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12 September 2023

Docket No. QO22080540

New Jersey Energy Storage Incentive Program (NJ SIP) Request for Information (RFI)

New Jersey Board of Public Utilities (BPU) or (Board)

Cogentrix Energy Power Management, LLC (CEPM)'s Response to the NJ SIP RFI

Cogentrix Energy Power Management, LLC (Cogentrix) is pleased to be able to provide these comments in response to the NJ SIP RFI. Cogentrix appreciates the Board of Public Utilities' (BPU) national leadership in effecting the transformation of the power sector in New Jersey and looks forward to remaining an industry partner in the transition.

By way of background, Cogentrix' s affiliates own, and Cogentrix and its subsidiaries operate and sell energy and capacity from, approximately 9,000 MW of electric generation facilities throughout the United States, including two natural gas fired plants in Lakewood, New Jersey. Lakewood Cogeneration, a combined-cycle facility consisting of two combustion turbines and one steam turbine, has a base capacity of 265 MW. Essential Power OPP consists of two simple-cycle configuration combustion turbines, and has a base capacity of 336 MW. As a peaking facility, OPP is specifically designed to quickly reach full output when the highest level of electricity is consumed in our region within a specific timeframe.

Cogentrix is actively engaged in developing resources to physically pair large-scale battery storage devices with existing generating capacity. Cogentrix currently has five projects totaling 500 MW-2,000 MWh of battery storage resources undertaking the interconnection processes in ISO-NE and PJM. In New Jersey, Cogentrix is proposing a 170 MW – 680 MWh battery installation located on the Lakewood, New Jersey site. Federal and state regulations, as well as the existing regional transmission tariff, do not yet seamlessly integrate these types of resources into the dispatch and operation of the market. Similarly, existing tariff-based wholesale market revenue is insufficient to support the project without additional state programmatic revenue. Accordingly, Cogentrix is appreciative of the BPU's efforts in this proceeding.
Following is the body of the RFI with Cogentrix's comments inserted after each question to

which Cogentrix is responding.

1.1 Utility Ownership/Dispatch Control

The Straw "*does not propose to allow for utility ownership or operation of devices*," but notes that "*EDCs will play a key role in building the grid infrastructure necessary to enable the effective dispatch of energy storage devices*." This proposal was intended to encourage private ownership and operation of energy storage devices and the development of a robust energy storage sector in New Jersey's restructured competitive market.

1.2 What are the advantages and disadvantages of utility control versus non-utility control of energy storage systems?

The response to this question is primarily offered in the context of "Grid Supply" resources. They are not contradictory for "Distributed" resources, but the treatment of behind-the-meter and in-front-of the meter resources should be addressed independently.

By their very nature, utility-controlled supply resources would distort markets and are economically inefficient, leading to higher prices for consumers. They reduce the economic incentives for investors to innovate and improve the operating efficiency of resources that have been denied the benefit of out-of-market revenues.

Advantages and disadvantages are difficult to determine absent a way to measure them. Implicit in the question is that control has a quantitative aspect conferring benefits in greater proportion based on the entity controlling the capital asset decision making. If the BPU assumes that utility decision-making with regard to physical supply resource dispatch can better optimize resources for the benefit of consumers than similar decisions taken by privately controlled resources, then such utility control would seem preferential. However, that is clearly a hugely aggressive assumption and is not one that can be tested except via inference to similar decisions taken decades ago by utility monopoly of generation resources. Control of resources and ownership of resources are not the same, but it is very difficult to separate the two within the context of the current NJ BPU SIP proceeding.

Accordingly, discussion on the advantages and disadvantages regarding utility control of NJ-based storage systems is moot because such control has limited ways of being implemented. While storage as a resource class is unique in that it can be used across the generation, transmission, and distribution segments, as a practical matter the only physical market in which storage output is compensated is PJM's supply market. Thus, while storage as a transmission or distribution asset has demonstrable value, in those segments it would have to be added to a utility's rate base and not utilized as a source of supply. Since such operation is not possible, or is impractical at best, in the context of PJM and New Jersey's competitive supply market, storage will remain as a supply asset.

To illustrate this, if New Jersey reverted to monopoly utility control of the energy system, the use of storage resources included as capital assets in the rate base across each of the generation, transmission, and distribution segments could be accomplished without regard to regulatory or jurisdictional divides. Having regulatory control over the utility, the BPU ostensibly would have the advantage of direct control over the use of the storage assets included in the rate base. For assets controlled via inclusion in a utility's rate base they could only be entirely owned by that investor-owned utility and cost recovery for those capital assets would fall solely and absolutely on the backs of New Jersey rate payers.

There is no practical way for the BPU, through its regulated IOUs, to exercise such control of storage resources. Asset control in the form of ownership would require New Jersey consumers to incur all of the costs of these resources, thereby transferring all of the risk to rate payers. Except for the self-scheduled or other out of market operations, the dispatch of storage resources choosing to participate in the wholesale market is determined by the FERC jurisdictional PJM tariff and is exercised exclusively through the markets for supply resources.

Also, the financial obligations following physical use of a storage asset in those markets would somehow have to be undertaken by rate base. This is directly analogous to the fully vertically integrated monopoly form of utility operations across the generation, transmission, and distribution power sectors. The more efficient and prudent structure is for IOUs to procure storage through long-term contracts that confer benefits without incurring unlimited liability. California has successfully employed long-term contracting for storage resources, and the eastern states have utilized contracts to promote a competitive offshore wind.

The best contracting example is a tolling agreement. Essentially, the private entity develops, finances, builds, owns, and operates the private resource and a utility counterparty is responsible for sourcing and supplying "fuel" or charging energy needed to operate the storage resource. The private party maintains and operates the storage resource to a set level of performance requirements, but the dispatch of the unit and its performance, for the benefit of NJ rate payers, is undertaken at the direction of the utility.

The model of California's competitively procured, bi-lateral tolling type contracts could be adopted by New Jersey under the BPU's jurisdiction. In this scenario, the BPU could direct its investor-owned utilities to conduct a price competitive procurement of storage resources from privately owned companies in the form of regulated off-take agreements. Proponent projects awarded long-term off-take contracts would receive the revenue specified in the off-take agreements in the form of a tolling arrangement. In this case, decisions concerning the use and physical dispatch of the asset, including sourcing the necessary charging energy, would be the responsibility of the "tollee" or utility. Provided the project owner, or "toller," maintains the performance specifications stipulated in the off-take agreement, the resource would receive a fixed payment from which it would pay operating costs and provide for a return of and on its capital base.

Capital demands returns commensurate with the risks under which it is invested. By separating the fixed risk component (capex, fixed opex) from a storage resource's variable or dispatch risk component (variable opex, charging costs, ete.) capital returns will be adjusted accordingly. In the case of a toll, the project development period and fixed asset maintenance risk is contractually separated from the on-going dispatch risk. This delineation makes it easier for investors to price their capital and the financial cost of the initial capital expenditure should be lower.

It is not possible for any supply resource to respond to two different sets of dispatch instructions. Storage resources dispatched by private market participants will respond to specific market price signals in order to maximize revenue. Storage resources dispatched by entities whose priority is not revenue maximization can utilize those resources at their discretion. If New Jersey wants the storage resources to respond to non-price signals, such as the marginal emission rate, the better project construct is a tolling agreement.

Until such time as PJM has an alternative to the wholesale supply market for purposes of remunerating storage, utility owned storage, with its preferential cost of capital, should not be allowed to supplant the private sector. By preferencing utility ownership, New Jersey would disadvantage itself from the use of existing, privately-owned, and existing generation sites.

1.3 For Distributed resource Performance-based Incentives, should responding to a utility signal be compulsory or voluntary?

No comment

1.4 For Grid Supply resources Performance-based Incentives, should responding to a market signal be compulsory or voluntary?

A fundamental criteria for participation in the SIP should be participation in all PJM markets for which storage resources are otherwise eligible to compete. Under current PJM market constructs, this would include all capacity, energy, and ancillary service markets. Responding to specific market signals, however, should not be mandated by the SIP unless rate base is bearing the risk of such decisions. The day-ahead, real-time, and even minute to minute dispatch decisions need to be taken based on the operational, resource management, resource adequacy, and reliability conditions existing at the moment in time at which such a resource use decision is made. If the BPU sets a specific economic incentive level or dollar amount and does not assume direct or indirect operational control of the storage resource, then the storage resource needs to be free to operate in the physical PJM market as it sees fit.

If the SIP maintains its current programmatic trajectory of pre-determined payment levels meant to compensate storage for a portion of their capital and operational costs, then such projects should be allowed, and in fact encouraged, to maximize their revenue by competing in all available markets and thus dispatching in accordance with the PJM

Tariff. This would include any future PJM or State market constructs that could be emission-based. In competitive commodity markets, such as PJM's, the greatest benefit derived from supply resources will occur when their operations are incentivized by market signals at the time of those operations and not based on an alternative regulatory construct.

2. Installed Storage Targets, Deployment Timelines and Capacity Blocks

The Straw set annual installed energy storage targets that increase over time (see section V. D. of the NJ SIP Straw Proposal for details).

2.1. How should capacity blocks be structured and proportioned, both within each component of the NJ SIP (Grid Supply and Distributed) and relative to each other?

Storage is a complimentary supply resource useful only in conjunction with, or complimenting, some other supply resource. The capacity blocks should be structured to promote the installation of storage in areas in which the storage can offer the greatest complimentary value.

In general, storage capacity should be incentivized to address inefficiencies in the grid identified by the utility's heat maps (which need to be created, made available publicly, and kept current or updated) for Distributed storage and where the greatest marginal energy price differentials can be narrowed (for Grid Supply storage).

The goal for Grid Supply storage should be to close both locational and time-of-day energy price differentials and to maximize the use of the other grid supply resources being supported by New Jersey (i.e., offshore wind and electrification of the transport sectors in which storage is the complimentary technology). For example, New Jersey should seek to ensure that its rate-payer supported wind resources experience little if any curtailment (assuming marginal price dispatch by PJM).

Similarly, electric vehicle charging needs to be made available when and where needed, not subject to price spikes or physical unavailability due to grid congestion. Use of Grid Supply resources for EV charging is not ideal, but maintaining charge points with local storage supply is preferable to not having the charge point available or having it be available at only very high cost.

Question 2.3 below addresses interconnection delays. Consideration should be given to reserving capacity allocations in areas where storage can offer relatively greater benefit but is blocked by interconnection delays.

2.2. Should the proposed first-come, first-served application process be changed to a "First- Ready, First-Served" process?

Cogentrix strongly believes that an on-going, periodic procurement of Grid Supply storage resources would be the most successful method for New Jersey to meet its storage goals. As noted elsewhere in these comments, a competitive procurement with awards based on a standard set of qualification criteria and firm bid prices would provide the greatest likelihood of a successful storage program.

Such a staged procurement process would also allow the BPU to reassess and refine its storage needs over time as the grid evolves to increasingly depend on intermittent supply resources.

2.3. How should the program be designed to avoid or minimize interconnection delays? Should the interconnection process be modified for accommodating energy storage and if so, how?

The current interconnection delays are making installation and use of new resources practically impossible. For example, interconnection applications filed in 2022 don't anticipate commercial operation until at least 2028 since PJM will not take action until 2026-27. In July, FERC addressed the interconnection situation in FERC Order 2023, but much more needs to be done to reduce these delay obstacles.

Grid Supply resources face a one-size fits all interconnection process in the PJM interconnection queue whereby all new or modified interconnections line up in the same queue to undergo the same process regardless of the individual project circumstances. FERC 2023 seeks to change the process from a "first-come, first-served" to a "first-ready, first-served" priority which will be helpful in moving the truly viable projects forward faster. However, given the unique circumstances of many projects (e.g., projects with existing interconnection infrastructure or existing PJM Capacity Injection Rights (CIR)) in which an interconnection application seeks to replace or supplement rotating equipment to inverter based supply, there may be ways in which interconnection studies could be completed more rapidly. Clearly, this would benefit the project proponent, but it would also enhance the collective goal of accelerating emission reductions.

The State Agreement Approach that has been used successfully for offshore wind development could be employed to accelerate storage interconnections. A similar process could be conducted for Grid Supply storage resources in which proposed projects offer New Jersey locational or technological benefits allowing for more rapid PJM interconnection approvals.

The current timeframe for interconnecting supply resources is commercially challenging. Projecting and managing capital costs in 2023 for projects that cannot be delivered due to interconnection delays until 2028 or beyond is nearly pointless. As with most aspects of the energy sector, storage is now a commodity business in which project capital costs are subject to all sorts of exogenous economic forces beyond the more routine endogenous development changes. Especially for battery storage projects, for which there is almost a

Moore's law-like rate of technology improvement and change in component design, there will be multiple product changes over a 5-year period (note that it was only in early 2017 that the first grid-scale battery storage projects were accepted as a utility solution at Aliso Canyon in California). One of the benefits of battery storage projects is the speed with which they can be constructed and put into commercial operation. As such, having to wait years for interconnection approvals creates a cycle wherein the project economics are stale and no longer viable for a successful project (a dilemma challenging the offshore wind projects).

None of this should dissuade New Jersey or the BPU from aggressively tackling emission reductions through promoting changes in the type and use of supply resources, but the procurement model needs to recognize the impact of interconnection time delays on project deliveries.

3. Incentive Structure

The NJ SIP incentives are proposed to be comprised of two incentive payments, a Fixed Incentive and a Performance-based Incentive (see section V. E. of the NJ SIP Straw Proposal for details).

3.1. Incentives are meant to cover a portion of the fully installed cost of an energy storage system. What is the fully installed unit cost (in $/kWh) for energy storage systems at present, and estimated to be each year through 2030? How do New Jersey-specific costs vary from these estimates? Please provide links to your references.

Energy is a commodity business and storage resources are no different; the costs will be what they are when the resourses are needed. There are many economic and financial resources available to gauge the trend of storage costs, but the only way to ascertain these costs specifically is to conduct a competitive procurement. There are many renewable energy programs in the US that could act as reference models for recurring (annual, bi-annual, etc.) procurement of storage resources at the then current market costs.

Procurement of resources more contemporaneously with the incurrence of their capital costs would help to ensure a more successful storage program overall. Battery prices have declined very significantly over the last ~ 6 years, but over the last two years prices have fluctuated wildly - rising sharply and then declining again. While making long-term pronouncements about pricing may be useful for overall strategy purposes, at the project level, where proponents are all competing around a narrow band of equity returns, slight price changes can make or break a project.

Project costs are higher in the northeastern United States than elsewhere in the country. For instance, labor costs are higher, shipping costs are generally higher and often subject to time delays for local transit, siting costs are often higher driven by real estate costs and local requirements or conditions for siting approvals, etc. Accordingly, there is no credible standard source or reference study that will index the all-in costs for a proposed storage project to be built in New Jersey beyond 2027.

3.2. What are the best public data sets for energy storage costs?

No comment

3.3. Should Fixed Incentives be assignable to an aggregator? Why or why not?

Once allocated, incentives are the property of the recipient and should be transferable in a manner similar to other property rights.

3.4. Should a Distributed energy storage resource that can provide grid services have the ability to opt in to either the Grid Supply or the Distributed storage program, for both the Fixed and Performance-based incentives?

[No comment]

3.5. The Straw proposes the use of the PJM Marginal Emission Rate ("MER") signal as a basis for Performance-based Incentives for Grid Supply energy storage systems. Is or will the PJM MER be sufficiently developed to use to calculate NJ SIP Performance-based Incentives?

The PJM MER signal will NOT be sufficiently developed for the purpose suggested in the Straw and is unlikely to ever be useful for this purpose given the very nature of energy flows and ambient weather patterns.

Use of the MER as a proxy for market-based revenue projections is fundamentally flawed. Not only does the MER not contain any actual dollar values, but it is also, as many will note, retrospective in signaling an historical situation and not prospective in providing a signal of future conditions on which rational financial decisions could be made. Additionally, for the congested areas of the PJM grid, such as in New Jersey, the location of the marginal generator and location of a new storage device may not be geographically coincident in an environmentally useful way. Ideally, carbon would be priced via a tax such that it manifests as a cost in energy prices directly, and such prices would then determine the optimal dispatch of the storage resource.

Storage investors cannot carry capital costs based on something called "MERs" as opposed to a dollar price per kWh of energy. Gross margin for storage projects is much more sensitive to charging costs than to discharge revenues, so forcing what might become an out-of-merit dispatch based on an economically sub-optimal charging/discharging scenario resulting from the retrospective MER signal could result in disproportionally higher costs for rate base.

Use of "MERS" also directly contradicts one of the primary tenants of the BPUs Business Model Considerations in that it will not promote value stacking. Forcing storage dispatch based on emissions will preclude dispatch on dollar-based economic terms to the detriment of rate payers and may very well violate the wholesale market regulations by incentivizing out of merit operations. By placing a requirement on storage to use the MER signal to determine when to discharge, the storage resource may not be able to charge at otherwise economically optimal hours or will have discharged at sub-optimal hours. Such a scenario could be punitive to the resource and distort wholesale market signals.

3.6. Is there a different methodology that can be used to determine Performance-based Incentives, such as a Peak Demand Reduction program?

For Grid Supply resources, the Massachusetts Clean Peak Standard (CPS) program is a good reference because it is based on solid market pricing mechanisms transparent to all market participants. Massachusetts has energy goals and policies very similar to New Jersey's and, in this context, the CPS will:

- Reduce on-peak energy prices
- Reduce on-peak emissions
- Maximize the value for ratepayers of the considerable investments made in renewable resources and in particular in offshore wind.

The Massachusetts CPS program is essentially a peak period demand reduction or load shifting program. In as simple a manner as possible, the CPS reduces the highest daily rate of emissions otherwise associated with peak demand periods by incentivizing storage resources to discharge during those peak periods and charge during the periods of peak solar and/or wind generation. The fundamental purpose of the CPS is to enable non-emitting, but non-dispatchable supply to be shifted to otherwise peak emission periods.

To implement a CPS to operate Grid Supply resources in New Jersey, the historical MER signal could be used as the basis for setting the hours of charging and discharging in the next annual or seasonal SIP year. By ensuring that Grid Supply resources were charging during the periods of highest wind generation, for instance, and discharging during peak demand periods, New Jersey could be certain that its zero emission wind resources were being optimally utilized during the periods of otherwise highest emissions.

The benefit of using a set time of day for storage operations is simplicity and transparency. In general, the hours of the day experiencing the highest MER will also be those hours experiencing the highest marginal energy prices. However, rather than incurring the BPU's cost and time in developing an administrative method for tracking storage project performance based on different MER signals, a cleaner, simpler, and more transparent approach would be an annual marking of specific weekly, monthly, seasonally, etc. hour periods for charging and/or discharging.

Another approach to ensuring emission reductions is one based on a threshold round trip efficiency (RTE) for storage systems combined with the difference in the price of charging to discharging energy. For the foreseeable future of a wholesale grid with some level of conventionally dispatched resources, if the delta between charging costs and discharging costs equals or exceeds the storage system's round trip efficiency loss, then the stored energy discharged into the grid will be displacing less efficient resources. Thus, both peak period prices and emissions will be lower.

Either establishing set hours for charging and discharging, or maintaining a set RTE and delta between charging and discharging costs would be much simpler to implement, easier to track, and more successful in maximizing both net emissions reduction as well as wholesale market revenue (needed to reduce the net burden on rate payers).

3.7. If a Peak Demand Reduction program were to be developed, how should it be structured? What other states have similar programs that New Jersey should use as a benchmark?

See comments at 3.6

3.8. What degree/percentage of Peak Demand should be targeted for reduction? What effect would such a program have on GHG emissions?

In terms of the amount of peak reduction, the need to shift non-emitting supply resources to periods in which such supply would not otherwise be made available will remain as a fixture of a supply system increasingly based on intermittent resources. Therefore, there is no useful upper limit on the need for storage resources. What should be addressed in a meaningful way is the location of greatest value for both Distributed and Grid Supply resources. For instance, storage resources installed inside of congested areas would have a proportionally greater impact than a larger quantity of storage located elsewhere.

What impact a Peak Demand reduction program would have is merely a variant of what impact any storage program would have. A key aspect of the SIP is the value stacking and participation of storage resources in the various PJM wholesale markets. Therefore, participation will logically maximize revenue by charging when energy prices are lowest and discharging when the prices are highest to allow the greatest benefit from whatever power product has the most value at any given incremental time. As long as RTOs dispatch on a marginal cost basis, storage will reduce GHG emissions until such time as there is no delta in energy prices throughout the daily dispatch curve.

Use of lower/zero-cost marginal energy from renewable generation load-shifted to peak periods will preclude PJM dispatch of higher cost generation. The least cost, greatest emission reduction scenario is one in which low marginal cost renewable energy is supplied during peak demand while the traditional peak resources are maintained only for reliability and resiliency purposes. The ISO markets are designed for low-capex/high-opex type supply (i.e. conventional units), but do not accommodate the inverse supply of high capex/low opex (i.e. very low or zero-marginal cost renewable generation). So, excepting for reliability, the promotion of storage to reduce use of higher-marginal cost supply during peak demand periods will reduce GHG emissions from supply.

3.9. The Straw proposed that each EDC establish its own level of Performance-based Incentives. Should EDCs establish EDC-specific performance incentives, or should the incentive be standardized and common to all EDCs?

There should only be one storage program for the State of New Jersey applicable to all EDCs. However, periodic procurement of storage resources, and particularly Grid Supply resources, would allow for procurement of storage at the location of its greatest benefit to rate payers. This could result in varying quantities of storage at various locations.

3.10. Should energy storage owners be permitted to opt in, or be subject to utility control, in order to be eligible for Distributed performance incentives?

[No comment]

3.11. How should incentives be structured for thermal storage systems?

[No comment]

3.12. Under what circumstances, if any, should Distributed resources be able to opt in to Grid Supply Performance-based Incentives?

[No comment]

3.13. Large projects and long duration projects have the potential to qualify for significant incentives. Should incentive caps be applied in this program? If so, how (for example, by customer, project, developer, duration or meter), or other method?

Incentives should not be capped. The competitive process will result in the netting of incentives to the benefit of consumers through lower costs. Additionally, any such incentives will be directly proportional to project costs and, even accounting for some economies of scale in such projects, the revenue per unit of supply will be comparable.

3.14. Should a cap be set such that the sum of federal and state incentives does not exceed a certain amount? If so, please provide details.

No. The competitive process will result in the netting of federal incentives to the benefit of consumers through lower costs. By their very existence, the various federal and state incentives demonstrate a lack of market signals needed to achieve certain policy objectives, and rate payers in New Jersey should assume the use of such incentives is maximized.

3.15. What provisions should be included in the program for monitoring, reporting and evaluation in order for deployed projects to maintain eligibility for incentives that are paid over time?

As evidence of on-going eligibility for SIP payments, Grid Supply projects should have the requirement to participate and clear in all PJM markets for which such type projects are otherwise suited. In the various current PJM markets this would entail undertaking Capacity Performance obligations and the need to participate in the day-ahead markets. The quantity of kWh for which incentives are paid should tie to the quantity of kWh contributing to the Capacity Performance payments from PJM.

If the SIP were to take the form of tolling or other forms of off-take agreements in which the off-taker assumes ownership or control of the physical power attributes then it would be expected that the off-take agreement would contain certain performance criteria such as system availability, output, and duration that would have to be maintained in order to receive 100% of the off-take agreement price.

3.16. How can BPU structure NJ SIP Performance-based Incentives to both promote value stacking and prevent double compensation?

Until such time as the ISO markets are re-designed to support high capex/low opex supply resources, they will not adequately remunerate storage to the level of any "double compensation." However, if the SIP were to take the form of long-term tolling or off-take agreements, at least for Grid Supply resources, then that contract would address how and to what level payments would be made to projects.

4. Overburdened Community Incentives

The Straw proposed three methods to support OBCs with energy storage incentives.

- An incentive adder in kWh

- A separate incentive block
- An additional up-front incentive

4.1. Staff is considering establishing both an adder and a capacity block for OBCs. What size should the capacity blocks be over time as a percentage of the overall Distributed segment? How much should the adder be in 1) $/kWh or 2) as a percentage of the base incentive?

[No comment]

4.2. How can BPU assure that the incentive structure chosen will in fact provide benefits to OBCs?

OBC incentives should be limited to storage installations that reduce emissions within the geographical limit of that OBC. Such reductions could be the result of offsetting conventional generation located in the OBC or reducing emissions from a commercial or industrial operation in some way. A reasonable forward time limit should be applied to the emission reductions since exogenous economic factors will change the emission profile of an OBC over the life of the storage asset, but the revenue requirements of that asset needed to service its capital financing costs will not change.

5. Other Questions

5.1. What actions, if any, should BPU take to improve access to the energy storage value stack as part of implementing the NJ SIP?

[No additional comment.]

5.2. How will Federal Energy Regulatory Commission ("FERC") Order 2222 affect New Jersey's energy storage market? What changes should the Board make to the NJ SIP to take advantage of PJM's pending implementation of FERC Order 2222?

[No comment]

5.3. Are modifications to the NJ SIP needed to maximize the ability of energy storage developers to access federal investment tax credits or other federal incentives?

[No comment]

5.4. What provisions, if any, should be established for interconnection of zero-export energy storage facilities (that is, energy storage facilities that do not inject power back into the grid and only supply power to on-site load)?

[No comment]

5.5. What specific best practices regarding rates and tariffs from other states should be incorporated?

[No comment]

5.6. Should energy storage be utilized and compensated in the Triennium 2 Energy Efficiency /Demand Response proceeding as an allowable Demand Response resource? If so, what changes, if any, should be made to the NJ SIP design to avoid potentially providing double compensation for the same service?

[No comment]

5.7. How should energy storage systems be metered and measured? Can an inverter serve this function? What role should advanced metering infrastructure ("AMI") play in the NJ SIP?

[No comment]

5.8. Please provide any other comments on the NJ SIP.

Cogentrix strongly urges the BPU to consider a different structure for procurement of Grid Supply storage resources. Storage resources will be procured with much greater certainty if they are based on prices bid by the proponents at times closer to their commercial operation dates and when the resources are of the greatest value to rate payers. The mechanism for such a format could be some form of a long-term contract or tolling agreement, a fixed price contract from which all physical PJM market revenues would be netted, or a storage energy credit similar to a renewable energy credit (REC) with the project taking receipt of the physical PJM market settlements.

Cogentrix is concerned that the Straw suggests that the Board will set an incentive price reflective of project costs far into the future. The rapid technology increases, fluctuating equipment prices and volatile energy prices make credible long-term pricing infeasible. An on-going periodic procurement process based on updated prices and delivery dates will yield the greatest likelihood for a fully successful program. Such an on-going procurement process would allow for continual assessment of the type, location, and technology of storage resources to be procured on a much more realistic timeline.

6. Conclusion:

Cogentrix appreciates the BPU's consideration of these comments. We support NJ's transition to a clean grid and look forward to partnering with the state in this endeavor. For the Grid Supply component, Cogentrix prefers a competitive "pay-as-bid" procurement structure for long- term contacts that will be incentivized to derive maximum revenue from the PJM market while being compensated to load-shift energy from lowest price and / or lowest emission periods.