

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

**December 12, 2022**

**Comments Submitted by Fractal Energy Storage Consultants**

The following comments are submitted by Judy McElroy on behalf of Fractal Energy Storage Consultants (“Fractal”).

Fractal is a specialized energy company that provides consulting, advisory and owner’s engineering services for energy storage and hybrid projects. Fractal’s experience includes:

- Completion of 600+ energy storage consulting and engineering engagements
- Consultant services that include technical design and financial analysis: +8 GW battery storage and hybrid projects
- Awards and management of \$12M in utility grant projects
- Financial modeling, technical and financial due diligence for energy companies ranging from small electric cooperatives to Fortune 500 companies

**Comment No. 1 – Utility Participation**

Fractal is an advocate for Utility participation in the New Jersey Energy Storage Incentive Program (“NJSIP”).

The Straw Proposal highlights the following industry challenge:

*“...Unfortunately, energy storage investments that would reduce the total cost of electricity are often unbuilt. This is because energy storage developers generally can only monetize a fraction of energy storage benefits. As the ESA Report explains, “market forces have not produced much [energy storage] investment” because “investors are not receiving benefits to offset their costs,” even though energy storage “brings net benefits to society from the top-down perspective of optimizing the regional electric power system.” Indeed, Massachusetts DOER’s modeling found that “the existing revenue mechanisms that would encourage investment from a private storage developer are often insufficient” to drive deployment even when an energy storage project “would result in cost benefits to ratepayers that substantially outweigh the cost of investment.” It therefore concluded that the most significant barrier to storage deployment “is the lack of clear market mechanisms to transfer some portion of the system benefits (e.g. cost savings to ratepayers) . . . to the storage project developer.” This likely explains why energy storage developers have deployed most U.S. storage projects in a handful of states that either explicitly mandate or incentivize energy storage...”*

Utility ownership of energy storage investments enables more applications and overall value to be achieved from the energy storage investment. Whereas a storage developer would deploy storage only to maximize returns across wholesale market services (e.g., energy, ancillary services and capacity), a Utility can additionally use energy storage:

- To enhance system reliability

- as a means to reduce or defer system upgrade costs
- to identify and field alternative business models as the market evolves.

Utilities can evaluate their own transmission and distribution systems to determine the viability and appropriateness of deploying storage in discreet locations in order to maximize benefits to rate payers.

### **Comment No. 2 – Terminology**

The Straw Proposal recommends creating two energy storage programs for Front-of-Meter (“FTM”) and Behind-the-Meter (“BTM”) energy storage incentives. Fractal recommends modifying / delineating definitions as follows:

- FTM Transmission Connected: Energy storage resources (“ESR”) connected FTM at transmission voltage.
- FTM Distribution Connected: ESR connected FTM at distribution voltage.
- BTM Connected: ESR connected behind a commercial, industrial or residential retail meter.

### **Comment No. 3 – Block Sizes**

Fractal recommends that the block size be at least 200 MWh. Major energy storage suppliers that feature bankable solutions with cost-competitive offerings are leery of bidding smaller projects, this forces buyers to buy at a premium. Larger energy storage systems are less expensive on a per unit basis (\$/kWh) compared to smaller energy storage systems. Fractal’s procurement experience shows that the unit cost of a 10 MW BESS can be 10-15% more expensive than a 100 MW BESS. A 1 MW can be an additional 20% more than a 10 MW. Fractal suggests a minimum of 200 MWh per year to enable larger projects to be quoted. Today’s market is already positioned to efficiently deploy larger sized systems, this would reduce overall costs to rate payers.

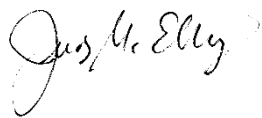
### **Comment No. 4 – Duration Requirements**

Fractal challenges the rationale behind the requirement for a 4-hour duration. NJSIP participants should be able to deploy shorter duration systems and receive a prorated portion of the incentive. Four hours of duration is a legacy construct that was initiated in California to offset the peak load window from 5pm-9pm. Current price signals in the PJM market do not support the development of a 4-hour duration system.

### **Comment No. 5 – Separate Incentives for Long Duration Technologies**

Fractal disagrees with having a separate incentive for longer duration technologies. The emissions delta and energy-based incentive being proposed already accounts for moving energy over a longer duration and embodies technologies currently available. Creating opportunities or subsidies for non-commercialized technologies is beyond the scope of this program. Creating definitions for long-duration storage based on non-commercialized technologies is also beyond the scope of this program. Pilot programs, federal subsidies and state grants are separately available to assist new technologies in their road to commercialization. The program should be technology and duration neutral and focus on maximizing carbon emission reduction using technically viability and cost-effective technologies available in today’s marketplace.

Respectfully Submitted,



Judy McElroy  
Chief Executive Officer  
Fractal Energy Storage Consultants