

Joint E-TWG and F-TWG Meeting: Empire and Beacon Wind Environmental and Mitigation Plans Meeting Summary

Tuesday, September 20, 2022 from 9:00 – 11:00 AM
Virtual Meeting

Background

This meeting summary describes key discussion points and action items from the joint Environmental Technical Working Group (E-TWG) and Fisheries Technical Working Group (F-TWG) virtual meeting, which was held on Tuesday, September 20, 2022 through a virtual meeting platform.

The purpose of this joint meeting was to reacquaint E-TWG and F-TWG members with the Empire Wind and Beacon Wind projects and dive deeper into their respective environmental and fisheries mitigation plans, associated survey plans, and the regional monitoring funds. There were 62 attendees present on the Zoom meeting/conference line, including E-TWG and F-TWG members and staff from NYSERDA, Equinor Staff, Tetra Tech, Cadmus Group, and the Consensus Building Institute (CBI) providing technical, facilitation, and logistics support.

This summary is organized to align with the meeting agenda structure and captures Q&A and discussion points. To view the presentation content, please visit the [E-TWG](#) and [F-TWG](#) websites. Opinions below are not attributed to specific E-TWG or F-TWG members. This summary includes both areas of agreement as well as different perspectives offered during discussions.

Equinor presented on the following topics (see Appendix A for the agenda):

- Status updates for the Empire Wind and Beacon Wind projects
- Letter of Agreement (LOA) and noise mitigation measures updates
- Avian/Bat and Fish Post-Construction Frameworks
- Empire Wind 2/Beacon Wind 1 PSA Monitoring Plan Funds Update

Key Themes

The following summary captures key themes and urgent items identified by members during this joint E-TWG/F-TWG meeting:

1. **Unexploded Ordnances (UXOs).** This is a topic of extreme importance with critical safety considerations. The issue of UXOs should be elevated to BOEM ASAP, and members would like to hold a separate meeting to discuss UXOs and next steps. Additional steps must also be taken to improve coordination and communication between developers and stakeholders when UXOs are found during cabling.
2. **Transmission cabling and substation.** Thermal impacts from substations (i.e., cooling water) have not yet been estimated as the developer(s) are still deciding upon converter station sizing

and models, but both TWGs will keep a close eye on important developments. This area also warrants a conversation about concerns from the TWGs about aesthetics, thresholds, etc. for the cabling and substations.

3. **Marine mammal monitoring.** While mostly applicable to E-TWG, there appears to be an emerging applicability to F-TWG. The presentation did not get into noise attenuation, a conversation E-TWG would like to engage in with Equinor. Members would like an additional meeting(s) held with Equinor to further discuss marine mammal monitoring and increased clarity on expectations and procedures.

Specific future meeting topics should include emerging science about the presence of North Atlantic Right Whales detected in other months not noted in the plan; what actions that will be taken following detections (for right whales and other marine mammals); and, how the number of takes were calculated based on the modeled data and what may need to be revisited in the model.

Important Links

Project Websites

www.empirewind.com

www.beaconwind.com

Beacon Wind Meetings and Recordings

<https://www.beaconwind.com/community/events/>

Article VII BW1

www.dps.ny.gov (Search case number: 22-T-0294)

Empire Incidental Take Authorization Information

<https://www.fisheries.noaa.gov/action/incidental-take-authorization-empire-offshore-wind-llc-construction-empire-wind-project-ew1>

Empire Wind Project Update

A brief summary of the [Empire Wind](#) project is below, and for full details of this portion of the presentation, please refer to the slides 7-25 of the presentation, posted on the [E-TWG](#) and [F-TWG](#) websites.

- The project is located approximately 15-30 miles southeast of Long Island, with construction to begin in 2024. Empire Wind I is expected to be 816 MW and Empire Wind II is expected to be 1,260 MW.

Summary of Q+A

- A member asked if whether the inter array cables that connect turbines to substations burial would also be buried at six (6) feet.
 - Equinor confirmed that six (6) feet burial is correct for inter array cables.

- A question was posed regarding the actual map address for landfall site A, and whether it is in the Department of Public Service (DPS) documents.
 - Equinor answered that a description can be found in Article 7 on the streets Equinor makes land falls on. Equinor can also send a map of addresses for landfalls.
 - Equinor clarified that landfall for Empire Wind II is at Riverside Blvd and the boardwalk.
- A question was posed regarding sand dredging and cable overlays. A member noted that there are areas along Long Island that are annually dredged for sand and asked how Equinor will monitor if cables overlay sand dredging areas and/or if the cables become exposed in these areas.
 - Equinor is coordinating with the Army Corps of Engineers, and Equinor will not lay cables where they are dredging sand for beach renourishment.
 - Equinor is also putting a monitoring system into cable bundles to detect if cables are moved or unburied. They will also be conducting inspections and post-installation surveys (per permitting requirements) which will allow for additional monitoring; details for inspections and post-installation surveys are still under discussion at Equinor.
- A member asked how many viable cable corridor paths were identified when Equinor was identifying a path through narrows for Empire Wind I?
 - Equinor answered that they are unsure how many paths were identified, but that in their application, a 300-foot corridor was identified to allow for navigation around obstructions not previously identified (labeled as micro-siting in the document).
 - Equinor noted that there are a lot of constraints regarding navigating through the narrows. There are concerns in the nearshore area where surveys detected metal debris and potentially historic resources. Equinor is conducting ongoing work to ensure they do not interfere with underwater obstructions.
- A member asked about the process for securing the onshore substation and landfall site, where a restaurant reside(d)?
 - Equinor acquired the restaurant and will acquire adjacent properties; both will be rolled into one parcel.
- A member inquired about pre-sweeping.
 - Equinor answered that it's too early to state which methods of pre-sweeping or clearing will be deployed. In terms of protection measures, they will be determined by whether it crosses other assets; some of that determination will be negotiated with asset owners.
- A member commented that Equinor will need to engage commercial and recreational fisheries in the lease area because moving and plowing will have a real effect on their catches.
 - Equinor thanked the member for their suggestion and stated they will take the feedback to its team.
 - CBI noted that this a topic that needs to be discussed in future meetings to engage with E-TWG and F-TWG regarding transmission and cabling activities.
- A member requested clarification whether burial may be up to 15 feet (slide "Cable Protection Measures").
 - Equinor answered that burial of export cables will be 15 feet below any Army Corps maintained shipping channel, and that there are only limited areas where they cross designated channels.

Beacon Wind Project Update

A brief summary of the [Beacon Wind](#) project is below. For full details of this portion of the presentation, please refer to the slides 27-47 of the presentation posted on the [E-TWG](#) and [F-TWG](#) websites. The summary below represents the discussion only for Beacon Wind I.

- The project is located approximately 20 miles south of Nantucket, 60 miles east of Montauk, with construction to begin in 2026. Beacon Wind I is expected to be 1,230 MW while Beacon Wind II has not yet been contracted for.

Summary of Q+A

- A member inquired on the topic of bundled HVDC, whether the cables are actually bound together or just laid together (they thought the cables couldn't be too close to each other because of heat emission).
 - Equinor answered that the cables are laid together in one trench.
- A member asked for the link to the dataset Equinor uses for its surveys.
 - Equinor provided the link to the data, which can be accessed [here](#).
- A member asked for the DPS case number.
 - Equinor provided the DPS case number: 22-T-0294.
- A member asked if it is possible to go from bundled to unbundled cables.
 - Equinor answered that it is possible. The base case they are looking at is bundled offshore, leaving the lease area, and then approaching near shore, in which case it would shift to unbundled.
- A question was asked about the HVDC cable and whether would Equinor require a conversion station in the lease area.
 - Equinor answered that this would be included in the offshore substation within the lease area.
 - A follow up question was posed on whether that would that require sea-water cooling.
 - Equinor answered that it will. They have been working with the Environmental Protection Agency (EPA) on the National Pollutant Discharge Elimination System (NPDES) permitting process; they are also working with modeling as well.
- A member asked whether the Metocean data available will be available for public use.
 - Yes, it will be. Equinor is actively sifting through the data to identify what can be shared and hope to share the data soon.
- A member noted that their understanding is the onshore conversion station is 5-10 acres and asked if this will happen at the landing site where the existing power facilities are located.
 - Equinor answered that all-in-all, the onshore footprint would total 5-8 acres. The permits plan to be wholly located within the Astoria power generating complex, with a maximum of 1 mile of onshore routing for Beacon Wind 1.
- A member asked if there is a plan to have the HVDC cables unbundled as they approach the shore?

- Equinor clarified that nearshore is where they are likely to be unbundled (two trenches), but still one corridor is still coming in. They believe there will be 50 meters of the total width of corridor, with 10 meters between the two trenches.
 - Is that part of the public DPS dockets, or are you part of confidential discussions yet?
 - No, we're not in any confidential discussions about this at this time.
- A member inquired about the size of the cooling water intake system and whether Equinor has anything regarding the size and structure.
 - Equinor answered that they do not have a final number yet, but they are working with two vendors who are providing them with designs of the cooling system. Equinor is still working with the EPA and NPDES permitting processes, which are likely to be similar to the numbers for the Sunrise Wind project.
- A member spoke to the Sunrise Wind project and other developer's planning cables that will likely run perpendicular to Equinor's cables and asked if Equinor is collaborating with them to prevent crossings from top-to-bottom. They noted that fishermen could lose the entire area for fishing in non-sandy areas.
 - Equinor answered that they are engaged with Ørsted in crossing agreement discussions, outlining where/how crossings will happen. They are trying to minimize the need for secondary protection. When assets have been there for a decade, we can't really ask them to bury deeper. But these cables are newer, so they can coordinate to ensure secondary protection isn't necessary.

LOA and Noise Mitigation Measures Update

A brief summary of the LOA and noise mitigation measures update is included below. For full details of this portion of the presentation, please refer to the slides 48-58 of the presentation, posted on the [E-TWG](#) and [F-TWG](#) websites.

- Authorization for take by Level A (auditory injury) and Level B (behavioral harassment) for marine mammals. Equinor's LOA is for five years with requests authorization from 2024-2028.

Summary of Q+A

- A member asked if Equinor is not expecting noise or construction effects from transmission installation.
 - Equinor confirmed that no noise impacts are expected. There is the potential for setting up "goal posts" as another means of cable landfall installation.
- The member expressed confusion as to why Equinor is going through the Letter of Authorization (LOA) process rather than Incidental Take Authorization (ITA).
 - Equinor answered that it's because of National Marine Fisheries Service (NMFS) requirement on actions which may result in serious injury or mortality. The LOA is a 5-year authorization, and the ITA is a 1-year authorization. The 5-year authorization coincide with the construction timeline. The NMFS definition of a serious injury is what results in a mortality, and Equinor wouldn't anticipate that a permanent threshold shift (PTS) results in a mortality. Equinor's modeling is extremely conservative, and they anticipate that no Level A harassment will occur.

- Based on the visual detection criteria, a member asked if the expectation is that no construction would commence if visual detection within 1.5KM is not possible due to atmospheric conditions (rain, fog, etc.)?
 - Equinor confirmed that this statement is correct. A full clearance zone must be visible to begin pile-driving.
- A question was posed about whether the LOA covers construction and cable interactions with UXOs and the potential for detonation and/or removal of UXOs?
 - Equinor clarified that it does not, and while they have UXO surveys planned, they don't anticipate that they would be necessary or warranted.
- A member asked if UXOs have been found within the lease area.
 - Equinor answered that, at this time, Beacon is actively evaluating the UXO risk for the lease area. Following this assessment, Equinor plans to submit a UXO survey and mitigation strategy document with BOEM (similar to the document created for Empire Wind).
 - The member emphasized the importance of informing fishermen if any UXO is located or unearthed through survey work.
- A member noted that there are no longfin squid in the lease area between September and October, when the area is supposedly being targeted for survey; they are present in summer months.
 - The larger document will provide a more in-depth rationale for timing, etc., but Equinor thanked the member for the note and correction. The timing was based upon Northeast Fisheries Science Center (NEFSC) data, but Equinor will double check.
- A member identified follow up items they would like to discuss at future meetings:
 - Concerns about the level of culling and presence of North Atlantic Right Whales that have been detected in other months (emerging science on this);
 - Actions that will be taken following detections (North Atlantic Right Whales & other species, shutdowns, what happens next, etc.); and,
 - How the number of takes were calculated based on the modeled data and where some items may or may not need to be revisited.
 - Equinor thanked the member for their input and confirmed that additional time will be taken to speak to these points at future meetings. With respect to seasonal closure, they acknowledged that there are Right Whales in other months and is looking forward to continuing the discussion all the aspects mentioned.
- For those interested in the NMFS definition of "serious injury" of marine mammals, further info can be found [here](#).

Avian/Bat and Fish Post-Construction Frameworks

A brief summary of the avian/bat and fish post-construction frameworks is included below, and for full details of this portion of the presentation, please refer to the slides 59-66 of the presentation, posted on the [E-TWG](#) and [F-TWG](#) websites.

- The goal of the post-construction frameworks is to support the understanding of bird and bat interactions for the Empire Wind 1 and Empire Wind 2 projects

Summary of Q+A

- Members had no questions for Equinor on this portion of the presentation.

EW 2/BW 1 PSA Monitoring Plan Funds Update

A brief summary of the Empire Wind 2/Beacon Wind 1 monitoring plan funds update is listed below, and full details of the presentation can be found on slides 67-69 of the presentation, posted on the [E-TWG](#) and [F-TWG](#) websites.

- The Empire Wind 2 and Beacon Wind 1 Offshore Wind Renewable Energy Certificate Purchase and Sale Agreement with NYSERDA includes funding commitments to support regional monitoring of key commercial fish stocks (\$5,000/MW) and of wildlife of conservation concern (\$5,000/MW). The first round of RFPs to support this work is expected to start in late 2023.

Summary of Q+A

- A member noted that further information about the presence of Right Whales is expected to come out. This may alter the regional monitoring plan for this species.

Group Discussion and Debrief

Following the completion of Equinor's presentations, Equinor representatives left the meeting and E-TWG and F-TWG members engaged in a group discussion to debrief the presentations. The summary below captures key points of discussion.

- **Transmission and Substations.** The TWGs want to capture transmission and cooling station for substations, the impacts transmission has on commercial fisheries and the marine environment (specifically marine mammals), and what the role of stakeholders will be in transmission-related decision-making.
 - It appears that potential impacts to fisheries from the cooling water needed for substations can be an afterthought. The specs of these facilities should be given more attention and consideration in the near term.
 - Members would like additional details on thermal changes around substations in response to the cooling stations that will be used; this can impact fish quantity in immediate areas surrounding substations.
 - Entrainment of eggs/larvae is also a big concern regarding converter stations.
- **UXOs.** The safety issues UXOs present is critical and must be further discussed. Fishermen are experiencing issues where developers are not notifying stakeholders about these discoveries.
 - There needs to be communication and coordination with all fishermen and stakeholders regarding the discovery of artifacts and UXOs during cable work.
 - CBI suggested the TWGs raise this issue to BOEM quickly and supported the suggestion that UXOs be explored in a separate TWG meeting.
- **Submitting feedback on regional monitoring plans.** Folks will be interested in regional monitoring plan, what it looks like, and how it's rolled out; Equinor will be sharing this shortly and will be soliciting feedback on the plan.
- **Meeting format feedback.** The format of this meeting in which Equinor shared important updates with subsequent Q+As was helpful to get reengaged with the projects. However, there

are issues from each presentation where members want to dig deeper (e.g., cables); each presentation warrants a deeper conversation.

- Joint E-TWG & F-TWG meetings make sense, where applicable, and are useful and more efficient than repeating the same information twice via separate TWG meetings.
- **Monitoring efforts.** Members are interested in digging into the details of the monitoring efforts and information sharing for transparency (e.g., information collected as part of the 10K/MW should not be considered confidential).
 - It was helpful for members to hear how some of the other taxa experts are viewing potential impacts.
 - Monitoring plans and marine mammals will be key topic areas.
- **Boulder plows.** The effects of boulder plows in federal waters can be detrimental to fishing in soft sand areas and warrants discussion at a future meeting.

Wrap Up & Next Steps

- The cable constraints assessment is out for comment (comments due October 28). We will be following up with E, F, and M-TWG to provide an overview of the assessment; scheduling emails are forthcoming. There will be two overview meetings at least one week before the comment period closes.
- More meetings will be scheduled to dive deeper into each of the topic areas presented during this meeting.
- All TWGs will have plenty of opportunities to review engagement, monitoring, and survey plans as they become public.
- The environmental and fisheries mitigation plans will be updated as development and progress continue.
 - The F-TWG webpage for fisheries mitigation plan information:
<https://www.nyftwg.com/fisheries-mitigation-plans/>
 - The E-TWG webpage for environmental mitigation plan information:
<https://www.nyetwg.com/environmental-mitigation-plans>

Appendix A: Meeting Agenda

Empire and Beacon Wind Mitigation Plans Overview Meeting

Virtual Meeting

September 20, 2022 | 9am-11am EST

- 9:00 **Welcome, Introductions, and Ground Rules**, NYSERDA, CBI
- 9:05 **Empire Wind project update**, Josh Verleun, Empire Wind Permitting Director
- 9:35 **Beacon Wind project update**, Julia Lewis, Beacon Wind Permitting Director
- 10:05 **LOA and Noise Mitigation Measures Update**, Jordan Carduner, Beacon Federal Permitting Manager/NMFS Lead
- 10:20 **Avian/Bat and Fish Post-Construction Frameworks**, Darrell Oakley, Onshore Permitting Manager and EJ Marohn, Marine Affairs Manager
- 10:35 **EW 2/BW 1 PSA Monitoring Plan Funds Update**, Jen Dupont, Strategic Permitting Manager
- 10:45 **E-TWG and F-TWG Breakout Discussion**, NYSERDA, CBI