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For a thriving New England

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July 26, 2013

VIA ELECTRONIC MAIL
Mark D. Marini, Secretary
Department of Public Utilities
One South Station – 5th Floor
Boston, Massachusetts 02110

Re: Docket DPU 12-76 – Comments of the Conservation Law Foundation

Dear Secretary Marini:

The Conservation Law Foundation (CLF) hereby provides its comments on the "Report to the Department of Public Utilities from the Steering Committee" (the "Report") filed on July 2, 2013, in the Investigation by the Department of Public Utilities on its own Motion into Modernization of the Electric Grid.

I. INTRODUCTION

A. *Regulating in a Time of Flux*

The "modern" grid is being built now. Every day customers, utilities, transmission owners, ISO-NE, independent power producers, and third party supply and demand side resource owners are investing in the grid. New England's energy market is at a major point of inflection requiring important policy decisions which will lay the foundation for the system and the ratepayer's relationship with it for years to come. Nearly one third (~ 8300 MWs) of generation resources are facing obsolescence and expected to retire.[1] With what types of resources these aging generators are replaced remains an open question. Ensuring that these old, polluting resources are replaced with the clean, flexible resources as mandated by the Green Communities Act, the Global Warming Solutions Act, and the Governor's goals to develop 1600 MW of solar

[1]Stephen Rourke, ISO-NE, ISO-NE's Strategic Transmission Analysis, (June 14, 2013); Akarsh Sheilendranath, ISO-NE, Strategic Transmission Analysis: Generation Retirements Study, (December 31, 2012); *see also* Avoided Energy Supply Costs in New England: 2013 Report, Section 5.2.3 (July 12, 2013).

and 2000 MW of wind by 2020 necessitates a platform that can integrate these increasing levels of renewable energy generation and more distributed generation while promoting even higher levels of efficiency and demand response and accommodating the energy storage and voltage regulation needed to support this transformation.

At the same time, the regional transmission system is in the midst of major expansion, with roughly $5 billion in recent transmission costs being borne by the region's ratepayers and at least another $5 billion under development.[2] According to ISO-NE, transmission costs are expected to increase from $75 per kW-year up to $115 per kW-year, based on approved investments.[3] If not managed carefully, these grid investments could be incompatible with the Commonwealth's current energy policies and the substantial technological advancements in intelligent energy management and automated metering infrastructure that will help customers and utilities effectively transition to—and reap the benefits of—this new clean energy grid. The Commonwealth has already invested in bringing about this transformation, but without a modern grid to support this infrastructure, progress will be halting and plagued with challenges.

Finally, it must be recognized that the grid also faces increased risks as a result of the effects of climate change. Higher temperatures, longer and more frequent heat waves, storms with more intense winds and precipitation as well as increased storm surges and coastal flooding must be factored in to planning for the grid of the future.[4] This new climate reality requires not only a change in the types of resources we rely upon for electricity, but also requires changes in the way that we plan for, detect, and respond to outages, where we place new infrastructure and whether we relocate existing infrastructure, how we plan for backup generation, and how we protect the information that all stakeholders will rely upon to respond quickly to changing conditions in the weather, pricing, and load.

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[2] ISO-NE, Regional System Plan 2012, 72 (November 2, 2012).
[3] ISO-NE, Regional System Plan 2012, Table 5-2, at 74.
[4] Not only as a matter of smart planning, but also as a matter of law. G.L. c. 30, § 61 as amended by Section 7 of the GWSA.

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B. Grid Modernization Must Ensure that Investments Are Directed to Achieve the Clean Energy Policies Established by the Commonwealth for the Benefit of Customers and the Environment

The net effect of this effort to modernize the grid should be the integration of technologies, regulatory models, and markets that empower customers to manage and transact more efficiently within the energy system as well as the creation of a system that produces efficiencies and opportunities to reduce pollution, increase reliability, and weather the new storms that the grid will face. CLF endorses comprehensive Grid Modernization as a means to achieve all of the opportunities identified in the Department's NOI. At its core, Grid Modernization must entail increasing bi-directional capabilities between customers, utilities, third parties, and the grid operator. Over the long term, it should better enable energy customers to be buyers and sellers of electricity depending on the needs of the system, the customers' needs and capabilities, and the right pricing incentives.

With these goals as the backdrop, CLF strongly supports the efforts of the Department to move ahead with all deliberate speed to modernize Massachusetts' electric grid for the benefit of all customers, to enhance the safety and reliability of the system, and to achieve the mandates of the Green Communities Act, the Global Warming Solutions Act, and the Commonwealth's environmental protection policies and energy policies. CLF agrees, in many respects, with the findings and recommendations of the Clean Energy Caucus; however, CLF offers the following comments on specific portions of the report prepared by the Grid Modernization Working Group.

II. COMMENTS

A. Goals, Objectives, and Barriers

Establishing goals and objectives and identifying barriers is essential to the development of an appropriate regulatory framework for Grid Modernization. The Department's Notice of Investigation ("NOI") issued on October 2, 2012 and the Report did an excellent job of identifying and describing these goals and objectives and anticipating the barriers. As with many of the transformative policies the Department has implemented in the past, such as energy efficiency and decoupling, the primary concerns raised in subcommittee and steering committee

meetings tended to center around the issues of cost, the potential for unintended consequences or unfairness to certain customer sectors, transparency, and the likelihood of and ability to determine whether the expected goals and benefits have been achieved. CLF agrees that these are important issues, but these are issues that are always at the center of regulatory decision-making, and the outcomes that Massachusetts has achieved in the past have demonstrated that the regulatory bodies, the regulated entities, and the stakeholders are capable of managing these issues in an effective manner.

1. *Grid Modernization Will Advance Multiple Objectives Including Advancing Clean Energy, Safety and Reliability and Affordability, but "Least Cost" Planning Should not be mistaken for Establishing Just and Reasonable Rates Necessary to Support Grid Modernization*

With respect to the goals enumerated in the NOI and the Report, CLF is concerned that the stated goal of "reduc[ing] electricity costs" may be subject to misinterpretation that could hamper the pace, scope, and effectiveness of Grid Modernization. As with energy efficiency and decoupling, it is important to focus on the overall bill rather than solely upon the rate itself. Indeed, the NOI itself referred to the importance of "decreasing rate-payer bills." NOI at 2. Therefore, the Department should make it clear that this objective, "reducing electricity costs," will be interpreted in the same manner that the Department has used in other proceedings rather than limited to a narrow analysis of rate impacts alone. In the same vein, the NOI and Report include, *inter alia*, the following opportunities: (1) reduce transmission and distribution system operation, maintenance, and construction costs by reducing electricity demands at times of system peaks; (2) reduce New England wholesale and retail electricity costs by reducing electricity demand at times of system peaks[5]; (3) facilitate the integration of distributed generation resources and new technologies such as renewable energy technologies, combined

[5] Though DRIPE is now a well understand concept among Massachusetts energy efficiency stakeholders, it had not been fully accepted much less quantified when Massachusetts first began to embark upon energy efficiency in earnest.

heat and power, energy storage, fuel cells, and electric vehicles[6]; and (4) reduce greenhouse gas emissions. Though the Department will have detailed information on some of the costs and benefits that can be attributed to achieving many of these goals (through the Avoided Energy Supply Cost Study that is currently prepared for New England every two years), in some cases, the literature regarding the full benefits attributable to a particular technology or action have not been completely developed. In those cases, the Department, utilities, and stakeholders will need to develop that information in the context of specific proposals, but the lack of a full cost-benefit analysis prior to development of a proposal should not automatically disqualify it from consideration.

For example, in the Massachusetts Grid Modernization Taxonomy presented in Figure 3-1 under "Capabilities/Activities" the chart includes "Volt/VAR Control, Conservation, and Voltage Reduction" to enable "optimizing demand." The taxonomy also includes "Voltage Regulation" as one of the activities to "integrate distributed resources." Report at 12. Applying the rubric of "least-cost planning" as opposed to the determining whether the resultant rates are "just and reasonable" could reduce the types of capabilities that Grid Modernization procures and unduly limit its benefits. That is, the "least-cost" option for Volt/VAR control might enable optimizing demand (by, as defined in the report, correcting imbalances to minimize power quality disturbances and limit line losses) without providing the "voltage regulation" necessary to fully integrate distributed resources. Thus, CLF warns against using the "least-cost" planning analysis which is not required to satisfy the "just and reasonable" rates standard applied by the Department.[7]

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[6] Notably, many of the tools deployed through Grid Modernization will and should support the integration of electric vehicles, but CLF agrees with other stakeholders that the Department should also support electric vehicle deployment through the initiation of a stand-alone proceeding. More detail on CLF's position on electric vehicles is available at: http://www.clf.org/blog/clean-energy-climate-change/clf-holds-successful-massachusetts-electric-vehicle-roundtable-with-patrick-administration/.

[7] *See Bay State Gas v. Dep't of Public Utilities*, 459 Mass. 807, 814 (2011); *Boston Gas Co. v. Bd. of Assessors of Boston*, 458 Mass. 715, 717-718; *Attorney General v. Department of Telecommunications and Energy*, 438 Mass. 256, 264 n.13 (2002); *Attorney General v. Department of Public Utilities*, 392 Mass. 262, 265 (1984).

Affordability is, and has always been, compatible with the establishment of just and reasonable rates; however, "least-cost planning" is not the same as establishing a just and reasonable rate, and the two should not be conflated. Though something may be least-cost, it may also have far fewer benefits than the alternative, and evaluating not only the cost, but the expected benefits of an investment is critical to determining whether an investment is reasonable and prudent. Such an analysis is also vital to successful Grid Modernization.[8] Just as the Department evaluates energy efficiency programs and has evaluated decoupling proposals[9] ultimately on the basis of whether the resulting rates were just and reasonable, the Department should also evaluate Grid Modernization proposals on the basis of whether they result in just and reasonable rates, not whether they represent the "least-cost" alternative.[10]

2. Grid Modernization Enhances Reliability and Affordability

One of the primary purposes of Grid Modernization is enhancing safety and reliability.[11] Indeed, as the NOI noted, the recent "severe storms" and resultant customer outages—which pose threats to public safety and health and impose hefty economic losses—presented one of the most compelling motivating forces behind Grid Modernization. Tropical Storm Irene and the recent winter storms of 2011 and 2012 have highlighted the fact that unless we act swiftly to modernize our aging infrastructure, we will be putting the safety and reliability of the system, as well as those who use it and maintain it, at risk. Customer education and engagement will be critical to reaping the full benefits of Grid Modernization beyond simply strengthening and hardening the system, and as a result each utility proposal should include robust plans for customer education and engagement similar to those developed for energy efficiency programs.

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[8] *See e.g. Fitchburg Gas & Elec. Light Co. v. Dep't Pub. Utils*., 460 Mass. 800, 802 (2011); *Boston Gas Co v. Bd. of Assessors of Boston*, 458 Mass. at 718; (describing the analysis required as dependent upon whether the property is "used and useful" and whether costs were "prudently incurred.")

[9] *Order on Petition of Massachusetts Elec. Co. and Nantucket Elec. Co. for a General Increase in Rates*, D.P.U. 09-39, at 61-62 (2009) ("In reviewing the various component's of National Grid's proposed revenue decoupling plan, the Department must evaluate whether the resulting rates are just and reasonable, and consistent with the policy framework established in D.P.U. 07-50-A and 07-50-B.").

[10] "In D.P.U. 07-50-A, the Department stated that promoting the implementation of all cost-effective demand resources is a top priority" and concluded that full decoupling would meet that priority. *Id*.

[11] NOI at 1, 3; Report at 2, 8.

However, Grid Modernization need not be at odds with affordability if it is properly managed. Affordability has been and remains an ever-important issue. As we have learned in the context of efficiency and decoupling, it is often necessary to develop programs that recognize the specific needs and circumstances of low-income ratepayers to ensure that they realize the benefits of and are empowered by these programs rather than feeling overburdened. Utilities and stakeholders should work together to determine which Grid Modernization programs are most likely to provide benefits to low-income ratepayers and ensure that costs are allocated appropriately.

B. Principles and Recommendations

CLF agrees with many of the principles and recommendations espoused by the Clean Energy Caucus and the Massachusetts Department of Energy Resources. The Report provides ample evidence of successful components of grid modernization programs in other states and countries. In some sense, Grid Modernization is simply the next logical step in Massachusetts' progression to a more efficient system that focuses on aligning incentives—for utilities, customers, and third parties—with the outcomes that the Commonwealth has determined are in the ratepayers' interest. The Commonwealth first led the way with electric restructuring followed by utility sponsored energy efficiency programs that were already historically some of the most successful in the nation, and, which became, with the advent of the Green Communities Act the most successful in the nation. As it became clear that utility incentives were not completely aligned with achieving all cost-effective energy efficiency and other important Commonwealth objectives, the Department first studied and then established a clear framework for utilities to move forward with revenue decoupling. *See Investigation by the Department of Public Utilities on Its own Motion into Rate Structures that will Promote Efficient Deployment of Demand Resources*, D.P.U. 07-50 (2007), D.P.U. 07-50-A (2008); D.P.U. 07-50-B (2009). As the Department explained in its initial Order on revenue decoupling:

> Distribution companies must have the proper regulatory and financial incentives to fully pursue the economic, price, reliability, and environmental benefits that are available from (1) improving the efficiency of energy production, deliver, and consumption; (2) building a strong and effective price-responsive demand; (3)

> fostering the rapid development of renewable energy and distributed generation within Massachusetts; and (4) supporting the evolution towards a more efficient distribution infrastructure. The Department takes this action today recognizing that these goals must be met if we are to help mitigate our vulnerability to significant increases in energy commodity prices and to prepare our energy industries for the unavoidable future of a carbon-constrained world.

D.P.U. 07-50-A, 1-2. The revenue decoupling order recognized the need to advance many of the same objectives as Grid Modernization now seeks to support. Yet, even then, the Department recognized that revenue decoupling was "a simple, albeit critical, first step in altering the regulatory landscape." *Id*. Grid Modernization is the next, somewhat more complex, because more comprehensive, step in not only fully aligning the interests of the shareholders of investor-owned distribution companies with the economic and environmental imperatives facing us today, but also in fully empowering customers to reap financial, environmental, physical, and reliability benefits from having access to more information, more choice, and more control over their energy use.

The clear regulatory framework established within D.P.U. 07-50-A and further articulated in D.P.U. 07-50-B, spelled out the issues and components that every utility must include in its revenue decoupling proposal. This included the scope of the decoupling mechanism, the types of cost recovery, treatment of multiple rate classes, the allocation of costs, and mechanisms to protect ratepayer interests. The care that the Department took in setting forth such concrete instructions greatly expedited the manner in which utilities were able to proceed with proposals and narrowed the issues to be dealt with through the adjudicatory proceeding.

CLF believes that a similar order that clearly establishes the objectives, capabilities, benefits, and criteria for grid modernization proposals will be equally important to ensure that this endeavor moves forward as smoothly and successfully as the adoption of revenue decoupling. The key elements of any grid modernization proposal must include facilitation of transactive energy, that is, the effective and efficient flow of both power and information to the customer and from the customer. Maximizing the potential for two-way communication and two-way power flow was among the capabilities most often discussed and most often endorsed as one

of the purposes of Grid Modernization, and that should remain at the forefront of this effort. It is the creation of this type of transactive energy, in which the customer also has an opportunity to respond to market and price signals that affordability, reliability and sustainability most fully converge. This means providing customers with the information, tools, and access to products that are necessary for self-optimization of demand, price, and comfort. As with energy efficiency, the benefits of increased distributed generation, increased renewable energy, and greater demand response may not all be immediately, or easily quantifiable, and the benefits and cost analysis will need to be sophisticated enough to deal with qualitative benefits and integrate newly discovered or newly monetized benefits. An especially important benefit that will accrue from Grid Modernization but that has yet to be adequately quantified and requires more study is enhanced reliability of the grid.

To that end, CLF recommends that the Department adopt the Regulatory Framework Proposal identified as "Utility of the Future, Today" with a few modifications. First, CLF recommends that the Department issue a generic order, based upon the Report and the comments received, that sets forth the requirements and timelines for Grid Modernization proposals. In addition, while CLF recognizes the concerns that stakeholders have raised regarding the issue of time-varying rates, it is clear that these types of rates can provide real benefits if appropriately designed, and if they allow for low-income consumers to opt out of these rates. Therefore, CLF recommends that the Department allow, but not require, utilities to present time-varying rates as part of a Grid Modernization proposal. The "Utility of the Future, Today" proposal appropriately recognizes that the incremental benefits of Grid Modernization tend to accrue not to the utility itself, but to customers, energy service and technology providers, and society in general. Report at 67. In addition, it puts the burden upon the utility to explain and justify to the Department and parties to the proceeding, any variances from the plan and its expected results. Importantly, any interested stakeholders will have the opportunity to intervene in the Department proceedings regarding Grid Modernization proposals to ensure that the interests of all affected groups are represented. The Report produced by the Working Group will ensure that the public has access to well articulated, thorough analyses of the costs and benefits of various components of Grid

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Modernization as well as additional resources to inform their participation in these future proceedings.

III. CONCLUSION

CLF commends the Department for this intensive effort that it has convened to advance Grid Modernization and commends the Working Group for the diligent, exhaustive research, collaboration, and participation that each member has devoted to ensuring that the results are positive. As we face the next wave of investments in the energy grid, we have already begun to feel the impacts of past failures to prepare for the demands of the future. An increased use of natural gas for electric generation has resulted in higher energy costs during the winter when customers most desperately need heat; our continued use of obsolete oil- and coal-fired units to satisfy peak demand in the summer raises prices and takes a heavy and quantifiable toll on public health and labor as the EPA and the Massachusetts Emergency Management Agency issue heat index alerts and bad air quality alerts asking people to limit outdoor activity; and the rising ocean temperatures that threaten to idle nuclear plants that rely on cooling water to operate safely all paint the need for and myriad benefits of Grid Modernization in stark relief. The costs of inaction are undoubtedly high, and rising every day. Therefore, CLF urges the Department to move expeditiously to issue a generic order setting forth the objectives, capabilities and parameters for Grid Modernization with a timeline for utilities to present proposals.

Respectfully submitted,

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