

## **ECOLAW**

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June 28, 2012

By Email and Federal Express

Mr. Tom Chapman  
Supervisor  
United States Department of the Interior  
Fish and Wildlife Service  
New England Field Office  
70 Commercial Street-Suite 300  
Concord, New Hampshire 03301-5087

**Re: Pilgrim Nuclear Power Station, Plymouth, Massachusetts:**

**Request to Reinitiate ESA § 7 Consultation with Regard to Roseate Tern**

Dear Mr. Chapman,

Jones River Watershed Association (JRWA) and Pilgrim Watch (PW) request that the U.S. Fish and Wildlife Service (FWS) reinitiate consultation under Section 7 of the Endangered Species Act, 16 USC § 1536, with regard to the Roseate Tern, for the relicensing of the Pilgrim Nuclear Power Station (PNPS) owned and operated by Energy Nuclear Generating Corporation (Entergy).

Under 50 CFR § 402.16, consultation must be reinitiated under certain circumstances, which are present here. Forest Guardians v. Johanns, 450 F.3d 455 (9th Cir June 13, 2006). Greenpeace Found. v. Daley, 122 F. Supp. 2d 1110 (D. Haw. June 5, 2000). The circumstances warranting reinitiation of consultation include substantive concerns identified in the new information provided with this letter, and the NRC's failure follow required procedures.

In a letter dated April 17, 2012, we requested reconsideration of the FWS's conclusion that PNPS relicensing is "not likely to adversely affect" the roseate tern. We have not received a response to that letter.

On June 18, 2012, the Atomic Safety Licensing Board (ASLB) of the Nuclear Regulatory Commission rejected a request by Pilgrim Watch and Jones River Watershed Association to reopen the relicensing proceeding for PNPS and for a hearing on compliance with the Endangered Species Act with regard to the Roseate Tern. The three judges stated, however,

But we remind the NRC Staff that it is ultimately their obligation to comply with

NEPA and the ESA. Petitioners have raised genuine concerns that appropriate procedures were not followed in this case. For example, although the NRC Staff may be correct that the FSEIS is the functional equivalent of a BA, there is no evidence that the FSEIS was ever submitted to USFWS as required by the ESA regulations. In addition, although the roseate tern population nesting at the LBP site has increased in recent years, Dr. Nisbet (who clearly has significant expertise on the roseate tern and how it may be affected by environmental considerations) presents extensive additional information and considerations that may warrant further attention by the NRC Staff.

See, ASLB Docket No. 50-293-LR, ASLBP No. 12-920-07-LR-BD01, p. 10.

We attach to this letter Dr. Nisbet's testimony, cited approvingly by the ASLB as containing relevant and important information and a June 15, 2012 letter to Massachusetts Coastal Zone Management for your consideration. The ASLB has affirmed what we have stated to you and others previously; that proper review procedures were not followed and important facts may not have been considered.

We request to be kept regularly informed of communications among and between the NRC staff, Entergy, and FWS. Please direct any response to Meg Sheehan, meg@ecolaw.biz, cell 508 259-9154 or to the mailing address listed at the top of this letter. Please feel free to contact us if you have questions.

Sincerely,

*Electronically signed*

Margaret E. Sheehan, Esq.

Cc:

Andrew S. Imboden  
Chief Environmental Review and Guidance Update Branch  
Division of License Renewal  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Attached:  
6/15/2012 Letter to CZM  
Affidavit of Ian Nisbet, PhD

**UNITED STATES OF AMERICA**  
**NUCLEAR REGULATORY COMMISSION**  
**BEFORE THE ATOMIC SAFETY AND LICENSING BOARD**

In the Matter of	)
Entergy Nuclear Generation Company	)
Entergy Nuclear Operations Inc.	)
Pilgrim Nuclear Power Station	)
License Renewal Application	)

Docket # 50-293 LR

**AFFIDAVIT OF IAN CHRISTOPHER THOMAS NISBET, Ph.D.**

1. My name is Ian Christopher Thomas Nisbet. I reside at 150 Alder Lane, North Falmouth, Massachusetts 02556.
2. I hold a Ph.D degree from the University of Cambridge and I am a professional environmental scientist. I recently retired from my position as President of I. C. T. Nisbet & Company, an environmental consulting firm, but I continue to do part-time consulting under the same name.
3. I have studied roseate terns in Massachusetts, including the vicinity of Pilgrim Nuclear Power Station (PNPS) and other parts of Plymouth, Massachusetts, since 1970. I have published 28 papers on roseate terns in peer-reviewed scientific journals and I have two others awaiting publication. I was a co-author of the two most recent monographs on roseate terns, published in the series *Birds of North America* (Gochfeld, M., J. Burger, and I. C. T. Nisbet, Roseate Tern *Sterna dougallii*, No. 370 in *The Birds of North America* [eds., A. Poole and F. Gill], The Birds

of North America, Inc., Philadelphia, PA, 1998) and *BWP Update* (Ratcliffe, N., I. C. T. Nisbet and S. Newton, Roseate Tern *Sterna dougallii*, *BWP Update*, vol. 6, pp. 77–90, 2004). I am recognized as one of the leading experts on roseate terns, both in the USA and worldwide.

4. I have worked closely with the U.S. Fish and Wildlife Service (USFWS), the Massachusetts Division of Fisheries and Wildlife (MDFW) and the Massachusetts Natural Heritage and Endangered Species Program (NHESP) towards conservation of the roseate tern since the 1970s. I have been a member of the Recovery Team for the Northeast population of the roseate tern (RTRT) since 1989 and I have attended all of its annual meetings. (However, this affidavit is written in my capacity as an independent expert on roseate terns and not on behalf of or as representative of RTRT, USFWS, MDFW or NHESP.)

5. In 1980-1981, under contract to USFWS, I wrote two lengthy reports reviewing scientific literature on roseate terns. These reports formed the basis for the listing of the Northeast population of the roseate tern as federally endangered in 1987 (*Endangered and threatened wildlife and plants: determination of endangered and threatened status for two populations of the roseate tern*, USFWS, *Federal Register* 52: 42064-42071). In 1989, under contract to USFWS, I wrote another report summarizing information on the Northeast population of the roseate tern that had become available since 1981. This formed part of the basis for the Recovery Plan for the Northeast population of the roseate tern, issued in 1989 (*Roseate Tern Recovery Plan, northeastern population*, USFWS, Newton Corner, MA, 1989). In 2010, again under contract to USFWS, I reviewed all scientific literature on the Northeast and Caribbean populations of the roseate tern, and I drafted extensive sections of USFWS's Five-year Review of the roseate tern (*Caribbean Roseate Tern and North Atlantic Roseate Tern [Sterna dougallii dougallii]. 5-Year Review: Summary and Evaluation*, USFWS, Boqueron, Puerto Rico, and

Concord, New Hampshire, September 2010.

[http://ecos.fws.gov/docs/five\\_year\\_review/doc3588.pdf](http://ecos.fws.gov/docs/five_year_review/doc3588.pdf)).

6. I studied roseate terns nesting on Long Beach, Plymouth (LBP), in 1970-1971 and I continued monitoring them, including counting and marking nests and banding chicks, there until 1994. I was Director of Science for the Massachusetts Audubon Society in 1974-1980. I have been associated with Manomet Center for Conservation Sciences (MCCS: formerly Manomet Bird Observatory) since 1970 and I served as adviser to their scientific program in the 1990s and 2000s. Since 2011, I have served on the Scientific Advisory Committee of the Goldenrod Foundation, based at LBP, and I have visited LBP several times and observed roseate terns there.

7. In 1998, I coordinated a study of roseate terns staging (gathering, resting and roosting) at many locations around Cape Cod, including LBP. I summarized information from previous studies and was the principal author of a paper on this topic (Trull, P., S. Hecker, M. A. Watson and I. C. T. Nisbet, *Staging of Roseate Terns in the post-breeding period around Cape Cod, Massachusetts, USA, Atlantic Seabirds*, vol. 1, pp. 145-158, 1999). Between 2007 and 2009, personnel of the Massachusetts Audubon Society (MAS) conducted intensive studies of roseate terns staging around Cape Cod, including 76 visits to LBP; three annual reports were issued by MAS's Coastal Waterbird Program. I participated in the MAS studies, although I did not visit LBP in 2007-2009. I visited LBP several times in 2010 and 2011 and observed staging roseate terns there.

8. Roseate terns have nested at LBP since at least the early 1950s. Oliver Austin's banding records indicate that he banded thousands of roseate tern chicks there in the early 1950s and there were apparently several hundred pairs nesting at that time. I recorded 40 pairs nesting in 1970 and 50 pairs in 1975. However, terns at LBP have been periodically subjected to heavy

predation by rats, foxes and other predators, and both roseate and common terns shifted to other sites several times. Twelve pairs of roseate terns nested in 1998, and they were then absent until 2007, a period during which predators were not controlled. Since 2007, intensified efforts by the Town of Plymouth to control predators have encouraged large numbers of common terns to return to the site and to breed successfully. One pair of roseate terns probably nested in 2008, increasing to three pairs in 2011.

9. Roseate terns at LBP form part of a “cold water” segment of the population that breeds in varying numbers at about 20 sites in the Gulf of Maine, Cape Cod Bay and outer Cape Cod. Banding and resighting records show considerable movement of individual birds from site to site within this region, influenced mainly by predation. LBP has been an important site in the past and it is reasonable to expect that it will become important again in the future as other sites become less suitable. The presence of larger numbers of roseate terns nesting at LBP in the past (paragraph 8) indicates a potential for further considerable increases in numbers in succeeding years if predator control efforts are continued.

10. Most roseate terns from the population breeding in the northeastern USA and southeastern Canada stage (gather, rest and roost) in the area around Cape Cod from late July to mid-September, following the breeding period (see paragraph 7). Total numbers are on the order of 10,000 birds (3,000 breeding pairs plus young of the year and some nonbreeding adults). This is an important period in the life cycle of the species because the young are then learning to feed independently and the birds molt their feathers and lay down energy reserves for southward migration in September.

11. Prior to 1999 LBP was known to be used by staging roseate terns but was thought to be a relatively minor site, with a maximum of 240 birds in August 1988 (Trull *et al.*, *ibid.*).

However, the MAS studies in 2007-2009 found that it had become a major staging site, with a high count of 4,776 birds (about half the North American population) on September 6, 2007. Numbers fluctuated markedly from day to day and from hour to hour within days, indicating that the birds were moving to and from other staging sites in the Cape Cod region. On some days large numbers of roseate terns arrived at LBP in the evening and apparently spent the night there; on other days large numbers left LBP in the evening and flew towards other roosting sites on Cape Cod. Depending on the level of disturbance at LBP, terns often rested and roosted on offshore sand banks, including Browns Bank.

12. Roseate terns feed on small marine fish. They usually forage within 10-20 miles of their nesting sites during the breeding season, but range more widely in the post-breeding period. They usually forage over waters less than 15 feet deep and within 1-2 miles of the coast (Rock, J. C., M. L. Leonard and A. W. Boyne, *Foraging habitat and chick diets of Roseate Tern, Sterna dougallii, breeding on Country Island, Nova Scotia, Avian Conservation and Ecology*, vol. 2, pp. 29-38, 2007. <http://www.ace-eco.org/vol2/iss1/art4/>; see also Gochfeld *et al.*, *ibid.*, and Ratcliffe *et al.*, *ibid.*). They often concentrate over shallow sand bars, in tide rips where tidal currents flow through narrow channels or around headlands, or other locations where turbulent currents bring small fish towards the surface.

13. PNPS is located about four miles from the location on LBP where roseate terns breed in May-July, and about four miles from the locations on LBP and Brown's Bank where roseate terns stage and roost in large numbers in July-September. It is well within the foraging range of roseate terns from both areas, and also has to be passed by roseate terns from those areas on their way to and from feeding areas down the coast to the southeast. The turbulent water around the two jetties that form the intake and discharge channels at PNPS, turbulence created by regular

and periodic cooling water discharges, and the tide rips off Rocky Point (about one quarter mile from PNPS) and Manomet Point (about two miles to the southeast) are expected to be prime locations for foraging roseate terns.

14. From time to time since 1970, I have observed roseate terns feeding along the length of LBP (two to four miles from PNPS), at Manomet Point (two miles from PNPS) and MCCC (less than three miles from PNPS). However, I have not made systematic observations and did not keep detailed notes. Since 2008 Ian Davies, a biologist at MCCC, has observed birds regularly in the area and has kept detailed notes. Besides recording large numbers of roseate terns at LBP, he has records of 51 individual roseate terns on 18 occasions at White Horse Beach, Manomet Point or MCCC, with a maximum of 10 birds at MCCC on August 28, 2011. I have conferred with Mr. Davies about his observations and have obtained his findings. These findings indicate that, he can expect to see roseate terns on any day in May-June or August if he looks offshore while conducting observations at one of these sites. His findings also indicate that he has also regularly observed large numbers of roseate terns staging at LBP in August-September, in numbers similar to those reported by MAS.

15. I have been asked to comment on whether the relicensing of PNPS for an additional 20-year period would be likely to have an adverse effect on the roseate tern, a federally endangered species. I have specifically been asked to comment on an assertion made by Entergy that license renewal would have “no effect” on the roseate tern, and on the concurrence with this assertion by USFWS. I have reviewed relevant documentation relating to this issue.

16. A letter dated February 3, 2005 from Entergy to USFWS stated, in part,

....the roseate tern nests in colonies along the Massachusetts coast in summer. The roseate tern nests in dune areas with thick vegetative cover, always in association with the common tern.



Although suitable nesting habitat has not been identified at PNPS, migrating terns may move through the site in late spring (en route to nesting areas in Maine and Nova Scotia) and late summer (en route to wintering areas in the West Indies and Latin America).

....

We therefore request your concurrence with our determination that license renewal would have no effect on threatened or endangered species (including candidate species and species proposed for listing) and that formal consultation is not necessary.

In 2005, when the USFWS reviewed this request for concurrence from Entergy, USFWS knew or should have known that the statement “migrating terns may move through the site in late spring...and summer...” was incorrect. It was known within the scientific community in 2005 that roseate terns occurred in significant numbers at times at LBP in the staging period in August and September (including late summer, but **not** exclusively on migration en route to wintering areas). As to nesting, it was also known within the scientific community in 2005 that although roseate terns had not nested at LBP for several years prior to 2005, they had nested there in the recent past and hence were likely to do so again in the future, including during the period proposed for relicensing (2012 to 2032). If Entergy had been uncertain about the factual basis for their statement, they could and should have sought advice from experts, including the biologists at MCCA on their doorsteps. Moreover, USFWS should have directed them to do so.

17. A reply letter dated March 6, 2005 from USFWS to Entergy stated, in part,

“..... roseate terns are known to occur on Plymouth beach just north of PNPS but ... [a]ccording to our records, none of the above-listed species [including the roseate tern and bald eagle] are known to frequent the immediate vicinity of PNPS and, therefore, the presence of these species near the power station is probably transient in nature...Since no expansion of existing facilities is planned and no additional land disturbance is anticipated, we concur with your determination that license renewal for PNPS is not likely to adversely affect federally-listed species....”

USFWS confirmed this determination in a letter to the NRC dated May 23, 2006. Although it may have been correct that USFWS had no “records” in its own files of roseate terns in the immediate vicinity of PNPS, they should have known that their records were incomplete.

USFWS was aware of the history of roseate terns nesting at LBP. As the agency responsible for

the recovery of the roseate tern population, USFWS should have known that the roseate tern was likely to nest again at LBP during the period of relicensing, and indeed that restoration of this colony fell within its own goals for recovery of the species.

18. At the time its letter was written in March, 2005, USFWS was aware of the Trull *et al.* (1999) paper which recorded staging of roseate terns at LBP and should have reviewed that paper in this context. USFWS was aware that MCCA biologists and I had information about roseate terns in the area and should have consulted us. So far as I can determine, USFWS did not raise this issue in meetings of the Recovery Team even as an information item: if they had done so, I and others could have informed them about the occurrence and likely recurrence of roseate terns in the area.

19. The assessments by Entergy and USFWS of potential effects of relicensing on roseate terns were narrowly focused on the movements of terns “through the site”, in “the immediate vicinity of PNPS” and “near the power station.” Neither Entergy nor USFWS appears to have considered the potential for adverse effects mediated through effects on the food supply of roseate terns over a larger area, in spite of the known fact that the facility continually kills large numbers of fish of the species relied on by roseate terns. Neither Entergy nor USFWS appears to have considered the potential for adverse effects on roseate terns or their fish prey by the pollutants discharged from the facility (see letter dated April 12, 2012, from Ecolaw to Daniel S. Morris, Acting Regional Administrator, National Oceanic and Atmospheric Administration, National Marine Fisheries Service).

20. Although Entergy and USFWS should have been aware that their statements in 2005-2006 were incorrect, and should have consulted experts if they had been uncertain about the facts, much more information has become available since 2006 and this new information demonstrates a much larger potential for adverse effects than could have been inferred in 2006. Predator control efforts have been stepped up at LBP, resulting in its colonization and successful breeding by large numbers of common terns; roseate terns have started to nest there again and it is now clear that this site could support important numbers of breeding roseate terns. The studies by MAS have shown that LBP is now a major site for staging roseate terns (supporting at times up to half the entire regional population). Recent field work by Ian Davies has confirmed the previously unquantified information on the presence and feeding of roseate terns in the immediate vicinity of PNPS. The first two of these developments were fully reported at meetings of the Roseate Tern Recovery Team and USFWS was undoubtedly aware of them. USFWS should have revisited its 2005-2006 conclusion of “no adverse effect” and should have conducted a Biological Assessment. At the least, USFWS should have instituted new field studies to address this issue, or should have required Entergy to do so.

21. If PNPS is relicensed and continues to operate for twenty more years, there is significant potential for adverse effects on roseate terns throughout that period (see paragraph 19). These adverse effects will increase if the number of roseate terns nesting at LBP increases during that period, as is likely (see paragraph 9). These effects could and should have been considered by USFWS during its ESA Section 7 Consultation with the Nuclear Regulatory Commission. In my professional opinion, this is a significant environmental issue and a materially different result would have been likely if the evidence proffered in this affidavit had been considered in a timely fashion.

Executed in accord with 10 C.F.R. 2.304(d) on April 30, 2012.

A handwritten signature in black ink that reads "Ian C.T. Nisbet". The signature is written in a cursive style with a horizontal line under the last name.

Ian Christopher Thomas Nisbet, Ph.D.  
April 30, 2012

**\*Jones River Watershed Association\*Pilgrim Watch\***

June 15, 2012

Bruce K. Carlisle, Director  
Massachusetts Office of Coastal Zone Management  
251 Causeway Street  
Suite 800  
Boston MA 02114

Re: MCZM Consistency Certification: Entergy's Pilgrim Nuclear Power  
Station, Plymouth MA

We ask the Massachusetts Coastal Zone Management (MCZM) to reconsider its' May 21, 2012 decision not to reopen its six-year old 2006 consistency certification for the Nuclear Regulatory Commission (NRC) 20-year relicensing of the Pilgrim Nuclear Power Station (PNPS). (May 21 Letter) See, JRWA and Pilgrim Watch letter of April 4, 2012. On May 25, 2012, the NRC approved Entergy-Louisiana's application to relicense PNPS through 2032, with the renewal period beginning June 8, 2012. Prior to the renewed license effective date of June 8, we presented MCZM with *prima facie* evidence that a supplemental consistency review was required and that MCZM had a duty to so notify Entergy. See, 15 CFR § 930.66(a) and (b).

A marked reluctance to make any thoughtful or independent statement about the environmental impacts of PNPS relicensing permeates MCZM and MassDEP's historic and present dealings with PNPS owners and operators. This is despite the fact that two federal statutes explicitly express the duty, as well as the right, of states to impose their own standards on all projects, including nuclear facilities, in the coastal zone. See, 16 USCS § 1452(1), (2), and § 1456(f). These duties exist independent of, and are unaffected by, the fact that PNPS is a nuclear facility that is also subject to federal laws. MCZM's failure to require supplemental coordination is but another abdication of the state's independent and essential environmental review duties, intended to protect its citizens and resources, which we continue to document. MCZM's actions are arbitrary, capricious and an abuse of discretion, or otherwise not in accordance with law.

**Reopening Standard Is Met**

Supplemental coordination is mandated here by 15 CFR § 930.66(a)(2), which provides that where "there are significant new circumstances or information relevant to the proposed activity and the proposed activity's effect on any coastal use or resource" then "substantially different coastal effects are reasonably foreseeable" and reopening is required. We have provided ample evidence that relicensing will have "substantially

different coastal effects” compared to those Entergy described in its scanty 2006 consistency certification report contained in its “Environmental Report.”<sup>1</sup> certification.

These “substantially different coastal effects” are described in the documents identified in the attached list.

Entergy’s April 11, 2012 Letter (Entergy Letter) claims the only applicable grounds for reopening are whether Entergy “proposed material changes to its federally permitted activity” per §930.66(a)(1). Entergy Letter, Part I, page 4. Entergy ignores the two additional grounds for reopening: § 930.66(a)(2), which requires reopening when there are “significant new circumstances or information” and § 960.66(a)(3) which requires reopening when “substantial changes were made to the activity.” By accepting Entergy’s analysis, MCZM misapplies the law and fails to consider and apply the breadth of its independent state authority.

We respond briefly to the Entergy Letter below.

#### **State authority under the CZMA and state Clean Waters Act**

In the CZMA, Congress identified the relicensing of a nuclear reactor as subject to federal consistency review.<sup>2</sup> It preserves the states’ independent rights to regulate water quality. 16 U.S.C.S. §1456(f). MCZM regulations require an applicant seeking a federal consistency certification to possess all necessary state permits. 301 CMR §§ 20.00 to 26.00. As we have shown elsewhere, Entergy’s 1994 joint state-federal surface water discharge permit and the state § 401 water quality certification for the permit are not valid, current permits. Entergy has not demonstrated compliance with the Commonwealth’s cooling water intake structure (CWIS) and other water quality standards at 314 CMR § 4.00. Therefore, it does not “possess all necessary state permits.”

An applicant seeking a consistency review “shall furnish to the state...all necessary information and data,” 16 U.S.C.S. 1456(c)(3)(A), including “all

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<sup>1</sup> Entergy’s “Coastal Zone Management Consistency Certification” is Attachment D to Appendix E to “Applicant’s Environmental Report Operating License Renewal Stage,” filed with the NRC January 27, 2006. Since MCZM issued the July 11, 2006 consistency certification *before the NRC’s draft Supplemental Environmental Impact Statement (SEIS) for PNPS was published in December 2006*, MCZM cannot even claim that it reviewed the NRC’s EIS for Pilgrim prior to issuing the July 2006 consistency

<sup>2</sup> The CZMA establishes a national policy to “preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation’s coastal zone for this and succeeding generations” and to “*encourage and assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone...*” 16 U.S.C.S. § 1452(1) and (2). (emphasis added) Coastal effects are defined broadly, and include “not only environmental effects ... but also to effects on human uses, such as fishing and boating, public access and recreation, scenic and aesthetic enjoyment, and resource creation or restoration. Furthermore, effects include both direct effects that occur from the federally licensed activity at the same time and place, and indirect effects resulting from the incremental impact when added to other past, present, and anticipated actions, regardless of who undertakes such actions.” 15 C.F.R. § 930.11(g).

material relevant to a State's management program...." 15 CFR § 930.58; 301 CMR 21.07(3). See, e.g. Conservation Law Foundation v. Lujan, 560 F. Supp. 561 (D.Mass. 1983). Entergy has failed to furnish all necessary information and data, including a valid state permit and § 401 certification, and other information identified in the attached list.

One of the state's core CZM policies is the impact of CWIS. MCZM has largely ignored its obligation to ensure that this policy is met.<sup>3</sup> The last federal Clean Water Act (CWA) §§ 316(a) and (b) demonstration reports accepted by the state and/or US EPA for PNPS were done in the 1970s. We have filed a claim with the NRC asserting that any attempt by the NRC to rely upon 40 year old § 401 certificates, expired surface water discharge permits, and the 2006 MCZM certificate based on this outdated data, is unreasonable and an egregious derogation of duty. By providing a CZM certificate based on this outdated data, MCZM has enabled the NRC and Entergy to subvert the purposes of state and federal water pollution laws and the CZMA. The MCZM certificate is thus inconsistent with the Congressional findings outlined in the CZMA, § 1451(a)-(m) and the Congressional declarations of national policy in § 1452.

MCZM's own policy guidance documents expose the falsity of Entergy's argument that JRWA's challenge to the 2006 certificate "conflates separate NRC and EPA proceedings." A CZM certificate is required for NRC licensing. In turn, a CZM certificate requires that MCZM make certain rational findings under its state program. As explicitly laid out at length in the MCZM policy, those findings include whether there is compliance with the Clean Water Act, and whether Entergy has all "necessary state permits."

### **Radioactive Releases to Cape Cod Bay**

Entergy's argument that CZM cannot address radiological considerations is wrong. Entergy Letter, p. A-7. In passing the CZMA, Congress acted with full knowledge of the pre-existing 1954 Atomic Energy Act (AEA) and the NRC's authority over certain, but not all, areas of the operation of a nuclear power station.

The impacts of Entergy's radioactive releases to Cape Cod Bay via atmospheric deposition and surface and groundwater effluent discharges must be considered by MCZM in making a consistency determination. Massachusetts never ceded this

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<sup>3</sup> Under NRC rules, the Applicant must provide "a copy of a current Clean Water Act 316(b) determinations [sic] and, if necessary, a 316(a) variance in accordance with 40 CFR part 125, or equivalent State permits and supporting documentation. If the applicant cannot provide these documents, it shall assess the impact of the proposed action on fish and shellfish resources resulting from heat shock and impingement and entrainment." 10 C.F.R. 51.53(c)(3)(ii)(B). In an attempt to meet this requirement, Entergy filed with its license application two letters from the state, dated April 15, 1971 and July 31, 1970, which it claims are § 401 certifications, and an excerpt from the now-expired 1994 NPDES permit purporting to state that the current CWIS is the "best technology available for minimizing adverse environmental impact." See, "Applicant's Environmental Report, Operating License Renewal Stage", Attachment A, which is part of Entergy's NRC relicensing Application. See Sections 4.2.5, Page 4-8, and 4.3 of Entergy's (ER) In its response to our claim, Entergy produced the water quality certifications for the 1991 permit, but the NRC did not have these when they issued the new license on May 25, 2102.

sovereign authority to the NRC. Moreover, under Massachusetts' agreement with the NRC, the NRC has explicitly relinquished to the Commonwealth the authority to ensure that Entergy's discharges of radioactive byproduct materials are not inconsistent with coastal zone and coastal uses under the CZMA.<sup>4</sup>

While Entergy attempts to argue that the NRC preempts all state authority over radiological safety, courts have been careful to interpret the AEA in a manner that does not preempt state sovereign powers and rights of action under state laws. See, e.g. Kerr-McGee v. City of West Chicago, 914 F.2d 820 (N.D. Ill. 1990), Maine Yankee v. Bonsey, 107 F. Supp. 47 (D. Me. 2000). Ensuring that Entergy's constant, ambient discharges of radioactive materials (an nonradiological materials) to air and water is consistent with the state MCZM policy is directly related to Entergy's CWIS operations - a subject Entergy expressly emphasizes as outside the NRC's jurisdiction. Entergy Letter, p. 4. Brown v. Kerr-McGee Chem. Corp., 767 F. 2d 1234 (1985) cert. denied, 475 U.S. 1066, is a seminal and soundly reasoned case, reminding us that, consistent with other federal-state law preemption analyses, preemption of state law should be explicit. Where it is not, only those elements of state law which directly interfere with federal occupation of a field are suspect. As noted earlier, the express authority retained by, or given to states under CWA and CZMA, are unaffected by the fact that a nuclear power facility is at issue. The Commonwealth's responsibilities cannot be ceded even on this ponderous issue of water quality standards.

Entergy's argument that MCZM should ignore PNPS tritium discharges to groundwater flowing to Cape Cod Bay falls especially short. The Massachusetts Department of Public Health has been actively exercising its state authority under the Agreement to require that Entergy maintain monitoring wells and report its results pursuant to the state's Radioactive Materials Program and no preemption argument with regard to MDPH's requirements has ever been raised.<sup>5</sup> It is illogical to argue that the NRC should have sole authority over something that the NRC is not, in fact, regulating in Massachusetts or that the data Entergy is providing to a sister state agency of MCZM cannot be referenced or analyzed by MCZM.

### **Massachusetts Surface Water Quality Standards Govern Entergy's Radioactive Releases**

Massachusetts, as a non-delegated state under the federal Clean Water Act NPDES program, possesses entirely independent and antecedent authority to regulate discharges of pollutants, including radioactivity, to surface waters of the Commonwealth<sup>6</sup> M.G.L. c.

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<sup>4</sup> The NRC relinquished to the Commonwealth regulatory authority over "byproduct materials as defined by Section 11e.(a) of the [Atomic Energy] Act," See, Article I, p. 2, "Agreement Between the United States Nuclear Regulatory Commission and the Commonwealth of Massachusetts for Discontinuance of Certain Commission Regulatory Authority and Responsibility within the State Pursuant to Section 274 of the Atomic Energy Act of 1954, As Amended", dated Marcy 19, 1997.

<sup>5</sup> See, e.g., <http://www.mass.gov/eohhs/consumer/community-health/environmental-health/exposure-topics/radiation/radioactive-materials/radioactive-materials-program.html>

<sup>6</sup> Massachusetts CWA permit No. 359, was first issued to PNPS in the 1970s. 314 CMR 4.05(5)(d) requires



21, §§ 26 – 53. Massachusetts' water quality standards, including the standard for radioactivity in 314 CMR § 4.05(5)(d), do not interfere with the NRC's regulation of radiation hazards. The NRC does not set water quality standards to prevent harmful impacts on human, animal or aquatic life of the most sensitive designated uses of Cape Cod Bay, as do the Massachusetts water quality standards. See, 314 CMR 4.05(4)(a). There is no conflict between MCZM's authority to conduct a consistency review of Entergy's radiologic effluent releases on coastal zone resources and uses because this is an area that the NRC does not regulate.

Entergy argues ferociously that the "NRC has no jurisdiction over NPDES considerations." The NRC also cannot interfere with the state's sovereign authority under its own state water quality standards, which are protective of state designated uses of state waters. Although U.S. EPA does not regulate radioactivity as a pollutant under the federal act, Massachusetts may and has established its own standards.

On May 21, 2012, the U.S. National Marine Fisheries Service (NMFS) issued a recommendation to the NRC under the federal Endangered Species Act on possible impacts to endangered species of radiological releases from PNPS. NMFS recommended to the NRC that the license include several conditions.<sup>7</sup> NMFS states, "We have indentified several areas where additional and/or more recent information would be helpful to better characterize effects of the Pilgrim facility." NMFS recommends "revising the species sampled in the REMP to include species that serve as forage for listed species and species that occupy similar ecological niches as Atlantic sturgeon, whales and sea turtles and could be considered surrogate species for radionuclide testing." NMFS Letter, p. 31. NMFS implicitly concluded that Entergy's radioactive effluent releases may affect endangered species such as Atlantic sturgeon, whales and sea turtles. This fact must be considered by MCZM in determining whether supplemental coordination is warranted.

### **MCZM's Decision is Contrary to the SJC's Recent Decision in *Entergy v. MassDEP***

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that all surface waters shall be free from radioactive substances in concentrations or combinations that would be harmful to human, animal or aquatic life or the most sensitive designated use; result in radionuclides in aquatic life exceeding the recommended limits for consumption by humans; or exceed Massachusetts Drinking Water Regulations as set forth in 310 CMR 22.09. Under 314 CMR 4.05(4)(a), Cape Cod Bay is a Class SA: "These waters are designated as an excellent habitat for fish, other aquatic life and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. In certain waters, excellent habitat for fish, other aquatic life and wildlife may include, but is not limited to, seagrass. Where designated in the tables to 314 CMR 4.00 for shellfishing, these waters shall be suitable for shellfish harvesting without depuration (Approved and Conditionally Approved Shellfish Areas). These waters shall have excellent aesthetic value.").

<sup>7</sup> NMFS says it reviewed Entergy's Radiological Evaluation Monitoring Reports (REMPs) for 2009, 2010, and 2011 (which we contend are problematic in numerous respects). We note that Entergy's REMPs summarize radiological impact on humans. No where do they assess impacts on the uses designated for Cape Cod Bay under 314 CMR 4.05(4) or on other coastal zone resources and uses, such as noncontact recreation

Entergy falsely states that the Massachusetts CWIS regulations in 314 CMR 4.05 contain no new substantive requirements. Entergy Letter at A-2. In Entergy vs. Department of Environmental Protection, 459 Mass. 319 (2011), the Court reiterated that under the federal CWA, the states “retain the right to impose pollution control limits that are more stringent than the “floor” set by Federal law” and that states have independent authority under the CWA, § 1341, to certify that the permittee's activities will not violate the State's water quality standards.

The SJC stated,

...the ecological harms associated with CWISs are well understood. The intake of water at a CWIS at a single power plant can kill or injure billions of aquatic organisms in a single year. The environmental impact of these [cooling water intake] systems is staggering...destabilizing wildlife populations in the surrounding ecosystem. *In areas with a designated use as aquatic habitat (such as Cape Cod Bay where Pilgrim's CWIS operates), therefore, CWISs hinder the attainment of water quality standards.* (citations omitted; emphasis supplied)

Entergy claims the SJC decision means the state has no authority declare its CWIS are inconsistent with MCZM policy, a reading belied by the plain language of the holding.<sup>8</sup> Neither the federal CWA nor the Atomic Energy Act strips Massachusetts of its sovereign powers to regulate Entergy's CWIS, as Entergy implies in its rambling citations to MOU's and NRC administrative law judge decisions. See, Entergy Letter, p. 5-6. Entergy's analysis of the evolution of the NRC's authority in relation to the Atomic Energy Commission is wholly irrelevant to the independent authority of the Commonwealth of Massachusetts to exercise its sovereign authority over its territorial waters. See, Entergy Letter, p. 4-5. This state authority and responsibility includes the timely renewal of state clean water act permits, and exercise of the authority Congress has explicitly given to the state in the CZMA to make unilateral decisions to protect its resources, regardless of NRC's rules, conduct, or attempts to short circuit and avoid mandated environmental reviews.

### **MCZM's Decision Contradicts the Massachusetts Attorney General's Position on PNPS Relicensing**

MCZM's decision not to reopen the 2006 certification contradicts the position of the Massachusetts Attorney General in her April 5, 2012 appeal to the First Circuit. In appealing the NRC's denial of the Commonwealth's request for a hearing on a contention challenging the severe accident mitigation alternatives analysis in the wake of the

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<sup>8</sup> Entergy's timing in bringing the case is indeed curious: within months of submitting its request for MCZM certification, Entergy had sued MassDEP to prevent implementation of the state's CWIS regulations at Pilgrim. Since Entergy owns no other power plant in Massachusetts that has a CWIS, except Pilgrim, Entergy's lawsuit to prevent implementation of the CWIS regulations was nothing but a blatant attempt to avoid having to comply with state CWA standards at Pilgrim. By suing the state, Entergy, indeed, won a 5-year reprieve, during which time, your office issued its CZM certification. Entergy initiated the CWIS challenge in January, 2006, and it was finally resolved by the SJC in 2011.

Fukushima-Dai-ichi disaster, the Attorney General asserts that “new and significant” information must be considered before the NRC decides on Entergy’s relicensing. The AG’s contentions are based, in part, on two reports from Gordon R. Thompson asserting that the environmental impact statement for PNPS relicensing required revision. See, e.g., Aug. 8, 2011 Report, p. IV-2. The AG asserts in federal court that a new environmental impact analysis is required under the National Environmental Policy Act (NEPA) “because the environmental risks posed by the Pilgrim spent fuel pools are inextricably linked to the environmental risks of a core-melt accident and thereby to the NRC’s SAMA analysis for Pilgrim.”<sup>9</sup>

Although the stated concern regarding post accident aqueous discharges is valid and urgent, the logical extension of this argument has not, and must be, considered by the state regulatory agencies in order to comply with their explicit statutory mandate, to protect coastal zone resources and uses, including water quality and wildlife habitat. State agencies must also consider the constant daily radioactive discharges in effluent over forty years of PNPS operation, which will continue for another twenty years – making a total of sixty years. That this has not been considered by MCZM, Mass Marine Fisheries or MassDEP is baffling, given that in 1976 and again in 1988 data showed significant bioaccumulation of nuclear material from PNPS in blue mussels, a filter feeder and bottom of the food chain accumulator of radioactive material. This information warrants reopening the 2006 MCZM certification.

## MESA

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<sup>9</sup> Commonwealth’s “Conditional Motion to Suspend Pilgrim Nuclear Power Plant License Renewal Proceeding Pending Resolution of Petition for Rulemaking to Rescind Spent Fuel Rod Exclusion Regulations,” Docket No 50-293-LR, filed with the NRC June 2, 2011, and Pilgrim Watch’s Request For Hearing On A New Contention Regarding Inadequacy Of Environmental Report, Post Fukushima - Cost/Benefit, filed November 18, 2011 with the NRC. Pilgrim Watch claims certain aqueous offsite discharges had not been modeled properly:

The computer code to model the cost-benefit analysis (MACCS2), that Entergy chose to use for its SAMA, does not currently model and analyze aqueous transport and dispersion of radioactive materials; and there is no provision within the Severe Accident Mitigation Guidelines (SAMGs) for processing the water post accident, just as there was no discussion in NUREG/CR-5634. Lessons learned from Fukushima show that we are now placed at significant risk. **As in Japan, if there should be a severe accident at Pilgrim, enormous quantities of contaminated water are likely to enter Cape Cod Bay and other waters (adding to the radioactive atmospheric fallout on the water and runoff) posing significant offsite consequences and costs, threatening the health of citizens and the ecosystem and damaging the economy.** NEPA requires that these technical gaps be addressed prior to any licensing decision. Absent addressing these gaps, Entergy fails to satisfy the purpose of its required SAMA review to ensure that any plant changes that have a potential for significantly improving severe accident safety performance are identified and addressed.

Entergy's April 11, 2012 letter, see, e.g., P A-4, conveniently ignores the fact that MESA MGL c. 131A, § 1, defines "take", in reference to animals to include "to harass, harm, pursue, hunt, shoot, hound, kill, trap, capture, collect, process, disrupt the nesting, breeding, feeding or migratory activity or attempt to engage in any such conduct, or to assist such conduct...." This broad definition includes provisions to guard against impacts that are less than an actual killing of the species, and includes impacts on food supplies and the ambient environment of endangered species.

**The JRWA/PW request forcefully demonstrates that supplemental coordination by MCZM is required**

Entergy claims JRWA's request is tardy and insufficient. It is never too late to identify and address impacts which the state agency has heretofore ignored or failed to consider when clear facts in the record mandate such a review; that is the purpose of the statutes. We believe the story of wholesale failure of the regulatory system is unfolding: from the NRC's flawed and unlawful decision to relicense Pilgrim in the absence of a valid and enforced effluent discharge permits from the MassDEP and EPA to MCZM's failure to investigate and consider data in the state's own files.

Entergy's claim that the CZM Office "has played a continuing, active role in the review of federally authorized action associated with Pilgrim" is patently untrue. Entergy Letter, p. 2. No "active role" by any state or federal agency with regard to the impacts associated with Entergy's use of Cape Cod Bay has occurred for decades: the state and federal permits expired 16 years ago and the matter has sat dormant, other than a boilerplate request by U.S. EPA for CWA § 308 information. As a result, the NRC has relicensed Pilgrim based on a faulty 1970s CWA § 316 demonstration report, outdated § 401 water quality certificate, and invalid CZM certificate --- and no agency of the Commonwealth has said a word in response. In light of the record before the agencies, augmented by our recent findings, MCZM's failure to reopen the consistency review is arbitrary, capricious, an abuse of discretion and otherwise not in accordance with law.

In addition to an action challenging the agency's decision, we may pursue a petition under 16 U.S.C.S. § 1458(a) to (c) and the Administrative Procedures Act before the Secretary to review the performance of MCZM with respect to coastal management. This process includes public participation, evaluation of the state's performance, as provided under § 1458(b), and may include a request for suspension of federal financial assistance pursuant to § 1458(c) for noncompliance with the state CZM program.

Very truly yours,

Jones River Watershed Association

Pilgrim Watch



By: Margaret E. Sheehan, Esq.

Anne Bingham, Esq.

Cc:

Governor Duval Patrick  
Secretary Rick Sullivan, EOEEA  
Senator Therese Murray  
Senator Marc Pacheco  
Sen. William Brownsberger  
Sen. Dan Wolf  
Rep. Ann Gobi  
Rep. Sarah Peake  
Rep. Tom Calter  
Rep. Vinny DeMacedo  
U.S. EPA  
MassDEP

Pilgrim Watch and Jones River Watershed Association Request for Reconsideration  
Of MCZM Consistency Certification for Entergy's PNPS

The following documents set forth significant new circumstances or information which are relevant to the proposed activity and its' effect on any coastal use or resource:

1. June 1, 2011, "A Report to the Office of the Attorney General - Commonwealth of Massachusetts, by Gordon R. Thomson: "New and Significant Information from the Fukushima Daiichi Accident in the Context of Future Operation of the Pilgrim Nuclear Power Plant."
2. Feb. 6, 2012, Letter from JRWA to National Marine Fisheries Service (NMFS) regarding the absence of ESA concurrence.
3. Feb. 29, 2012, NRC Staff "Request for Concurrence on Determination of Effects Concerning Atlantic Sturgeon at Pilgrim Nuclear Power Station" and request for concurrence on NRC's 2006 biological assessment, pursuant to 50 CFR 402.12(j).
4. Mar. 8, 2012, Letter from NMFS to JRWA regarding "Ongoing Endangered Species Act Consultation, Pilgrim Nuclear Power Station."
5. April 3, 2012, Letter to NMFS from Whale and Dolphin Conservation Society concerning potential impacts of PNPS on endangered mammals .
6. April 5, 2012, AG Petition for Review of CLI-12-06 (U.S. NRC's Denial of Massachusetts Attorney General's Petition for a Hearing)
7. April 12, 2012, Memo from Dr. Charles Mayo, Senior Scientist and Director of Right Whale Habitat Studies, Provincetown Center for Coastal Studies entitled "Response to questions regarding the effects of Pilgrim Nuclear Power Station operations on Northern Right Whales, Critical Habitat, and the Cape Cod Bay Ecosystem" sent by email to MCZM on April 13, 2012.
8. April 12, 2012, Letter from EcoLaw to NMFS regarding ESA issues including radioactive releases, thermal backwashes and biocides, sea turtles, climate change, fish as food supply for whales, plankton, Entergy's withholding of relevant data, Marine Mammal Protection Act, and river herring, with Attachments (Affidavit of Alex Mansfield; Affidavit of Anne Bingham, Esq., Affidavit of Pine duBois, JRWA; Reply Affidavit of Alex Mansfield; Thompson Report; Beya report, DPH report, Scheffer email,
9. April 17, 2012, Letter from EcoLaw to U.S. Fish and Wildlife Service re: impacts of PNPS on roseate tern, sent by email to MCZM ..
10. April 18, 2012, sighting data from right whales, send by email from JRWA/Sheehan to MCZM.

11. April 24, 2012, Letter from EcoLaw to NMFS re: PNPS water pollution impacts on ESA listed species and habitat, send by email to MCZM.
12. April 24, 2012, Email to MCZM sending copy of April 27, 2000 letter from NMFS to USFOS Construction regarding endangered and threatened whales in the waters off Plymouth and importance of "strict adherence to water quality standards and critieria" in connection with Plymouth's waste water treatment facility.
13. May 2, 2012, JRWA and PW contention on ESA and Roseate Tern, filed with the Atomic Safety Licensing Board in License Renewal proceeding, 50-293-LR, including Affidavit of Ian Nisbet, PhD.
14. May 9, 2012, Letter from EcoLaw to NMFS re: new information on river herring and shad stocks (ASMFC management report) sent by email to MCZM.
15. May 11, 2011, email JRWA/PW/Sheehan to NMFS re: information on ESA
16. May 14, 2012, JRWA and PW contention on CZMA and Clean Water Act, filed with the Atomic Safety Licensing Board in License Renewal proceeding, 50-293-LR
17. May 17, 2012, NMFS concurrence determination letter to NRC staff disagreeing with NRC's 2006 and 2012 decisions that PNPS relicensing will have "no effect" on ESA listed species and critical habitat and identifying several areas where additional and/or more recent information would be helpful to better characterize effects of PNPS on endangered species.
18. May 2012, JRWA and PW contention on Coastal Zone Management certification and Clean Water Act permits filed with NRC.
19. June 5, 2012, Institute for Energy and Environmental Research, Comments on "Analysis of Cancer Risks in Populations near Nuclear Facilities, Phase I, prepublication copy, June 5, 2012. Copy provided with this letter.