STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

In the Matter of	)	
Energy Storage Deployment Program	)	Case 18-E-0130

JOINT UTILITIES COMMENTS ON NEW YORK STATE ENERGY STORAGE ROADMAP AND DEPARTMENT OF PUBLIC SERVICE/ NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY STAFF RECOMMENDATIONS

Table of Contents

I. Introduction and Summary

On June 21, 2018, the New York Department of Public Service and the New York State Energy Research and Development Authority ("NYSERDA") filed the *New York State Energy Storage Roadmap and Staff Recommendations* (the "Roadmap").[1] The New York State Public Service Commission (the "Commission") requested comments in its subsequent *Notice Soliciting Comments and Announcing Technical Conferences*.[2] Central Hudson Gas & Electric Corporation ("Central Hudson"), Consolidated Edison Company of New York, Inc. ("Con Edison"), New York State Electric & Gas Corporation ("NYSEG"), Niagara Mohawk Power Corporation d/b/a National Grid ("National Grid"), Orange and Rockland Utilities, Inc. ("Orange and Rockland"), and Rochester Gas and Electric Corporation ("RG&E") (collectively, the "Joint Utilities") file these comments in response to the Notice.

The Joint Utilities have long been active participants in advancing the State's clean energy objectives. Of these efforts, this proceeding's focus on encouraging energy storage development has the potential to accelerate the deployment of a transformational technology that can provide numerous benefits to the electric system and ultimately to electric customers. As the energy system evolves, the Joint Utilities envision storage enabling the integration of an increasing amount of intermittent renewable resources, supporting distribution system needs, providing resilience, and reducing greenhouse gas emissions. Broader proliferation of storage

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1 Case 18-E-0130, *In the Matter of Energy Storage Deployment Program* ("Energy Storage Proceeding"), New York State Energy Storage Roadmap and Department of Public Service/New York State Energy Research and Development Authority, Staff Recommendations (filed June 21, 2018)("Roadmap").

2 Energy Storage Proceeding, Notice Soliciting Comments and Announcing Technical Conferences (issued July 17, 2018. Comments were also requested via publication in the July 11, 2018 New York State Register, I.D. PSC-28-18-00006, p. 21, with such comments due by September 10, 2018.

will help customers and communities manage their usage to align with system capabilities, participate in demand response, support new applications like electric vehicle charging, and respond to more cost-reflective rate designs, including hourly pricing and demand-based rate structures.

Precisely for all of these reasons, the Joint Utilities support the cost-effective growth of energy storage in New York State. However, forecasted electricity system benefits are only one of many considerations that must be balanced, including:

- **Costs to Customers:** An estimate based on the Roadmap's findings shows that meeting the State's 2025 goal of 1,500 MW of energy storage will cost roughly $2.5 billion to implement.[3] As bill impacts associated with clean energy expenditures in New York continue to grow,[4] it is important to achieve net benefits for these dollars – particularly in early years when technology costs are high and project economics are most challenging. If net benefits do not materialize, New York's policy objectives may be achieved but the higher costs will negatively impact New York State consumers and industry.
- **Building Codes and Permitting:** Building codes and permitting considerations are currently a significant barrier to energy storage deployment, particularly for urban indoor installations. Work with testing labs and local authorities to develop

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[3] This calculation is based on $/kW estimates provided in Figure 15 of the Energy Storage Proceeding, Roadmap, Appendix, p. 48, cost escalation estimates for Zone J, Zone K and behind-the-meter ("BTM"), Appendix, pp. 11-12, and the following assumptions: (1) MWs installed straight-line from years 2019-2025; (2) one-third bulk installations, one-third distribution installations, and one-third BTM installations, p. 29; and (3) a constant distribution of duration size across years and zones, p. 6.

[4] Continuing Clean Energy Fund collections, expansion of energy efficiency programs, zero emissions credit costs, the procurement of offshore wind, and continued cost shifting resulting from net energy metering resources will put upward pressure on utility rates.

and issue standards and requirements will likely take time, and is a key prerequisite to the deployment of energy storage.

- **Flexibility:** The energy storage market is still in its nascent stages and it is too soon to tell how the market will develop, particularly as technology evolves and costs decline. The policies and programs established in this proceeding must have the flexibility to adapt over time to technology and market developments.
- **Customer and Stakeholder Objectives:** A variety of interests must be considered including enhancing resilience capabilities at municipal and community facilities, reducing public health burdens associated with local air quality, assuring costs and benefits are equitably distributed, and developing a vibrant distributed energy resources ("DER") market in New York.

Delivering solutions that meet the State's goals for energy storage and provide benefits for all customers while complementing the State's other clean energy goals and minimizing overall bill impacts should be the goal of this proceeding. This should be equally applicable to the State's 2025 goal of 1,500 MW and its longer-term 2030 goal.[5] Perhaps the largest single factor in meeting this goal is the use cases for storage that are pursued in early years when technology costs are highest. The Roadmap identifies three main use cases (*i.e.*, customer-sited deployments, distribution system deployments, and bulk system deployments)[6] and recommends

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5 Energy Storage Proceeding, Roadmap, pp. 4-6.
6 *Id*., p. 5.
7 *Id*., p. 49.
8 *Id*., p. 10.

a broad array of policy actions to support all three of the use cases, notably including a $350 million "market acceleration" incentive ("MAI").[7]

Investment and policy action to support the distribution system and bulk system deployment use cases will produce significantly higher overall benefits for all customers than customer-sited deployments. Both the distribution system and bulk system use cases will allow for the development of larger and more economic[8] storage installations that can be targeted to meet system needs. Although customer-sited applications can provide grid benefits when located in constrained areas, installations in unconstrained networks generally benefit only the installing customer. Additionally, customer-sited installations tend to be more expensive than distribution and bulk system installations as recognized in the Roadmap and other studies.[9] For these reasons, the Joint Utilities recommend that any customer-funded incentives[10] be primarily directed toward distribution system and bulk system applications, and that policy efforts to advance these types of installations be prioritized.

With respect to distribution system deployments, utilities are best positioned to identify, develop, and procure solutions to distribution system needs. While the Joint Utilities appreciate the Roadmap's interest in providing utilities with more flexibility in expanding non-wires

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9 *See, e.g., Id.*, p.10. *See also* Lazard's Levelized Cost of Storage Analysis (LCOS 3.0.); available at: https://www.lazard.com/perspective/levelized-cost-of-storage-2017

10 The Joint Utilities appreciate and agree with the Roadmap's recommendation that the MAI be funded through dollars already collected from customers – and should not create a new collections obligation. However, these funds remain customer dollars that could be spent on other policy initiatives as well, such as electric vehicles and/or energy efficiency, or be returned to customers.

solutions ("NWS") procurements,[11] these procurements may not lend themselves to the type of expansion contemplated in the Roadmap. NWS are designed to meet highly-specific distribution system needs and should remain focused on those objectives. To the extent that procurements can be expanded or optimized, any additions should be chosen to improve the overall Benefit-Cost Analysis ("BCA") and not dilute it. Furthermore, any changes to the BCA approach should be considered within the context of the Commission's proceeding *In the Matter of Benefit Cost Analysis Handbooks,*[12] which established a common framework ("BCA Framework") and associated handbooks ("BCA Handbooks") that allow various types of DER to be assessed and compared in a technology-agnostic manner. Changes to the BCA Framework for the sole benefit of storage resources would be contrary to the goal of an open and competitive market by creating a bias for a single DER technology and likely result in the selection of a suboptimal and costlier portfolio of resources for all customers.[13]

The Roadmap concludes that the Commission's *Order Adopting Regulatory Policy Framework and Implementation* Plan ("REV Track One Order")[14] establishes an appropriate policy for utility ownership of storage resources, allowing utilities to own storage when integrated into the distribution system, in cases of market failure, and in other circumstances.

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[11] The Roadmap uses "NWA" to describe non-wires alternatives. The utilities' use of NWS herein should be viewed as the equivalent.

[12] Case 16-M-0412, *In the Matter of Benefit Cost Analysis Handbooks* ("BCA Proceeding").

[13] In particular, the Roadmap's interest in developing a shaped, environmental value based on time-varying emissions rates is well aligned with the broader effort currently under consideration in the Value Stack Working Group in Case 15-E-0751, *Proceeding in the Matter of the Value of Distributed Energy Resources* ("VDER Proceeding"). This approach may ultimately allow for more granular valuation of avoided emissions; however, a number of challenges and uncertainties remain in determining the appropriate methodology.

[14] Case 14-M-0101, *Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision* ("REV Proceeding"), Order Adopting Regulatory Policy Framework and Implementation Plan (issued February 26, 2015) ("REV Track One Order"), p. 70.

Targeted investments by utilities can result in broad benefits to customers and facilitate the creation of a market in New York for storage manufacturers whose business model is based on direct sales of larger systems to utilities.

The Roadmap makes other recommendations designed to enhance the economic viability of energy storage in New York, notably changes to retail rate design. As with the proposed changes to the BCA Framework, issues concerning retail rate design should be considered in a broader context. The primary function of retail rates is to allocate and collect utility costs from customers based on cost-causation principles,[15] not to support the economics of any particular type of DER, such as storage. Therefore, modifying retail rate designs within a proceeding which is focused on a single resource type contravenes these principles. In particular, the Roadmap's proposal to expand Con Edison's Rider Q program statewide is premature. The Joint Utilities support further discussion of these issues within the Rate Design Working Group as part of the VDER Proceeding, where a more holistic and technology-agnostic review can be conducted.

The Roadmap's recommendations concerning system and customer data raise similar concerns regarding a too-narrow focus. The issues of system and customer data have been extensively discussed within the REV Proceeding and its progeny. The Joint Utilities have implemented numerous measures to provide and improve data access, in response to guidance from the Commission and requests from stakeholders, notably through the utilities' system data portals, as part of Distributed System Implementation Plan ("DSIP") filings, and in collaborative

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[15] The Commission expressly adopted rate design principles, including cost causation, in REV. REV Proceeding, Order Adopting a Ratemaking and Utility Revenue Model Policy Framework (issued May 19, 2016)("REV Track Two Order"), Appendix A.

working group sessions, including the VDER Proceeding. Requests for additional data should be considered within the context of those efforts.

The comments below address these and other key elements of the Roadmap's recommendations in more detail, including interconnection considerations and wholesale market integration. The Joint Utilities share these perspectives to further the dialog on how to advance the development of energy storage in New York while maximizing benefits for all customers, and look forward to working with the Commission, Department of Public Service Staff ("Staff"), NYSERDA, and other stakeholders as this proceeding progresses.

II. Structure of Joint Utilities Comments

Many related topics appear in several sections of the Roadmap. To more effectively address the Roadmap's interrelated issues, these comments are structured by topic areas and therefore do not precisely follow the Roadmap's order. These topic areas address: (1) the maximization of storage benefits for all customers; (2) the role of utilities in supporting the 1,500 MW Roadmap target; (3) the Roadmap's proposal to modify the BCA Handbook; (4) the most efficient way of addressing hourly environmental value ("E-Value"); (5) rate design implications; (6) system and customer data matters; (7) interconnection matters; and (8) wholesale market considerations.

III. Storage Applications Should Maximize Benefits to All Customers

A. Storage Benefits

The Roadmap presents policy recommendations to promote investment and innovation to achieve the New York State 2025 and 2030 storage goals. The Joint Utilities agree that energy storage has the potential to play an important role in New York's clean energy future, particularly if storage technology costs are substantially reduced and use cases evolve and

mature. The energy storage market is still in its early development stages and it is not yet clear how the market will evolve over the coming years as existing technologies mature, costs decline, wholesale market rules are adapted for DERs, permitting requirements are developed/clarified, and new storage technologies become available. For these reasons, the Joint Utilities support an approach that encourages the development of storage policies and programs that provide all customers with grid benefits while maintaining flexibility to adjust course to take advantage of greater savings opportunities as the storage market matures.

The Roadmap identifies three energy storage use cases as a framework to examine project economics and potential policy actions. These segments are defined with reference to where storage is sited, and the needs that each category addresses:

- **Customer-Sited:** Paired with on-site load and/or paired with other DERs and located behind a customer's retail meter;
- **Bulk System:** Stand-alone or paired with generators connected at the bulk or transmission system level; and
- **Distribution System:** Stand-alone or paired with other DERs and connected directly on the distribution circuit level.[16]

The Roadmap analyses assume equal participation from each market segment, however, the adoption of storage is likely to vary from the Roadmap's projections based on actual economics. Recognizing that there is uncertainty in the economics of storage applications that will drive adoption rates, the Joint Utilities support a policy approach that encourages the

[16] Energy Storage Proceeding, Roadmap, pp. 21-22.

development of storage that benefits all customers and maintains flexibility as the storage market matures.

The Roadmap provides cost information showing that investments in larger scale, front-of-the meter storage capable of providing distribution and bulk system benefits are less expensive than behind-the-meter customer-sited investments.[17] Policy actions to support distribution system and bulk system storage deployments will produce significantly higher overall benefits for all utility customers and should be prioritized. Both of these use cases allow for the development of larger – and more economic[18] – storage installations that support the needs of the electricity grid (*e.g.*, support reliability in a targeted manner). Customer-sited applications, which tend to be more expensive than distribution and bulk system installations,[19] can be operated to provide distribution and bulk system benefits when located in constrained networks. Conversely, customer-sited applications in unconstrained networks provide little or no benefits to other customers. For these reasons, the Joint Utilities recommend that any customer-funded incentives[20] be directed toward distribution and bulk system applications first, and that policy efforts to advance these types of installations be prioritized.

B. Incentives

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17 *Id*., p. 10.
18 *Id*.
19 *Id.*
20 The Joint Utilities appreciate and agree with the Roadmap's recommendation that the MAI be funded through dollars already collected from customers – and should not create a new collections obligation. However, these funds remain customer dollars that could be spent on other policy initiatives as well, such as electric vehicles and/or energy efficiency, or be returned to customers.

Policy actions, including the use of customer funds to incent storage development, should be targeted to developing storage applications that benefit the distribution system and/or bulk system. This principle, which ensures that customer funds are deployed to provide benefits to all customers, should apply equally to programs that are funded by utilities or NYSERDA. [21]

This principle should also apply to the Roadmap's proposal to use $350 million of customer funds for the MAI.[22] Because the MAI has a limited amount of customer funds available to help accelerate the adoption of energy storage, it should be used strategically to maximize the cost-effective deployment of that technology; thereby maximizing its contribution toward meeting the State's storage goals. The Joint Utilities recommend prioritizing projects that facilitate multiple state policy objectives and reduce customer bills including projects that support the integration of large-scale renewables installed as part of the State's 50 percent renewables by 2030 goal, enhance resilience, and maintain system reliability through lower-cost alternative approaches. The criteria for prioritization should be based on quantifiable customer benefits and the incentives should be transparent with a clear ending date. For example, incentives that mimic wholesale revenues can be structured as a bridge that would sunset when storage resources providing distribution services can also fully participate in New York Independent System Operator ("NYISO") markets through dual participation.

The Roadmap suggests directing the MAI to customer-sited use cases because these resources are not economic today.[23] The Joint Utilities disagree with this approach because it

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21 Energy Storage Proceeding, Roadmap, p. 49.
22 *Id*., pp. 48-50.
23 *Id*., p. 26.

has the potential to direct funding away from resources that provide benefits to all utility customers and the public as a whole, to installations that benefit only individual customers. The Commission should, therefore, modify the MAI bridge proposal to only direct customer moneys at projects that provide distribution and/or bulk system benefits. This approach will provide broader customer and system benefits and improve the impact of the MAI on its stated objective to accelerate cost declines, foster innovation, and achieve the desired end-state of a storage market that is sustainable without incentives.[24]

The Joint Utilities also recommend that any MAI funded programs be evaluated by a BCA to ensure that they provide net customer benefits. Furthermore, no new customer charges should be created to provide funding for this program. If the MAI funds cannot be used cost effectively, they should be deployed elsewhere for the benefit of all customers.

IV. Utility Roles

A. Non-Wires Solutions

The REV Track One Order directed each utility to identify and implement one or more non-wires alternative project(s)[25] and utility NWS have subsequently been used to meet additional distribution system needs. The Roadmap envisions changes to the NWS process in order to capitalize on an estimated 500 MW of potential storage at the distribution system level, 100 MW of which would be procured through an NWA plus storage ("NWA+") process.[26] This

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[24] *Id*., p. 49.
[25] REV Proceeding, REV Track One Order, p. 131.
[26] Energy Storage Proceeding, Roadmap, p. 29.

new process would expand the scope of NWS opportunities to include the consideration of DER portfolios that reduce customer bills. Similar proposals are also made as part of the Roadmap's Clean Peak proposal.[27] The Roadmap would also make a number of changes to NWS procurements that have implications for the interconnection cost allocation process, all of which are addressed below in the interconnection section of these comments. The Roadmap concludes that the NWA+ approach creates the opportunity for utilities, their customers, and developers to share in the benefits provided under the NWS process and that NYSERDA and the utilities should work together to determine how a bridging mechanism might accelerate the inclusion of storage under this expanded vision of NWS.

The Joint Utilities have consistently stated that it is possible to combine storage with other resources[28] within an NWS solicitation. Indeed, successful NWS procurements can include storage within a portfolio of resources. The Commission must also consider, however, that NWS solicitations are designed to match specific, distribution system needs and already use a formal BCA test, which considers the bulk system benefits of all DER bids, in developing the portfolio. Technology-agnostic Requests for Proposals and bidding processes are necessary to creating a vibrant, competitive DER marketplace. Giving special treatment to one type of DER could result in the selection of sub-optimal and more costly solutions, unnecessarily raising costs for customers.

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27 *Id*., p. 62.

28 *See, e.g.,* Cases 18-E-0018 *et al., In the Matter of Proposed Amendments to the New York State Standardized Interconnection Requirements (SIR) for Small Distributed Generators* ("SIR Proceeding"), Joint Utilities Proposed Model Tariff for Compensation of a Hybrid Energy Storage System and Distributed Generation System (filed June 19, 2018).

Given these considerations, NWS procurements should continue to be focused on addressing the need for load relief in specific areas during specific times by leveraging a portfolio of DER technology while remaining technology-agnostic. The Joint Utilities are open to pursuing an NWS expansion when it produces both a positive BCA on an incremental basis and does not delay or otherwise disrupt the localized load relief being pursued through the NWS. Such a focus will deliver the greatest net benefits to customers in a timely manner. Utility customers should not be called on to support expansion of the NWS process that reduces the benefits of the core NWS portfolio or increases costs to customers.

The NYISO's development of market rules for dual participation is critical to storage systems capturing wholesale market revenues while providing distribution services. Both the NYISO and the Joint Utilities recognize the importance of avoiding double compensation for the same service. The existing BCA already considers bulk system benefits. Additional work and stakeholder discussions are needed to evaluate the incremental value of procuring additional storage within an NWS over and above the distribution system need. Thus, the Commission should provide utilities the flexibility to consider procuring additional resources to provide incremental system benefits in the NWS process but not establish any specific requirements for expanding the solicitations until a number of important details are fully addressed in a stakeholder process.

B. Ownership Models

The Roadmap recognizes that the REV Track One Order allows utility ownership for storage integrated into the distribution system, in cases of market failure, and in other situations. As the system planners responsible for grid safety and reliability, utilities will implement solutions to address specific grid needs that maintain a cost-effective, safe, and

reliable system. Storage can and should serve as one option in the utility "toolbox." As such, the Joint Utilities believe that targeted utility investments in storage can be structured to broadly benefit the system and customers.

C. Dynamic Load Management

The Roadmap recommends that participation in Dynamic Load Management ("DLM") programs be fixed at three- to five-year terms with resources acquired via competitive procurements that include performance penalties. Other modifications are recommended including the development of a "premium" DLM resource category, DLM participation by storage on a sub-metered basis, and the development of approaches that "limit fossil fuel generators from being advantaged by changes that emphasize multi-year and dispatchable DLM participation."[29]

While the Joint Utilities could support certain aspects of the Roadmap's DLM recommendations, such as auto-DLM, on a limited demonstration basis, the majority of the proposed DLM modifications are unnecessary. The current DLM approach is working well. For example, in National Grid's service territory, the Commercial System Relief Program ("CSRP") has grown by over 50 percent from 2017 to 2018, as measured both by the number of customers participating and the contracted quantity of MWs. The proposed DLM modifications in the Roadmap should not be adopted because a multi-year lock untethered to a specific grid need is less likely to produce net benefits than programs that are linked to an actual grid need. In contrast, NWS procurements are able to defer capital projects for multiple years and are better

[29] Energy Storage Proceeding, Roadmap, p. 39.

suited to provide longer-term compensation. Furthermore, the Roadmap's DLM proposal would result in competing programs that could create confusion, create artificial arbitrage opportunities, and produce sub-optimal outcomes.

The Joint Utilities also note that DLM programs should be technology-agnostic since the overall goal is to reduce the total load of a facility. The Roadmap's provision to limit specific resources from obtaining certain benefits from the proposed DLM modifications represents a violation of this principle and as such should not be adopted.

D. Earnings Adjustment Mechanisms and Funding

The Roadmap also recommends that new earnings adjustment mechanisms ("EAMs") be considered and suggests the establishment of an EAM focused on load factor. The Joint Utilities do not support the development of a system-wide load factor EAM but do see a role for more focused location-based EAM. While an increase in the system-wide load factor could reduce wholesale capacity costs, it would not directly translate into distribution system benefits because areas of the distribution system peak at different times. Actions to increase system-wide load factor could actually serve to reduce local load factors on the distribution system. A report prepared for the Joint Utilities by The Brattle Group in 2017 illustrated this point and also found that the volatility of system loads over time would make it difficult to determine the extent to which DER contributed to any improvement in the system-load factor.[30] Additionally, efforts to increase system-wide load factor could conflict with other policy objectives. For example, current energy efficiency programs which reduce customer bills and carbon emissions often

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[30] The Brattle Group, In, *Assessment of Load Factor as a System Efficiency Earnings Adjustment Mechanism*, (dated February 10, 2017).

achieve more off-peak than on-peak reductions and can reduce load factors. Thus, creating a system-wide load factor EAM could lead to conflicting and counterproductive EAM results.

The Joint Utilities do support the ability of individual utilities to propose and develop EAMs that target the use of DER to address local needs such as improved utilization of specific equipment, which can be measured through load factor.

Finally, utility rate cases are the traditional venue in which utility programs and EAMs are established and funded. It is possible, however, that activities supporting the Roadmap's goals, such as the establishment of new programs and EAMs, may need to occur outside of the rate case process and as such not align with the funding and cost recovery provisions of existing rate plans. To advance the development of energy storage technologies and to address this rate recognition matter, the Commission should consider allowing each utility to propose additional utility programs, including new EAMs and utility ownership opportunities for storage, that could be implemented and funded beginning in 2019.

V. Proposed Changes to the Benefit Cost Analysis Handbooks

The Roadmap proposes a number of modifications to the BCA Handbooks. These changes include among other things:

- Immediately incorporating a shaped E-Value approach into the BCA Handbook; [31]
- Integrating optionality into BCA Handbooks with estimates of option values for consideration by Staff;[32] and

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[31] Energy Storage Proceeding, Roadmap, p. 38.
[32] *Id*., p. 44.

- Developing a mechanism for the standardized valuation of unused utility land by the end of 2018.[33] [34]

A. BCA Handbook Modifications

The Joint Utilities believe that there are sound policy reasons why issue-specific modifications to the BCA Handbook should not be made in isolation without further consideration of how such changes impact other technologies and other aspects of the BCA Handbook. Specifically, the Roadmap's recommendation that utilities immediately start work to reflect the concept of optionality in their BCA Handbooks should not be implemented as a one-off effort. Instead the issue should be included in a BCA Handbook review process that considers other potential changes (*e.g.*, E-Value) related to the Roadmap. Such an approach would be consistent with the processes employed to develop the BCA Handbooks in 2016 and revise them in 2018. Those approaches holistically considered all matters and all technologies together in order to assure that questions regarding how all the BCA elements fit together could be answered at the same time. The Roadmap's recommendation to address individual items related to one technology in isolation and without full consideration of their impact on other technologies and utility customers should not be pursued.

B. Optionality

The Roadmap states that the BCA Handbooks should be modified to consider the ability of storage to provide greater options to utilities to meet system needs and specifically

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[33] *Id*., p. 42.

[34] The Roadmap's recommendation related to a standardized land valuation is addressed in the interconnection section of these Joint Utilities Comments.

recommends that the Joint Utilities: (1) immediately supplement their BCA Handbooks with estimates of option values for consideration by Staff; (2) start several processes to consider "an appropriate variant of real options valuation methodology appropriate for utility capital planning;"[35] (3) present more scenario-based BCAs;[36] (4) develop a standardized framework for identifying when and where optionality should be considered; and (5) examine potential NWS contracting mechanisms that reflect optionality.[37]

The existing NWS process already provides DER with option value. The NWS procurement often results in a DER portfolio that has a higher unit cost (in dollars per MW) for a smaller amount of MWs than the utility investment. The key point is that the higher unit cost reflects greater forecast certainty and gives the utility the option to subsequently offer an additional NWS solicitation if load growth increases. Nevertheless, the Joint Utilities believe that optionality value is a relevant consideration that would be best addressed comprehensively in a stakeholder process that considers the optionality values of all DER, including storage, as well as traditional utility investments.[38]

VI. E-Value

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35 Energy Storage Proceeding, Roadmap, p. 43.

36 *Id*.

37 *Id*., p. 44.

38 For example, a utility infrastructure investment is expected to respond at all times, however, DER has no obligation to serve and performance may be impacted by competing requirements. Additionally, NWS are generally designed to acquire the MW curtailment that allows for deferral of the traditional infrastructure investment and are not designed to acquire all of the MW capacity that the traditional infrastructure investment would provide. This optionality is currently not included within the BCA Framework.

The Roadmap addresses the development of a time-varying E-Value as part of recommendations related to: (1) modifications to Value Stack compensation;[39] (2) the Clean Peak proposal;[40] and (3) a potential change to the BCA Handbook. The Roadmap states that the E-Value should be reflected in a four- to eight-hour window for the statewide peak by season. The shaped value would be mandatory for storage systems but available on an opt-in basis for other resources.[41]

The Joint Utilities agree that reflecting a shaped E-Value would provide improved price signals and note that this topic is likely to be addressed by the VDER Value Stack working group in the near future. Research indicates that without a carbon price, the revenue maximizing behavior of storage on the bulk system will lead to increased emissions.[42] In other jurisdictions where rate designs were not aligned with the timing of GHG emissions, deploying behind-the-meter storage did not lead to a decrease in emissions.[43]

A key consideration for that inquiry is how a shaped E-value would be translated into a Renewable Energy Credit ("REC") value and how this would align with NYSERDA procurements of RECs from large-scale renewables. Because the E-value in the Value Stack is currently designed to avoid REC costs that utilities would otherwise incur to meet their obligations under the Commission's Clean Energy Standard, changes to NYSERDA

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39 Energy Storage Proceeding, Roadmap, p. 34.
40 *Id*., p. 62.
41 *Id*., p. 37.
42 Laura M. Arciniegas & Eric Hittinger, *Tradeoffs between revenue and emissions in energy storage operation*, ENERGY 143 (2018), pp. 1-11.
43 Itron, "2016 SGIP Advanced Energy Storage Impact Evaluation" (August 31, 2017).

procurements may be necessary to avoid potential cost-shifts to all customers.[44] The Joint Utilities support further work on this matter in a way that considers impacts on all resources and the potential for increasing costs to customers. As a result, it would be premature to adopt the technology-specific recommendations from the Roadmap at this time. The Joint Utilities believe that Value Stack compensation that reflects the E-Value can serve as a glide path toward the NYISO's eventual inclusion of the E-Value in energy prices.

VII. Rate Design Implications

The Roadmap makes a number of recommendations related to utility rates and programs. The Joint Utilities note that the primary function of retail rates is to allocate and recover utility costs from customers based on cost-causation principles, not to support the economics of any particular type of DER, such as storage.[45] Therefore, it is inappropriate to modify retail rate designs within a proceeding which is focused on a single resource type.

Rate design matters are actively being considered in several other forums, including the VDER Proceeding and within utility-specific rate cases, and modifications should be considered within those efforts and proceedings. With respect to compensation, the Joint Utilities suggest a comprehensive review of all mechanisms and programs to ensure that stacked value is commensurate with the overall customer benefits.

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[44] Cases 15-E-0302 *et al.*, *Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and Clean Energy Standard*, Joint Utilities' Supplemental Comments Regarding Order Approving Phase Two Implementation Plan in the Clean Energy Standard Proceeding (filed May 21, 2018).

[45] REV Proceeding, REV Track Two Order, p. 122, Appendix A, p. 1.

The Roadmap makes specific recommendations regarding demand charges. Demand charges for commercial customers are the appropriate method for recovering fixed costs.[46] Even a customer whose peak occurs during off-peak periods imposes distribution costs that should be recovered from that customer in an equitable fashion. Other rate design approaches, including technology-specific alternatives, will send inaccurate price signals to customers and produce undesirable cost shifts.

A. Rider Q

The Roadmap specifically recommends that Con Edison's Rider Q standby pilot tariff be made available on an opt-in basis for all demand-metered customers throughout all utilities' service territories.[47] It is premature to expand a pilot program on a statewide basis as there is little experience with Con Edison's only recently approved pilot[48] and there is a need to learn more about the tariff's impacts on customer behavior before considering broader adoption by other utilities. Staff made a similar rate design proposal earlier this year in a Draft Outline[49] on which the Joint Utilities submitted comments.[50] The Joint Utilities urge the Commission to take note of these comments when considering the Roadmap's proposal.

B. Symmetrical Charge and Discharge Rates

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46 *E.g.,* REV Proceeding, *Commercial & Industrial Demand Charge Reform Filing of Consolidated Edison Company of New York* (filed April 17, 2017).

47 Energy Storage Proceeding, Roadmap, p. 32.

48 Cases 16-E-0060 *et al., Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Electric Service*, Order Approving Tariff Amendments with Modifications (issued January 19, 2018).

49 Matter 17-01277, Staff Standby/Buyback Whitepaper Draft Outline ("Draft Outline')(filed February 7, 2018).

50 Matter 17-01277, Joint Utilities' Comments on Staff Standby/Buyback Rate Draft Outline (filed February 28, 2018).

Consistent with the Staff Whitepaper on expanded Value Stack eligibility,[51] the Roadmap supports rate designs where "charges and credits both accurately reflect hourly values."[52] The Joint Utilities note that Staff made these recommendations to eliminate the potential for uneconomic retail rate arbitrage that could be present in a situation where a storage system charges during a high value period at an average retail rate and then immediately discharges power at a more granular Value Stack compensation rate. Using the same hourly energy price reflects a reasonable way to prevent the artificial arbitrage opportunities noted by Staff in the Value Stack eligibility proposal.

C. DRV Modification

The Roadmap also recommends that Value Stack compensation be extended to stand-alone storage with the demand reduction value ("DRV") rate lock extended from three to seven years in order to improve economics and reduce financing costs. The Roadmap also recommends that parties consider whether there should be a DRV call signal for top utility system hours. This recommendation is similar to the approach supported by Staff in its *Draft Staff Whitepaper Regarding VDER Compensation for Avoided Distribution Costs*,[53] as one of two DRV alternatives. Existing CSRPs could be employed to address this matter more effectively than the proposed Roadmap recommendation and the Joint Utilities recently

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51 VDER Proceeding, Staff Proposal on Value Stack Eligibility Expansion (filed May 22, 2018), pp. 8-9.
52 Energy Storage Proceeding, Roadmap, p. 32.
53 VDER Proceeding, Draft Staff Whitepaper Regarding VDER Compensation for Avoided Distribution Costs, ("Draft Whitepaper")(filed July 26, 2018). Staff plans to issue a whitepaper that will be the subject of further comment before Commission decision. *Id.*

submitted comments on this topic in late August which the Commission should consider when addressing this Roadmap matter.[54]

VIII. System and Customer Data Matters

A. System Data

The Roadmap states that developers need additional system data to independently identify and evaluate system needs.[55] In the REV Proceeding, the Commission recognized that utilities are best positioned to identify and develop solutions for distributions needs, and that utilities should serve as the Distributed System Platform ("DSP") Providers.[56] In that role the Joint Utilities already provide developers large amounts of system data to assist in the development of their proposals and projects while also using that data internally to maintain an electric distribution system that provides safe and reliable service. Because the utilities have undertaken these analyses, it would not be productive for third parties to independently identify distribution system needs.

More specifically, the Joint Utilities initiated system data discussions with stakeholders in 2016, tied to their original DSIP filings and have continued those discussions in 2017 and 2018. In order to raise awareness of the significant amount of system data already available through the utilities' various web portals, the Joint Utilities conducted overview sessions for stakeholders involved in the System Data Access Working Group in mid-2017. Information was shared as to the types, format, and granularity of data already available and how to locate that information.

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54 VDER Proceeding, Joint Utilities Comments on Draft Staff Whitepaper Regarding VDER Compensation for Avoided Distribution Cost (filed August 27, 2018).

55 Energy Storage Proceeding, Roadmap, p. 60.

56 *Id*., p. 48.

The Joint Utilities shared additional new information in their July 2018 DSIP Update filings and the Joint Utilities maintain an active website with available links to access all data types. A quarterly update letter is e-mailed to stakeholders signed up with the New York State REV docket.

The Joint Utilities also provide detailed distributed generation application and connection information on a monthly basis, which is posted to the Commission website. In response to stakeholder requests and in large part to support the potential placement of energy storage in support of peak load management, the Joint Utilities have provided 8,760 hour substation level forecasts in 2018. Developers are able to use those forecasts as part of the business case inputs to review the financial viability of an energy storage project. Thus, each utility is already providing valuable data to customers and developers to support Roadmap goals.

The REV Track One Order also determined that the utility, as the DSP Provider, is responsible for planning and operating the distribution system in a manner that assures safe and reliable service. As the distribution system planner, the utilities use system data to generate information to aid in planning and operations. For example, distribution system operators use system data to facilitate real-time grid operation decisions and maintain system reliability and service quality, including reducing the frequency and duration of outages. System planners use system data to perform planning analysis, such as load flow analyses, demand forecasting, investment planning, and other needs-based analyses. The Joint Utilities have constructively sought to maintain adequate security of detailed system information while sharing information to aid in developing stakeholder value such as: (1) the results of marginal cost of service studies that are used to present distribution values, (2) DRV and locational system relief value ("LSRV")

in the VDER Proceeding, (3) posted NWS information that is available on the utilities' websites as a result of distribution planning analysis, (4) DER hosting capacity maps that also serve as access points to more granular system data information such as DER connected to a circuit or DER in queue, and (5) granular, forecasted 8,760 hour data at utility distribution substations.

Additionally, the outcomes of utility planning activities manifested as NWS solicitations are the most valuable information that can be provided to the developers and stakeholders. These solicitations represent real system needs with real capital dollars assigned to those needs, which translate into real market opportunities for developers. In contrast, were the utilities to provide the suggested data, any independent analyses by developers or stakeholders that attempt to identify a utility need would not only duplicate utility activities but also be unlikely to accurately reflect constraint scenarios or projects requiring future funds. Moreover, this exercise would only increase the soft costs associated with DER development and lead to an inefficient use of resources, especially if the need identified by a third party does not reflect actual system conditions.

Finally, the Roadmap suggests that the Joint Utilities provide "DER developers and other stakeholders with detailed monthly capacity and production data – actual and forecasted up to 5 years - for existing peaker units with low capacity utilization."[57] This information is part of bulk system planning and as such, requests for such information should be made through existing NYISO forums for capacity planning.

B. Customer Data

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[57] *Id.*, Roadmap, p. 61.

The Roadmap states that "utilities should increase and improve the customer data provided to DER developers/operators" and notes that this was a significant element of Staff's 2018 guidance for the DSIP filings.[58] The Roadmap specifically states that utilities should expedite the implementation of Green Button Connect My Data ("GBC") and advanced metering infrastructure ("AMI") deployments, which would enhance availability of and access to granular customer energy usage information. The Roadmap also envisions a process whereby NYSERDA and Staff would coordinate with utilities and a third-party vendor to develop a searchable data platform containing "customer related data" to assist DER developers with "identifying potential candidates for energy storage and/or other DERs."[59] This platform would be developed with consideration to the "means and methods of protecting customer privacy," including a "process for identifying customers with their consent that are identified by DER providers."[60]

The Joint Utilities already share a significant amount of customer data with third parties through various media, as outlined in their 2018 DSIP Update filings and also in the 2016 Supplemental DSIP. The Joint Utilities view customer privacy as a priority and the Commission's long-standing policy regarding customer consent shapes the sharing of such customer data. In brief summary, since 2010, the Commission has emphasized its concern about

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58 Energy Storage Proceeding, Roadmap, p. 54 (citing Case 16-M-0411, *In the Matter of Distributed System Implementation Plans* ("DSIP Proceeding"), Department of Public Service Staff Whitepaper, Guidance for 2018 DSIP Updates (filed May 29, 2018).

59 Energy Storage Proceeding, Roadmap, p. 62.

60 *Id.*, pp. 61-62.

sharing data without customer consent.[61] In the REV Track Two Order,[62] the Commission restated its commitment to requiring that individual customer usage data only be released to developers on an opt-in basis. Further, in establishing Uniform Business Practices ("UBP") for DER,[63] and consistent with the initial establishment of the UBP for Energy Service Companies ("ESCOs") in 1999 as revised over the years,[64] the Commission consistently requires both DER and ESCOs to obtain customer consent to receive information and to inform customers (1) of the types of information to be obtained, (2) to whom it will be given, (3) how it will be used, and (4) how long the consent will be valid.[65] Moreover, in conjunction with its long-standing concern for protection of customer data, the Commission has established that any deviations from a policy prohibiting the disclosure of customer data without the customer's permission require the Commission's careful review of the specific circumstance that apply to each instance of data disclosure.[66]

With respect to shared data, as described in the REV Track Two Order,[67] customer data can be either customer-specific or aggregated, and each utility currently provides both types of

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61 Cases 07-M-0548 *et al., Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio*, Order on Rehearing Granting Petition for Rehearing (issued December 3, 2010)("OPower Order").

62 REV Proceeding, Order Adopting a Ratemaking and Utility Revenue Model Policy Framework (issued May 19, 2016)("REV Track Two Order"), p. 147.

63 Case 15-M-0180, *In the Matter of Regulation and Oversight of Distributed Energy Resource Providers and Products* ("DER Oversight Proceeding"), Order Establishing Oversight Framework and Uniform Business Practices for Distributed Energy Resource Suppliers (issued October 19, 2017)("UBP-DER Order").

64 Case 98-M-1343, *In the Matter of Retail Access Business Rules,* Order Adopting Revised Uniform Business Practices (issued January 19, 2018).

65 *E.g.,* DER Oversight Proceeding, UBP-DER Order, pp. 7-8.

66 *E.g.,* Case 14-M-0224, *Proceeding on Motion of Commission to Enable Community Choice Aggregation Programs,* Order Authorizing Framework for Community Choice Aggregation Opt-Out Program (issued April 21, 2016)., p.20.

67 REV Proceeding, REV Track Two Order, pp. 147-150.

data in accordance with the Commission's orders. For example, each of the Joint Utilities is required to provide a standard set of customer-specific data to DER developers via the State's electronic data interchange ("EDI") standard, pursuant to the Uniform Business Practices for DER.[68] Each of the utilities also offers the Green Button Download My Data tool that allows customers to download their usage data, at which point customers have the ability to share that information with third parties.[69] NYSERDA's Utility Energy Registry ("UER"), a statewide, publicly-available database for aggregated customer data, is currently being populated with utility customer data by each of the Joint Utilities.[70] The UER will provide third-party access for up to 30 months of customer data aggregated at the municipal or zip code level.

The Joint Utilities also provide customer data via other means, all subject to customer consent or a privacy standard[71] and pursuant to Commission orders. As required by the 2016 DSIP Guidance Order,[72] all utilities with AMI deployment plans, including Con Edison, National Grid, NYSEG, Orange and Rockland, and RG&E have filed or will be filing implementation plans to develop platforms for sharing interval usage data that are in conformance with the national GBC standard. While the Joint Utilities are generally aligned to include GBC when

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68 DER Oversight Proceeding, UBP-DER Order.

69 *E.g.*, Cases 15-E-0050 *et al*., *Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Electric Service,* Second Phase Implementation of Green Button Connection for Consolidated Edison Company of New York, Inc., and Orange and Rockland Utilities, Inc. (filed October 2, 2017).

70 Cases 17-M-0315 *et al., In the Matter of the Utility Energy Registry* ("UER Proceeding"), Order Adopting Utility Energy Registry (issued April 20, 2018)("UER Order").

71 UER Proceeding, UER Order; REV Proceeding, Order on Distributed System Implementation Plan Filings (issued March 9, 2017) and Order Adopting Distributed System Implementation Plan Guidance (issued April 20, 2016)("2016 DSIP Guidance").

72 REV Proceeding, 2016 DSIP Guidance.

they deploy AMI, each utility with plans to deploy AMI is in a different stage of implementation. Central Hudson does not have plans to deploy AMI system-wide, and therefore does not have any plans or expectations to invest in GBC. Central Hudson has enabled Green Button Download My Data functionality for its customers, as noted above. Meanwhile, National Grid recently completed an AMI Collaborative as directed by the Commission in approving the Joint Proposal in its rate case and intends to file an AMI implementation plan report with the Commission no later than November 1, 2018.[73]

As part of the REV Proceeding, the Joint Utilities have also created a Customer Data Working Group through which the utilities work together and with stakeholders to understand third-party data needs. The Customer Data Working Group provides the Joint Utilities with a forum to support the development of statewide customer data sharing standards, coordinate implementation efforts, and solicit stakeholder feedback on the evolution of statewide standard(s). In 2016 and 2017, the Joint Utilities held multiple stakeholder meetings to discuss statewide data standards and privacy considerations, and also met with individual third parties to learn about their customer data use cases and better understand the prioritization of different data elements. This stakeholder engagement has aided the Joint Utilities in identifying lessons learned from other jurisdictions that have embraced GBC and given stakeholders an opportunity to hear updates from each utility on AMI and GBC deployment schedules (where applicable), among other things. The Joint Utilities will continue to work together and engage stakeholders,

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[73] *See* Cases 17-E-0238 *et al*., *Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Niagara Mohawk Power Corporation d/b/a National Grid for Electric Service*, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plans (issued March 15, 2018), where the Commission directed the filing of the AMI Infrastructure Report by October 1, 2018. The Secretary subsequently granted a one-month extension to November 1, 2018.

including the storage industry, in an ongoing dialogue to address emerging market needs for customer data.

The Roadmap's recommendation to develop a new customer data sharing tool and the suggestion that the State consider new policies that would direct utilities to provide anonymized customer-specific information prior to customer consent, must consider and be consistent with the significant amount of development work and policymaking that has already occurred regarding customer data. Review and development of customer data and privacy rules in the context of individual technology proceedings and roadmaps will lead to different rules for similar providers, causing confusion for DER developers and other third parties and creating duplicative implementation requirements for utilities. The Joint Utilities recognize the importance of customer data to DER suppliers, developers, and other third parties, in the furtherance of storage deployment and implementing other REV initiatives. Given the work done to date to provide customer data with the appropriate privacy standards and customer consent, the Joint Utilities do not believe that this proceeding is the appropriate forum to decide the mechanism and associated privacy standards for a customer data database. Rather this important and far-reaching topic should be reviewed in a proceeding that will consider all of the aforementioned proceedings and the needs of all types of DER and service providers, weighed against customers' rights to protect their own specific data.

In summary, system and customer data issues have been extensively discussed and ruled on in multiple proceedings. New recommendations to expand access to system and customer data should be evaluated in those proceedings as any rules must be analyzed in the context of all DER, not just storage.

IX. Interconnection Considerations

The Roadmap makes a number of recommendations related to the interconnection process that address: (1) reducing soft costs; (2) the inclusion of interconnection costs and related information in certain NWS solicitations; and (3) the maintenance of interconnections when the term of an NWS ends. The Joint Utilities believe that the most efficient approach to addressing the majority of interconnection matters raised in the Roadmap is through the continued collaborative work of either the Interconnection Policy Working Group ("IPWG") or the Interconnection Technical Working Group ("ITWG") which are working to enhance New York's Standardized Interconnection Requirements ("SIR") by balancing utility system requirements with the business needs of DER developers.[74]

A. Soft Costs

The Roadmap recommends that the IPWG and ITWG "be required to incorporate standalone and paired energy storage/renewable/on-site generation into their scope" and "develop a prioritized list of critical issues that must be resolved within the next three years to allow energy storage (standalone or paired) to reach commercial scale" by December 2018.[75] The Joint Utilities are generally supportive of these concepts and will continue to work collaboratively as storage develops while also recognizing that some of this work will be within the context of actual projects. The IPWG and ITWG are the appropriate forums to address interconnection issues as their efforts to streamline the interconnection process have already been

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[74] SIR Proceeding, IPWG/ITWG Commenters Response to the SAPA Notice and the New York Public Service Commission's Order Granting Clarification (filed September 10, 2018).

[75] Energy Storage Proceeding, Roadmap, p. 54.

incorporated into the SIR technical requirements to support the interconnection of both standalone and paired storage.

B. NWS Solicitations and Interconnection Costs

The Roadmap recommends that utilities should: (1) provide guidance regarding specific local considerations that might impact interconnections costs; (2) provide a range of interconnection cost estimates for non-binding planning purposes for DER situated on utility land near any proposed NWS; or alternatively (3) indicate that interconnections costs would be borne by the utility and included in the BCA for the project, thereby eliminating the need for developers to estimate such costs.[76] The Joint Utilities recognize the uncertainty that developers face in estimating interconnection costs but note that without specific project details, such as technology type and size, any estimate would be too broad to meaningfully reduce risk in project economics. Interconnection cost varies greatly by location, technology, size of DER, and project location in the interconnection queue, which makes advance estimation too broad to provide meaningful information to the market. Moreover, the utility-provided hosting capacity maps already enable third parties to identify the locations with comparatively lower interconnection costs.

The Roadmap's proposal that all utility customers pay interconnection costs for storage resources represents an approach that favors storage over other DERs and as such not only violates the core technology-agnostic REV principle but also is inconsistent with the approach that the Commission's longstanding policy of encouraging the efficient siting and sizing of DER

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[76] *Id.*, pp. 41-42.

equipment by requiring that interconnection costs should be borne by the developer. This is true whether these costs are included as part of the NWS bid response, or in the utility scoping process. The Joint Utilities believe that all actions taken to implement the Roadmap should adhere to a technology agnostic, least-cost approach for all customers. This is achieved when developers are encouraged to utilize hosting capacity maps and other resources to find locations with the lowest interconnection costs. For this reason, the Joint Utilities do not recommend socializing interconnection costs of storage across utility customers.

The Joint Utilities are open to exploring alternative business models for NWS, including the use of utility land for third-party projects.[77] However, much of utility land that appears available today is designated for future reliability and resiliency needs. Each determination of utility land for NWS opportunities should be made based on future load relief plans and the specific deferral need.[78]

C. Maintenance of Interconnection

The final Roadmap interconnection recommendation states that an interconnection required to implement an NWS should remain available once the NWS period has concluded and the resource is no longer needed for system relief. While all interconnections are unique, the

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[77] However, any property that is transferred or leased to a third party will require Commission approval under Public Service Law §70. If the original cost of the property is less than $100,000, Commission approval is deemed to be granted 90 days after such a notice is filed without explicit Commission approval absent a determination that the proposed transfer or lease requires the Commission's explicit review and consent. If the original cost of the property $100,000 or greater, explicit Commission approval is required and the Commission has no statutory timeframe in which it must act on such a petition. As such, this approval process timeline needs to be taken into consideration when contemplating the sale or lease of utility property to facilitate the siting of an NWS project.

[78] *See, e.g.*, Con Edison NWS Solicitations for Water Street and Plymouth Street Cooling Projects, available at: https://www.coned.com/en/business-partners/business-opportunities/non-wires-solutions

Joint Utilities are generally supportive of this approach and note that the interconnecting customer generally owns the interconnection and, therefore, has the ability to maintain it after the NWS period. The only possible exception is in situations where a developer has leased utility property to provide services through the NWS period and thus the interconnection rights would terminate at the end of the lease.

X. Wholesale Market Issues

The Roadmap addresses a variety of matters related to the wholesale markets, the most important of which relate to: (1) dual participation; (2) buyer side mitigation ("BSM"); and (3) a proposal to meet system peaks with clean resources ("Clean Peak").

A. Dual Participation

Dual participation leverages the unique capabilities of distributed energy storage to provide wholesale market services while providing distribution system load relief where and when the services are not in conflict. Accessing wholesale market revenue streams is critical to unlocking the full value of storage and is essential for project economics and the ultimate achievement of the State's storage goals. Dual participation can minimize subsidies from utility customers that would otherwise be necessary to fill the gap between storage costs and distribution and customer benefits. This matter is now being considered at the NYISO and is complex, because utility provided compensation such as the proposed NWA+ construct could impact a resource's ability to obtain compensation in the capacity market and potentially trigger

capacity market mitigation by the NYISO.[79] The Joint Utilities, recognizing the complexity of developing the rules and coordination details required to enable dual participation, are committed to continuing work with stakeholders to address these issues, along with the corresponding BSM rules.

B. Buyer Side Mitigation

A related issue now before the NYISO concerns whether current BSM rules, which determine whether a resource that may derive revenues from the capacity market, will be applied to storage. Such rules, if applicable, would impact storage projects operating in New York City and other downstate capacity zones. While the NYISO's decision on this issue is still pending, exempting storage from BSM would increase the opportunity for downstate economic storage investments to obtain revenues in the capacity market.

C. Clean Peak

The Roadmap's Clean Peak recommendations primarily relate to Con Edison's service territory and involve: (1) establishing a time varying E-Value; (2) adjusting NWS to also consider system peak reductions; (3) establishing market acceleration incentives that maximize carbon reductions; (4) encouragement for pairing energy storage with large scale renewable resources; and (5) a stakeholder process that among other things will perform a peaker-by-peaker

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[79] If a distribution utility procures more storage capacity than is necessary to meet the distribution need to a specific MW quantity, the NYISO could treat the revenue from the marginal MW as a payment for capacity. In this scenario, allowing that portion of the project to participate in the capacity market would be double-compensation for the same product.

assessment of the extent to which clean energy can eliminate the need for the peaker without negatively impacting system reliability.

These comments have already addressed items (1) through (4) in earlier sections. Regarding item (5), the Joint Utilities welcome the opportunity to participate in a multi-stakeholder process to develop cleaner solutions that meet New York's reliability needs and environmental goals but note there will likely be limitations on sharing transmission data that contains Critical Energy Infrastructure and/or market-sensitive data. It is recommended that rather than a unit-by-unit assessment, the methodology focus on the feasibility of meeting bulk and distribution system needs of the geographic area served by the peakers (*i.e.*, load pockets), in order to determine the optimal deployment of storage and other clean energy as part of a complete solution. The analysis should consider: (1) certain load pockets exhibit sustained peak load periods; (2) availability of space to site DER and other solutions; and (3) all possible solutions including energy efficiency, other DER, transmission, and new, more efficient combustion turbines.

XI. Conclusion

The Joint Utilities appreciate the opportunity to provide these comments in response to the Roadmap and look forward to working with the Commission, Staff, NYSERDA, and other stakeholders as this proceeding progresses.

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Respectfully submitted,

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