

September 10, 2013

Carl Dierker
General Counsel
U.S. Environmental Protection Agency, Region 1
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Carl,

Please find below responses and answers to each of the comments and questions you submitted via email to MassCEC on September 6, 2013. Additionally, we were forwarded a September 6, 2013 letter from the Massachusetts Historic Commission to EPA on potential impacts to the Palmer's Island Lighthouse, and we have taken the liberty of including a response into this communication.

Response to EPA Comments/Questions from email dated 9/6/2013:

1. EPA Comment/Question: MassCEC's response to our question related to timing (see pages 4-5 of the MassCEC letter) states that all the blasting work will end on Nov. 15. It is important that MassCEC understand and acknowledge condition 2 in our June 13, 2013 letter (which we have also included as condition 3 in the letter we sent today to NMFS reinitiating consultation). Specifically, we have stated that EPA will need to evaluate the effects of any blasting that takes place in one area in September before we can agree to allow further blasting before November 15.

Response: MassCEC's letter of August 28, 2013 states that MassCEC anticipates that, due to thicker rock, blasting would take two months rather than one. MassCEC also indicated that if blasting began on September 15, 2013, it could conclude by November 15, 2013. However, given that MassCEC and USEPA are still working together on the blasting permit, and given that the contractor will need several weeks to mobilize equipment prior to blasting, it is likely that blasting will extend beyond November 15, 2013. MassCEC recognizes that it cannot blast after the January 15, 2014 time of year restriction. Additionally, MassCEC understands and acknowledges Condition 2 of EPA's June 13, 2013 letter which states that EPA will carefully evaluate the effects of the blasting that takes place in the first area (the bulkhead area) prior to allowing further blasting before November 15th.

2. EPA Comment/Question: It would be helpful if MassCEC would confirm that, in addition to installing silt and bubble curtains at the blast sites, it intends to install

an additional silt curtain north of the blast sites to deflect migrating juvenile anadromous fish from any blasting before Nov. 15, as we stated in our June 13 letter (condition 3).

Response: MassCEC confirms that it will comply with Condition #3 from EPA's June 13th letter on silt/bubble curtains for blasting that would occur prior to November 15, 2013.

3. EPA Comment/Question: It would be helpful if MassCEC would identify where the additional blasted rock will be disposed.

Response: MassCEC has directed its contractor to excavate the blasted rock, transfer it to the land side, and process the blasted rock so that it can be utilized in the construction of the New Bedford Marine Commerce Terminal (NBMCT). MassCEC intends to utilize the blasted rock onsite.

4. Please explain why the substantive requirements of State explosive regulations 527 CMR Section 13 which regulate the transportation, storage and handling of explosives on land and vessels, have not been identified as an ARAR and not included in the State's ARARs letters. Alternatively, please revise your ARARs analysis and provide an addendum including these regulations. (There appears to be an intent to comply with these regulations since Section 12 of the Blasting Plan references these regulations and the blasting specs (1.1.1) also require compliance with these regulations.)

Response: The previous ARARs analysis and the Commonwealth's ARARs letters did not list 527 CMR Section 13 because MassDEP was aware at the time it generated the letter that the contractor would be required to fully comply with this regulation. Instead of handling this as an ARARs issue, MassCEC and the Contractor shall comply with the State explosive Regulations 527 CMR 13, and will be obtaining all necessary permits associated with 527 CMR 13.

5. EPA Comment/Question: EPA has reviewed the submitted Operational Blasting Plan

- 1) DOT licenses/permits (section 2.2.1):
 - a) Explosives Supply Inc.
 - i) Certificate of Registration expired 6/30/13
 - ii) Hazardous Material Safety Permit expired 4/30/13
 - b) John Joseph Inc.
 - i) Certificate of Registration expired 6/30/13
 - ii) Hazardous Material Safety Permit expired 6/30/12 or 2013
 - iii) Truck Annual Inspections expired; last performed for all trucks on 11/25/13 (Section 4.1.3)

Response: MassCEC, through its resident engineer, will return the Operational Blast Plan to Cashman-Weeks NB stamped "*revise and resubmit*", with each of the

highlighted points, amongst other technical comments, and require the contractor to update the Plan prior to the initiation of blasting.

6. Section 4.1.2 is missing the transportation route from explosives supplier to Fish Island.

Response: MassCEC, through its resident engineer, will return the Operational Blast Plan to Cashman-Weeks NB stamped “*revise and resubmit*”, with this point highlighted, amongst other technical comments, and require the contractor to update the Plan prior to the initiation of blasting.

7. Section 5.4 and 5.6 will need updating; reflects EPA conditions in June and July letters with 50lb charge per delay limit.

Response: MassCEC, through its resident engineer, will return the Operational Blast Plan to Cashman-Weeks NB stamped “*revise and resubmit*”, with this point highlighted, amongst other technical comments, and require the contractor to update the Plan prior to the initiation of blasting.

8. Section 12.2.1 cites 527 CMR Section 13 but the actual text of the regulations is missing.

Response: MassCEC, through its resident engineer, will return the Operational Blast Plan to Cashman-Weeks NB stamped “*revise and resubmit*”, with this point highlighted, amongst other technical comments, and require the contractor to update the Plan prior to the initiation of blasting.

Finally, the Massachusetts Historic Commission forwarded a copy of their September 6, 2013 letter to USEPA on the Palmer’s Island Lighthouse located in New Bedford Harbor, and we wanted to provide the following information for your consideration.

MassCEC fully appreciates and realizes the importance of the Palmer’s Island Lighthouse to the local community. We are working very hard to insure that this vital landmark is protected from any impacts from this project.

As you know, USACE regulates the maximum vibrations that are allowable in association with the potential damage to adjacent structures. These values are measured in Peak Particle Velocity (or PPV) and have the units of inches per second:

- Historic Structures PPV<0.5 in/sec
- Residential Structures in Massachusetts PPV<0.8 in/sec
- Other Structures PPV<2.0 in/sec

That is, vibrations measured below the readings listed are unlikely to result in damage to the structure. We have performed extensive modeling of the blasting and have had a geotechnical engineering consultant work on analyzing the potential impacts from blasting. As a result, we are able to produce estimates of the anticipated vibrations for structures that are located various distances from the nearest blasting location. The equation utilized to determine the potential vibration impact is:

- 'PPV' = 'H' X ['D' / (SQUARE ROOT OF 'W')]^ 'B'

Where:

- 'PPV' = The Peak Particle Velocity in inches per second.
- 'H' = The Peak Particle Velocity intercept in inches per second (as formulated from historic blasting data from the United States Bureau of Mines)
- 'B' = The Slope Factor (as formulated from historic blasting data from the United States Bureau of Mines)
- 'W' = Weight of charge per delay in pounds
- 'D' = Distance in feet to the structure in question.

In this case, the following values were utilized:

- H = 50 (the upper range of historic United States Bureau of Mines data)
- B = -1.6 (the upper range of historic United States Bureau of Mines data)
- W = 200 pounds, the maximum charge evaluated by our geotechnical consultant.
- D = 1,350 feet, the distance from the nearest charge to the Palmer's Island lighthouse.

The result of this analysis indicates that the maximum anticipated vibration at the Palmer's Island lighthouse is approximately: 0.034 in/sec. This value is approximately 15 times lower than the recommended level issued by USACE. As a result, we feel confident that the vibrations associated with blasting will not have an impact on the Palmer's Island lighthouse.

Nevertheless, we have a robust monitoring program for the lighthouse. In partnership with the New Bedford Harbor Development Commission, we have completed an extensive pre-blast photography and video of the Palmer's Island Lighthouse to document pre-blasting conditions. Additionally, we are committed to:

- A pre-construction structural review of the Lighthouse.
- Real-time measurement of the actual vibrations generated during blasting to confirm the results of the modeling; and
- Post-blast photography and video of the Lighthouse to document post-blasting conditions.

MassCEC is fully engaged on the importance of the Palmer's Island Lighthouse and believe the actions we have committed to will insure the integrity of this historic structure.

As blasting is the most critical path activity for the project, it is imperative that we move forward with a final modification as soon as possible.

Thank you,

Bill White

Bill White
Director, Offshore Wind Sector Development