MASSACHUSETTS DEPARTMENT OF PUBLIC UTILITIES GRID MODERNIZATION PLAN PROCEEDINGS AND CAPE LIGHT COMPACT PARTICIPATION

BY STEPHAN WOLLENBURG

BACKGROUND AND PURPOSE

Starting in 2012, the Commonwealth of Massachusetts began the process of directly addressing how the state would modernize its electrical grid after a century of relative technological stagnation through a series of Department of Public Utilities (DPU or Department) orders. The Department stated that "the Department launches a new energy future for Massachusetts. The modern electric system we envision will be cleaner, more efficient and reliable, and will empower customers to manage and reduce their energy costs."[1] Order, D.P.U. 12-76-B at 1 (June 12, 2014). Given the extent, cost, and longevity of the proposed investments, decisions made as a part of this process will have significant economic, environmental, and equity impacts that are likely to persist for decades. Furthermore, potential changes in how electric distribution companies (EDCs) are regulated and incentivized and further changes in power supply, energy efficiency, and related services will have comparably enduring effects.

D.P.U. 12-76-B required the EDCs to file grid modernization plans (GMPs) proposing how that EDC intends to make "measurable progress" towards the Department's grid modernization objectives. This document is intended to address the EDCs' GMPs filed with the DPU, with a focus on issues most likely to be of particular importance to the Cape Light Compact (Compact) and the residents and businesses on Cape Cod and Martha's Vineyard. As an organization with interests and responsibilities pertaining to power supply, energy efficiency, and electricity delivery in general, the implementation of GMPs will have an enormous impact on the Compact's future work. Specifically, this document provides an overview of the DPU-stipulated GMP requirements, a summary of Eversource's GMP, and possible areas of

Frequently used acronyms

- *AMF – advanced metering functionality*
- *AMI - advanced metering infrastructure*
- *DG – distributed generation*
- *DPU – Department of Public Utilities*
- *EDC – Electric distribution company*
- *EE – energy efficiency*
- *GMP – grid modernization plan*
- *PV – photovoltaic*
- *STIP – short-term investment plan*
- *TVR – time-varying rate*

[1] That order also stated, "the modern electric system will build on the Patrick Administration's progress towards our clean energy goals by **maximizing the integration of solar, wind and other local and renewable sources of power**. Because customers will have new tools and information to enable them to use less electricity when prices spike**, the electric system will be appropriately sized and less expensive**." D.P.U. 12-76-B Order at 1 (emphasis added).

focus by the Compact in the proceedings. It also raises specific questions that the Compact is most interested in receiving feedback on from its constituents. While this document focuses on the DPU's grid modernization proceedings that are currently underway, the Compact and its partners on the Cape and Vineyard may pursue issues raised as a part of this process through other venues, which might include legislation or other policy initiatives.

Questions prompted by the GMPs filed by the three EDCs and the grid modernization process in general are ripe for discussion amongst residents and businesses on the Cape and Vineyard. While consensus is unlikely, such discussions will help inform the Compact's positions and potential participation in the grid modernization proceedings. The grid modernization process in the Commonwealth is likely to be an extended one, and positions of the parties, including the Compact, are likely to evolve over time as new information is presented. As such, this document and the ensuing discussions should be considered part of an ongoing dialogue, not a static one.

In addition to deciding upon which grid modernization issues it will focus, the Compact must consider how it will participate in the EDCs' proceedings. The EDCs' GMPs have been docketed, but the Department has not yet issued an Order of Notice and Notice of Filing, Public Hearing and Procedural Conference, which will set forth a deadline for filing to intervene. These dockets are full adjudicatory proceedings, meaning that the parties granted intervenor status may conduct discovery, sponsor testimony, participate in hearings (including witness cross examination), and file briefs. The Compact will need to decide in which EDC dockets it will seek to intervene and how best to participate in the proceeding(s) to accomplish its objectives, especially in light of the novel and precedent-setting issues at stake.

PROCEDURAL BACKGROUND AND REQUIREMENTS

On October 2, 2012, in D.P.U. 12-76-A, the DPU opened on its own motion an Investigation into the Modernization of the Electric Grid (D.P.U. 12-76-A Order). This order was followed by a number of different regulatory proceedings and directives, including:

- An extensive working group process to gather stakeholder feedback on grid modernization
- D.P.U. 12-76-B Order requiring each distribution company to develop a GMP
- An order laying out the specific business case filing requirements to be included in the GMPs (D.P.U. 12-76-C)
- An investigation laying out the Department's framework for time-varying rates (TVR) (D.P.U. 14-04-C Order)
- An investigation of electric vehicles and electric vehicle charging (D.P.U. 13-182)

On August 19, 2015, Eversource, National Grid, and Unitil filed their GMPs, docketed as 15-122, 15-120, and 15-121 respectively.

GMP OBJECTIVES

In its D.P.U. 12-76-B order, the DPU outlined four objectives of grid modernization, all of which must be

addressed in the filed GMPs. Specifically, the four goals were:

1. *Reducing the effects of outages* – namely by achieving the Department's service quality goals (D.P.U. 12-120), reducing the number and duration of outages, and generally increasing the resilience of the distribution system.
2. *Optimizing demand, including reducing system and customer costs* – the DPU called for a modernized grid that will reduce the system-wide peak, and use price signals and technology to allow customers to shift their consumption to less expensive periods.
3. *Integrating distributed resources* – this goal, which contemplates resources including electric vehicles, renewables, microgrids, and storage, is intended to help increase the resilience of the system and help the Commonwealth achieve its climate goals.
4. *Improving workforce and asset management* – the DPU acknowledged that progress towards this goal, which would increase operational efficiency and, presumably, reduce costs, would likely be a byproduct of working towards the first three.

In addition to the Department's four stated objectives, it specifically cited advanced metering functionality (AMF) as a critical component of all grid modernization efforts. In fact, the Department made it a requirement that the utilities achieve AMF functionality within five years of the approval of their respective GMPs. Any EDC that proposed a longer timeframe was required to provide a business case that demonstrated that the longer timeframe was a superior approach. The Department referred to AMF, as opposed to advanced metering infrastructure (AMI), as it wanted to emphasize the importance of achieving specific functionalities, instead of specifying a technology, such as AMI.[2] D.P.U. 12-76-B Order at 14. In other words, the DPU chose to adopt a technology-neutral approach, leaving it to the utilities to determine the most cost-effective way to implement AMF. In D.P.U. 12-76-B, AMF is defined as including four elements:

1. The collection of customers' interval usage data, in near real time, usable for settlement in the ISO New England (ISO-NE) energy and ancillary services markets; [3]
2. Automated outage and restoration notification;
3. Two-way communication between customers and the electric distribution company; and
4. With a customer's permission, communication with and control of household appliances

[2] AMI is defined by the Department of Energy as "an integrated system of smart meters, communications networks, and data management systems that enables two-way communication between utilities and customers." (https://www.smartgrid.gov/recovery_act/deployment_status/sdgp_ami_systems.html) While AMI satisfies all of the DPU's requirements for AMF, the distinction between the two was intended to encourage the EDCs to pursue other technologies that might achieve the same functions. As an example, this might have included using a customer's internet connection for communications, instead of relying upon a new, dedicated communications infrastructure installed by the utility.

[3] ISO-New England is the independent, not-for-profit organization that is responsible for planning and operating New England's electric transmission system and wholesale electricity markets. In this context, "settlement" refers to the ability of a customer to be billed based on their actual, real-time electricity consumption, as opposed to being billed based on an approximation of when their consumption occurred over the course of a given month.

GMP-REQUIRED ELEMENTS

GMPs, as defined by the DPU, are ten-year strategic planning documents, outlining how the EDC will meet the four objectives and achieve AMF. EDCs, in their GMPs, were required to include a number of elements:

- A five-year short-term investment plan (STIP). The STIP covers all capital investments in the first five years of the company's plan, including a comprehensive business case which must address scope, schedule, unquantifiable and quantifiable costs and benefits, progress towards achieving other legislative and regulatory goals, etc.
- A marketing, education, and outreach (MEO) plan
- A research, development, and deployment (RD&D) plan
- Proposed infrastructure metrics (did the EDC install what it said it would?) and performance metrics (has progress towards objectives such as improved service quality and distributed generation interconnection been made?)
- Proposed procedures that would allow competitive suppliers access to certain customer usage data without compromising customer confidentiality (D.P.U. 12-76-B at 34-36)

In the Department's TVR investigation (D.P.U. 14-04), an interim order (D.P.U. 14-04-B) included a framework for the implementation of TVR which the Department later adopted without any modifications in its D.P.U. 14-04-C Order. This framework required that the EDCs offer two basic service options – one (the default option) with off-peak, on-peak, and critical peak pricing (CPP) periods, and the other a flat rate with the ability of customers to earn a peak time rebate (PTR) by reducing consumption during high demand periods. The framework also addressed issues relating to consumer education[4] and access of competitive suppliers to data for the purpose of developing and offering their own TVRs. EDCs are required to develop GMPs/STIPs that are consistent with the Department's framework.

PRE-AUTHORIZED SPENDING, TARGETED COST RECOVERY

The Department allowed preferential treatment for certain spending as an incentive for the EDCs to develop and implement their GMPs. D.P.U. 12-76-B Order at 3-5. Specifically, approved STIP capital investments are eligible for pre-authorization, meaning the Department will not revisit whether the investments should have been undertaken, though it may review the prudency of the implementation of those investments. Furthermore, certain investments are eligible for targeted cost-recovery through a capital expenditure tracking mechanism (capex tracker), which allows EDCs to expedite the recovery of these investments. Only incremental capital investments that are made within the five-year STIP are eligible. Furthermore, investments may only be claimed through the capex tracker if the EDC's STIP

[4] The Department stated, "Because customer education, marketing, and outreach are crucial to enabling the successful implementation of grid modernization, companies' marketing and outreach should begin early in the grid modernization process." (D.P.U. 12-76-B Order at 2)

addresses AMF.[5]

EVERSOURCE GRID MOD PLAN

Eversource takes a very conservative approach to grid modernization, emphasizing incremental investments. Eversource's GMP also focuses on grid-facing investments, consistently downplaying the potential benefits of giving consumers greater access to information and pricing transparency. Eversource references studies that seem to indicate a lack of interest and ability for consumers to meaningfully engage with a more interactive grid. Eversource's conservative approach is also highlighted by its resistance to rolling out AMF on an opt-out basis. Eversource concludes that AMI is the most cost-effective way to achieve AMF as does National Grid, but Eversource fears that opt-out AMF will not produce net benefits. Significantly, Eversource claims that it will be able to achieve 80% of the benefits of TVR at 15% of the cost by using an opt-in approach instead of an opt-out one (Eversource GMP, Exh. Eversource-PMC-1 at 16), although it presents almost no details regarding the supporting analysis. As discussed below, Eversource does not address other potential non-TVR related benefits of AMI that National Grid includes in its business case. Critically, unlike National Grid, Eversource assigns all of its proposed cyber security costs to TVR, as it claims that its current cyber security practices are already sufficient for all of the other grid mod investments (Eversource GMP at 212-13). This claim seems suspect, especially since it conveniently bolsters Eversource's position that TVR is not particularly cost-effective.

Throughout, Eversource states that it has already been piloting most of the contemplated technologies, referencing its involvement in Electric Power Research Institute studies, TVR/AMI pilots in NSTAR and Connecticut Light & Power territory, Department of Energy funding for advanced distribution automation (ADA), etc. Eversource also provides significantly more detail on its planned grid-facing distribution upgrades than does National Grid. The diversity of Eversource's territory (especially Western Massachusetts Electric Company versus Boston Electric Company) makes it particularly challenging to evaluate some of its proposed investments. As an example, it proposes upgrades that will increase the reliability of its secondary network distribution systems, a type of highly-redundant electric distribution design used primarily in urban areas. Eversource acknowledges that these systems are already extremely reliable, but says that outages on these secondary network systems can be catastrophic and difficult to remedy quickly (Eversource GMP at 36). It is challenging to compare this to proposed investments that will reduce the impact of or prevent outages that occur more frequently but affect a smaller number of customers and are easier to rectify.[6]

---

[5] The Department's language does not address whether the STIP must achieve universal AMF on an opt-out basis. See D.P.U. 12-76-B Order at 13-15, 20. However, given the Department's adopted TVR framework that requires TVR be the default option for all basic service customers, one could reasonably assume its intent is that AMF be universally implemented, not just universally available.

[6] In its filing, Eversource uses dollars per customer minute saved (CMS) as one of the metrics for comparing reliability investments. Eversource GMP at 25. This metric compares the cost of an investment to the resulting reduction in the total number of minutes affected customers go without electricity. Still, there are many other metrics for evaluating service quality that may also be considered, such as those currently used to evaluate the

As noted above, possibly the most egregious error in Eversource's GMP is the inclusion of investments in tree-trimming, double-pole removal, stray voltage testing, manhole inspections, and other similar core utility duties. Eversource argues that because these measures increase resiliency and reliability, they will achieve some of the DPU's objectives, and a modern grid does little good if it is not functioning. Still, these activities are clearly not appropriate for inclusion in the GMP and to be recovered through a capex tracker.

Eversource's GMP appears to fail to satisfy the Department's GMP requirements in a number of ways. Namely, Eversource's GMP:

- Does not provide for 100% AMF – as discussed in footnote 2, it is not clear whether the DPU requires universal AMF, or if an opt-in approach is acceptable. However, it would seem that the Department's presumption is that AMF will be universal, given the fact that the TVR framework makes TVR a default option.
- Does not adopt the DPU's TVR framework – Eversource did not make TVR a default option for all consumers, and the design of its opt-in TVRs do not conform to the DPU's framework.
- Does not clearly address providing data to third party suppliers, or the ability of suppliers to develop TVR products (D.P.U. 14-04-C Order).
- Requires consumers to pay additional costs in order to get real-time access data. Thus, it is unclear if Eversource's proposed opt-in AMF meets the Department's definition of AMF.
- Appears to seek recovery of operations and maintenance costs through the capex tracker, although the DPU specifies that *only capital investments are eligible*.
- Incorrectly proposes to recover some costs – tree trimming, double-pole removal, stray voltage testing, manhole inspections, etc. – as incremental grid modernization investments, when they are actually core utility functions.
- Does not mention energy efficiency or how its proposed GMP is consistent with the DPU policy framework that stated it "will benefit all customers by reducing peak energy and capacity market costs; increasing system efficiencies and support the distribution system by reducing peak demand; and providing appropriate incentives for distributed resources such as photovoltaic generation, electricity storage, and electric vehicles, as well as targeted energy efficiency and demand response." (D.P.U. 14-04-C Order at 3).[7]

DISCUSSION – POTENTIAL AREAS OF FOCUS FOR THE COMPACT

EDCs' service quality (see D.P.U. 12-120 for additional detail). Further complicating the issue, different customers place very different values on electric service quality and reliability.

[7] Eversource includes in its GMP the cost of a $7 million investment in a proposed New Bedford Energy Storage project with little explanation of consistency with the framework or allocation of cost to which customers. Eversource GMP at 56-59.

The Eversource GMP includes an enormous amount of information. The DPU's review process will be exhaustive, and will involve a number of other parties, including the Attorney General, environmental advocates, renewable energy interests, low-income ratepayer advocates, and various trade groups. Furthermore, National Grid and Unitil raise issues that, if supported by the DPU, could have significant statewide impacts. This might make it critical for the Compact to participate in the dockets reviewing National Grid's and Unitil's GMPs as well. As such, the Compact's resources will be best and most effectively spent by focusing on a discrete number of issues which the Compact has distinct insight into or that are likely to have particular impacts on Cape and Vineyard customers. This section serves two purposes: first, it highlights some of the areas that the Compact should address in possible participation in the grid modernization proceedings and other initiatives. Second, it highlights issues on which the Compact is still clarifying its position. The Compact is particularly interested in feedback on these questions.

Key intervention points

- *GMP must include a process for providing data to competitive suppliers and other vendors*
- *TVR should not include fees that will deter customers from participating*
- *TVR design should include pricing during peak periods that increases over time, allowing customers to adjust their consumption behavior, or select alternative supply options*
- *Eversource must consider alternatives to requiring that customers commit to a full year of TVR*
- *Eversource needs to justify allocating all incremental cyber security costs to TVR/AMI implementation*
- *Encourage DPU to require EDCs to estimate transmission and distribution savings associated with demand reductions from TVR, DG, and other grid mod investments*
- *Ensure geographical equity in reliability costs and benefits*
- *Address National Grid's proposal to introduce fees for standalone DG*

EVERSOURCE AMI AND TVR PROPOSAL

Eversource's AMI and TVR proposal diverges significantly from the direction provided by the DPU and the ideal of grid modernization in general. Not only does Eversource propose an opt-in approach, its proposal includes specifics that seem designed to discourage customer participation in TVRs. For instance, Eversource's proposal would require those that opt-in to TVR to pay some sort of fee, though details on the structure of these fees are scant. Eversource's TVR structure would also include prohibitively high rates during peak periods, and would require that customers that opt into TVRs to stay with them for at least a year. Eversource claims that these design elements stem from a desire to properly allocate costs and benefits, but they may represent unnecessary impediments that do not properly account for all of the benefits of TVR participation. Taken together, they may result in a sort of self-fulfilling prophecy – unattractive TVRs that will experience low participation levels and be rendered ineffective as a result. If Cape and Vineyard ratepayers want to have the ability to take advantage of TVRs at a reasonable cost, the Compact should plan to question some of these obstructive TVR and AMI elements, and push for changes that would be more likely to result in successful TVRs with high levels of

participation and significant benefits.

Eversource's failure to address how competitive suppliers and other vendors could access customer data with customer permission is another area of great concern to the Compact. The DPU's vision for TVRs includes a vibrant competitive marketplace with a variety of TVRs designed to benefit different types of customers. Eversource's GMP, on the other hand, seems to envision customers only being able to access AMI meters if they opt into one of Eversource's TVR offerings. National Grid's GMP not only speaks to the process for sharing data with third parties, it also assumes customer participation in TVR's offered by competitive suppliers (National Grid GMP, Attachment 14 at 4). If the Compact's power supply customers want to take advantage of TVR options in the future, it is critical that the Compact secure changes to Eversource's GMP that will allow customers to opt-into AMI and TVRs through competitive suppliers.

The Compact also questions whether it was proper for Eversource to allocate all incremental cyber security costs to its AMI/TVR initiative. This allocation seems indicative of Eversource's tendency to make AMI/TVR seem as unattractive as possible throughout its GMP. The Compact may consider asking the DPU to evaluate whether or not the allocation of other costs was appropriate.

***Question 1** – Should the Compact push for universal, opt-out AMI and TVR?*

The Compact's position on a more threshold-level issue is still evolving, however. While it may be contrary to the DPU's direction, the Compact is actively considering whether there is merit to Eversource's argument that an opt-in approach to TVR may be most cost effective. It is a complex issue.

In support of its proposed approach, Eversource suggests that most residential and small commercial customers do not have enough discretionary load (electricity use that can be shifted from one time of the day to another) to benefit from a TVR. In fact, Eversource claims that some groups, including low-income and elderly households, may see their bills increase if they participate in TVRs. While studies cited by the DPU contradict this, this concern is shared by the Low-Income Energy Affordability Network (LEAN), an advocate for low-income customers. Eversource also references studies and its own experience to support the idea that customers simply are not interested in participating in TVRs or in electricity bills at all. There are also a number of AMI-related benefits included in National Grid's STIP that Eversource does not include. The costs of AMI meters in the GMP also vary substantially, depending on where in Eversource's territory they are being installed. The Compact plans to request that Eversource share more information that will allow the Compact to better evaluate these concerns.

It's crucial to note that Eversource's position on AMI and TVR is contradicted by National Grid, which advocates for universal AMI and opt-out TVR, as directed by the DPU. Notably, of National Grid's four potential investment scenarios, only its AMI-focused scenario has a 15-year benefit-cost ratio above 1 (National Grid GMP at 11). Throughout its GMP, National Grid cites its success in its grid modernization pilot in Worcester, which included both universal AMI and opt-out TVR. Furthermore, because Grid favors universal AMI, it has a more developed concept of how AMI customers will use AMI and benefit

from TVRs, spending more time discussing interactions with EE programs, integrating appliances, and other opportunities for customers to use and benefit from AMI and TVRs. This may explain, in part, the divergent views National Grid and Eversource have on the costs and benefits of AMI and TVR.

The Compact does not yet take a position on the question of universal AMI and opt-out TVR, as it requires additional information. It will be important for the Compact and its constituents to grapple with whether universal AMI and opt-out TVRs should be a priority. On one hand, there may be merit to Eversource's claims that most customers would not make significant changes in response to universal AMI and opt-out TVR and that implementation costs far outweigh potential benefits. On the other hand, universal AMI and opt-out TVR will spur new technologies and services that will increase the ability of customers to shift their consumption, bringing savings to individual customers and benefits to the system as a whole. Additional information will help better evaluate these competing positions. In the meantime, the Compact and its constituents should begin to consider their positions on universal AMI and opt-out TVR.

MONETIZING TRANSMISSION AND DISTRIBUTION BENEFITS

One of the primary potential benefits from optimizing electricity demand through programs like TVR is a reduction in the need for EDCs to build additional capacity into their distribution system. The idea is simple – as TVRs encourage customers to shift electricity consumption to periods of lower demand, the demand curve on the distribution system becomes smoother, which lower peaks. The result should be reduced capital investments typically associated with increasing system peaks.[8] Eversource claims that the geographic diversity and inherent unpredictability of its proposed opt-in approach will make it impossible to defer distribution system upgrades based on TVR participation moderating system peaks. National Grid, similarly, does not monetize deferred distribution system investments resulting from TVR. Given that such investment deferrals could represent an enormous source of financial benefits which could translate into lower distribution rates, the Compact should request that the EDCs revise their proposals to increase the likelihood that TVR participation will lead to deferred capital investments and to monetization of these benefits.

***Question 2** – What level of electric reliability do Cape and Vineyard residents expect, and how much are they willing to pay for that reliability?*

GRID-FACING INVESTMENTS

The Compact will need to consider the importance of electric reliability to its Cape and Vineyard customers in the context of the costs and benefits of reliability investments proposed by the EDCs in

[8] As an example, Rhode Island, where National Grid is the EDC, has adopted what it refers to as a System Reliability Procurement Plan, which requires utilities to consider alternatives, such as efficiency or DG, to traditional system upgrades. While these alternatives are not the same as TVRs, the concept is similar. http://www.energy.ri.gov/reliability/

their GMPs. Although the Compact's focus is generally more on customer-facing GMP elements than grid-facing investments, electric reliability is a major issue in the GMPs. At minimum, the Compact should plan to verify that there is geographical equity with regard to the benefits and cost allocation associated with reliability investments. Beyond that, the priority of this item for the Compact depends in part on the value that the Cape and Vineyard, as a region, places on electric reliability. While there will always be additional investments that can be made to further increase reliability, there are certainly diminishing returns associated with such investments. The question then becomes one of priorities – how much are customers willing to pay for marginal increases in reliability?

Question 3 *– Should the Compact push for policies that will continue to support a robust expansion of distributed generation in Massachusetts, or should it focus more on ensuring DG owners are making payments for grid services?*

DISTRIBUTED GENERATION

All three EDCs discussed a need to change current rate design in order to ensure success in achieving the DPU's objective to increase the integration of distributed energy resources. These proposals are of potentially grave concern to the Compact, given the DG installed in its territory in recent years. Specifically, National Grid proposed the introduction of new fees to be assessed on distributed generation (DG), such as solar PV, installed with no significant on-site load. Grid also proposed to decrease volumetric fees (fees charged per kWh) and increase customer (monthly) charges for residential customers, going as far as to suggest that fees based exclusively on demand (kW or kVA) and customer charges would be fairest. Unitil proposed changes that would have even more detrimental impacts on net-metered DG. While Eversource did not propose any similar changes in its GMP, it calls the issue an important one that "needs to be resolved in order to facilitate increased installation of DER under a fair rate structure." (Eversource GMP at 14). In all cases, the EDCs claim that current rate design, specifically that of net metering, allows DG owners to benefit from the grid without contributing a fair amount to maintaining it.

The issue is a complex one. Certainly, all DG owners without storage backup benefit from access to the grid to provide power when their generator is not producing power (e.g., the sun is not shining). To the extent that such system owners have enough generation to effectively zero out their utility bill, they are not making payments to EDCs to help maintain the grid. On the other end, DG proponents claim that various benefits associated with DG actually make the installation of DG a net benefit to EDCs and their customers. For example, DG produces power when demand is highest, assists in system reliability, produces power closest to load (minimizing losses), reduces the need for capital investments in distribution system, etc. Importantly, some of the proposed changes could also reduce the incentives for customers to invest in energy efficiency (EE), which has myriad benefits, including reducing peak

demand.[9] EE & DG also assist in job creation, retains energy dollars in the state, and helps the Commonwealth to achieve legislative energy goals, including those set forth in the Global Warming Solutions Act.[10] Because of the complexity of the issue, it becomes a question of priorities – whether DG should be seen as something with enough benefits that it is worth supporting, potentially beyond its true value to the grid, or if equity should always be the overriding concern, even if that yields policies detrimental to DG.

The question of how to compensate DG overlaps with many other issues addressed in the GMPs. Still, the DPU did not specifically require that net metering and DG compensation be addressed in the GMPs. This issue is also complex and controversial. For these reasons, the Compact and other parties may request that this question be removed from the GMP dockets and addressed by the DPU in a separate docket. This procedural approach would allow for more deliberate consideration of net metering and DG compensation that would be consistent across the territories of the three EDCs.

CONCLUSION

The current grid modernization docket and ensuing implementation of a smarter grid will unfold over a period of many years. However, the decisions made today will have impacts that will persist far into the future. For that reason, it is crucial to consider and continue to discuss grid modernization and what it will mean for the Cape and Vineyard today and in the future.

Please keep in mind that this document and the questions it raises are not intended to be comprehensive. The Compact will raise additional questions and challenges in the event that it intervenes, and other issues likely will be addressed by other participants in the proceeding. Instead, this document is intended to spur discussion on some of the most challenging and far-reaching questions prompted by Eversource's GMP.

---

[9] In a separate but related docket that involved the expansion of the Mashpee Substation, the DPU order includes the condition that "NSTAR is strongly encouraged, in the future, to discuss with the CLC the potential for targeted and/or incremental EE, well in advance of determining that a transmission or distribution project is needed in the Company's Cape Cod service territory. NSTAR will be required to provide evidence of long-range EE planning efforts in all future zoning exemption and Section 72 applications filed with the DPU." Order, D.P. U. 14-03 at 20 (April 13, 2015).

[10] Some advocates suggest that an approach sometimes referred to a "Value of Solar" tariff is an ideal way to address these concerns. Value of solar tariffs are designed to evaluate the real benefits of solar, and compensate solar owners on that basis. Such an approach is intended to be fairer for both solar owners and other utility customers, basing compensation on value, not on something more arbitrary like retail electricity prices. To date, Minnesota and Austin, Texas have adopted value of solar tariffs. A good summary of value of solar tariffs is available here: http://www.nrel.gov/tech_deployment/state_local_governments/basics_value-of-solar_tariffs.html