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Via marfp83C@gmail.com

The Massachusetts Department of Energy Resources
The Massachusetts Office of the Attorney General
Fitchburg Gas & Electric Light Company d/b/a Unitil ("Unitil")
Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid
NSTAR Electric Company and Western Massachusetts Electric Company d/b/a Eversource

Subject: Issues for Stakeholder Comment

In response to your March 1, 2017, request for input into the development of an RFP for the competitive solicitation of bids to enter into cost-effective long-term contracts for Offshore Wind Energy generation pursuant to Section 83C of Chapter 169 of the Acts of 2008, as amended by Chapter 188 of the Acts of 2016, An Act to Promote Energy Diversity, RENEW Northeast, Inc. ("RENEW") submits these comments.[1] Ensuring compliance with the Renewable Portfolio Standard and the requirements of Chapter 298 of the Acts of 2008, the Global Warming Solutions Act ("GWSA"), is possible through planned Offshore Wind Energy procurements under Section 83C to bring this clean and sustainable energy resource to consumers.

1. **Please provide the following information with your comments:**
    a. **Name of Organization**
    b. **Type of Organization (Public/Industry/Advocacy/Other)**

RENEW is a non-profit association uniting environmental advocates and the renewable energy industry whose mission involves coordinating the ideas and resources of its members with the goal of increasing environmentally sustainable energy generation in the Northeast from the region's abundant, indigenous renewable resources. RENEW has

[1] The comments expressed herein represent the views of RENEW and not necessarily those of any particular member of RENEW.

focused on highlighting the value of grid-scale renewable resources- specifically offshore and onshore wind, solar and hydropower- and the benefits of transmission investment to deliver renewable energy to load centers in the Northeast. RENEW members own and/or are developing large-scale renewable energy projects and high-voltage transmission facilities across the Northeast. They are supported by members providing engineering, procurement & construction services in the development of these projects and members that supply them with multi-megawatt class wind turbines.

2. **Section 83C of Chapter 169 of the Acts of 2008 ("Section 83C"), as amended by Chapter 188 of the Acts of 2016, An Act to Promote Energy Diversity, requires a solicitation to be issued by June 30, 2017, including a timetable for the solicitation. Please respond to the following questions regarding the timetable:**
    a. **How much time do bidders need to develop proposals?**
        i. **What market conditions (technology, vessels, local supply chain, etc.) or ongoing data collection might necessitate a shorter or longer time period for proposal development?**

    b. **Section 83C allows the use of a staggered procurement schedule and, if applicable, specifies that a subsequent solicitation "shall occur within 24 months of a previous solicitation."**
        i. **How should the timing of future solicitations be staggered in time?**

        ii. **What market conditions (technology vessels, local supply chain, etc.) or ongoing data collection should be considered when determining the timeframe of future solicitations?**

RENEW suggests 90 days be provided for parties to submit proposals after the RFP has been released.

In addition, RENEW recommends a schedule for all procurements be published when the first RFP is released. Issuing this schedule will provide guidance to the supply chain on the scale and timing of needed investments to support development.

The amount of time the evaluation team takes to select a winning bidder or bidders will affect the bid price. Longer periods to select winners will increase carrying costs and other risks to developers. The 300 days to evaluate the bids and select proposals that was submitted in the Section 83D RFP is too long even though a wide variety of proposals are expected. The Section 83C RFP will be far less complicated, as it is limited to offshore wind. The bidders in the Section 83C RFP will be just a few (given the of number of federal leases awarded to date and the 83C eligibility requirements), their projects will all use offshore wind turbine technology, and all will involve long generator lead lines to shore. Therefore, the time needed to select a winning bidder or bidders should be much shorter than that proposed for the Section 83D procurement.

3. **Section 83C requires that the initial procurement be issued by June 30, 2017, and any individual solicitation "shall seek proposals for no less than 400MW of aggregate nameplate capacity of offshore wind energy generation resources." In each of your responses, please include an explanation of how your suggested approach would lead to a more cost-effective result for ratepayers.**

a. **What is the maximum megawatts of aggregate nameplate capacity that should be sought in the initial solicitation under Section 83C? Should the initial solicitation request minimum megawatts of aggregate nameplate capacity greater than the statutory requirement of 400MW? If so, why?**

b. **What considerations should be taken into account in deciding the size of this initial solicitations and, if applicable, the size of future solicitations?**

c. **Based on your response to the previous question (3b), what minimum and/or maximum megawatts of aggregate nameplate capacity of offshore wind energy generation ("OSW") resources should be sought in future solicitations?**

d. **Recognizing that Section 83C calls for proposals no less than 400MW of aggregate nameplate capacity of OSW resources, what are the pros and cons including impacts to the market and to the cost to ratepayers of selecting multiple bids with individual project sizes less than 400 MW.**

e. **What potential future changes in the market should be considered in determining the size of aggregate nameplate capacity of OSW resources sought in future solicitations?**

Each proposal to be eligible in the solicitation must be for at least 400 megawatts of name plate capacity. Scale is particularly important in the United States where supply chain and infrastructure to support offshore wind will need to be developed. A pre-established schedule of multiple solicitations over the years will enhance competition that can lower cost.

4. **Section 83C requires the evaluation team to carefully review of any transmission costs associated with a bid. Please respond to the following questions regarding the evaluation of related transmission costs:**

    a. **What documentation and information should bidders provide in order to demonstrate the reasonableness of their transmission costs estimates included in their bid?**

    b. **Please describe, in detail, how transmission cost risks should be analyzed in the quantitative portion of the bid evaluation.**

c. What type of cost containment features might a bidder use to ensure that transmission cost overruns, if any, are not borne by ratepayers as required by the statute?

Bidders should be required to provide detailed information on cost of the labor and materials to construct transmission and the siting permits required. Transmission costs should be fixed in the bidder's price

5. Please respond to the following interconnection-related questions:

a. How should the procurement be structured to allow reasonable evaluation of bids that have not completed the ISO-NE I.3.9 process?

b. For bids that have not completed the ISO-NE I.3.9 process, what information, such as technical reports or system impact studies that closely approximate the ISO-NE interconnection process, should the procurement require from bidders to allow a complete evaluation of bids and associated risks, costs, and benefits?

c. What documentation should the procurement require bidders to provide that demonstrates the reasonableness of their estimates for interconnection costs and deliverability costs (costs of network upgrades including reactive compensation, and voltage control to compensate for cable charging)?

d. What other cost containment information should the solicitation require bidders to provide to allow for a complete evaluation of bids and associated risks, costs, and benefits?

e. What potential impact, if any, does the cluster interconnection analysis being developed by ISO-NE have on developing transmission costs and/or transmission planning for OSW?

All bids should be evaluated based on their ability to deliver energy into the ISO-NE control area. Available information on progress in the interconnection process should be provided in the bid.

According to ISO-NE reliability studies relating to the SEMA/RI zone and the ISO-NE 2016 Economic Study, interconnection requirements for offshore wind are expected to be neither complicated nor costly. For example, ISO-NE presented an update to the 2016 NEPOOL Economic Study to the Planning Advisory Committee on January 18, 2017. ISO-NE finds that with careful selection of Points of Interconnection, up to 5370 MW of offshore wind could be added to the system without the need for major transmission upgrades. This information could show that, other than the cost of undersea transmission, which is common in the United States and whose costs can be accurately quantified, no

major interconnection upgrades are expected and smaller upgrades can be more accurately determined in advance by the developer.

RENEW is not aware of any plans at ISO-NE to conduct interconnection studies of offshore wind projects in a cluster. Offshore wind projects are now being studied serially. It is anticipated that only a select number of land-based wind projects in western and northern Maine will be studied in a cluster if and when the ISO-NE cluster process filing is approved by FERC.

6. **Section 83C requires that projects must be "cost effective to electric ratepayers in the Commonwealth over the term of the contract." What could bidders include in their proposals to ensure that the long-term contracts for OSW will be the most cost effective to ratepayers?**

RENEW takes no position on this question.

7. **Section 83C requires one or more procurements of OSW and requires that long-term contracts be "cost effective to Massachusetts electric ratepayers" and "avoid line losses and mitigate transmission costs to the extent possible" and ensure that transmission cost overruns, if any, are not borne by ratepayers." The transmission needed to deliver OSW generation resources to shore could have a significant impact on customer costs, benefits, and risks. Please address the following questions:**

    a. **What potential approaches related to the transmission portion of the RFP(s) should be considered when designing the RFP to achieve the total OSW procurement goals of Section 83C? For example, potential approaches might include requiring each generation bidder to fulfill its own transmission needs (either with other bidders, with partners, or by themselves) or might include delivery to a common off shore delivery point. Full descriptions of each potential approach would be helpful.**

    b. **Identify the pros and cons of each with particular focus on consumer costs, benefits, and risks.**

    c. **What elements of each option might increase or reduce customer benefits to the greatest extent? What elements might increase or reduce customer risks? Please explain your answers.**

    d. **How might these approaches be affected by the size and timing of Section 83C solicitations?**

    e. **The RFP could require an additional bid that assumes the bidder's OSW facilities interconnect at a pre-defined transmission point constructed at**

an off-shore location by a Transmission Developer. If included in the RFP, the bid would be in addition to the requirement for each bidder to provide a proposal in which its OSW facilities would interconnect to the existing on-shore transmission network. On the assumption that the RFP includes such an off-shore proposal, please address the following questions:

i. **What elements of this approach might increase ratepayer benefits to the greatest extent? What elements might reduce ratepayer benefits? Please explain your answers.**
ii. **What minimum level of technical information regarding such a pre-defined off shore location will bidders need in order to allow them to provide accurate and complete bids based on this scenario? Please explain.**
iii. **What additional (i.e., non-technical) information will bidders need in order to allow them to provide accurate and complete bids based on this scenario? Please explain.**
iv. **What such approach will allow the most efficient and cost-effective result? What circumstances or approaches could potentially diminish the efficiency or cost-effectiveness of such a network expansion? Please explain your answers.**

f. **Describe what other mechanisms or requirements should be considered for reducing the short-term and long-term costs of transmission interconnecting OSW facilities. For example, are there steps that could be required for transmission associated with the first OSW project that could reduce overall costs to ratepayers when subsequent OSW project(s) and their associated transmission are built?**

RENEW supports transmission development policies most likely to build new transmission to deliver new renewable energy by the earliest date. RENEW acknowledges that planning transmission to serve multiple large scale renewable energy projects having state directed contracts may lower the all-in delivered cost of remote renewables. This is particularly true in Maine where the economics do not favor one wind developer alone being able to fund the needed network upgrades. RENEW has supported competitive solicitations for transmission to lower the cost for the interconnection of the many wind projects dispersed across Maine.

The need to build transmission from the South Coast of Massachusetts to the lease areas presents a different situation. Unlike in Maine, each offshore wind developer building generator lead lines to their on-shore interconnection points independent from each other has the potential to be the most economic approach, due to the concentration of large offshore wind projects near a major load center.

RENEW also believes exploring other forms of competition for transmission projects to serve multiple offshore wind projects using shared transmission, in which several offshore wind farms connecting to a single offshore substation, has merit as it could lead to the most cost-effective transmission solutions. Some RENEW members are providing details on the benefits of using a competitive solicitation for shared transmission. If there is a nexus of offshore wind generation seeking similar connections, it might be more economic for ratepayers to require generation use a common transmission system.

8. **Section 83C requires that projects "adequately demonstrate project viability in a commercially reasonable timeframe." How should the solicitation address this requirement? Please address the following questions:**
   a. **The RFP may require all proposals to meet an in-service date for generation, what is the earliest that date should be??**

   b. **Should proposals that commit to an earlier commercial operation date be favored over projects with later commercial operation dates? Please provide reasoning to support your response.**

   c. **In a construction plan what documentation should bidders be required to provide to reasonably inform the evaluation team about the project's viability?**

   d. **How should logistical constraints be addressed in the solicitations relative to such things as port constraints, availability of vessels, etc.?**

   e. **What information should the solicitation require regarding site control for proposed transmission routes, points of interconnection to the grid, and port locations for staging?**

9. **Section 83C stipulates that DPU shall not approve a contract from a subsequent solicitation "if the levelized price per MWh, plus associated transmission costs, is greater than the levelized price per MWh plus transmission costs that resulted from the previous procurement." Please address the following question:**

   a. **What information should the solicitation require, that is different from information that would already be provided on bid parameters and pricing for a specific bid category, to enable an accurate and transparent estimate of the levelized price of energy?**

RENEW submits that the per MWh bid price, to include energy, RECs and transmission, is sufficient to evaluate costs from one solicitation to the next.

10. Section 83C requires that the clean energy resources to be used by a developer under the proposal to contribute to reducing winter electricity price spikes. How would bidders demonstrate that proposed long-term OSW contracts can meet this requirement? How should the evaluation process consider bids that cannot demonstrate an ability to meet this requirement?

Unlike in the Section 83D RFP, in which different technologies, such as hydro, wind and solar, each having different performance characteristics will be competing against each other, the Section 83C RFP will consist of proposals using only offshore wind turbines that are located in the Atlantic waters. Furthermore, offshore wind is inherently different from these technologies in that a single outage in the transmission system (regardless of shared or not) could result in very expensive and lengthy repairs. Any requirements in the PPA to make these repairs quickly during winter months would require developers to take steps that would cost far more than any benefit of contributing to reducing winter peak prices. Furthermore, since most of offshore wind generation occurs in the winter, projects already have a very strong incentive to generate and deliver during these months. Therefore, any winter reliability requirement should also contain a force majeure provision, so that projects are not hit with onerous penalties, in addition to lost revenue, for reasons beyond their control.

11. Given that Section 83C allows "offshore wind energy generation resources to be paired with energy storage systems", please respond to the following questions regarding the evaluation of the potential benefits associated with storage being paired with an OSW project:

a. Should the Section 83C bid evaluation process quantitatively evaluate the potential benefits associated with storage paired with OSW resources potential qualification and participation in other ISO-NE markets, (e.g., ancillary services market)? If so, what methodology should the evaluation team utilize to ensure all the benefits are captured?

No, as section 83C does not specify storage as an evaluation criteria. Any benefits of storage will be reflected in the bid price, the performance schedule, or other evaluation criteria. The inclusion of storage in a proposal should not itself not be considered in the evaluation of the proposal.

b. Where would energy storage systems potentially be located, and what options should be allowed for ownership and/or operation?

The developers should have the flexibility to determine location and ownership structure, therefore giving the developers the ability to locate these projects in the places, and structure commercial arrangements, in a way that maximize their benefits. There should be no constraints around the sizing, duration, or distribution of these projects, instead allowing the developers full flexibility in maximizing their revenues or improving their bid evaluation.

c. Should the operation of storage be completely associated with the OSW project or be allowed to sell services into the ISO-NE markets outside of operation of the OSW project?

The PPA should not place any restriction on the selling of services into the ISO-NE markets. The statute allows for storage to be paired with offshore wind without any restrictions.

12. Section 83C states that where possible, proposals should mitigate any environmental impacts. Please address the following regarding this provision:

a. Identify and describe the environmental impacts associated with the installation of underwater transmission cables in state waters. Describe recommended mitigation strategies and explain what commitments and information a bidder should provide to demonstrate that it will mitigate the identified environmental impacts.

Recognizing that the U.S. Bureau of Ocean Energy Management requires developers (as part of their Construction & Operations) to submit a decommissioning plan and post a bond to address decommissioning that is held by BOEM during life of the project, are there additional considerations that a developer should provide in their proposal toward mitigation of decommissioning cost responsibility for ratepayers?

b. Describe any other environmental impacts that should be considered in evaluating the proposals and the documentation needed to demonstrate mitigation of impacts.

RENEW recognizes that offshore wind projects must be developed with strong, and reasonable, protections in place to protect our coastal and marine environment and wildlife, especially vulnerable species like the endangered North Atlantic right whale. Individual RENEW members will provide specific recommendations for ensuring projects avoid, minimize, and mitigate environmental impacts during all stages of development which will allow for project development to proceed in an economically reasonable and environmentally appropriate manner.

13. Section 83 states that, where feasible, a project should "create and foster employment and economic development in the Commonwealth". Please address the following:

a. Describe employment and economic development in the Commonwealth that an offshore wind development might foster.

b. Describe what steps might be taken by a developer to foster such employment and economic development in the Commonwealth.

c. What information should be required to demonstrate the local economic development benefits of a project?

d. Should a supply chain plan be required? Please provide reasoning to support your response, including any information that could be required in the supply chain plan?

The statute does not require offshore wind developers to submit a supply chain plan with their bids. Developers should have the flexibility on sourcing project content and labor to ensure bids are cost-effective. As stated above, RENEW recommends a schedule for all procurements be published when the first RFP is released. Issuing this schedule will provide guidance to the supply chain on the scale and timing of needed investments to support development. Better scale and certainty on future procurements could induce supply chain companies to invest in establishing local facilities and work-force development.

14. Section 83C requires the DOER to give preference to "proposals that demonstrate a benefit to low-income ratepayers in the Commonwealth without adding cost to the project." Please describe the minimum requirements a bidder should demonstrate to meet this standard.

RENEW is not proposing what minimum requirements a bidder should demonstrate. However, this is the only evaluation criteria that Section 83C requires be given a "preference" in the bid evaluation process. The other criteria only have to be "met". Therefore, RENEW recommend the RFP provide clear guidance on how the low-income component in proposals will be evaluated and scored in determining this preference. This will better allow bidders to provide well targeted proposals, and better ensure an efficient and transparent evaluation process.

RENEW appreciates the opportunity to offer these comments.

Sincerely,

Francis E Pullaro

Francis Pullaro
Executive Director