

May 3, 2024

Massachusetts Department of Energy Resources

Attn: Samantha Meserve

100 Cambridge Street, 9th Floor,

Boston, MA 02114

## **RE: NineDot Energy's 2024 CPS Review Comments**

### **Introduction**

NineDot Energy, LLC ("NineDot") appreciates the opportunity to respond to Massachusetts' Department of Energy Resources ("DOER") request for feedback regarding the Clean Peak Energy Standard ("CPS") under 225 C.M.R 21.00. The CPS will be an essential piece in developing storage technologies within the Commonwealth, particularly distribution-connected storage, enabling the grid to transition to clean energy technologies and Massachusetts to meet its laudable energy goals.

NineDot builds community-scale energy systems that support a more resilient electric grid, deliver economic savings, and reduce carbon emissions. NineDot is leading the way to urban clean energy and has constructed and is developing projects in the New York City area, with an emphasis on standalone battery storage. This [article](#) describes one of NineDot's projects in the Bronx. NineDot views the CPS as a vehicle for bringing our expertise working with front-of-meter ("FTM"), distribution-connected projects in dense urban areas to the Massachusetts market. We recently received \$225 million in equity financing from the Carlyle Group and Manulife and are evaluating where to deploy capital outside of New York.

NineDot is enthusiastic about the potential for building community-scale energy systems in Massachusetts. These community scale projects, which are often sized at 5 MW<sup>1</sup> and connect to the distribution system, represent a unique value proposition for the energy storage industry and are well-suited for a land constrained geography such as the metro Boston area. Standalone storage requires far less space than solar, as NineDot typically requires .25 acres for a 5 MW/20 MWh community-scale storage system, which is approximately 1% the land requirement for solar. These projects are large enough to reap a portion of the economies of scale enjoyed by utility scale projects, yet their location on the distribution grid allows for enhanced benefits to the grid relative to their larger transmission-connected counterparts. Since they are larger than customer-sited projects and smaller than transmission-connected projects which tend to have lengthier permitting and interconnection processes, they offer a combination of standardization and innovation that will allow the market to rapidly scale, mirroring success in the SMART program.

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<sup>1</sup> Projects are often sized at 5 MW due to interconnection processes, as projects greater than 5 MW typically endure a more time-intensive process. Community-scale storage projects can range upwards of 20 MW.

To date, there has not been a viable market for standalone distribution-connected energy storage in Massachusetts. To stimulate this market, NineDot recommends the following improvements and clarifications to the CPS regulations:

- Establishing a clear and transparent mechanism for securing long-term agreements for selling Clean Peak Energy Credits (“CPECs”)
- Increasing the Alternative Compliance Payment (“ACP”) rate to attract development
- Differentiating distribution-connected and transmission-connected storage projects in the Minimum Standard
- Establishing a multiplier to incentivize development that benefits environmental justice communities
- Initiating a process for expanding the eligibility for the resilience multiplier to front-of-the-meter projects on densely populated feeders

By implementing these recommendations, DOER can stimulate the distribution-connected storage market in Massachusetts and create a more successful and equitable program. We provide additional details on each of these recommendations in response to a select number of the questions posed by DOER on March 25, 2024 in the section below.

Sincerely,

Lindsay Cherry

Director of Regulatory Affairs

NineDot Energy, LLC

## Responses

### 1. How could the Clean Peak Energy Standard (“CPS”) Program be improved to better contribute to achievement of the 2050 GWSA mandates? Please include details and any supporting data and analyses.

Developing energy storage projects under the Clean Peak Standard is an integral part of achieving the 2050 targets of the Global Warming Solutions Act (“GWSA”). Energy storage projects are essential in ensuring that clean energy is delivered to consumers during the most stressed periods of system operations, periods when emissions have historically been the highest. While the CPS program design will drive storage behavior to deliver these environmental benefits, the program will only be successful if it attracts projects to participate in the program. In order to attract investment, project developers need sufficient and stable revenue streams for providing CPS services and the ability to stack CPS incentives on top of other market revenues. The current mechanisms for selling CPECs have not provided a strong enough signal to invest in these technologies. In order to correct these signals quickly, DOER should immediately and permanently increase the ACP rate to allow for natural price discovery within the market.

Due to recent and expected changes in ISO-NE’s markets (particularly in the capacity markets), wholesale market participation for energy storage resources is expected to become more volatile and uncertain<sup>2</sup>. While the cost of energy storage is expected to decrease in the long-term, the cost for providing CPS services to MA remains uncertain because of this wholesale market volatility. Meanwhile, the current ACP rate, which acts as a cap on the price for CPECs, is set to decline year-over-year starting in 2025. This creates a significant amount of risk for developers seeking to participate in the program, as the program may artificially limit the price for providing CPECs when future market dynamics are unknown.

It is critical that the program provides an opportunity for natural price discovery. NineDot recommends achieving this by increasing the ACP rate and maintaining the ACP rate at a steady value. To date, the uncertainty surrounding the ACP rates has negatively impacted interest in development. A higher and steady ACP will provide developers the certainty that they will be adequately compensated for providing CPECs to the market. NineDot understands that an increased ACP rate may have consequences for consumers, especially in the short-term as projects work to come online but are not delivering emissions benefits yet. In order to control costs to consumers in the short term, NineDot would not be opposed to short-term decreases in the Minimum Standard as long as it does not discourage future development and the Minimum Standard is quickly returned to at least its original levels. If supply and demand are appropriately balanced (in the short run by Minimum Standard decreases, and in the long run by a larger pool of projects attracted by a more certain program design) competitive forces will

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<sup>2</sup> For example, ISO-NE’s reforms to their rules for determining accreditation in the capacity market are expected to decrease the amount of capacity that energy storage resources will be able to offer into the market. By ISO-NE’s most recent indicative modeling, a 4-hour energy storage resource will only be able to sell ~50% of the capacity that they are able to today. [https://www.iso-ne.com/static-assets/documents/100011/a02c\\_mc\\_2024\\_05\\_07\\_08\\_impact\\_analysis\\_sensitivity\\_results\\_may2024.pdf](https://www.iso-ne.com/static-assets/documents/100011/a02c_mc_2024_05_07_08_impact_analysis_sensitivity_results_may2024.pdf)

naturally drive CPEC prices below the ACP rate to the most socially efficient value as storage developers seek to maximize revenues from other revenue sources to reduce their CPEC bids.

Without adjustments to the ACP rate, the CPS program will never attract enough investment to meet GWSA goals. However, as we expand upon below, in addition to the ACP rate increases, for the program to be successful in meeting the GWSA goals there also needs to be reform to ensure there is a stable market to sell CPECs (question 9), price differentiation for distribution-connected projects (question 5), and incentives to ensure the benefits of the program are distributed equitably across Commonwealth and are realized by the communities that need to see these benefits the most (question 8).

**5. Are the CPS Resource eligibility criteria appropriate? If any criteria pose a barrier, please describe and provide recommended mitigation strategies.**

While both transmission- and distribution-connected projects will be critical to ensuring storage projects deliver the most benefit to MA ratepayers, NineDot is concerned that because there is no distinction between the size of projects in the program design, transmission-connected projects will completely consume the program and deter distributed developers. As of mid-April 2024, there were over 50 standalone and co-located storage projects in ISO-NE's queue greater than 100 MW proposing to interconnect in MA<sup>3</sup>. NineDot estimates that it would only take a small fraction of those large transmission-connected resources to participate in the CPS program to supply most of the market need. While transmission scale projects are valuable and necessary, distribution system projects can provide avoided cost, distribution-grid benefits near loads, and local environmental, reliability, and resilience benefits that transmission-connected projects are unable to provide. More specifically, distribution-connected projects:

- **Reduce distribution-level costs for MA consumers.** The "Avoided Energy Supply Cost" study used for energy efficiency and peak demand reduction cost-effectiveness estimates these costs at \$198/kW for Eversource and \$102/kW for National Grid<sup>4</sup>. A front-of-the-meter distribution connected resource should have similar cost reduction benefits to a behind-the-meter resource. Indeed, New York's Value of Distributed Energy Resources ("VDER") program compensates behind-the-meter and front-of-meter resources similarly for avoided distribution.
- **Provide increased reliability and resilience.** With more extreme weather events due to climate change, recent storms have knocked down transmission lines which has prevented power from flowing into local areas. In these instances, consumers need distribution-connected resources to provide power.

Without the type of robust distribution system grid services program in place in New York (which we hope that MA develops quickly, see our response to question 14), distribution projects cannot compete with the economies of scale of transmission projects despite being able to provide additional

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<sup>3</sup> <https://irtt.iso-ne.com/reports/external>

<sup>4</sup> <https://www.synapse-energy.com/sites/default/files/inline-images/AESC%202024.pdf>

value. The CPS program should seek to encourage projects that can provide the most value to consumers and therefore would be remiss to only select transmission connected projects.

In order to differentiate these projects, NineDot supports creating two “tiers” of eligibility based on the interconnection process and setting ACP rates and Minimum Standards applicable to each tier. Projects eligible for producing CPECs under the first tier would need to interconnect to the distribution system and be studied under a utilities’ interconnection procedures. Projects eligible for producing CPECs under the second tier would be consistent with eligibility requirements today and include both transmission- and distribution-connected projects. The Minimum Standard would be set in a way such that a percentage of the total obligation for procuring CPECs would need to be met by CPECs produced by projects in the first tier and the remaining obligation be met by projects in the second tier. Consistent with distributed storage goals in other regions<sup>5</sup>, NineDot recommends that at least 30% of the Minimum Standard be met by projects connected to the distribution system. NineDot expects that prices for CPECs generated by projects in the first tier would separate from prices of CPECs generated by projects in the second tier.

**8. What modifications to CPS Multipliers, Minimum Standard, ACP Rate, and Seasonal Peak Periods as currently set forth in 225 CMR 21.00, if any, are needed? Please describe in detail and provide any supporting data and analyses.**

NineDot firmly believes that the CPS program should be designed in a way where the benefits are distributed equitably across the Commonwealth. The Executive Office of Energy & Environmental Affairs (“EEA”) released its inaugural Environmental Justice Strategy report in February 2024, which directed all EEA agencies to proactively create strategies to promote environmental justice within their respective departments. Including EJ priorities with the CPS program would meet the intention of DOER’s stated goal to “integrate environmental justice principles into DOER operations including the development and implementation of policies, programs, and activities”<sup>6</sup>.

NineDot supports a program design that carefully considers the impact on environmental justice communities. The program should incentivize investment that displaces polluting energy infrastructure, which has historically burdened communities within the Commonwealth. To achieve these goals, NineDot recommends that DOER (1) implement a new multiplier that encourages thoughtful development of projects that provide economic benefits to disadvantaged communities and (2) expand the resilience multiplier to front-of-the-meter (“FTM”) storage projects located on densely populated feeders.

Community-scale storage projects can improve system reliability, increase consumer cost savings, and minimize community health burdens associated with peaker plants. Unlike other renewable energy projects, storage projects are dispatchable, enabling them to directly displace peaker plants,

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<sup>5</sup> In NYSEDA’s latest energy roadmap to achieve the state’s goal of 6 GW of energy storage capacity, NYSEDA is proposing to target procuring 1,500 MW of distribution-connected storage as part of their overall target of 4700MW of new storage. <https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={9079428E-0000-C91D-A340-682288832D69}>

<sup>6</sup> <https://www.mass.gov/doc/february-2024-environmental-justice-strategy-english/download> pg. 121

which disproportionately pollute low-income communities. It is critical that historically marginalized and disadvantaged communities are not excluded from receiving the benefits associated with the clean energy transition.

Currently, the only incentive in the CPS program that accounts for project location is the Distribution Circuit Multiplier ("DCM"), which targets areas where storage could help open additional hosting capacity for solar and/or avoid infrastructure upgrades. The DCM is a well thought out and targeted policy; however, additional location-based multipliers are needed to ensure equitable development and distribution of CPS program benefits.

To ensure the benefits of the clean energy transition flow through to underserved and environmental justice communities, NineDot recommends that DOER establish a new 2x multiplier for projects that are either (1) located in environmental justice communities or (2) benefit environmental justice communities. This optionality is structured after the Investment Tax Credit's Low-income Communities Bonus, which is intended so as not to overburden DAC communities with additional infrastructure, but still allow such communities to receive benefits of renewable energy and storage. To stoke responsible development and deliver maximum benefits to the communities that projects serve, NineDot recommends that projects are only eligible for this multiplier if the project is located in an environmental justice community as defined by MA's Environmental Justice Policy and/or if the project shares the economic benefits with these communities. In addition, it is NineDot's view that DOER should collaborate with local EJ groups and gather input to determine how to best incorporate community needs in this program.

As previously highlighted, FTM distribution-connected projects can also provide resilience benefits to customers on local feeders during times of system stress or emergency. The CPS should compensate for that additional benefit similar to how behind-the-meter projects are compensated under the resilience multiplier in the program design today. However, stakeholders need information regarding the extent to which the electric distribution companies ("EDCs") would be able to use these local resources to provide these local benefits and which resources would be able to provide these benefits. Therefore, NineDot supports a discussion with the EDCs on expanding the resilience multiplier to FTM projects located on feeders that serve a significant amount of load, particularly if a significant amount of that load is residential customers.

**9. Please provide any comments on the necessity of, Resource eligibility for, and structure of a CPEC procurement. If in favor of a CPEC procurement, please comment on its timing, in particular if it should occur in parallel with the CPS Review or after, and any considerations DOER should make about the CPEC procurement in light of the CPS Review.**

One of the largest challenges facing developers regarding the CPS is the lack of a predictable, stable, and transparent mechanism for the long-term sale of CPECs. In order to attract capital to invest in technologies under the CPS, developers need certainty in the availability of future revenue opportunities and opportunities to secure some price certainty through a procurement mechanism. NineDot supports a tariff-based structure, where qualified CPS resources would subscribe to a utility tariff that specifies a rate

and a term for the transfer of CPECs from the CPS resource to the utility. Tariffs provide regulatory certainty for investors, while reducing the administrative burden on the program administrators when compared to procurements and bespoke negotiated contracts. This in turn will attract more competitive low-cost capital investments into participating storage assets.

NineDot recognizes that DOER may need to implement other procurement solutions ahead of a tariff-based mechanism as it may take some time to develop or that it may not be applicable to all types of projects (e.g. FERC jurisdictional projects); therefore, independent of the procurement structure, NineDot recommends that any program design intended to procure CPECs incorporate the following:

- **Predictable and regular schedule** – including application and award dates, such that developers can properly time other elements of their projects, including interconnection and permitting
- **2-3 year Forward procurements** – to allow developers to secure obligations for future calendar years with reasonable time from CPEC procurement date to when CPEC-generating solutions are put into service while minimizing expensive speculative development investments
- **Standard terms** – standard terms give developers certainty in future procurement opportunities, understanding that minor changes may need to be made between procurements
- **20-Year maximum terms** – to provide developers a financeable revenue stream where developers can opt to have shorter term if desired with a 20-year maximum
- **Clear eligibility and selection criteria** – to ensure that developers understand the factors that will be used to evaluate their bids
- **Differentiation between Transmission and Distribution projects** – separate procurements that seek to satisfy different CPEC tier requirements (transmission and distribution procurements can look different) in support of our recommendation regarding eligibility (Question 5)

Regardless of the procurement mechanism MA chooses to move forward with, DOER should work expeditiously to develop this mechanism. Given interconnection timelines for both distribution-connected and transmission-connected projects and the commitments that resources need to make in order to participate in these studies and upgrade the system for deliverability, time is truly of the essence. The sooner projects can lock in revenue streams for the future, the more willing they will be to continue in the development process and the more developers will be attracted to the commonwealth. This is imperative for getting storage resources operational to meet system needs between now and 2030 and for setting the system up for future development for achieving the GWSA 2050 goals.

**14. Would any Clean Peak Resources or specific use cases for such Resources be better incentivized by a different program than CPS? If yes, please describe the proposed program and**



**justify why the particular Clean Peak Resources and associated use cases would be better incentivized by such a program, with particular attention paid to added ratepayer benefits.**

In addition to the recommendations regarding the CPS program outlined above, NineDot also encourages Massachusetts to continue to explore grid services programs for distribution-connected assets. This would allow CPS resources to provide distribution system value (including avoided distribution system infrastructure costs, resilience benefits, distribution system power quality and stability, etc.) to ratepayers in addition to shifting clean energy production to peak load periods and participating in the wholesale markets. Compensating these resources for additional services they can provide would reduce total CPS costs and allow distribution system operators and storage operators to fully optimize the value of these critical resources.

The EDCs included in their Electric System Modernization Plans (“ESMPs”) a Grid Services Study in 2024 and a Grid Services Demonstration in 2025-2028.<sup>7</sup> These studies will be critical in determining the path forward for unlocking the value of distributed generation and attracting distributed storage development in the commonwealth. NineDot recommends close coordination between these studies and the CPS review and recommends that DOER encourage the EDCs to accelerate these studies as much as possible to support the CPS conversation and to support these resources coming online.

## **Conclusion**

NineDot looks forward to continuing to work with DOER on the Clean Peak Standard and appreciates the time and effort that staff is taking to review and consider the comments from stakeholders.

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<sup>7</sup> [D.P.U 24-10 Eversource](#); [D.P.U 24-11 National Grid](#); [D.P.U. 24-12 Unitil](#)