

## **NRR-DMPSPEm Resource**

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**From:** Mary Lampert <mary.lampert@comcast.net>  
**Sent:** Tuesday, September 18, 2018 11:34 AM  
**To:** Lamb, John; Broaddus, Doug; Watson, Bruce; Mandy.Halter@entergy.com;  
Phil.Couture@holtec.com; Pierre Oneid  
**Subject:** [External\_Sender] Pilgrim Watch & Town of Duxbury Nuclear Advisory Committee  
QUESTIONS RE HOLTEC'S APPLICATION PILGRIM LICENSE TRANSFER, September 18,  
2018.  
**Attachments:** PW DNAC QUESTION RE SALE 09.18.18.pdf

Please find attached Pilgrim Watch & Town of Duxbury Nuclear Advisory Committee QUESTIONS RE  
HOLTEC'S APPLICATION PILGRIM LICENSE TRANSFER, September 18, 2018.  
If you have difficulty in opening the file, please call Mary Lampert at 781.934.0389.  
We look forward to your responses.

Thank you

**Hearing Identifier:** NRR\_DMPS  
**Email Number:** 577

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Tracking Status: None

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**Options**

**Priority:** Standard

**Return Notification:** No

**Reply Requested:** No

**Sensitivity:** Normal

**Expiration Date:**

**Recipients Received:**

John G. Lamb, Office of Nuclear Reactor Regulation  
Doug Broaddus, Office of Nuclear Reactor Regulation  
Bruce Watson, Office of Nuclear Material Safety and Safeguards  
Mandy Halter, Entergy Nuclear Northeast  
Phil Couture, Holtec International  
Via Email

**RE: PW/DNAC QUESTIONS RE HOLTEC'S APPLICATION PILGRIM LICENSE  
TRANSFER, September 18, 2018**

Pilgrim Watch and the Town of Duxbury Nuclear Advisory Committee have several questions regarding the Planned License Transfer Application for the Pilgrim Nuclear Power Plant. We hope that the September 25 Pre-Submittal Meeting with Entergy Nuclear and Holtec International will focus on these questions. We ask NRC to answer the questions in writing as soon as possible and get back to us.

Many of the questions are directed to both Entergy and the prospective purchaser asking, among other things, if Entergy either has agreed to assume, will assume, any responsibility going forward. The answers to these questions are key to protecting public health, safety and pocketbooks.

**I. FINANCIAL**

**A. Holtec International, Comprehensive Decommissioning International, Holtec and SNC-Lavalin (Hereinafter, collectively, the Purchasers)**

1. LLC's: Is it correct that Holtec International, Comprehensive Decommissioning International, Holtec and SNC-Lavalin are all limited liability corporations? If so, what are the net assets of each LLC.
2. Have the parent corporations of any LLC assumed (or agreed to assume) any responsibility for Pilgrim decommissioning costs? If so, please explain exactly what responsibility (and the conditions under which, and the extent, of any such responsibility. Exactly what do any agreements with any parent corporations provide with respect to financial responsibility. What will the NRC require with respect to parent corporation financial responsibility?

3. Funding Short-Fall: What additional financial assurance will Entergy, Holtec International and/or CDI provide if the DTF runs short? Exactly what do any agreements between or among any of these provide?

What will the NRC require with respect to parent corporation financial assurance?

4. Pollution Insurance: Will the Purchasers provide insurance enough to cover the costs of site restoration activities, including addressing previously unknown or not fully characterized radiological and/or non-radiological environmental conditions identified at Pilgrim either during commissioning or after decommissioning is completed? Does any agreement require such insurance?

What will the NRC do to ensure that the Purchasers will address these conditions and will have enough resources to do so?

5. Cash Flow Analysis: Will the Purchasers provide a comprehensive cash flow analysis that will provide appropriate state agencies with detailed information about the progress and financial status of the decommissioning project at regular, not more than four year, intervals?

What will the NRC do to ensure that such an analysis is provided to appropriate state agencies?

6. Entergy's Contingency Fund: The fund is an NRC required fund of not less than fifty million dollars (\$50M) if needed for Pilgrim operating and maintenance expenses, the cost to transition to decommissioning status, and decommissioning costs. How much is in it now? Will that amount remain "frozen" and turned over to the Purchasers, or any of them, at the time of the sale?

7. DTE: The NRC's definition of decommissioning is limited to removal of radioactivity. It says, "The safe removal of a facility from service and reduction of residual radioactivity to a level that permits termination of the NRC license." (10 CFR 50.2)

8. Will the Purchasers agree not to use any monies in the Decommissioning Trust Fund to pay any costs for anything other than the removal of radioactivity? If not, with respect to what costs does any Purchaser plan or expect to take any money out of the DTF?

## **B. Spent Fuel**

9. Monies Recovered from DOE. Will Entergy and the Purchasers agree to deposit in the DTF any monies received because of litigation against DOE, or in any settlement agreement for spent fuel management costs?
10. Cost Estimates:
- a. What are the Purchasers' best current estimate for the date on which spent fuel will leave the site? Upon what facts is that estimate based?
  - b. What are the expected spent fuel storage costs from the present to that estimated date?
  - c. What are the Purchasers' best estimate of annual on-going spent fuel storage costs for each year that spent fuel remains on that site?
  - d. What is the best current cost estimate if the spent fuel remains on the site indefinitely?
  - e. What will the NRC do (in addition to using its usual formula) to assure that the Purchasers have enough funds?
11. Indefinite Storage of Fuel Onsite: Will the Purchasers agree that decommissioning plans and cost estimates will assume that spent fuel will be stored on-site indefinitely, rather than simply being based on any assumptions that spent fuel will be removed from the site by some assumed date or assumed availability of some interim storage site?

## **II. SPENT FUEL STORAGE**

### **A. Rising Sea Level – ISFSI Location**

12. Will the Purchasers agree to locate the ISFI on higher ground than its current location? If so, when will that location/relocation be done? If not, please explain the basis for not agreeing.

### **B. Leaking or Otherwise Defective Dry Casks.**

13. Canisters and concrete outer packs are prone to cracking, and the risk of cracking is exacerbated by salt corrosion.
- a. How do the Purchasers plan to deal with leaking or otherwise defective dry casks? What is Entergy's responsibility for casks purchased by it?
  - b. Who will be responsible for repairing or replacing any cask that cracks or leaks in the future – the cask manufacturer, Entergy for casks prior to the sale, or the Purchasers?

- c. What equipment and technology to repair or replace a cracked or leaking cask is now available?
  - d. Will there be a fund set aside so monies will be available for any replacement or repair of any cracked or leaking case, and also for mitigation of any damages resulting from any crack or leak?
  - e. What do any agreements between or among Entergy and any of the Purchasers provide with respect to the repair or replacement of a cracked or leaking cask or the mitigation of any damages resulting from any crack or leak?
  - f. When does the manufacturer's cask warranty end and what does it cover? Please provide a copy of the warranty for casks provided to Entergy and casks provided after the sale.
14. Until such time all spent nuclear fuel at Pilgrim has been transferred offsite, will the Purchasers agree to assuring a supply of spare overpacks for canisters of spent nuclear fuel assemblies is placed onsite, and to take all reasonable steps to have at Pilgrim hot cells (when available) or some other dry system that is capable of moving spent nuclear fuel from a leaking or otherwise defective cask or canister into a new canister?

**C. Blockage of Air Vents**

15. How do the Purchasers plan to prevent blockage of any cask air vents intended to provide ventilation to keep the canister cool?

**E. High-Burnup Fuel**

16. How much high burnup fuel does Pilgrim have: (i) in the reactor, (ii) in the spent fuel pool, (iii) presently in dry casks;? How does the fact that fuel is high burnup effect the way it will be stored going forward in dry casks?
17. How soon after HBU fuel is moved from the reactor to the spent fuel pool can HBU fuel be moved from the pool into dry casks?
18. How many HBU spent fuel assemblies can be placed in a canister?
19. What is the maximum temperature allowed in each canister?
20. Do the purchasers plan to treat high burnup spent fuel as damaged fuel? Do the Purchasers plan to place it in double walled casks, as Maine Yankee and Zion did?
21. Can high burnup fuel be moved offsite in transportation casks that are currently available?

22. How soon can HBU fuel placed in dry casks be moved offsite?

### **III. OTHER WASTE**

#### **A. Greater-Than-Class-C Waste**

23. What are the Purchasers plans for storing Greater-than-Class C Waste? Can it be shipped to an interim site?

#### **B. Low-Level Radioactive Waste (LLRW)**

24. What are the Purchasers plans for storing LLRW? To where and when will it be shipped offsite?

#### **C. Hazardous Waste**

25. Do the Purchasers plan to comply with all federal and state rules regarding the removal of non-radioactive hazardous substances from the site? This would include, for example: PCBs, lead paint, standard industrial contaminants, asbestos, storm water, wastewater, spilled or stored petroleum.

### **IV. RESIDUAL RADIOACTIVITY**

26. Radiological Cleanup Standard: Before any sale of Pilgrim, will Entergy sign an MOU with the state having the terms outlined in DPH's April 10, 2018 to Entergy.

27. Not later than the time of purchase, will the Purchasers sign such an MOU with the state?

28. If the answer to either of the above questions is anything other than an unqualified "Yes," will Entergy and the Purchasers agree:

- a. That as of the date that the Nuclear Regulatory Commission terminates Pilgrim's operating license and releases any portion of the Pilgrim site, the level of residual radioactivity of the released portion of the site be as low as reasonably achievable (ALARA) and in any event less than 10 millirem per year for all pathways, and that (consistent with the US Environmental Protection Agency's Safe Drinking Water Act (SDWA) the exposure for all drinking water pathways be less than 4 millirem per year?

- b. To submit to DPH's RCP a document that (i) describes the methods for achieving compliance with the aforementioned criteria; (ii) outlines a protocol to confirm achievement of these standards after any necessary remediation; and (iii) provides assurances those obligations will be met if the site is sold to a third party?
- c. To adopt and implement the above document as part of its Post-Shutdown Decommissioning Activities Reports (PSDAR).
- d. Dose estimates: Will the Purchasers use the Resident Farmer Standard in connection with residual reactivity?
- e. Do the Purchasers understand, and agree, that the Commonwealth has the right, by statute or regulation, to require that no released portion of the Pilgrim site may transferred, leased or used unless it meets the above criteria?

## V. SITE RESTORATION

- 29. End use of the site: Will the Purchasers agree that the Pilgrim site will be released only for unrestricted use? Will they agree that no portion of the site will be released for restricted use? If not, what are the Purchasers' decommissioning and after decommissioning plans regarding unrestricted or restricted use?
- 30. Tritium: Will the Purchasers agree, as was done at Yankee Rowe, to remediate or remove structural materials or soil containing detectable tritium, even if the level of tritium is less than required by the NRC for license termination?

### A. Removal of Structures Onsite

- 31. Removal of Structures above ground: What structures does Entergy or the Purchasers, or any of them plan or currently expect to leave above ground onsite?
- 32. To how far below ground level will structures be removed?
- 33. Removal of Underground Structures: To what depth below ground surface do the Purchasers, or any of them intend to remove underground structures, including building foundations, buried piping, and contained piping? Do the Purchasers, or any of them intend to remove all underground structures containing asbestos regardless of depth?

## B. Rubblization

34. Do the Purchasers plan to rubblize any above grade structures after the level of radiation of any of such structures has been reduced to what the NRC says is the accepted level of radiation? What level of radiation does the NRC accept as low enough to permit rubblization?

## C. NEPA Analysis-Early Site Assessment

35. Will the Purchasers agree to perform a NEPA-compliant comprehensive analysis (including analyses of the matters set forth below) with respect to all potential environmental and economic impacts of its post-closure plans, and to use such an analysis in estimating decommissioning and related costs?
- All potential radiological incidents at the site;
  - The continued storage of spent nuclear fuel, including the possibility of indefinite storage onsite and the possibility of a terrorist attack on stored spent nuclear fuel;
  - The transfer of spent nuclear fuel and the possibility of accidents during such transfers from the spent fuel pool to dry casks and potentially from old dry casks to new dry casks;
  - The creation and operation of a Dry Fuel transfer Station to move spent fuel into new dry casks every 100 years, and the funding source for: (a) the construction of a Dry Fuel Transfer Station; (b) the purchase of new casks and all other labor and material costs for transferring the fuel every 100 years; and (c) the costs of maintaining security at the site indefinitely;
  - The existence of radiological and non-radiological contamination;
  - The generation and storage of non-radiological contaminants;
  - Site-specific impacts resulting from: (a) potential airborne asbestos and lead contamination, as well as potential impacts from a radiological incident; (b) recreational activities on Cape Cod Bay and beaches; species that may become listed as endangered or threatened in the next 60 years; (c) science's increased understanding of climate change, including expected increases in the severity of floods; (d) known

and unknown contamination at Pilgrim from previously identified tritium leaks and residual radionuclides from Pilgrim's early operations and 1982 releases.

38. Will the Purchasers agree to do perform such an analysis so before any Purchaser submits any PSDAR to the NRC, and at to submit updates based on then-current information at four- year intervals thereafter until decommissioning is complete and Pilgrim's operating license has been terminated?

## **VI. SAFETY**

### **A. Environmental Monitoring**

39. Will the Purchasers agree to provide the state enough monies to cover the Massachusetts Department of Public Health (DPH) expenses for offsite radiological monitoring and testing, including real-time air monitoring, offsite environmental sampling and testing, and onsite monitoring well and media sampling until the spent fuel is removed from the site?
40. Will the Purchasers agree to provide the state with split samples from the final status surveys that are intended to document that soil and structure remediation that will allow the site to be released for unrestricted use at NRC license termination?
41. Will the Purchasers agree to continue to fund offsite current radiological emergency planning until all spent fuel is removed from the pool and placed in hardened dry casks, except that potassium iodide provisions may be eliminated 90 days after the reactor is de-fueled? Will the Purchasers continue to fund offsite radiological emergency planning costs after all spent fuel has been moved into dry casks to a lesser degree, until the fuel leaves the site? Will the purchaser formally agree to locate the ISFI on higher ground than its current location?

### **B. Monitoring**

42. What are the Purchasers' plans for monitoring the dry casks?
- Will the Purchasers agree to monitor each cask for heat, helium and radiation?
  - Will the Purchasers agree to use monitors that, unlike TLDs, provide on-going measurements rather than providing an average figure, are not limited to reading only to a maximum threshold, and that will ready both high and low alpha and beta?

**C. Security**

43. Recognizing that there is a potential for attack on a commercial nuclear facility, including a spent fuel pool and ISFI, what security features will the Purchasers employ to reduce risk while fuel remains onsite at Pilgrim? Please include: size of protected area; barriers that would act as blast shields to prevent line of sight attack; concrete vehicle barriers; lighting; cameras and intrusion detection equipment; cyber security measures.

**VII. WORKERS**

44. How many workers will be required to decommission Pilgrim?

45. To how many current Pilgrim workers have Entergy, or the Purchasers offered a job in connection with decommissioning Pilgrim? How many have accepted? To how many other current workers do Entergy, or the Purchasers intend to offer such a job?

46. To how many current Pilgrim workers has Entergy offered a job at your other sites? How many have accepted? To how many other current workers does Entergy intend to offer such a job?

Prepared by,

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