ORDER NO. 91064

Maryland Energy Storage Program	*	BEFORE THE
	*	PUBLIC SERVICE COMMISSION
	*	OF MARYLAND
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	*	Case No. 9715
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Issue Date: March 18, 2024

ORDER ON WORKGROUP REPORT

On October 2, 2023,[1] the Commission initiated the Maryland Energy Storage Program Workgroup (the "Workgroup") to develop a Maryland Energy Storage Program (the "Program"), pursuant to §§ 7-216 and 7-216.1 of the Public Utilities Article ("PUA"), *Annotated Code of Maryland*, which were enacted by HB910 (2023). Those sections direct the Commission to establish the Program, which will provide a competitive energy storage procurement program. They also direct the Commission to file a report to the General Assembly by December 31, 2023 on pending designs for the Program and any additional statutory changes required to fully implement the Program.

On December 15, 2023, the Workgroup filed an interim report (the "Report") addressing its progress and identifying areas of non-consensus, some of which would benefit from Commission direction.[2]

[1] Maillog No. 305375.
[2] Maillog No. 306699.

The Commission now directs the Workgroup to continue its work, with the direction provided below.

Non-Consensus Items

In Section XI of the Report, the Workgroup summarized the areas of non-consensus for which the Workgroup requests Commission action:

1. What definition will the program use for "energy storage device" that is eligible to contribute to the statutory deployment targets? (III.1)

The Report requests that the Commission offer guidance as to what is considered an "energy storage device."[3] It notes that PUA § 7-216(a)(2) defines "energy storage device" broadly:

> (i) "Energy storage device" means a resource capable of absorbing electrical energy, storing it for a period of time, and delivering the energy for use at a later time as needed, regardless of where the resource is located on the electric distribution system;
>
> (ii) "Energy storage device" includes all types of electric storage technologies, regardless of their size, storage medium, or operational purpose, including [but not limited to]:
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> 1. thermal storage;
>
> 2. electrochemical storage;
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> 3. virtual power plants; and
>
> 4. hydrogen-based storage.

The Report notes that an expansive reading of that language might cover thermal storage that converts electricity to heat and then later distributes this heat, or hydrogen-

[3] Report at 15-17.

based storage that uses electricity to produce hydrogen and later distributes the hydrogen as a fuel.

The Report states that most stakeholders support a more restrictive definition of "Capable of absorbing electrical energy, storing it for a period of time, and delivering electrical energy for use back to the electric distribution system or to on-site load at a later time as needed, regardless of where the resource is located on the electric distribution system." However, other stakeholders argue that the use of thermal storage, for example, to shift demand for heat can shift electrical demand based on the heating schedule.

The Report notes that, per the directives for measurement in PUA § 7-216.1, it may be necessary to develop a comparative valuation method of measuring equivalent megawatts to accommodate storage that does not discharge electricity. Alternatively, the Workgroup may need to develop some other accounting methodology by which to count that resource against deployment targets.

2. Will only new-build energy storage resources be eligible to contribute towards the statutory deployment goals? (III.3)

The Report states that the overwhelming majority of stakeholders, but not all, interpret the introductory language of HB910 – which provides for the setting of "certain targets for the deployment of new energy storage devices" – as indicating a legislative intent that only newly built energy storage resources should count towards deployment targets and deployment incentives.

The Workgroup further agreed that eligibility criteria for contribution towards the statute's MW targets should not be used as a default eligibility criterion for participating in potential Procurement and Grid Services mechanisms in the Program.

3. What criteria will be used to define "deployed" or "installed" energy storage assets that count towards the statutory deployment targets? (III.6)

The Report states that the Workgroup lacks consensus but generally leans toward a rule that, in order to be considered "deployed" and count toward deployment targets, an asset must be "operational" and actively "committed" or "enrolled" in any of the following: a grid service program, a utility program, an approved interconnection agreement, a tariff, a distributed energy resource aggregator participation service agreement, a wholesale market participation agreement, or power purchase agreement in which the specific energy storage terms of use would be clearly defined.[4]

The Report states that it has had difficulty defining "operational" and is unable to reach consensus regarding requirements for useful life; operational availability at different times; enrollment in particular mechanisms; and discounting methodologies for assets that do not meet all criteria but still provide meaningful capacity.

Some stakeholders have challenged the position that the Program should consider availability, arguing that HB910 focuses on deployment and not availability.

4. What is the appropriate term and definition for "EV V2G" or "mobile batteries" and will they be eligible to contribute to the statutory deployment goals? (III.7)

The Report states that there is non-consensus on the question of whether the use of electric vehicle batteries as grid assets should be included within the Program for purposes of deployment targets. There was consensus that such resources should be eligible for participation in grid service programs for which they meet the performance criteria.

[4] Report at 20-22.

5. How will "pumped hydro" be defined, and will it be eligible to contribute to the statutory deployment goals? (III.8)

The Report states that there is disagreement within the Workgroup over whether pumped hydro should be eligible for the Program. There are concerns that pumped hydro could dominate the deployment target and hinder the overall development of a robust energy storage industry in Maryland. There are also concerns about the program design costs of including pumped hydro. There are additional concerns about whether pumped hydro can attract market interest and can be developed within the timelines of the Program. Other stakeholders argue that pumped hydro should be permitted to compete on cost-effectiveness.

The Workgroup agrees that new or existing pumped hydro should be eligible to participate in grid services programs for which it meets performance criteria.

6. What is the vision that fully describes the role that energy storage will play in the Maryland electrical system by 2033, and how will the MESP achieve that vision? (IV.2)

The Report requested that the Commission express a long-term vision for the role of energy storage in Maryland, particularly as it relates to grid services.

Commission Decisions

The Commission appreciates that the potential scope of HB910 is expansive and covers a wide number of technologies and use-cases. It is the ambition of the State, and therefore the Commission, to construct a program framework that can ultimately support that grand scope. At present, however, Maryland has a limited marketplace for energy storage as a grid asset and no proven incentive system. Although the Commission currently supervises an Energy Storage Pilot, with four participating utilities, that program is still in

its infancy with five utility energy storage projects currently operational. It is imperative, therefore, that this Program build a firm foundation capable of supporting the State's goals.

The Commission notes the concerns raised in the Report regarding certain technologies and use-cases that present design challenges. The Commission appreciates that this issue appears – based on the Report – in some topic areas more than others. The Commission agrees with the Report that the grid services programs should ideally be open to all resources capable of meeting the performance criteria, whether pre-existing or not. For other purposes, to the extent that certain technologies and use-cases resist comparative valuation (such as valuing projects based on equivalent MW capacities) or present other difficulties in program design, that factor may weigh against either their inclusion in the affected programs, such as deployment incentives[5], or the use of those programs entirely.

The Commission expects that the valuation of deployment will be a continually evolving metric throughout the Program. Given the short timeframes demanded by HB910, the Commission's first imperative is to begin and apply this Program to those resources whose valuations can be readily determined. The Commission anticipates the Program expanding to include other technologies and use-cases as valuation methods improve and will evaluate the appropriateness of the use-case at that time.

[5] The Commission notes that "deployment incentives" are not defined in HB910 but appear in the Report as one possible incentive mechanism being considered by the Workgroup. The Workgroup's working definition reads: "[S]ubsidies or rebates that accelerate the deployment of energy storage resources to meet State deployment mandates. It is not a payment for performance and generally should not be tied to specific operations of the resources."

The Commission further notes that this definition – amounting to any payment that isn't for performance or operation – is primarily negative and is quite broad. The Commission is concerned that any guidance on deployment incentives it might offer, given this definition, might inhibit creative proposals.

Toward that end, the Commission presently accepts the stakeholder majority recommendation for a more restrictive definition of "energy storage device" until alternative methods of measuring equivalent megawatts are developed for measuring storage for technologies that do not discharge electricity. Similarly, the Commission understands that certain models, such as mobile batteries, may require greater study within the Workgroup to properly value their contributions to the grid.

The Commission is presently unconcerned about the risk that a single storage technology or use-case may come to dominate the Program's capacity goals, presumably by out-competing alternative models, specifically in the example of "pumped hydro" as mentioned in the Report. To the extent that such an eventuality arises out of a market failure, the Commission will act appropriately to correct the Program. The Commission additionally notes that the competitive procurement of 3,000 MWs in statute is described as a minimum subject to cost effectiveness.[6]

The Commission takes no position at this time on the question of whether pre-existing energy storage resources should count towards the statutory capacity targets. The Commission has concerns, however, that distinguishing between existing and new-build resources for purposes of program eligibility for programs could have fairness concerns and send the wrong message about Maryland's commitment to energy storage as a key part of its energy future.

Relatedly, the Commission is persuaded that operational availability is inherent to the question of deployment. Any proposed incentive mechanisms or other market-based

[6] PUA §7-216.1(c)(3).

compensation structures should, ideally, consider actual availability and grid value, which must include a commitment to provide energy on specified terms. Also grid value should be considered holistically to include electric transmission grid value for all market segments, and not just siloed benefits to electric distribution.

The Commission also takes no position on the question of a long-term vision for the role of energy storage in Maryland and directs that the Workgroup continue to work on an energy storage program design and recommend a long-term vision consistent with HB910 objectives in its Final Report due October 1, 2024.

IT IS THEREFORE, this 18th day of March, in the year of Two Thousand Twenty-Four, by the Public Service Commission of Maryland, **ORDERED** that the Workgroup is directed to continue its work in accordance with this order.

/s/ Fredrick H. Hoover, Jr.

/s/ Michael T. Richard

/s/ Anthony J. O'Donnell

/s/ Kumar P. Barve

/s/ Bonnie A. Suchman
Commissioners