CLEAN ENERGY TRANSMISSION WORKING GROUP (CETWG)

MEETING MINUTES

Friday, September 22, 2023
Virtual Zoom Meeting

Members Present:	Jason Marshall, Jamie Van Nostrand, Michael J. Barrett, Jeffrey N. Roy, Brooke M. Thomson, Johannes Pfeifenberger, Doug Howgate, Hilary Pearson, Liz Delaney, Sheila Keane, Barry Ahern, Dave Burnham, Joseph LaRusso, Acadia Center
Members Absent:	Ashley Gagon, Massachusetts Office of the Attorney General
Member Designees:	Matt Saunders for Ashley Gagnon
DOER Staff Present:	Colin Carroll, Paul Holloway, Sarah McDaniel
EEA Staff Present:	Mary Nuara
DPU Staff Present:	Shirley Barosy, John Slocum, Gregg Wade
Other Participants:	Melissa Pauley, US Department of Energy ("DOE"), Brendan Berger, Senator Barrett's Office
Public Speakers:	None

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1. Welcome, Agenda, Roll Call

Holloway called the meeting to order at 09:09 AM. He reviewed the meeting agenda (slide 2) and stated that the CETWG welcomes written comments at any time. Holloway conducted roll call and confirmed a meeting quorum.

2. Review and vote on Meeting Minutes (slide 4)

Holloway introduced the draft Meeting Minutes for the August 25, 2023 CETWG meeting. Saunders noted an incorrect link in section 4 and Ahern noted a typo in section 2 of the Minutes. Holloway corrected the draft Minutes. Barrett asked where the Minutes are posted. Holloway explained we post the Minutes to the CETWG website hosted by the MA DOER. Barrett motioned and Burnham seconded to approve the corrected draft Meeting Minutes. By roll call vote Pfeifenberger abstained, and all other members voted to approve the CETWG August 25, 2023 Meeting Minutes.

3. Public comment (slide 5)

Marshall welcomed members of the public and asked those wishing to address the CETWG to limit their remarks to a maximum of three minutes. There were no public comments.

4. Presentations on offshore wind transmission (slide 6)

Marshall introduced Johannes Pfeifenberger, Melissa Pauley, and David Burnham, to present on offshore wind transmission topics.

Pfeifenberger
Pfeifenberger presented on U.S. Offshore Wind Transmission: Holistic Planning and Challenges. He stated the existing project by project approach to interconnecting offshore wind resources is ineffective and leads to high costs. As an alternative, Pfeifenberger recommended New England adopt joint inter-regional generator interconnection planning on a holistic basis that includes onshore resources and asset condition needs. He presented examples of this approach citing both industry studies and New Jersey's offshore wind transmission experience. Pfeifenberger cautioned policy makers that regional cost allocation concerns can hinder the achievement of significant cost savings through holistic inter-regional planning. He recommended all future generator interconnection facilities be mesh network capable. He further recommended New England look to develop 6,000 - 9,000 MW of additional transmission with Canada, pointing to diversity benefits attributable to New England's offshore and onshore renewable resources paired with Canadian hydro resources.

Discussion
LaRusso asked if meshed network offshore transmission allows for inter-regional power transfers. Pfeifenberger stated it would, provided offshore facilities are planned and installed as mesh ready.

Marshall asked if there is good cost information for different offshore wind transmission topologies. Pfeifenberger stated there was good information from other parts of the world. Marshall then asked if ISO-NE was best entity to do this type of integrated, holistic offshore wind transmission planning. Pfeifenberger stated ISO-NE was an important actor, but lacks experience with this type of planning. He suggested states and transmission operators ("TOs") jointly work with ISO on an elective transmission upgrade.

Ahern noted the TOs can help identify the best offshore wind transmission solution because they are most knowledgeable about the existing transmission system, including rights of way and permitting. As an example he cited the TOs efforts to evaluate Brayton Point as a cost-effective solution.

Barrett asked what Massachusetts on its own could do and where it should defer to regional and federal entities. Pfeifenberger cautioned that Massachusetts was a smaller state than New Jersey so it should focus on collaborating with other New England states to get to larger scale solutions rather than approaching offshore wind on a project-by-project basis. He again emphasized that regional coordination and holistic planning would yield the most cost-effective solution.

Burnham asked if the industry was transitioning from 800 MW to 1,200 MW generator interconnections. Pfeifenberger confirmed and noted that 1,500 MW to 2,000 MW offshore wind farms are becoming more common and that generator interconnections in this range are more likely to overload onshore facilities. This development lends further support to engage in holistic planning with designated points of interconnection.

Barrett asked if there are more offshore wind resources beyond 5,600 MW and therefore a greater need for holistic transmission planning. He also noted that Massachusetts has focused on its own offshore wind goals and doesn't consider other states' goals – he asked if this was a mistake in terms of transmission planning. Pfeifenberger stated it was critical to

shift our thinking to a regional and even inter-regional (NY) perspective. It was important to focus on cost-effective generator interconnection to avoid very expensive onshore upgrades and think about how best to achieve Massachusetts' ultimate long-term offshore wind goals on an inter-regional basis. For example, he suggested our procurements and transmission planning accommodate Gulf of Maine offshore wind.

LaRusso asked if transitioning from alternating current to high voltage direct current ("HVDC") generator interconnection offers opportunities for merchant transmission and if MA could offer an RFP for HVDC transmission? Pfeifenberger stated HVDC could accommodate merchant or even public ownership, but the key issue is to adopt holistic planning to avoid many individual generator interconnection ties.

Delaney asked if the holistic inter-regional planning approach should include onshore renewables. Pfeifenberger stated it should and it should do so on a regional basis to avoid missing needed upgrade solutions. Holistic regional planning that considers all resource additions and asset condition needs will find the most cost-effective solutions and minimize community impacts.

Barret followed up on Pfeifenberger's statement regarding expansion of transmission with Canada, and specifically asked him to clarify his perspective on Québec's ability to export versus retain resource for its own growth. Pfeifenberger explained that he sees increased transmission with Québec as a longer-term (2040-2050) need to diversify resources. He sees Canadian inter-regional transmission (potentially offshore HVDC) serving as a system storage role, not to support firm year-round energy. Barrett responded that he does not view Québec as a standard battery because New England would not be able to control its use or operation. Pfeifenberger stated New England might approach this as negotiating future contracts to allow this resource to operate as a standard battery.

Van Nostrand asked if New England, like New York, should require offshore wind substations to be planned as mesh-ready and HVDC capable. Pfeifenberger agreed.

Pauley

Pauley presented "From Convening to Implementation: Next Steps in Federal Action." She provided an overview of DOE's and the Bureau of Ocean Energy Management's ("BOEM") interim draft Action Plan for Offshore Wind Transmission Development in the U.S. Atlantic Region released earlier this week. Pauley reviewed the interim draft Action Plan recommendations and highlighted those actions involving state action, including state-level transmission planning, inter-regional collaboration, and siting/permitting initiatives. Pauley stated DOE has begun implementation of the Action Plan, including the Tribal Nation Technical Assistance Program, the Northeast States Collaborative on Interregional Transmission, and transmission standards.

Discussion

Marshall stated the eight Northeast states letter to DOE requesting support for interregional and offshore transmission planning efforts is available on the CETWG website and announced Delaware and Maryland recently joined the collaborative. Marshall expressed appreciation for DOE's work and leadership on operationalizing the Action Plan.

Pearson noted DOE's Action Plan included utilization of grid-enhancing technologies ("GETs") and recommended ISO-NE consider GETs to cost effectively reduce interconnection costs. She explained LineVision is working with National Grid in the UK to utilize dynamic line ratings and will report on this work in an upcoming white paper. Van Nostrand noted the CETWG will address GETs in a future session and Order 2023 directs RTOs to evaluate GETs.

Burnham
Burnham presented "Maximize Existing Corridors to Minimize Impacts and Reduce Costs." He emphasized the importance of using existing onshore corridors to achieve all of Massachusetts' clean energy goals, including offshore wind development, onshore clean energy development and load growth associated with electrification. Burnham explained that the TOs will look first to maximize use of existing transmission rights of way ("ROW"), but may need new ROW options to achieve the transmission build out needed to interconnect and deliver new clean energy reliably. In doing so, he explained TOs find creating new greenfield ROW is usually not feasible and they therefore seek to utilize other existing ROWs (e.g., highways and RR corridors) to reduce costs and minimize community impacts. Burnham explained that the Federal Highway Administration recently issued guidance encouraging "alternative uses" for highway corridors, including for electric transmission and several state agencies own/control corridors that may be able to accommodate transmission. He recommended that Massachusetts facilitate allowing state agencies to make this happen.

Discussion
There was no discussion of this presentation.

5. Discussion of CETWG report outline

Van Nostrand introduced a proposed outline for the final CETWG report to the legislature (slide 7). He identified those members of the CETWG who volunteered to lead the development and drafting of report topic areas and identified several additional topics for which the co-Chairs still seek leadership roles (slide 8).

Discussion
LaRusso volunteered for GETs. Ahern volunteered for transmission planning. Pauley offered federal lab help on GETs.

Van Nostrand concluded the discussion of the proposed report outline by asking members for their views on how the CETWG should develop conclusions and recommendations for the legislature (slide 9).

Discussion
Saunders expressed concern about the processes for commenting on the draft and how to develop recommendations in areas where the CETWG lacked consensus. Van Nostrand volunteered the report could provide for dissenting thoughts and recommendations. Marshall agreed and stated the co-Chairs would strive to reach consensus in the three areas defined in the legislation, i.e., federal, ISO, and state level recommendations. He suggested the report could separately identify consensus recommendations and others that did not secure consensus.

Ahern asked how the CETWG would develop proposed recommendations, e.g., allows individual section authors develop them?

Barrett stated that however the recommendations are developed and presented to the Legislature, he finds the discussion/presentations very helpful; he welcomes recommendations and agrees with space for dissenting views.

6. Close and Next Steps

Van Nostrand presented a table summarizing the CETWG's previous and scheduled future public meetings and presentations (slide 10). He also announced that the next CETWG meeting will be held jointly with the grid modernization advisory council ("GMAC") to address the topic of distribution system planning and operations (slide 11). The meeting will be October 13th at 9:00 AM and will include a further opportunity for public comment and presentations on distribution system planning and operations by members of the CETWG and the GMAC.

Discussion

Marshall stated the meeting topics were developed with staff. In addition to the topics, he suggested the CETWG set aside meeting time to start discussing report recommendations. Marshall asked members to send suggestions for recommendations to staff who would accumulate them in a central place for future discussion.

Howgate suggested the CETWG may need more time to develop solid recommendations. Roy advised given the legislative calendar the CETWG should stick with the December 31, 2023 deadline. Barrett agreed.

Marshall noted that the discussion was helpful in level-setting and providing a baseline expectation for the recommendation section of the report.

Marshall and Van Nostrand thanked everyone for their participation in today's meeting. The co-Chairs adjourned the meeting at 11:02 AM.

Meeting Materials:

- Agenda
- Draft Meeting Minutes for the August 25, 2023 meeting
- Offshore wind presentations:
  - Pfeifenberger presentation
  - Pauley presentation
  - Burnham presentation
- Draft CETWG report outline
- CETWG schedule of topics and presentations