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To: Matt Schweisberg, EPA Region 1
From: Philip Weinberg, MassDEP, Office of Operations and Environmental Compliance
Re: South Terminal ARARs Overview
Date: August 27, 2010

The South Terminal project is comprehensively described in the report entitled Enhanced Remedy in New Bedford, South Terminal, dated August 25, 2010. The project envisions the construction and operation of a marine terminal of approximately 28 acres within the Designated Port Area of the New Bedford Harbor at a site north of and proximate to the Harbor's Hurricane Barrier. The project will be primarily subject to three regulatory programs: Wetlands, 310 CMR 10.00; Waterways, 310 CMR 9.00; and Water Quality, 314 CMR 9.00. As set forth below, the Department has concluded that the project will comply with the substantive requirements of each of these three regulatory programs.

The project's components include:

1. Construction of a 1200 linear foot bulkhead that will fill in approximately 6.34 acres of shallow, near shore and intertidal habitat and .18 acres of salt marsh;
2. Improvement dredging of approximately 11 acres in near shore, subtidal habitat to provide navigational access to the terminal; and 6.39 acres of maintenance dredging in deeper subtidal areas to facilitate navigational transit through the Harbor; and
3. Construction of a temporary, pile supported bridge spanning an intertidal area within the buffer zone of a salt marsh.

Designated Port Area

All the activities associated with the project occur within a Designated Port Area (DPA), locations dedicated to marine industrial and commercial purposes.¹ The Wetland Regulations at 310 CMR 10.26 establish the performance standards for activities proposed in wetland resource areas within a DPA. The regulation designates land under the ocean in DPA as significant to the wetland interests of marine fisheries, storm damage prevention and flood control, and presumes that such land is not significant to other interests and therefore the usual performance standards do not apply for resources areas including salt marsh, land containing shellfish, coastal beaches, and tidal flats. Projects in DPA must be designed and constructed using best practical measures to minimize adverse effects on: (a) fisheries through changes in water circulation and water quality; and (b) storm damage prevention or flood control caused by changes in the land's ability to provide support for adjacent coastal banks or engineering structures. The Department concludes that the project does minimize adverse effects on fisheries and storm damage prevention. Based on the project's design and location on the coast, the Department does not expect an adverse effect on water circulation. Similarly, the Department does not expect that the terminal will have an adverse impact from storm damage or flooding to the coastal bank or the boat ramp or marine industrial bulkhead located on adjacent parcels. There may be temporary impacts to water quality associated with the dredging, which is discussed in further detail below.

Terminal

The South Terminal's bulkhead is to be constructed with sheetpiling and backfilled with dredged sediment, predominantly clean sand generated in developing the Confined Aquatic Disposal (CAD) units to manage the PCB contaminated sediments dredged in the course of on-going remedial activities or navigational dredging projects undertaken in the Harbor. The bulkhead will infill approximately 6.3 acres of near shore habitat and .18 acres of salt marsh. The intertidal and subtidal areas the bulkhead will occupy are currently contaminated with lower levels of PCBs.

The Water Quality Regulations at 314 CMR 9.06(1) require an alternative analysis that demonstrates there is no practicable alternative to the project that will have a less adverse effect on the aquatic environment. The State Enhanced Remedy report sets out the basis for the Department's conclusion that there is no other practicable location or configuration for the project that will meet its primary purpose in serving the off-shore renewable energy. The report satisfies the regulation's alternative analysis performance standard. Moreover, the regulations provide at 314 CMR 9.06(8) that notwithstanding the requirement for a "LEDPA"-type analysis, the Department may approve a project that will otherwise improve the natural capacity of wetlands or any water of the Commonwealth. In providing a construction-related reuse for CAD generated material, a location capable of providing future means to store and reuse CAD sediment, and in the mechanisms by which the proposed mitigation measures will eliminate

¹ A locale is established as a DPA pursuant to the Coastal Zone Management Regulations at 301 CMR 25.00.

exposure of the aquatic environment to PCB contamination, the South Terminal will contribute toward improving the Harbor's and its surrounding habitat's natural capacity. The terminal also allows the project to comply with the provision of 314 CMR 9.07(1)(e) which compels reuse or recycling of dredged material rather than its disposal.

The regulation at 314 CMR 9.06(2) requires that appropriate and practicable steps be taken that will avoid and minimize potential adverse impacts to land under water or the intertidal zone. The Department has developed standard protocols to regulate construction activities in shorelines areas that ensure that through time of year restrictions and best management practices adverse impacts to water quality and benthic habitat are avoided or minimized. In regard to the bulkhead, most of the impacts will occur behind the sheet piling. The Department believes that the avoidance and minimization standard can be achieved with the use of appropriate BMPS during the placement of fill behind the sheet pile bulkhead which will contain sediment. The terminal constitutes a Confined Disposal Facility (CDF) regulated under 314 CMR 9.07(8). The terminal meets the siting criteria as it is not located near a sensitive receptor, would not cause an unacceptable traffic risk, will not have an adverse effect on a state listed rare or endangered species, as confirmed by the letter from the Natural Heritage Endangered Species Program, or create an unacceptable risk from operating emissions. The surface of the terminal is designed to be crushed stone which due to its permeability should reduce stormwater management concerns, and the terminal will be required to meet the stormwater performance standards to prevent erosion, reduce the discharge of pollutants and control run-off from a 24 hour, 25 year storm. 314 CMR 9.07(8)(d), as well as develop operating and maintenance plans to address spill prevention and control. Parking or lay down areas with impermeable surfaces will also be required to meet these standards, but overall the site's configuration should not present difficulty in demonstrating compliance.

The regulations do provide, however, that the final cover system minimize percolation of water and be designed and constructed to remain impervious over the life of the facility. The assumption behind these performance standards is that the material to be confined is sediment that is unsuitable for ocean disposal and contaminated to an extent necessary to prevent human exposure and leachate migration. In contrast, the terminal is proposed to take clean CAD sand for its structural backfill. Through the implementation of a sampling plan, the contaminant levels of the sediment can be verified to present no significant risk to the public health and environment as a result of the design or operation of the facility. Verification that the sediment that will be placed is free of significant contamination may obviate the need to meet the specific design criteria. Absent this verification, other engineering design criteria for cap, drain and final cover systems that meet the project's design criteria of having a crushed stone surface that can accommodate the mass and operating characteristics of the moveable cranes will need further consideration. The Department commits to reviewing the final design to ensure the underlying performance standard of preventing migration of contaminated material is met.

The terminal also proposes to use up to 50,000 cubic yards of clean CAD sand for upland site grading. This activity, as well as bulkhead backfilling utilizing clean sand, qualifies as shoreline placement and upland material reuse allowed in accordance with 314 CMR 9.07(9) as reuse of sediment within a DPA. As noted above, a sampling regime will be instituted to ensure the sediment meets the applicable contaminant limits.

The terminal is also regulated under the Waterways regulations, 310 CMR 9.00. The terminal's functions classify it as a water dependent-industrial facility under the criteria at 310 CMR 9.12: a facility related to the construction and storage of marine structures, a marine terminal for transfer between ship and shore of water-borne goods, and an ancillary activity to offshore renewable energy infrastructure. As a water dependent facility, the project is presumed to serve a proper public purpose (310 CMR 9.31). Water dependent industrial structures within the tideland area of a DPA may be constructed with fill, provided that neither pile supported nor floating structures are a reasonable alternative. The SER report presents convincing information that the massive weight (600 tons) and resulting 4000 pounds s.f. of the mobile cranes establish the practical necessity of a crushed stone rather than a concrete operating surface. These two factors combine to preclude reliance on a pile supported structure as a reasonable design choice. This conclusion is further supported by the Department's records which indicate that these cranes weigh 12 times and 6 times more than the cranes at the largest cargo marine terminals operating in Boston or New Bedford respectively. For the same reasons as well as for the necessity of stability in transferring and staging the turbines, floating structures are also incompatible with the primary purpose of the terminal. The terminal also meets the Engineering and Construction standards at 310 CMR 9.37

The site investigation of the upland portion of the terminal site identified that major portions of the site were underlain at relatively near surface depths with a variety of waste materials. Certain test pits also showed the presence of hydric soils and invasive plants that can propagate in anaerobic conditions. The Department does not consider those areas jurisdictional wetlands. In addition, the SER report noted that at least one area has been identified as the site of release regulated under M.G.L. c. 21E. The Department anticipates that as the project progresses a more detailed site assessment will be conducted pursuant to Massachusetts Contingency Plan regulations, 310 CMR 40.000, and the appropriate response actions will be implemented, if required.

Temporary Land Bridge

In order to accommodate additional storage for wind turbine components, the project proposes to construct a temporary bridge connecting two parcels within the site. The bridge will span an intertidal area and require up to ten, 30" diameter pilings for load bearing support. The Wetland

Regulations at 310 CMR 10.32(3) prohibits any project within a salt marsh or on lands within 100' of a salt marsh from destroying or having an adverse affect on the productivity of the salt marsh. The bridge is within the 100' buffer zone. There is no basis to conclude that the location of the bridge outside of the marsh would adversely impact salt marsh productivity as it would not impede or interfere with the tidal movement and is designed to minimize shading. Moreover, in the application of the performance standard, the regulations establish an exception for small projects within the marsh, such as an elevated walkway or other structure that has no other adverse impact than blocking light exposure to the underlying vegetation for a portion of the day. 310 CMR 10.32(4). Were it required for the Department to invoke this exception (which it is not), the project's proposal meets the exception's performance standard.

Navigational Dredging

Navigational access to the terminal requires a combination of improvement and maintenance dredging in excess of 17 acres of intertidal and subtidal areas to between- 20MMLW to - 30MMLW as described and delineated in the SER report and accompanying Appendix. The water quality regulations require a "LEDPA"-type analysis for dredge projects. 314 CMR 9.07(1)(a). The SER report sets out a persuasive rationale for the extent of the proposed dredging based upon a best information available analysis of the configuration and number of primary and support vessels that will be required to implement the project consistent with the wind turbine facility's transportation and construction predicates. Similar to the provision discussed earlier in connection with the terminal, the regulations at 314 CMR 9.07(1)(l) creates an exception to the applicability of alternative analysis requirement and other performance standards where the project will restore or otherwise improve the natural capacity of the wetland or other water of the commonwealth. As noted, we believe various components of this project will serve such a purpose.

The water quality regulations also require that appropriate and practicable steps be taken to avoid or, if avoidance is not possible, to minimize and thereafter mitigate adverse impacts to land under water and the intertidal zone. 314 CMR 9.07(1)(a). Dredging performance standards at 314 CMR 9.07(3)reiterate and expand upon the requirement to avoid and minimize impacts including a conditional prohibition on dredging within the migration, spawning or juvenile development of aquatic species. Although this project involves improvement dredging as compared to the maintenance dredging conducted under prior three phases of SER-approved dredge projects, the performance standards imposed in those latter projects would be equally appropriate and applicable to the navigational dredging associated with the project. In addition to aligning the dredging scheduling in regard to the times of the year when resident and migratory species are in their vulnerable phases of their life cycles, the establishment of mixing zones, the use of silt curtains and environmental dredge buckets, real time dredge and dewatering related turbidity monitoring and response plans, and environmental monitors'

oversight will act in concert to achieve the avoid and minimize standard. The Waterways regulations, at 310 CMR 9.40(2) and (3), imposes more explicit dredge performance standards, such as conditionally precluding dredging between March 15th and June 15th of any year in order to avoid interference with fish runs, but which can be met within the parameters of the scheduling, design and operating conditions discussed above.

Mitigation for Unavoidable Impacts

The SER report identifies a matrix of potential mitigation projects within and proximate to the terminal that replicate or improve the resource areas impacted by the project, including salt marsh, intertidal and the subtidal areas. The selection principles applied in identifying the prospective mitigation measure are consistent with the criteria the Department applies in reviewing compensatory mitigation measures. The concept of capping contaminated areas to improve benthic water quality and, in effect, create improved habitat as proposed in the OU3 area is a mitigation approach the Department recognizes as an acceptable mechanism to redress impacts from hazardous waste remediation projects and those involving dredging and fill within locations containing contaminated sediments.

There are several prospective mitigation measures that currently lack a financial commitment to conduct or complete. The Department anticipates that prior to the commencement of the project's construction, further clarification of the funding and scheduling of the selected mitigation measures will be documented and implemented. As further details of the dredging design are formalized, the Department will exercise oversight in the adoption of the final group of mitigation measures, and review the final designs, engineering controls, monitoring and contingency plans to ensure that project's impacts to essential fish habitat are adequately addressed and impacts during the construction period of the project and the selected mitigation measures are minimized.