Dear New Jersey Board of Public Utilities;

I am not able to complete this comment, although I wish I could. I have not had the time to fully learn all the aspects being considered. I also don't have the time to weigh each question and answer to my best ability.

I am providing my answers that I started. However, I would like to weigh in on several times.

For NJ Energy Storage Incentive Program

1. This should be a phased approach
    a. Phase A: 3-year early adopters' phase (each install must be 2-megawatt hour hydrogen solution such as GKN Hydrogen's medium sized storage)
    Maximum (100%) incentives for behind the meter (distributed) installations.
    Percentage incentives for grid supplied EDCs
    b. Phase B: 5-year storage leveling and control integration with Public Utilities
    Strong (80%) incentives for behind the meter (distributed) installations.
    Maximum (100%) incentives for disadvantaged homes
    Percentage incentives for grid supplied EDCs
    c. Phase C: 10-year storage deployment with public utility direct integration
    Strong (60%) incentives for behind the meter (distributed) installations.
    Maximum (100%) incentives for disadvantaged homes
    Percentage incentives for grid supplied EDCs
2. NJ BPU should adopt a requirement of using renewable electric storage only, which currently is only available as standalone electric hydrogen storage generated from electrolysis coupled with renewable sources deployed (solar, wind, geothermal)
3. Public Utilities should be incentivized to define a communication control center and communications network that readily enables each storage location to come online, connect into the Public Utility Control Center to register and establish communication protocol interaction that can operate on a real time basis.

I wish I could provide more at this time, but I am not able to. I appreciated that NJBPU did provide an extension on this comment period. I would urge NJBPU to consider my suggestions from the EO317 comment on reducing natural gas emissions. That is tightly coupled to the success of deploying renewable clean electric storage.

I hope you offer more comment periods and public input.

Sincerely,
Kirk Frost

IN THE MATTER OF THE NEW JERSEY ENERGY STORAGE INCENTIVE PROGRAM
Docket No. QO22080540

This RFI contains five sections. The first four sections contain a brief summary of the applicable section of the NJ SIP, followed by questions for that section. The fifth section includes general questions or questions that address multiple topics. The questions are numbered – please number your responses accordingly.

1.0 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.

Comment:

I believe not allowing utility ownership or operation of devices is a mistake. As we push for New Jersey Public Utilities to transition away from 'always on' fossil fuel fed combustion electric generation power plants (including natural gas) to an intermittent renewable power generation, there needs to be extensively deployed distributed electric energy storage throughout each utility grid at all layers of the grid using grid-edge locations that are willing. While it is healthy to enable Electric Distribution Companies (EDC) to install some of these distributed storage sites, distributed storage sites must ultimately be controlled by the public utility responsible for that grid energy. Otherwise, how are they able to manage continued constant resilient energy?

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

Comment:

There are advantages to both options, but the dependency of the grid's resilience and capacity require that the utility company has overall oversight of the operation of each distributed electric storage unit. EDCs or customer approved utility distributed storage units all have to work in unison under the Public Utility Grid operation. Otherwise, there isn't any means for the public utility to manage distribution and delivery of electricity within that utility's grid.

Using EDCs or NJ incentivized residents and or business customers to allow for free leased space for NJ Public Utility storage are methods of keeping competition and pushing costs down. However, all installed electrical storage units must adhere to specifications and control mechanisms established by the public utility responsible for that grid.

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

Comment:

If the signal is a real time control directive linked to current capacity and load, then yes, the signal should be compulsory if electric storage is available.

This all goes back to the requirement that the NJ Public Utility needs to establish real time communications and control communications with each and every distributed electric storage location. Each distributed storage location would be communicating current storage status, utility would be monitoring current generation and load status and utilizing each storage unit location for either storing excess generation (recharging) the distributed electric storage location, holding (neither recharge or discharge from the grid) or discharging electricity from the distributed electric storage location to offset demand or supply outage.

The command structure and communication protocol isn't that complex, but the logic control would be implemented in a phased approach. Perhaps with the first phase being that new distributed electric storage locations perform this logic based off of time templates from the public utility. As more distributed electric storage locations are built, the public utility company would be building out the central control center that would monitor supply, load and control protocols to work with distributed electric storage locations.

Distributed electric storage locations should be compulsory in adhering to requirements and control that the public utility company specifies, including a phased controlled approach.

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

Comment:

If market signal means supply price variances based on demand and load, the public utility company must be enabled to control the distributed electric storage locations where the logic governing storage capacity provides enough headroom where excess storage can be used to offset more expensive electric supply.

2.0 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?

Comment:
Prioritize both Grid Supply and Distributed so that 50% focus on distributed (homes and businesses behind the meter) and 50% on Grid Supply EDCs. Require that electric storage locations for the first 5 years, starting January 2024, are built using 2 megawatt hour hydrogen metal hydride electric storage units (offered by GKN Hydrogen and other competing companies). If 300 installations occur in the next 3 years, NJ will have exceeded the 600 megawatt hour storage goal early, which is a win we need.

In parallel, the nj public utility companies can be establishing initial control guidelines to the first 300 installations and then defining and distributing the phase 2 communications for monitoring and direct control of each storage location (whether grid or distributed).

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

Comment:
For the first 3 years, for distributed electric energy storage (behind the meter) it should be the first willing customers (split evenly between residential and business). These installations should be controlled and managed by NJ Public Utility companies, but can use contracted vendors for installation.

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?

Comment:
The interconnection process for distributed electric energy storage (behind the meter) should be a separate fast track review and approval process. To enable this, the storage template must be already defined and implemented so that the parameters and controls for the storage unit are predictable.

That means the public utility needs pilot volunteers and a starting point to advertise this energy transition plan and seek volunteer residences and businesses willing to work with the public utility. This is something that I would be willing to do for my residential location.

3.0 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.

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

3.3 Should Fixed Incentives be assignable to an aggregator?[1] Why or why not?

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?

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?

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

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?

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

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?

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?

3.11 How should incentives be structured for thermal storage systems?

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

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?

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[1] An aggregator is a third party that has an agreement with the owners of multiple energy storage systems to manage the energy storage systems on behalf of the owner.

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.

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?

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

4.0 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?

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

5.0 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?

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?

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?

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)?

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

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?

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?

5.8 Please provide any other comments on the NJ SIP.