COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

THE OFFICE OF APPEALS AND DISPUTE RESOLUTION

In the Matter of Entergy Nuclear Operations, Inc. and Entergy Nuclear Generation Co.	OADR Docket No. 2015-009 DEP File No: Waterways Application No. W14-4157, Superseding Written Determination Plymouth, MA

PETITIONERS' POST-HEARING CLOSING BRIEF

Introduction

Petitioners have put forth credible evidence to establish that they have standing and have shown by a preponderance of credible evidence that the Written Determination ("WD") of the Massachusetts Department of Environmental Protection ("DEP") issued in this matter is inconsistent with the Waterways Law, Chapter 91 and its implementing regulations at 310 CMR 9.00 *et seq.* ("the Regulations"). [1]

The proper legal interpretation of c. 91 required DEP to use present waterlines in determining the area of Chapter 91 jurisdiction for the activities described in the License Application ("the Project"). [2] DEP's use of historic waterlines was erroneous. Petitioners have

[1] On October 13, 2015 Entergy announced it will close Pilgrim by July 2019. This announcement does not eliminate the need for Pilgrim to comply with the NRC Order and to implement the Overall Integrated Plan. Spent nuclear fuel will be stored in the spent fuel pool for some time after July 2019. Entergy's Overall Integrated Plan for compliance with the NRC Order includes providing adequate cooling capabilities for the spent fuel pool which the Project is intended to address. Pre-Filed Direct Testimony ("PFDT") of Philip Harizi ¶ 11.

[2] "Project" is defined by the Regulations as "any work, action, conduct, alteration, change of use, or other activity subject to the jurisdiction of the Department under M.G.L. c. 91, in accordance with the provisions of 310 CMR 9.03 through 9.05, which is the subject of a license or permit application." Entergy describes "the Project" as "the proposed outhaul and mooring system within the intake embayment [to] accommodate deployment of floating strainers and semi-rigid suction pipe into Cape Cod Bay to provide cooling water…." Eric Las PFDT Ex. 2, License Application, Project Narrative, § 2.1. This is the activity that will occur in the Tidelands and that is the subject of the

shown by a preponderance of credible evidence that use of present waterlines to determine the area of Tidelands[3] that applicant Entergy Nuclear Operations, Inc. and Entergy Nuclear Generation Co. ("Entergy") will use for "the withdrawal of water from a waterway for cooling purposes"[4] is both Commonwealth Tidelands and Private Tidelands as defined by the Regulations. The Project as defined by the Regulations and Energy itself encompasses far more than just two moorings and accordingly the WD is fatally flawed because DEP improperly confined its review to the moorings and ignored the use to which the moorings will be put and the other components of the activity associated with the moorings. Finally, a preponderance of credible evidence shows that DEP made an erroneous water dependency argument and that it erred in finding the Project meets the standards of 310 CMR 9.31.

Respondents DEP and Entergy make inherently contradictory and illogical arguments in an effort to support the WD. For purposes of standing, Respondents claim only harm and damage from two moorings should be considered, yet in addressing the proper public purpose requirement, 310 CMR 9.31(2), they claim the entire Project must be considered. On the merits of the issue of Tidelands boundaries, Entergy's sworn testimony states that the present water lines are the proper jurisdictional lines, but then Entergy and DEP claim the historic water lines must be used to support the Private Tidelands finding in the WD. Use of the "Historic Tidelands Exhibit", Las PFDT Ex. 6, prepared by Entergy in June 2015, three months after the WD, contradicts Respondents' own the testimony and evidence. Respondents' cannot have it both ways. The matter should be remanded with an order that DEP use present water lines to

---

license application, not "just two moorings."

[3] "Tidelands" are defined by G.L. c. 91, § 1 as "present and former submerged lands and tidal flats lying below the mean high water mark."

[4] This is the use described by the WD, Finding #1.

determine the scope of c. 91 jurisdiction and that the issues of proper public purpose and compliance with the standards of 310 CMR 9.31 be revisited in light of that finding.

I. PETITIONERS HAVE STANDING

Petitioners have met their standing burden as to Jones River Watershed Association ("JRWA") and the Ten Residents Group. As Petitioners' testimonial and documentary evidence shows, JRWA has met its burden of putting forth a "minimum quantum of credible evidence" in support of claims that the Project "will or *might* cause JRWA to suffer an injury in fact, which will be different either in kind or magnitude from any injury, if any, that the general public could suffer and which is in the scope of the public interest protected by G.L. c. 91 and G.L. c. 21A." Pre-Screening Order, p. 9 (emphasis added). *Petitioners' Memorandum of Law on Issues for Resolution*, June 29, 2015 ("Petitioners' Memorandum") establishes that Ten Residents Group meets the five jurisdictional prerequisites as described in the Pre-Screening Order, p. 9, and Respondents do not challenge that the Group is validly constituted. Therefore, the Group has standing under 310 CMR 9.17(1)(c). The Group has set forth credible evidence of actual or probable "damage to the environment" as defined in G.L. c. 214, § 7A that not insignificant. The Group need not show individual member aggrievement.

A. The purpose of the Project must be considered in determining "injury in fact" and "damage to the environment."

In an effort to avoid the merits of DEP's WD, Respondents assert the Project consists merely of augering two helical moorings into the sand and the only injury and damage for standing purposes flows solely from the "environmental impact of the proposed helical mooring" which is like the "typical bottom weighted mooring alternative that is commonly used for boat

moorings…." *Memorandum of Law of Applicants Entergy Nuclear Operations, Inc. and Entergy Nuclear Generation Co.* ("Entergy Memorandum") July 29, 2015, p. 5 citing Las PFDT ¶s 9, 11, 27; *Id*. p. 8 (the Project is "limited to two helical moorings…[and]…will not impact the Jones River") and *Department of Environmental Protection's Memorandum of Law on Issues for Resolution* ("DEP Memorandum") August 28, 2015, pp. 3-4 (harm and damage limited to "installation of 2 helical moorings"). Not only is Respondents' position internally inconsistent with the agency's position on water dependency—which *does* take into account the purpose of the Project[5]—it is frankly astonishing. Under Respondents' flawed logic, DEP would have no discretion on whether to issue a c. 91 license for these two helical moorings even if they were being used to moor a leaking container ship full of hazardous waste, because they are just moorings like those found in "nearly every coastal town in the Commonwealth." DEP Memorandum p. 7 n. 2. In such a circumstance, DEP would claim the reviewing body is prohibited from considering the use to which the mooring will be put. This makes no sense.

The Project is not "just another mooring." None of the "thousands of other moorings", Las PFDT ¶ 11, throughout the Commonwealth will be used to prevent a nuclear disaster. DEP tries to ignore the facts that the moorings are an integral part of the FLEX system, Harizi PFDT ¶s 7-9, 11, 12, 13, 17, Entergy "needs the Project to implement the Diverse and Flexible Coping Strategies"…and the "purpose of the FLEX Strategy is to prevent a Fukushima-like disaster…." Entergy Memorandum p. 3. The position of DEP's sole witness Mr. David Hill that the only difference between Entergy's moorings and the thousands of other boat moorings is that the

[5]See Part IV below. For example, in asserting the Project is "water dependent," DEP witness Mr. Hill opines that "[t]he sole purpose of the moorings is to facilitate a method to bring seawater from Cape Cod Bay to the Entergy Facility in the event of an emergency." Hill PFDT ¶ 18. Despite this, he testifies, "In reviewing this application, I did not consider the design, size or type of suction pipes or strainers that would be attached to the moorings as they would only be deployed during training exercises or an actual emergency." Id. ¶ 23. It is impossible to see how DEP could properly assess the Project without reviewing the purpose to which the moorings would be put.

latter have a greater mass and surface area, Hill PFDT ¶ 23, lacks credibility. Such an abdication of DEP's duty to protect the public rights in Tidelands should not be countenanced by the Presiding Officer.

Respondents' position contravenes over 350 years of tidelands law dating back to the Colonial Ordinances and embodying the public trust doctrine which expresses "the government's long-standing and firmly established obligation to protect public's interest in the tidelands and in particular for, traditionally, fishing, fowling, and navigation." *Alliance to Protect Nantucket Sound, Inc. v. Energy Facilities Siting Bd*, 457 Mass. 663, 799 (2010) (quoting *Moot v. Dep't of Envtl. Prot.,* 448 Mass. 340, 342 (2007)). In adjudicating c. 91 rights, courts look at the extent to which the public's *use* of the Tidelands would be impaired --- whether a dock, wharf, mooring or other structure. The public rights to use the tidelands include the "right to protect habitat and nutrient source areas in order to have fish, fowl, or marine plants available to be sought and taken; and the natural derivatives thereof," 310 CMR 9.35(3)(a), and access for navigation, fishing and fowling, on-foot passage, and free passage over and through water. 310 CMR 9.35(1)-(3). The Respondents' attempted artificial limitation of the Project to "just two moorings" without looking at the use and purpose of the Project contravenes the long-held rights of Petitioners to the Tidelands and specific rights to protect their interests in them as habitat and nutrient sources for fish, fowl and marine plants that are linked to the Jones River and the ecosystem of Cape Cod Bay. If the Project fails to perform as intended, or even if it does function as properly, Petitioners will or might suffer harm and actual or probable damage to the environment will occur, as described in Part I(B) below.

Moving beyond Respondents' absurd position that only harm and damage from augering two moorings into the sand should be considered, it is clear that when the purpose of this Project

is fairly considered, Petitioners have more than met their burden to put forth a "minimum quantum of credible evidence" to support injury in fact and damage to the environment as shown below.

B. The Project will or might cause JRWA to suffer individualized injury in fact and there may be actual or probable damage to the environment within the meaning of c. 214 § 7A.

Petitioners asserted rights include the right to a clean environment, 310 CMR 9.01(2)(e), and have the right to use Tidelands for "habitat and nutrient sources" for fisheries, fowl, or marine plants,[6] 310 CMR 9.35(3)(a), as well as for other uses for fishing, fowling and navigation. Claim for Adjudicatory Hearing, pp. 2-3; duBois PFDT ¶ 2-12; duBois Rebuttal Testimony ¶ 3-33. Petitioners have put forth a minimum quantum of credible evidence that the Project will or might cause injury in fact to their legally protected interests and actual or probable damage to the environment in two ways. First, if the Project does not function as intended and fails to prevent a nuclear disaster releasing contaminants into the environment, and second, even if it does function as intended, it will result in contaminants being released into the environment.

First, if the Project does not work there may or will be a nuclear accident that would release highly radiation in to the environment. Harizi PFDT ¶ 11 (The "core material which is highly radioactive, can be released into the environment.)"; Harizi 186: 8-12;[7] duBois Rebuttal Testimony ¶s 41-45. This would include Cesium 137, a form of ionizing radiation harmful to natural biota, duBois Rebuttal Testimony ¶ 44 and which constitutes damage to the environment. It is undisputed that the moorings are part of Entergy's FLEX strategy to address a "worst case

[6] Entergy's exclusion of the public from the shoreline for its private nuclear security purposes is also an interference with public rights under Chapter 91.

[7] The Transcript of the Appeal Hearing held September 24, 2015 in this matter will be cited by [page:line].

scenario" at Pilgrim, Harizi PFDT ¶ 12; Harizi 174: 17-176:1-24, including a hurricane or tsunami that knocks out Pilgrim's core and spent fuel cooling capacity. Harizi 185:20-24, 186: 1-11. Seawater withdrawn via the moorings licensed by DEP will be used to "maintain or restore core cooling, containment, and SFP [Spent Fuel Pool] cooling capabilities." Harizi PFDT ¶ 11. The moorings and outhaul system will be located on the shoreline, Maurer PFDT ¶ 8(f), near an area vulnerable to the most velocity of impact of any area on the Massachusetts coastline. duBois Rebuttal Testimony ¶ 24. Entergy will use a 1.5-inch rod screwed into the ocean bed where the waves break expecting it to hold the mooring in place. duBois PFDT ¶ 24. Waves, ice or marine debris can undermine the hold of the anchor and rip the eye off the snatch of the mooring. Id. at ¶ 7.

Use of the mooring system during a BDBEE depends on a human driving a truck to the high tide line and using the pulley system to connect the hose to the strainer attached to the mooring line. This may be impossible during an event such as a hurricane or tsunami. Maurer PFDT ¶ 21(a); duBois PFDT ¶ 17. Entergy does not dispute that humans would have to operate the system on the shoreline during a severe weather event or tsunami. Entergy merely says it is "very unlikely" the system would be deployed in the absolute worst-case scenario, Harizi PDFT ¶s 12, 13, but does not say it will not be deployed. Maurer Rebuttal ¶ 3(a). The ability of Entergy's proposed Kocheck strainer to function depends on it being in the right location, Harizi, 913; duBois PFDT ¶s 17, 18, which could be compromised in a severe weather event such as a hurricane or tsunami. Entergy did not test the system during severe weather, only in May on a calm day. Harizi 190:17-24, 191: 1-12. The U.S. Nuclear Regulatory Commission ("NRC") approved the Project only if it is properly implemented, Harizi 178: 12-15 and did not approve

the plans for locating the moorings. Harizi 178:18-24, 179: 1-22, 180:12-16, 182: 10-13, 184: 3-5; 185:5-11.

The Kochek strainer that is attached to the mooring is not designed for seawater use but only for a calm inland pond. Maurer PFDT ¶ 21(b)-(d). Entergy's lead Project engineer for the Fukushima Project, Harizi 175: 8-12, does not know whether the strainer is designed for marine use, Harizi 192: 21-24 as proposed. The strainer may get clogged with debris and fail to operate. duBois PFDT ¶ s18, 19. Entergy did not test the strainer to see if could function as expected in a Beyond Design Basis External Event ("BDBEE") such as a hurricane or tsunami. Harizi 189: 18-22, 190:1. Entergy has provided no documentation the strainer has been subjected to materials testing to see whether it will perform under the conditions for which it is intended. Maurer Rebuttal ¶ 3(b). A pump injects seawater through the Kochek strainer into the water lines for the cooling system. Harizi PFDT ¶ 14(b). If emergency cooling water is not available to keep the reactor core cooled, it will overheat and melt releasing highly radioactive material into the environment. Harizi 186: 8-12; 187: 4-12; 187:13-24-188:2.

The NRC recently downgraded Pilgrim because Entergy has failed "to take appropriate corrective actions to address the causes of several unplanned shutdowns dating back to 2013." Hearing Exhibit 1, Baker Letter; Maurer 109; duBois PFDT ¶ 26. Since 1975, Pilgrim has had 21 emergency shutdown scrams, 15 or 75% of which were weather related, Maurer ¶ PFDT 12-18, and Pilgrim was forced to shut down as a precautionary measure in advance of N'easter Neptune in February 2015. *Id*. ¶ 19. These emergency scrams and the February 2015 closure are directly related to the need for the FLEX system because they are the types of events the FLEX system is designed to address. *Id.* ¶ 55. These are the types of weather events that could cause a BDBEE and conditions in which Entergy could be required to use the Project.

The Project is not designed and will not be deployed in a manner that is reasonably achievable given the location, conditions, and types of equipment involved. *Id.* ¶ 21; 23; Maurer Rebuttal ¶ 3. Entergy's abysmal operating and safety record at Pilgrim that led to the September 2015 NRC downgrade, particularly during severe weather events such as those in which the Project is supposed to operate corroborates Petitioners' evidence that the Project is unlikely to function as intended and that Entergy will not be able to deploy it as designed. Petitioners' credible evidence establishes that the harm will or might occur and the damage is actual or probable.

Second, even if the Project functions as intended and delivers seawater to the reactor core or spent nuclear fuel pool, injury and damage to the environment will or might occur. Entergy does not have a disposal plan for all of the contaminated water. duBois PFDT ¶s 12, 13; duBois Rebuttal ¶ 28; duBois 64:13-24; 57: 10-24; 58:1-3; 65: 15-21, 67:1-13; Maurer Rebuttal ¶ 4. Entergy has stated in writing to DEP that the Plymouth Fire Department could connect its hoses to the pumps so the Fire Department could spray water on to the reactor. Maurer PFDT ¶ 22. During Fukushima water was applied by spraying via a truck-mounted pipe*, Id.* ¶ 22, which could be done at Pilgrim. duBois 53:10-23. In an emergency, seawater will be injected into the core or torus, Harizi PFDT ¶ 14(f), which has "seismic gaps" that allow water to leak out into the groundwater. Maurer PFDT ¶s 21(e), 25. Pilgrim is located about 150 feet from Cape Cod Bay and if water is injected into the torus via pipe or sprayed, there is nothing to prevent it from migrating through the facility and escaping through the seismic caps and leaks in buried components. *Id.* ¶ 26. The groundwater flows to Cape Cod Bay. *Id.* ¶ 27.

Petitioners' have put forth a minimum quantum of evidence that contaminated water will or might be discharged from Pilgrim. Entergy, on the other hand, merely equivocates on this

point but provides no certainty or even a written, documented plan for controlling, collecting, and properly disposing of contaminated water. Maurer PFDT ¶s 22, 24; Harizi PFDT ¶s 14(d), 16; duBois testimony, *supra*.

Petitioners' credible evidence shows that the harm and damage to JRWA differs in kind or magnitude from any injury, if any, that the general public could suffer and is in the scope of the interests protected by G.L. c. 91 and G.L. c. 21A. Pre-Screening Order, p. 9. The testimony of JRWA's Executive Director Pine duBois describes the specific, individualized harm that JRWA will suffer from the activities allowed under the license. duBois PFDT and Rebuttal Testimony ¶3-37. Ms. duBois testifies about how radionuclides would be released to the environment, duBois 54: 10-24, 55-1-24, and how damage to Pilgrim's intake screens which could damage the fish that are swimming to the Jones River. duBois 38:18-24. If Pilgrim discharges contamination, that disturbs the rights of JRWA and the public to fishing in Tidelands. Rebuttal Testimony ¶s 41-46, duBois 66: 19-22. JRWA's work and mission are place-based and geographically specific to the watershed and Cape Cod Bay. duBois Rebuttal Testimony ¶ 4. The health of the Jones River depends on the health of Cape Cod Bay. duBois PFDT ¶ 4. Migratory species of fish that use the Jones River for habitat and spawning use the Tidelands of Cape Cod Bay including those in front of Pilgrim. *Id.* at ¶ 10. An uncontrolled accident a Pilgrim will put JRWA out of business and destroy all the organization has worked for more than three decades to protect and restore. duBois Rebuttal Testimony ¶ 25; duBois 49: 6-10, 58:14-19.

Unlike the general public, JRWA has "devoted countless hours of staff and volunteer time" over 30 years to protect and restore the Jones River and Cape Cod Bay, and has invested significant financial and institutional resources in this effort. duBois Rebuttal Testimony ¶s 32-33. The activities DEP has approved in the WD will or might harm the interests of JRWA as a

corporation as well as its members and prevents JRWA from achieving its organizational purpose, including the restoration and protection of migratory fish that use the tidelands in front of Pilgrim. duBois PFDT ¶ 10.

Under G.L. c. 214 § 7A, the "damage to the environment" is broadly construed. *Boston v. Massachusetts Port Auth*., 364 Mass. 639, 646 (1974). Petitioners' testimony and documentary evidence establishes actual or probable damage to the environment.

II. DEP MISAPPLIED CHAPTER 91 AND THE REGULATIONS IN DETERMINING THE TIDELANDS BOUNDARIES.

A. DEP improperly used historic water lines in determining that the Project is entirely within Private Tidelands.

Not only did DEP improperly confine its review to "just two moorings", it misapplied the law in determining Tidelands boundaries. DEP's use of "presumptive historic" water lines in this case is inconsistent with the body of case law that has long recognized that what may have been the Tidelands boundary in 1866 may not be the boundary 248 years later in 2014. Chapter 91 provides alternative means for determining Tidelands boundaries according to site conditions. On one hand, it provides for a simple reference to presumptive historic water lines and on the other, use of the present water lines based on current data and where they differ from presumptive historic lines or there is evidence of alteration by fill. DEP's erroneous finding that the Project is entirely in Private Tidelands, WD Finding #1, is based primarily on the "presumptive lines for historic high and low water marks" derived from a low water line shown in the U.S. Coast Survey, Register No. 1063, dated 1866. Hill PFDT ¶ 13. This 1866 map is taken from the Coastal Zone Management mapping Project. *Id.* DEP admits that the historic low water mark has moved landward to its present location and that "human alteration of the

shoreline by dredging has undoubtedly altered the location of the historic low water mark." Hill PFDT ¶ 11. DEP further admits the site was altered by fill when unconsolidated material was placed in the area of the Project. Hill 277: 1-11. Under these circumstances, DEP was required to use *present* low and high water marks for determining c. 91 jurisdiction in this case. Its failure to do so renders the WD erroneous.

The terms "Historic High Water Mark" and "Historic Low Water Mark" as used in the regulations are merely *presumptive* lines. *Navy Yard Four Associates, Inc. vs. DEP*, 37 N.E.3d 46, 50 (2015) ("In 2006, the Office of Coastal Zone Management and DEP completed the "Massachusetts Chapter 91 Mapping Project," which established the presumptive historic high and low water marks along the Massachusetts shore for purposes of DEP's jurisdiction under c. 91.") These presumptive lines "may be overcome by a showing" that the lands in question are not Private Tidelands or Commonwealth Tidelands as the case may be. 310 CMR 9.02, *Definitions* Private Tidelands, Commonwealth Tidelands. Here, Petitioners evidence overcomes the presumption because it shows present low and high water lines based on current data that differ from the presumptive historic lines, establishing a more accurate Tideland boundary than the 1866 map. Petitioners' evidence also establishes that the site has been altered by fill contrary to DEP's claim in its Memorandum of Law that the site only has been altered by dredging and/or excavation and not by fill. DEP Memorandum p. 9.

Here, the definitions of Tidelands, Low Water Mark, High Water Mark, Historic High Water Mark and Historic Low Water Mark, Private Tidelands and Commonwealth Tidelands must be read together in determining how DEP should determine the Tidelands boundary. The c. 91 definition of "Tidelands" refers to "present and former submerged lands and tidal flats lying below the mean high water mark." It does not use the term "historic". In the regulations, Low

Water Mark and High Water Mark are defined as "present" water lines as determined by use of hydrographic survey data to determine the mean of water heights. 310 CMR 9.02, *Definition*s High Water Mark, Low Water Mark. The terms "historic high water mark" and "historic low water mark" appear nowhere in the c. 91 statutory definitions, and appear to be have been invented by DEP in promulgating the Regulations. The Regulations add historic to the definition of Tidelands stating they are "present and former submerged lands and tidal flats lying between the *present or historic high water mark,* whichever is farther landward, and the seaward limit of state jurisdiction." (emphasis supplied)/

Nor do the c. 91 statutory definitions of Commonwealth and Private Tidelands, added by the 1983 Amendment to the statute, refer to historic lines. Case law consistently refers to mean high water or low water, with no reference to "historic". See, e.g., *Coon v. McCabe,* 2014 Mass. LCR LEXIS 187, *110-112 (2014). "[U]nder the well settled law of the Commonwealth, every owner of land bounded on tidal waters enjoys title to the adjacent tidal flats to the **mean low water mark**, or one hundred rods, whichever is the lesser." *DeWolf v. Apovian*, 2012 Mass. LCR LEXIS 88, *14 (emphasis supplied, footnote and citations omitted). In *DeWolf*, the court went on to cite the dictionary definition of "mean low tide" with no reference to "historic" water lines. *Id. See also, Arno v. Commonwealth*, 457 Mass. 449 (2010). Case law recognizes that Tidelands boundaries shift over time. *Adams v. Frothingham*, 3 Mass. 352 (1807); *Michaelson v. Silver Beach Improv. Ass'n*, 342 Mass. 251 (1961).[8]

[8] The recognition that Tidelands boundaries shift is incorporated into an existing deed restriction on the Pilgrim site. A Stipulation entered into by Boston Edison, Pilgrim's prior owner, in the 1970s with the Massachusetts Attorney General specifically states that the low water line at the Pilgrim site is "subject to change by natural causes." This Stipulation was entered as part of Boston Edison's registration of the Pilgrim property. It defines Boston Edison's rights as extending to as "approximate extreme low water" and "that said line is only an approximate location of the petitioner's boundary with Commonwealth tidelands ands subject to change by natural causes, and is subject to "the rights of the public in the tidewaters of Cape Cod Bay." Dubois Rebuttal Testimony Ex. 9.

The definitions of historic high and low water marks added to the regulatory framework by DEP merely identify an alternative method for determining c. 91 boundaries.[9] Under a proper application of the definitions of historic high and low water marks, DEP should also look at the definitions of low and high water marks themselves – which are referred to in the historic water mark definition and are defined as "present" water lines. When evidence shows the historic water line has moved, which DEP admits here, Hill PFDT ¶ 11, or the site has been altered by fill, Hill 277: 1-11, the present water lines should be used and the *presumptive* historic lines should not.

Chapter 91 and its regulations must be read as a whole and interpreted in a manner consistent with the statutory purpose in determining the Tidelands boundaries. *Mass. Auto Body Ass'n, Inc. v. Commissioner of Ins.* 409 Mass. 770, 777 (1991); *Sudbury v. Scott*, 439 Mass. 288, 296, n. 11 (2003) (interpretation of a statute should be "consistent with the purpose of the statute and in harmony with the statute as a whole"). Under c. 91, DEP is charged with protecting the rights of the public in public trust lands.[10] Just as the terms of a license should be construed against the licensee, the words of the statute "are to be taken most strongly against the grantee in interpreting Chapter 91. *Bos. Waterfront Dev. Corp. v Commonwealth*, 378 Mass. 629, 639 (1979); *Tilton v. Haverhill*, 311 Mass. 572, 578-79 (1942) (citations omitted). The statutory purpose requires an expansive view of the area that constitutes Commonwealth Tidelands and

[9] As described in Part III below, DEP's own license application form provides 9 boxes of alternatives for a licensee to check off in describing the Tidelands boundaries. Las Ex. 2, DEP Application Form, p. 9. This is consistent with Petitioners' interpretation of c. 91 and the Regulations as providing alternative methods of determining the boundaries.

[10] Chapter 91, § 2 states, "In carrying out its duties under the provisions of this chapter, the department shall act to preserve and protect the rights in tidelands of the inhabitants of the commonwealth by ensuring that the tidelands are utilized only for water-dependent uses or otherwise serve a proper public purpose. ….The department of environmental protection shall protect the interests of the commonwealth in areas described herein in issuing any license or permit authorized pursuant to this chapter." See also, Chapter 91, § 10: DEP "shall protect the interests of the commonwealth in areas described herein in issuing any license and permit authorized pursuant to this chapter" and 310 CMR 9.01.

disfavors ceding Commonwealth Tidelands to a private party. In using the historic waterlines here, DEP improperly cedes Commonwealth Tidelands to Entergy.

Further, the Regulations consistently refer to the jurisdictional boundaries as those being the "farthest landward" boundaries. 310 CMR 9.02 Definitions, Private Tidelands (high water mark should be farthest landward); Commonwealth Tidelands (low water mark is farthest landward). The area of public tidelands is maximized as the Low Water Mark moves farther landward and correspondingly the Private Tidelands boundary also shifts landward moving on to the landowner's private property. This preserves the greatest area of Commonwealth Tidelands for the public.

Petitioners' interpretation makes common sense. In areas where there has been no alteration of the shoreline, then the present high and low water marks are likely to be similar to historic ones. So using historic high and low water marks as presumptive lines is efficient and obviates the need to analyze more current data. However, where there has been evidence of alteration of the shoreline by fill, which DEP admits there has been in this case, it makes sense that those historic lines may no longer be valid, necessitating the need to analyze current data to determine accurate high and low water marks. DEP's position that it is appropriate to use historic lines in areas of the shoreline altered by fill is facially illogical, in addition to contradicting the statutory and regulatory language and scheme.

B. Use of Historic Water Lines is Inconsistent with Entergy's License Application and the Present Water Lines

DEP's last minute explanation that the historic water lines are the basis for the WD finding that the Project is entirely within Private Tidelands is a transparent attempt to justify a regulatory decision that had been made months earlier without any substantive information.

Entergy's License Application approved by DEP is based on *present* water lines and shows the moorings in Commonwealth Tidelands. Las Ex. 3 and 4, Sheet 3. The only map attached to the WD itself shows the moorings seaward of the present low water mark. WD, "License Plan No. Draft" consisting of Sept. 25, 2014, Sheet 3 of 6 of Beals & Thomas plans. DEP witness Hill admits the relevant line for determining Private or Commonwealth Tidelands is the present mean low water line as shown on Entergy's License Application of May 9, 2014. Hill 263: 7-12. He agrees the moorings are in the Commonwealth Tidelands when determined by the present lines. *Id.* Hill gives his opinion that human alteration at the site has moved to low water line landward to "a location where it presently exists" and has altered the location of the historic low water mark. Hill PFDT ¶ 11. Illogically, Hill ultimately relied on the 1866 coastal survey to determine the location of the Tidelands boundaries in relation to the moorings in 2014. Hill 300:23-301:20.

C. Clear Evidence of Fill at the Site

The proper interpretation of c. 91 and the Regulations is that where the shoreline is altered by fill or there is current information showing the shoreline changed, the presumptive water lines no longer apply, and DEP is required to use current data. In its testimony, DEP went out of its way to say the site had not been altered by fill, knowing that if DEP acknowledged it had been altered by fill, it made no sense to use the historic data. Contrary to the position taken in the DEP Memorandum p.9, citing Hill PFD ¶s 11 and 12, DEP witness Hill admitted on cross-examination that the Project site has been altered by fill. Hill 276: 19-24, 277:1-8. 310 CMR 9.02 defines "fill" to include "any unconsolidated material that is confined or expected to remain in place in a waterway, except for: material placed by natural processes not caused by the owner or any predecessor in interest." Hill admits that unconsolidated material was placed on the site, at a minimum, in order to construct the breakwater that is part of the Project site and directly

seaward of where the proposed moorings are proposed. This is really self-evident—large jetties such as the ones at Pilgrim are not brought in as one consolidated structure—, and the fact that DEP would deny that the site has been altered by the addition of fill both in the Hill PFDT and its Memorandum is a somewhat stunning position. Of course, DEP may have felt that it was compelled to take such an obviously inaccurate factual position since not doing so would have resulted in their use of historic watermarks being legally unsupportable. Mr. Hill's attempts at the hearing to distinguish between structures and fill were utterly unconvincing and such a theory has no basis in the regulations.

Documentary evidence in the form of prior c. 91 license plans also establishes the placement of fill. See, Hill PFDT Ex. A (c. 91 License 5504, 1969, Sheet 2 "rubble mound construction using heavy cap stone on a quarry run core"); duBois Rebuttal Testimony ¶ 34-37 and Exhibits 7 and 8, c. 91 Licenses 399[11] and 5784 (the Exhibit numbers were switched inadvertently: Ex. 7 should be License 399 and Ex. 8 should be 5784). Entergy's Application describes the water body in which the Project site is located as "enlarged/dammed." Las PFDT Ex. 2, License Application, p. 2.

Once again, Respondents want it both ways. On one hand, Entergy and DEP want to confine the Project site for purposes of determining fill to the precise location where the two moorings will be augered into the sand. Hill testified that in interpreting the Regulations to determine whether there is evidence of "fill" he looks only at the "area where the moorings are being placed" and that this "area has not been altered by fill." Hill 276: 7-18. On the other hand,

[11] Although Hill testified at the hearing work was not done under License 399, 274:14-19, this is contradicted by his PFDT ¶11 in which he states dredging was authorized "in the immediate area of the proposed moorings" under c. 91 on at least 5 occasions, including under License 399 for the removal of 97,000 cubic yards.

WD describes the "Project Limit" as an area covering the entire shoreline in front of Pilgrim. WD, attachment, Draft License Plan, Vicinity Map, Sheet 1 of 6. Entergy identifies the Project area as being the entire intake embayment, 500 feet wide by 2,000 feet in length. Las Ex. 2, Project Narrative, Section 2.1. Hill testifies the site has been altered and the location of the historic low water mark altered and moved landward to its present location, Hill, PFDT ¶ 11, and that there was dredging "in the immediate area of the proposed moorings." *Id.* DEP's evidence as to the existence of fill is contradictory and irreconcilable with the facts and law and lacks any credibility.

D. Flawed Public Comment Process

Entergy produced the "Historic Tidelands Exhibit", Las PFDT Ex. 6, in June, 2015, six months after close of the public comment period on December 8, 2014. Prior to this, DEP had not provided the public with a plan or map showing the historic low water line and the mooring locations. The issue of historic water lines arose after close of the first public comment period on July 31, 2014. In August and September, 2014, Entergy and DEP had private discussions and exchanged emails. Hill 266:14-17. On September 12, 2014 Entergy submitted "Supplemental Information" consisting of old unstamped plans, purporting to show the moorings *landward of* what it called the "historic mean low water line," Las PFDT Ex. 4 and Ex. E thereto (emphasis supplied). Even after this exchange with DEP, on September 26, 2014 Entergy submitted revised plans with present, not historic water lines. Las Ex. 3, Sheet 3, Las 222:4-7; 223:4-7; 224:3-19; Hill 262:9-21, and so for the November 18, 2015 hearing and public comment period that closed December 8, 2014, the public did not have the Historic Tidelands Exhibit or information about the historic low water lines that is the basis for the WD. Hill 269: 10-270:1-9. The CZM mapping project that Hill testified he relied on in making the Private Tidelands finding

in the WD was never part of Entergy's May 9 or September 26, 2014 License Application or the public comment process. Hill 272:13-18; 271: 9-16. Hill had the information his computer but did not provide it for public comment. Hill 272: 13–18.

Petitioners' December 8, 2014 public comments (filed with the Petitioners' Notice of Claim) challenged Respondents' use of historic water lines and Entergy's claim that the "location of the Project is above the historic mean low water line." December 8, 2014 Comments, p. 5. Still, DEP did not clarify that it was going to use historic water lines as the basis for the WD and the WD fails to address Petitioners' comment on this issue.

DEP's last minute use of the historic water lines can only be described as a bait and switch. Since DEP failed to provide information about using the historic water lines instead of the present water lines as Entergy had checked off on the License Application and put on the stamped engineering plans included with the License Application (Las PFDT Ex. 2 and 3, Sheet 3) the public had no meaningful opportunity to comment or have any input on the DEP determination that the moorings were in Private Tidelands based on the *historic* low water line. Presenting the public with Project engineering plans using the present water line throughout the public process but then using the Historic Tidelands Exhibit-a reference document not stamped by an engineer, is manifestly unjust. It makes mockery of the public's right to have accurate and complete information about c. 91 projects so it can give meaningful input. This is especially important in the Tidelands context, where the public's long-held rights to use and enjoy the Commonwealth's Tidelands are at stake.

III. PETITIONERS SHOW BY A PREPONDERANCE OF CREDIBLE EVIDENCE THAT THE PROJECT IS IN COMMONWEALTH AND PRIVATE TIDELANDS

As shown above, a proper interpretation and application of c. 91 and the Regulations requires use of current waterlines to determine the Tidelands boundaries in this matter. A preponderance of the factual evidence buttresses this conclusion. There is no dispute that Entergy's stamped engineering plan attached to the WD shows the two moorings seaward of the present low water mark and therefore in Commonwealth Tidelands. Petitioners' witness Mr. Sovick also testifies that the two moorings are in Commonwealth Tidelands using the present low water mark. Sovick PFDT Ex. 2.

Entergy's engineering firm used *present* water lines and not the historic low water lines on the Project license application. Las PFDT ¶ 17. Entergy's May 9, 2014 License Application states the moorings "will be installed within the intake embayment just *beyond* [seaward of] the mean low water line." (emphasis supplied). Las PFDT, Ex. 2, "Project Narrative" p. 2-2; Ex. 2, Sheets 2 and 3. DEP's c. 91 license application form provides the option for a licensee to use historic or present water lines to delineate Tidelands boundaries. See, Las PFDT Ex. 2, MassDEP Form, p. 9, Appendix A Boundaries. *Id.;* Hill 262: 15-24, 263: 1-12. On the application, Entergy checked off current, not historic waterlines. *Id.*; Hill 262: 9-21.

Entergy's witness, Mr. Las, a professional engineer testified that the present (current) water lines are the relevant lines for c. 91 jurisdiction. Las PFDT ¶ 17, 231:22-232:13, and that the current mean high water line establishes the most landward boundary of DEP's c. 91 jurisdiction. Las 239:24-240:2. Las testified that at his firm, using present water lines is "standard practice in the Commonwealth when dealing with coastal Projects." Las PFDT ¶ 17. He claims to be competent to address c. 91 issues, including the Regulations, 234:16-22, and describes himself as experienced in c. 91 waterways applications and permitting matters, having worked on six during his tenure at Beals and Thomas. Las: 241:12-16. In determining c. 91

jurisdiction based on present water lines, Las looks at current physical features such as the presence of a wrack line as "indicator[s] of the mean high water line." Las 244: 11-14; 247: 6-9. Las used topographic and bathymetric data, Las 231:6-18, and determined the mean high tide is the arithmetic mean over the 19-year metonic cycle, Las 246:17-18. See, Regulation definition of the present High Water Mark.

In contrast to the Beals & Thomas stamped engineering plans using present water lines and Sovick Ex. 2, the only plan in the record with historic water lines and the mooring location is the Historic Tidelands Exhibit, Las PFDT Exhibit 6, an unstamped "exhibit created for reference" Las 215:16-19; 233:1-12, created in June 2015, after the WD was issued. Las PFDT ¶ 23, 235: 6-17. This exhibit does not constitute credible evidence.

Petitioners presented the testimony of Mr. Sovick who has expertise in using geospatial data paired with historical plan drawings, surveys, engineering plans, and maps to accurately locate features. Sovick PFDT ¶s 3, 4. He testified that since there is evidence that the site has been altered, he used current data to determine the Tidelands boundaries. Sovick ¶s PFDT 11-15; Rebuttal Testimony ¶s 10, 27. He created Sovick PFDT Ex. 2 which is a map showing present water lines based on data specified in the Regulations. *Id.* ¶s 11-18; Ex. 2.

In this case, as described above in Part II(D), Respondents only used historic water lines after September 2014 and *after* close of the first public comment period on July 31, 2014. Then, Entergy and DEP engaged in discussions of what the historic lines might be and reviewed Las PFDT Ex. 4 and Ex. E, which are old drawings of the site. This is not credible evidence: these are not stamped engineering plans, but rather only portions of 1973 and 1996 drawings purportedly prepared by Pilgrim's former owner, Boston Edison. Las PFDT Ex. 4 does not refer to the 1866 MassCZM map that DEP later produced. In contrast, Entergy's September 25, 2014

plans show the two moorings approximately 80 feet *seaward of* the present mean low water mark. Las PFDT Ex. 3, Sheet 3 of 6. This is consistent with Las' opinion that the present water lines are the relevant boundaries for c. 91 jurisdiction.

Despite all this, Hill mysteriously states he relied on Entergy's September 25, 2014 plan (Las PFDT Ex. 3, Sheet 3) and other information "which also indicated the Project was located in Private Tidelands," Hill PFDT ¶ 14, when in fact Las PFDT Ex. 3, Sheet 3 as noted shows the moorings about 80 feet *seaward* of the *present* mean low water line in Commonwealth Tidelands. Las 220:18 – 221: 9. Similarly, Entergy's Memorandum p. 10 inaccurately states that Entergy's plans "clearly showed the Project as located landward of the historic mean low water line, and therefore, in Private Tidelands," citing to Las PFDT ¶ 19 and Las PFDT Exhibits 2 and 3. Nowhere on Las PFDT Exhibits 2 and 3 is a "historic mean low water line" as Entergy claims. Indeed, Respondents' persistent claim that any Entergy plans other than the Historic Tidelands Exhibit show the moorings in Private Tidelands can only be described as fantasy.

The testimony and documentary evidence of Petitioners' witness Mr. Sovick further shows that even if Entergy's Historic Tidelands Exhibit were considered credible evidence, which it is not, there are least three reasons why it fails to accurately depict the Low Water Mark and High Water Mark as that term is defined in 310 CMR 9.02. Sovick Rebuttal Testimony ¶s 4-26. First, it relies on DEP's 1866 coastal map/T-Sheet which shows only a historic high water mark and not a low water mark. *Id.* ¶s 12, 13. In order to determine the historic low water mark, DEP extrapolated by overlaying aerial photos and "scaling distances." *Id.* ¶s 8-9. DEP did not provide copies of the aerial photos it used, The low water mark on Las PFDT Ex. 5 merely represents a change in map symbology. *Id.* ¶ 7; 148: 22-24, 149 to 150: 15. The Historic Tidelands Exhibit, Las Ex. 6 shows one mooring on the alleged Historic Mean Low Water Line

and one a few feet landward of the line. The accuracy of the Historic Tidelands Exhibit is suspect due to the lack of supporting hydrographic evidence, Sovick 150: 5-9 and the fact that since the map dates to 1866, it relies on the steadiness of the cartographer's hand and the pen that was used. *Id*. at 8-15.The margin of error for a hand drawn map such as the 1866 map that DEP used depends on the material it was drawn on, the width of the line and the environmental conditions the document itself goes through. *Id.* 153: 8-15. The variation in accuracy can be up to 30 meters in any direction. *Id.* Rather conveniently for DEP, the Historic Tidelands Exhibit places the moorings at and landward of the historic line. Given the margin of error and issues with inaccuracy of using an 1866 and in light of the unlikely coincidence that the Exhibit happens to support DEP's after the fact justification by a mere few inches or feet, it is not credible evidence.

Entergy's use of a bathymetric survey to support the Historic Tidelands Exhibit is not the equivalent of the method proscribed by the regulations. Sovick Rebuttal Testimony ¶s 14-15, 17, 21. Neither DEP nor Entergy used hydrographic survey data to establish the Tidelands boundaries, *Id.* ¶ 17. All the Historic Tidelands Exhibit does is overlay the 1866 map with DEP's addition of the "historic low water mark" which it inferred based on the shoreline on Beals & Thomas' map where it claims the outhaul moorings, outhaul line, and land based moorings are located. *Id.* ¶ 22. This is not what is called for in the definition of low and high water mark. *Id.* ¶s 22; 25, 26.

In contrast to Respondents inconsistent and unreliable documentary evidence, Petitioners' testimony of Mr. Sovick shows by a preponderance of the evidence that the Project is in Commonwealth and Private Tidelands.

IV. DEP ERRONEOUSLY DETERMINED THE PROJECT IS WATER DEPENDENT

A preponderance of credible evidence shows that DEP erred in determining that Entergy's use of Private Tidelands "for the withdrawal of water from a waterway for cooling purposes is a water-dependent use pursuant to 310 CMR 9.12(2)(c)," WD Finding #1, and that the presumption of proper public purpose for all water-dependent[12] use Projects has not been overcome in accordance with the criteria at 310 CMR 9.31(3). WD #11. Petitioners' Memorandum pp. 16-21.

DEP's analysis of water-dependency rests on the criteria of 310 CMR 9.12(c) and the claim that the Project is a facility requiring "large volumes of water to be withdrawn from or discharged to a waterway for cooling, process or treatment purposes." See, e.g., Hill PFDT ¶ 18. While Pilgrim itself may be an industrial facility requiring large volumes of cooling water to generate electricity during routine operations, the Project is to be used when Pilgrim has been forced to shut down due to a BDBEE. DEP cannot legitimately tether the FLEX Strategy for emergency events to Pilgrim's routine daily cooling water operations and claim "water dependency" as Hill asserts. Hill PFDT ¶ 18 (in order for Pilgrim to function it needs large volumes of water). Moreover, under DEP's application of the water-dependency requirement, someone could propose to suck all of the water out of Cape Cod Bay to create a giant swimming pool, and DEP would determine such a Project is water dependent simply because the Project is designed to suck water out of Cape Cod Bay (and even though water could be taken from other sources for the giant swimming pool).

[12] "Water-dependent uses, "those uses and facilities which require direct access to, or location in, marine or tidal waters and which therefore cannot be located inland, including but not limited to: marinas, recreational uses, navigational and commercial fishing and boating facilities, water-based recreational uses, navigation aids, basins, and channels, industrial uses dependent upon waterborne transportation or requiring large volumes of cooling or process water which cannot reasonably be located or operated at an inland site.

DEP was required to follow 310 CMR 9.12(c)(1) and (2) in making the water-dependency determination. Under 9.12(c)(1), DEP shall presume to be water-dependent "any alteration or expansion of a facility existing or licensed as of the effective date of 310 CMR 9.00, and any energy facility for which the proposed location has been approved by the Energy Facilities Siting Board." The presumption may be overcome by showing the "proposed alteration or expansion or energy facility can reasonably be located or operated away from tidal…waters." 9.12(c)(1). The Petitioners have shown that the proposed alteration of Pilgrim via the FLEX mooring system can be located and operated away from tidal waters by using groundwater wells. Harizi PFDT ¶ 14(d). In addition, EFSB never approved either Pilgrim or its' siting, and therefore this prong cannot be met.

Since the criteria of 310 CMR 9.12(2)(c)(1) do not even apply to the Project because it is not part of Pilgrim's routine cooling water operations, DEP cannot rely on the presumption of water-dependency in that subsection. Therefore, DEP was required to presume that the Project (assuming for the sake of argument it is an industrial or infrastructure facility, which it is not) *is not water dependent*. 310 CMR 9.12(2)(c)(2). Entergy and DEP have the burden to overcome the presumption by making a "clear showing that such facility cannot reasonably be located or operated" away from tidal waters. *Id.* They have not met the burden.

DEP's water dependency finding for the Project is also flawed because it failed to adequately consider information about alternative emergency cooling water supplies as required by 9.12(c)(2). Entergy has dug groundwater wells for the FLEX strategy. Hill 278:4-16. "[T]here are multiple means to inject any source of water, including seawater" for the FLEX system. Harizi ¶ 14(d). There are "multiple preferred sources of water, Entergy Memorandum p.

5, including the municipal water supply, condensate and firewater supplies, and demineralized storage tanks. Id. p. 4.

V. DEP ERRED IN APPLYING THE PRESUMPTION THAT THE PROJECT SERVES A PROPER PURPOSE

DEP found it was not required to make a proper public purpose finding because the "mooring system has been determined to be a water dependent use Project located entirely on private tidelands" WD # 11, and presumed it is a proper public purpose. Hill 7-13. This is erroneous because (1) the moorings are located in Commonwealth Tidelands, and (2) the Project is not a water dependent use. Since the Project is in Commonwealth Tidelands, DEP may not rely on the presumption and must make a proper public purpose requirement even if it is water dependent. A proper public purpose requirement is also mandated for a non-water dependent use in Private or Commonwealth Tidelands. 310 CMR 9.31.

DEP's interpretation of 9.31(2) means that just because a Project is water dependent and in Private Tidelands, it must serve a proper public purpose. Hill 281:6-11. This interpretation leads to absurd results. For example, if you have a Project that is designed to dump pollution on to Private Tidelands, DEP would say that it is water dependent, and therefore is presumed to serve a proper public purpose. This is clearly contrary to the c. 91 purpose of protecting public rights. In applying the proper public purpose requirement, DEP did not differentiate between a boat mooring and buoys for the withdrawal of water to cool a nuclear power plant. Hill 281:3-24, 282 1-15.

Respondents want it both ways when comes to the purpose of the Project. In making the proper public purpose determination, DEP reviewed use of the Project to provide emergency cooling water, see, e.g., Hill 279:18-24, 279 and made the proper public purpose finding based

on use of seawater for emergency cooling. Id. 282:2-13. But when reviewing the Project's impacts for standing, DEP only reviewed the moorings. See Part I, above. "In my review of this Project I'm not reviewing the withdrawal of water. I'm reviewing the placement of two structures on the bottom-two moorings to facilitate the withdrawal of water." Hill 282: 19-22. As described above, when it comes to determining injury in fact and damage to the environment and compliance with environmental standards under 9.31, DEP refuses to consider the obvious fact the moorings are connection to hoses and lines for pumping seawater. "[W]ithout the need to withdraw seawater, the Project would not exist." Entergy Memorandum p. 14. "…the Project is clearly water-dependent because its sole purpose is to allow PNPS to withdraw seawater from Cape Cod Bay…." Entergy Memorandum p. 15, citing Harizi ¶ 14, Las ¶ 9. Entergy and DEP cannot have it both ways: they cannot limit consideration of harm and damage to the environment for standing and 9.31 to "just two moorings" and then for the water-dependency argument claim that the purpose is to take water out of the Bay for the entire industrial operation and therefore its water dependent, and is entitled to a presumption of proper public purpose.

VI. DEP ERRED IN FINDING THE PROJECT MEETS THE STANDARDS AND REQUIREMENTS OF 310 CMR 9.31

A preponderance of credible evidence shows that DEP erred in finding the Project meets 310 CMR 9.31. WD # 11. See, Petitioners' Memorandum, pp. 21-26.

A. Environmental programs (310 CMR 9.31(1)(b) and 9.33)

There are two ways contamination from Pilgrim during a BDBEE could violate environmental laws. The first would occur if the Project fails to operate as designed and a nuclear disaster occurred releasing radioactive material into the environment. The second is via the discharge of contaminated cooing water to the environment. Petitioners' credible evidence

shows that DEP erred in finding that the licensed activities will comply with provisions of the Massachusetts Clean Waters Act and regulations and the Ocean Sanctuaries Act prohibiting the pollution to Cape Cod Bay.

The Project is a permit to pollute Cape Cod Bay because the contaminated cooling water will drain to the Bay. Maurer 112" 14-22. Although there is a buried pipe connection, Entergy may not use that. Harizi PFDT ¶ 14(c). Entergy claims "The Project will not lead to the unauthorized discharge of cooling water to the Cape Cod Bay." Entergy Memorandum p. 6. The critical term here is "unauthorized." Entergy's 1994 expired NPDES permit (yet to be renewed by DEP and EPA) duBois 67: 16- 68:5, does not authorize releases of radionuclides from either Pilgrim's daily operations or the FLEX system operations into Cape Cod Bay. Nor does the NPDES permit cover the withdrawal via the FLEX system. duBois PFDT ¶5. The only "authorized discharge" is use of the CWIS under the expired NPDES permit, and this is a discharge via specific point sources, for specific volumes, with specific temperatures and chemical parameters and does not regulate the discharge of radionuclides. The FLEX system is a new intake point and will discharge water from different processes than those covered by Pilgrim's NPDES permit. The FLEX system withdrawal and discharge has not been permitted under the state Clean Waters Act. Entergy's project manager for the Project does not know if the Clean Water Act allows such discharge. Harizi 198:1-6.

The seawater withdrawn via the FLEX system approved by DEP will be injected into the Reactor Pressurized Vessel into the suppression pool (Torus). Harizi PFDT ¶ 14(f). It will flow through the safety relief valves. Maurer Rebuttal Testiony ¶ 3(c). Pilgrim's safety relief valves have a history of failure, *Id.,* which could result in the FLEX system not operating as intended. The Torus where the seawater is supposed to end up, and which surrounds the reactor, currently

leaks discharging contamination into the groundwater at the site. Maurer PFDT ¶s 24, 25. The groundwater flows toward Cape Cod Bay. *Id.* ¶ 27.

The Project is designed so that seawater can be sprayed on to Pilgrim in the same manner as was used as Fukushima, which resulted in the release of radionuclides such as Cesium-137 to the environment. duBois 54; Maurer 91:1-92:10, 96:8-18; 112:1-23. Entergy has provided no plan, written or otherwise, to get rid of the contaminated water, duBois 58, even if it is collected as Harizi claims. duBois 64:13-24; 65: 15-21; 67:1-13.

Entergy qualifies all of its statements about the ways in which contaminated seawater could enter the environment. For example, its says during the 30 days following a BDBEE "there would not be any need to discharge cooling water as the FLEX Procedures do not involve the discharge of any water from the Station." Harizi PFDT ¶ 16. "After the 30-day period, any discharges will continue to comply with the existing NPDES permit for the Station." *Id.* Again, the NPDES permit covers specifically the CWIS and not any other withdrawal or discharge system and certainly not the FLEX system. Harizi only says there would be no "need" to discharge cooling water but does not say it will not happen.

Entergy displays disregard for the environmental laws of the Commonwealth, including c. 91. Since this appeal was filed in March, 2015, Entergy has deliberately flouted c. 91 by installing an alternative mooring system. Harizi 201:2-207:4. It has attempted to evade c. 91 requirements for the FLEX system and anchored a line from the barge landing area, the Project site, across Private and Commonwealth Tidelands, and anchored mooring lines on to the jetty. *Id.* This clearly shows Entergy's willingness to ignore the Commonwealth's environmental programs and subvert the appeal process.

Contaminating Cape Cod Bay with radionuclides and disregarding this adjudicatory process by rigging up an alternative outhaul system across Commonwealth and Private Tidelands does not meet the environmental standards of the Commonwealth.

B. Preservation of water-related public rights 9.31(1)(d) and 9.35

The Coast Guard Exclusion Zone does not extinguish the public's c. 91 rights in Tidelands as Entergy claims. Entergy Memorandum p. 7. Entergy and DEP concede this by invoking c. 91 jurisdiction for the FLEX system. Even if the public lacks rights to physically enter the Exclusion Zone the title to the Tidelands themselves remains vested in the Commonwealth and the public retains rights in them, including the rights alleged here. This includes protection of the public health, safety and general welfare as it may be affected by any Project in tidelands, 310 CMR 9.01(2)(c) and the rights of the people to a clean environment. 310 CMR 9.01(2)(e). The public has the right to "protect habitat and nutrient source areas" in the Tidelands. 9.35(3)(a).

Any water-dependent use Project which includes fill or structures for private use of Commonwealth tidelands shall provide compensation "to the public for interfering with its broad rights to use such lands for any lawful purpose." 310 CMR 9.35(4). Entergy has not provided compensation for use of Commonwealth Tidelands for the Exclusion Zone which interferes with the public's rights therein.

Entergy acquired the Pilgrim site subject to rights of the public in the Tidelands. duBois Rebuttal Testimony Ex. 9 reflects the intent of the Commonwealth to retain public trust rights even though Boston Edison, Entergy's predecessor, was using the lands for a nuclear power

station. Ex. 9 is a Stipulation between the Massachusetts Attorney General and Boston Edison entered in Land Court simultaneously with the title registration. The need for Entergy, a private corporation, to exclude the public from Tidelands pursuant to the Coast Guard rule so Entergy could generate profits from running Pilgrim does not extinguish the public trust rights. The Stipulation is an explicit acknowledgement of this.

C. Engineering and construction standards (9.31(1)(f) and 9.37)

Petitioners' evidence establishes that the Project has serious design flaws and is unlikely to operate as intended. Petitioners have provided specific examples of what can go wrong with the system as designed. July 21, 2014 Public Comments, Attachment 3, "Pilgrim Watch Public Comment (July 17, 2014)"; Maurer PFDT Ex. 1. The Project is intended to work in a BDBEE, Harizi PFDT ¶s 7, 8, including a tsunami or hurricane. Harizi 176: 3-14; Maurer 82:20 – 84:6. It includes driving a pump truck to the Mean High Tide Line, duBois PFDT Ex. 4 (Entergy Conservation Commission Application) p. 2-4 ("The suction pipe will then be connected to a centrifugal pump temporarily deployed by a truck at the Mean High Water Line."). duBois 54:22-55:17. The Kochek strainer is designed for a still water pond more akin to a bathtub, not a hurricane or tsunami. Maurer 87:16- 89:13. The FLEX is not robust enough for the conditions in which it is intended to be used. Maurer 104:1-105:12. The strainer has not been modified or tested for ocean use. Harizi 208:13-17; 191:15-21. Entergy's engineer does not know if the strainer has been designed for a marine environment. Harizi 192:17-24. The strainers can clog, Harizi 209:10-13, and fail to perform as intended.

Petitioners have put forth a preponderance of credible evidence that the engineering standards to which the Project was designed are flawed in critical respects.

CONCLUSION

Petitioners have standing and have shown by a preponderance of credible evidence that the WD fails to comply with c. 91 and its implementing Regulations.

Jones River Watershed Association and

Ten Residents Group

By their attorneys:

Margaret E. Sheehan, Esq.
c/o JRWA
55 Landing Road
Kingston MA 02364
508-259-9154
meg@ecolaw.biz
Authorized Representative

Anne Bingham, Esq.
78A Cedar St.
Sharon MA
Annebinghamlaw@gmail.com

Dated: March 19, 2015

Kevin Cassidy, Esq.
Earthrise Law Center
P.O. Box 445
Norwell, MA 02016
Cassidy@lclark.edu
Phone:781-659-1696
Fax:503-768-6641

CERTIFICATE OF SERVICE

I, Margaret Sheehan, do hereby certify that a true copy of the foregoing document was served upon all counsel of record by electronic mail on this 6 day of November, 2015.

Margaret Sheehan