibilities of Vermont System Planning Committee and Non-transmission Alternative Implementer, Efficiency Vermont) Available at: http://www.neep.org/sites/default/files/products/EMV-Forum-Geo-Targeting Final 2015-01-20.pdf

⁸ See New York Department of Public Service. Full Value Tariff Design and Retail Rate Choices. (April 2016) Available at: http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={A0BF2F42-82A1-4ED0-AE6D-D7E38F8D655D}; See also, New York Department of Public Service. White Paper on Developing Competitive Electricity Markets and Pricing Structures. (April 2016) Available at: http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={7912D587-DB8D-420F-B6A6-4A1AF57B77E9}; and NYISO. DER Roadmap for New York's Electricity Markets. (January 2017) Available at: <a href="http://www.nyiso.com/public/webdocs/markets_operations/market_data/demand_response/Distributed_Energy_Resources/Distributed

⁹ It is possible that not every aspect New York's framework would be appropriate for application in New Hampshire. Indeed, some aspects of the New York REV proceeding are still in the demonstration stage. Evidence from throughout the region suggests that the DSIPs and their distribution system planning framework (competitive third party non-wires alternative solicitations) do not fall into this category. *See* Northeast Energy Efficiency Partnerships, "Leadership Driving Non-Wires Alternative Projects and Policies," Available at: http://www.neep.org/sites/default/files/resources/NWA%20brief%20final%20draft%20-%20CT%20FORMAT.pdf.

solicitation of proposals from third parties for "non-wires" alternatives (NWAs) to specified capital projects. The New York regulators did not ask *whether* the utilities could propose suitable deferrals; they simply assumed there was at least one capital project being planned by each electric distribution utility that could be deferred/eliminated at least cost to ratepayers by soliciting third party DER solutions from the private market. This situation contrasts with the grid modernization process in Massachusetts where that state's Department of Public Utilities did not include an explicit requirement of enhanced distribution system planning processes as part of the grid modernization framework. As a result, the Massachusetts plans focus largely on capital expenditures intended to mitigate damage from distributed energy resources, rather than facilitating their strategic deployment on the distribution system in a manner that provides the greatest value to ratepayers. In

The next major major step towards DSIP approval in New York – one that may be especially relevant in New Hampshire given the concerns expressed above about "business case" analysis – was the development of the REV benefit-cost analysis (BCA) framework. The approved BCA framework excluded stranded costs from any forward-looking analysis, required benefits from CO2 reduction be monetized according the social cost of carbon as calculated by the federal Environmental Protection Agency, and directed each utility to develop and publish a benefit-cost analysis handbook containing values specific to its franchise territory. While the Massachusetts Department of Public Utilities attempted to develop a similar business case framework, in application, the utilities diverged on which inputs they chose to include in their benefit-cost analyses. ¹³

Building upon the interim solicitations of NWAs but looking toward the longer term process of distribution system planning, the New York regulators ultimately approved a framework for the DSIPs the utilities would be required to file.¹⁴ They take two forms: (1) Utility-specific initial

¹⁰ For an example of an actual solicitation, *see* National Grid RFP For Non-Wires Alternative Solutions for Old Forge New York Area. Available at: http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={81FD03CB-7C55-4D6F-B5CC-7ADD4DDBA2C6}.

¹¹ See Mass. DPU Docket No. 15-122, Testimony of Caroline Golin on Behalf of Conservation Law Foundation ("By leveraging existing distributed resources, and creating a platform for DERs to serve as tools to modernize the grid, the utilities can avoid large capital investments in traditional infrastructure and mitigation equipment.")

Available at: http://170.63.40.34/DPU/FileRoomAPI/api/Attachments/Get/?path=15-122%2fExhibit CLFCG1.pdf.

¹² NY PSC. Docket No. 14-M-0101. Order Establishing a Benefit Cost Analysis Framework. Available at: http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7bF8C835E1-EDB5-47FF-BD78-73EB5B3B177A%7d.

¹³ Two inputs where the various utility plans diverged were whether to include the costs associated with stranded assets and the benefits associated with demand reduction.

¹⁴ NY PSC. Docket No. 14-M-0101. Order Adopting Distributed System Implementation Plan Guidance. Available at: http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7bB1C7035C-B447-459A-8957-20BF3BDB6D0F%7d.

DSIPs; and (2) a jointly developed Supplemental Distributed Implementation Plan (SDSIP). ¹⁵ Both types of filing aim to encourage transparent distribution system planning through collection and publication of system data, including circuit level hosting capacity maps and hourly load curves.

The OCA acknowledges that the steps taken in New York go far beyond the framework contemplated by the New Hampshire Grid Modernization Working Group Report, but New York's emphasis on system data and integration of NWAs into the distribution system planning process is something that falls squarely within the LCIRP construct in New Hampshire, and should be a component of the Grid Modernization plans if they truly are to supersede least-cost integrated resource plans.

A particularly disappointing outcome of the Grid Modernization Working Group here in New Hampshire was the lack of consensus on constraint relief analysis. All of the Working Group members except the utilities agreed that the sharing of utility data on a circuit-specific basis with customers and third parties is critical, pointing out that data access and transparency are "the foundation of current ratepayer advocacy efforts." Working Group Report at 25. The utilities dismissed these ideas as too labor-intensive and counter to their role as guardians of safety and reliability. *Id.* at 26. The proceedings in New York, and the pathways charted there, demonstrate that the utilities in this respect are mired in thinking from the Samuel Insull era.

4. The Latin maxim aliquid casei ratto ostende is applicable to grid modernization.

The phrase above refers to the efficacy of providing economic incentives to profit-maximizing firms, including investor-owned utilities, to induce behavior with desirable public policy implications. In this respect, the proceedings in New York again provide a potentially useful example. Under the traditional regulatory paradigm, distribution utilities have an incentive to build capital assets because those investments are where their shareholders earn returns. This arrangement works well for mobilizing shareholder capital and encouraging system maintenance or build out, but discourages distribution utilities from sincerely evaluating the merit of NWAs or distributed third party solutions; solutions that in some cases might results in fewer costs to ratepayers than if the utility were to invest in a centralized capital asset.

While contemplating a more proactive approach to NWAs in distribution system planning, the New York Public Service Commission took steps to place utility capital investments on an even footing with NWAs, at least in the eyes of utility shareholders, by adopting a shared savings approach to NWA projects. ¹⁶ The idea is to allow utilities to share in the savings derived from deferring or eliminating the need for a capital investment, so long as it results in overall cost-savings for ratepayers. While the New York Public Service Commission notes that the specifics

¹⁵ For the SDSIP filing, *see* Supplemental Distributed System Implementation Plan, available at: http://jointutilitiesofny.org/wp-content/uploads/2016/10/3A80BFC9-CBD4-4DFD-AE62-831271013816.pdf.

¹⁶ NY PSC Docket No. 14-E-0318, Order Implementing With Modification the Proposal for Cost Recovery and Incentive Mechanism for Non-Wire Alternative Project at 7-14, available at: http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7b30F7E4F2-AAC0-48F1-A6BA-BDA36AB7A8EE%7d.

should vary for each project, their first post-REV Track II Order NWA project offered the utility recovery of carrying costs, and splits the net savings of the non-wires investment 30/70, between the utility and ratepayers respectively. The California Public Utilities Commission has also taken similar steps to encourage NWAs as a least-cost alternative to centralized utility capital projects.¹⁷

Here in New Hampshire, shareholder incentives have been usefully deployed in the energy efficiency context and the utilities have agreed to propose revenue decoupling mechanisms in their next ensuing rate cases. Techniques of this sort deserve specific consideration in the grid modernization context provided, of course, that any incentives are firmly tied to demonstrated results achieved for customers.

5. It is time for distributed generation and grid modernization to converge at the Commission.

A key challenge the Working Group confronted was that throughout its deliberations the Commission was, at the express direction of the General Court, conducting a controversial and sometimes contentious proceeding in Docket No. DE 16-576 to replace conventional net metering with new tariffs to govern the use of distributed generation on customer premises. The utilities, and to some extent other Working Group members, were reluctant to address issues that were in the process of being addressed on a contested basis in DE 16-576. Although a final order in DE 16-576 is still pending, because the parties in that docket generally coalesced around two proposals, each of which contemplates similar sets of pilot programs and studies, it is now possible for the Commission to look past the somewhat artificial division between the two dockets by applying insights from the net metering case to the more general question of grid modernization. Thus, in the next phase of the Commission's consideration of grid modernization it is appropriate and arguably essential to adopt a holistic approach to all issues that affect the future of the state's electricity grid.

6. The NIST Smart Grid Framework deserves another look.

In May of 2016, as the Grid Modernization Working Group was beginning its work in earnest, the OCA proposed the use of the smart grid framework of the National Institute of Standards and Technology (NIST) as a useful roadmap for planning the deployment of smart grid technologies in New Hampshire. Discussion of this possibility did not advance, perhaps because some Working Group members regarded such discussion as too technical in light of the scope of the deliberations.

The next phase of the Commission's consideration of grid modernization issues provide a suitable opportunity to revisit the question of whether the Commission should direct the utilities

¹⁷ CPUC. Rulemaking No. 14-10-003. Decision Addressing Competitive Solicitation Framework and Utility Regulatory Incentive Pilot. Page 56-63. Available at: http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M171/K555/171555623.PDF.

¹⁸ NIST. Framework and Roadmap for Smart Grid Interoperability Standards, Release 3.0. (September 2014) Available at: https://www.nist.gov/sites/default/files/documents/smartgrid/NIST-SP-1108r3.pdf

to rely on the NIST framework. There are sound reasons for doing so since the NIST framework provides a set of rigorous engineering standards that can serve to constrain and guide the utilities. The lack of such an objective and rigorous framework risks allowing the utilities to rely on potentially self-serving engineering judgments that would be difficult to scrutinize for prudence or otherwise.

7. Conclusion

Commissions throughout the country have already begun the move toward a new paradigm for integrated resource planning -- one focused on optimizing distribution system investments in light of the foreseeable proliferation of DERs. ¹⁹ As DERs proliferate in New Hampshire, with investments in electric energy efficiency nearly doubling by 2020, this regulatory paradigm shift is not a matter just encouraging innovation; it is essential to providing ratepayers the least-cost distribution system service.

The report of the Grid Modernization Working Group is a significant initial step in this direction. The next steps recommended in the report, and the issues we highlight here that merit further detailed consideration, may seem challenging to the utilities given their understandable desire to move forward with grid modernization plans as expeditiously as possible. However, in light of the very low risk that any grid modernization investments made by the utilities will be disallowed for recovery from customers, and because modernizing the grid on a truly least-cost basis is critical to the success of New Hampshire and its citizens, the Commission should proceed in the careful but decisive fashion that we and other parties are recommending in their comments.

Sincerely

D. Maurice Kreis Consumer Advocate

Brian D. Buckley Staff Attorney

Cc: Service list

¹⁹ See Generally, NYPSC Docket No. 14-M-0101; CPUC Rulemakings 14-08-013 and 14-10-003; and RIPUC Docket No. 4600; See also K. Desrochers and R. Foster, From Geotargeting to Geoenlightenment: Overlaying Disparate Data to Best Target Funds and Manage the Grid. Available at: http://aceee.org/files/proceedings/2016/data/papers/12 517.pdf