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

DOCKETED
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OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

In the matter of
Entergy Corporation
Pilgrim Nuclear Power Station
License Renewal Application

Docket # 50-293

December 21, 2007

PILGRIM WATCH MOTION FOR CLARIFICATION

Pilgrim Watch hereby requests that the Atomic Safety and Licensing Board Clarify two issues regarding ASLBP No. 06-848-02-LR, Order (Revising Schedule for Evidentiary Hearing and Responding to Pilgrim Watch's December 14 and 15 Motions) issued December 19, 2007.

I. PROCEDURAL BACKGROUND

On May 25, 2006 Pilgrim Watch filed its petition to intervene seeking the admission of five contentions.[1] On October 16, 2006, the Licensing Board admitted two of Pilgrim Watch's contentions, including an amended version of Contention I, into the PNPS license renewal proceeding. [2] Pilgrim Watch's Contention 1, as amended by the Board, stated,

> The Aging Management program proposed in the Pilgrim Application for license renewal is inadequate with regard to aging management of buried pipes and tanks that contain radioactively contaminated water, because it does not provide for monitoring wells that would detect leakage.

[1] Request for Hearing and Petition to Intervene by Pilgrim Watch (May 25, 2006) ("Pilgrim Watch Pet.").
[2] Memorandum and Order (Ruling on Standing and Contentions of Petitioners Massachusetts Attorney General and Pilgrim Watch), LBP-06-23, 64 N.R.C. 257 (2006).

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On June 8, 2007 Entergy filed a Motion for Summary Disposition of Pilgrim Watch Contention 1. On October 17, 2007, the Licensing Board issued a Memorandum and Order.[3] The Licensing Board denied Entergy's motion for summary disposition finding that there was a genuine dispute and "clarified" what remained at issue, saying [at 18] that,

> ...the only issue remaining before this licensing Board regarding Contention 1 is whether or not monitoring wells are necessary to assure that the buried pipes and tanks at issue will continue to perform their safety function during the license renewal period -, or, put another way, whether Pilgrim's existing AMPs have elements that provide appropriate assurance as required under relevant NRC regulations that the buried pipes and tanks will not develop leaks so great as to cause those pipes and tanks to be unable to perform their intended safety functions.

On December 19, 2007 the ASLB issued a new order amending the dates for the filing of pre-filed direct testimony and providing inquiries to be addressed.

Pilgrim Watch requests clarity on two issues in order for this hearing process to be resolved most efficiently.

(1) What buried pipes and tanks are now under consideration.

(2) What materials must be provided by Entergy by January 8, 2008.

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[3] Memorandum and Order (Ruling on Entergy's Motion for Summary Disposition of Pilgrim Watch Contention I, Regarding Adequacy of Aging Management Program for Buried Pies and Tanks and Potential Need for Monitoring Wells to Supplement the Program), ASLBP No. 06-848-02-LR, October 17, 2007.

II. DISCUSSION

A. Buried Pipes/Tanks Within The Scope

Pilgrim Watch understands that the buried components *now* under consideration should include buried pipes and tanks in the following systems: (1) standby gas treatment; (2) salt service water; (3) condensate storage; (4) fuel oil tanks and associated pipes; (5) station blackout diesel generator; (6) fire protection.

1) Our rationale is as follows: The buried components under consideration changed during the proceedings. The Original Order on Pilgrim Watch's Contention 1 , October 17, 2006, limited the focus to those that contain radioactive contaminated water. "The Aging Management Program proposed in the Pilgrim Application for license renewal is inadequate with regard to aging management of buried pipes and tanks *that contain radioactively contaminated water*, because it does not provide for monitoring wells that would detect leakage." Therefore at the beginning stages of this adjudication the focus was on pipes in the: (1) standby gas treatment; (2) salt service water; and (3) condensate storage condensate systems.

However, and very much to the issue, footnote 261 stated, "With respect to exactly which pipes and tanks do fall within Pilgrim's aging management program, this is addressed to an extent in the Application, *although further definition may be required as the adjudication of this case proceeds forward."* [Emphasis added]

Further definition was provided as the adjudication process proceeded. The Board's Order [October 17, 2007] denied Entergy's Motion for Summary Disposition and found a genuine dispute on the issue of whether the aging management program (AMP) relating to buried pipes and tanks is adequate alone or whether detection devices (e.g., monitoring wells) are required to assure that the pipes and tanks *"perform their intended functions and thereby protect public health and safety."* (LBP-07-12, 66 NRC as _, slip op. at 16).

The Board further noted that,

> ...prevention of leaks *per se* is not a stated objective of any relevant aging management program. On the other hand, prevention of an aging- induced leak large enough to compromise the *ability of buried pipes or tanks to fulfill their intended safety function* is a clear goal of an AMP. Thus at issue here is the following fundamental question: *Do the AMPs for buried pipes and tanks, by themselves, ensure that such safety-function-challenging leaks will not occur, or must some sort of leak detection devic*es such as monitoring wells proposed by Intervenors be installed to meet the obligation? (Id, at 17) [Emphasis added]

Therefore, the October 17, 2007 Order included *all* buried pipes and tanks in the following systems: (1) standby gas treatment; (2) salt service water; (3) condensate storage; (4) fuel oil tanks and associated pipes; (5) station blackout diesel generator; (6) fire protection systems; not simply those that contain radioactively contaminated water.

The reason for this seems obvious. The Licensing Board's October 17, 2007 Order changed to focus on looking at whether the AMP's are adequate alone or whether more robust and comprehensive inspections and monitoring wells are required to assure that the pipes and tanks perform their *intended safety functions* and thereby protect public health and safety. It matters not at all the exact nature of the contents that the buried pipes/tanks are intended to hold; rather whether they perform their intended function- separate fluids from the environment – transport the fluid from Point A to Point B and not into the ground. Further there can be no argument that safety-function challenging leaks are not limited to only those buried pipes and tanks within scope that carry radioactive contaminated water; clearly pipes/tanks servicing the fuel oil and fire safety system perform safety functions also.

2) Buried Piping in the Fuel Oil System; and Piping for the Station Blackout Diesel Generator[4]: This piping serves an important safety function. There are 6 fuel oil tanks underground at Pilgrim - 2 for the heating boilers, 2 for the emergency diesel generators and 2 for the station blackout diesel. The safety function of the fuel oil tanks/piping is to allow the necessary flow rate of oil to the emergency diesel generators and the station blackout generator and to the heating boilers so that temperatures remain according to design - instead of letting the oil into the ground. Additionally there are pipes from the ground surface to the tanks; their function is to fill the tanks with oil, not the ground with oil.

The fuel oil tanks at PNPS are buried completely and the pipes to and from the tanks are buried. The fill lines to the tanks are flush with the ground so the truck delivering fuel oil can have access to them; those lines then connect to the tank, usually to the top of the tank. The vent lines for all the buried tanks connect to the top of the tank and then surface and extend 10 feet or so in the air, they are capped with a rounded over device that lets air in or out and also keeps rain water from entering the tank. The oil tanks at PNPS supply fuel oil to the device in service that can be the emergency diesels, the black out diesel or the heating boilers. Those lines will run underground from the tank to the device in service an in the case of the heating boilers back to the tank because the heating boilers run a force feed loop. A force feed loop will send oil to the heating boilers, the boilers use the oil they need to maintain the heat called for by the heating system thermostat and what oil is not used goes back to the tank underground.

In the case of the emergency diesels the main tank underground supplies oil to an above ground tank located in the emergency diesel rooms, called the Day Tank. The day tank supplies fuel oil to the emergency diesels on a force feed loop which will send oil to the diesel. The diesel will use the oil it needs based on the electrical load on the emergency diesel and send the oil not used back to the day tank. The day tanks for the emergency diesels are in small rooms located in side the diesel building.

[4] The pipes servicing the (1) standby gas treatment; (2) salt service water; and (3) condensate storage condensate systems have been described in previous filings.

The day tank for the blackout diesel is part of the building the blackout diesel is in, that tank is actually under the diesel. The blackout diesel is in a trailer structure and is a unit that can be taken to a location, set up and run as a package unit. When no longer needed that type of package unit can be removed from a site and relocated at another site.

There is a line from the emergency diesel underground tanks to the diesel driven fire pump in the screen house. It runs under ground to the fire pump day tank located in the screen house.

3) **Buried Piping in the Fire Protection System:** This piping is within scope because it serves an important safety function. The safety function of the buried piping in the Fire Protection System is to allow the necessary flow rate of water from the tanks through the underground piping loop to the sprinkler systems -instead of into the ground. Specifically this system has 2 large water tanks above ground on the Cape Cod Bay side of the Main Reactor Building. The fire water system is an underground piping loop that surrounds the station and is maintained at system pressure by the fire water pump in the screen house. The underground loop has branches that enter all the process buildings and connects to the sprinkler systems in the process buildings. In the event of a fire, the sprinkler system would activate due to heat/smoke and spray water on the fire as well as alarm in the control room. If the system was corroded and had a leak (any place above or under ground) the fire water pump would not be able to maintain system pressure and the low pressure alarm would sound in the control room. Pilgrim Watch expects that this will be verified in the hearing and specifics provided regarding the alarm set point and weekly testing results log of the alarm tests provided for review.

However, and this is the key point, the alarm simply tells you that there is a leak or break not where it is in order to fix it. If the leak is not visual, that is in the process building, it is underground, somewhere. "Somewhere" covers a lot of ground. We understand that the leak may be estimated by the amount of starts and stops of the fire pump. However these are *estimates* only and they can not tell where a leak is or whether that leak

indicates serious degradation in other sections of the system. In regard to the latter point, it is important to recognize that different segments of the pipe may degrade at different rates. This system has had large leaks in the past; it has old pipe installed, we believe, when the plant was constructed. If correct, this system is nearly 35 years old. We understand that it consists of cement-lined malleable iron pipe with mechanical joints. The NRC Safety Evaluation Report[5], June 2007 reported two pipe failures in this system, at 3-37. The safety function of the piping is obvious – if it broke and there were a big fire, there would be big trouble.

B. Clarify Materials Entergy Should Provide By January 8, 2008

The Order, ASLBP No. 06-848-02-LR [at 2] asked Entergy to provide information on the following on or before Tuesday, January 8, 2008:

> (a) clearly identify each buried pipe and tank...; (b) identify the intended safety function of such pipe or tank; (c) specify the procedures by which Entergy will determine, during the license extension period, whether there are leaks present which might endanger the ability of that pipe or tank to meet its intended safety function, whether or not such procedures are part of routine maintenance and operation or part of the aging management program."

Pilgrim Watch respectfully requests further clarification –that the information to be provided includes information for each pipe/tank component and inspection information..

1) Each pipe and tank in scope is made up of different sections. The likelihood of significant corrosion and leaks is not necessarily the same depending on for example: what the section is made of; whether it is a weld, elbow, valve or straight piece; age; and inspection/ maintenance history.

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[5] Safety Evaluation Report, Docket NO. 50-293, US Nuclear Regulatory Commission, June 2007 (hereinafter SER)

2) Inspection information from the original licensing period: Buried Piping and Tanks Inspection Program [6](BPTIP) is described by the Applicant in Appendix A and B of the renewal filing. The program looks not only forward to what must be done during the license inspection period but also *backwards* to what has to be done prior to the extension.

Appendix A.2.1.2 Buried Pipes and Tanks Inspection Program page A-14 says, "*Prior to entering the period of extended operation,* the applicant is to verify that there is at least one opportunistic or focused inspection is performed during the past ten years." [Emphasis added] Therefore it should be made clear that the Applicant should provide specific information about the inspections – such as the precise location of the inspections, date of the inspections, method used for the inspections, reports.

In addition, Appendix A.2.1.2, Buried Pipes and Tanks Inspection Program page A-14 states that "buried components are inspected when excavated during maintenance and if "*trending*" identifies a susceptible location, this area with a history of corrosion might have additional inspections, coating or replacement." [Emphasis added] This says to Pilgrim Watch that the full past history of inspections for each component, specifying the precise area of the component, is necessary in order to determine "trending." We know that without baseline information obtained prior to the license extension no "trends" can be reliably established.

For the above stated reasons, Pilgrim Watch asked the licensee to provide this information; they refused. Therefore we respectfully ask the board to consider clarifying the Order by specifying that the Applicant should provide the following information in their prefiled direct testimony on or before Tuesday, January 8, 2008. [7]

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[6] NUREG-1801, Vol.1, Rev.1; NUREG-1801, Vol.2, Rev.1- appropriate sections attached

[7] Pilgrim Watch requested this information in: Disclosure Requests -Pilgrim Watch, December 10, 2007; and, Request Copies of the Control Room's "Leak Logs," December 3, 2007

a) **RECORD LEAKS**: It is our understanding that the company keeps a record of leaks. We believe that it is kept in, or by people working in, the control room. Whatever it is called at the site, we request that it be disclosed. [This had been requested before]

b) To comply with the requirement that, "Prior to entering the period of extended operation, the applicant is to verify that there is at least one opportunistic or focused inspection is performed during the past ten years."

1. How many separate buried piping components make up each system -SSW, condensate, offgas, fuel oil, and fire safety systems?
2. For each system - precisely what component in that system (such as elbow, weld, joint etc) and where on that component did, or will, the inspection(s) occur; what inspection method was/will be used; and what was/will be the date of the inspection? Please provide all reports.

c) **COMPONENTS**:

For each of the following buried pipes for the: standby gas treatment; salt service water; condensate storage; fuel oil[8]; fire protection systems

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[8] NOTE: There are 6 fuel oil tanks underground at Pilgrim - 2 for the heating boilers, 2 for the emergency diesel generators and 2 for the station blackout diesel. The fuel oil tanks at PNPS are buried completely and the pipes to and from the tanks are buried. The fill lines to the tanks are flush with the ground so the truck delivering fuel oil can have access to them; those lines then connect to the tank, usually to the top of the tank. The vent lines for all the buried tanks connect to the top of the tank and then surface and extend 10 feet or so in the air, they are capped with a rounded over device that lets air in or out and also keeps rain water from entering the tank. The oil tanks at PNPS supply fuel oil to the device in service that can be the emergency diesels, the black out diesel or the heating boilers. Those lines will run underground from the tank to the device in service an in the case of the heating boilers back to the tank because the heating boilers run a force feed loop. A force feed loop will send oil to the heating boilers, the boilers use the oil

1) Please provide a map indicating the location of the pipes/tanks under consideration

2) Volume – average daily flow rate (volume per day) material flows through piping system per day during normal plant operations and expected flow rate(s) during emergency response events, if different.

3) Material component is made of

4) Describe any "dead spots" in piping system under consideration

5) Distance from ground surface to piping system

6) Distance to shore line from the piping – provide range, not average

7) Tests of soil around component – dates testing, results

For <u>each section of each component</u>, please number on a diagram the sections of each piping system so that it is clear what you are talking about in response to the questions below:

1) Age of section – when was it installed

2) Length of section

3) Inside diameter of section

4) Wall thickness

5) Number fittings, flanges, welds and elbows along length each pipe in system; material fitting/flanges and elbows are each made- how were each inspected (date and report)

6) Description coatings/wraps – material made of; date applied; inspections (date and report); repair history to coating/wraps (date and report)

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they need to maintain the heat called for by the heating system thermostat and what oil is not used goes back to the tank underground.

7) Internal inspections - where, when and how? Please provide all reports.

8) Connections to tanks and systems – beginning and end points pipes

   a) Material connection/fitting made of

   b) When installed

   c) When inspected and provide report

   d) If repaired, when?

FUEL OIL TANKS – (6)

[There are 6 fuel oil tanks underground at Pilgrim - 2 for the heating boilers, 2 for the emergency diesel generators and 2 for the station blackout diesel.]

Please answer questions for each tank separately

1) Location – distance to shoreline

2) Distance from ground surface to top tank and to bottom tank

3) Date tanks installed

4) Volume material in tank under both normal and emergency situations, if differs

5) Material made of

6) Coatings/ and or wraps – description materials used; location of where it was applied to the tank; and date coating/wrap applied; date and description any repair to coating or wrap.

7) Inspections - date of inspection(s); location of inspection(s); size of area inspected (percentage of whole); copy of report

8) Repair history(s) - date of repair; location of repair within the specific component and copy of report describing repair

III. CONCLUSION

Pilgrim Watch appreciates the Board's decision to require certain information to be provided by Entergy in its prefiled draft; and respectfully requests your consideration to include the other information that we feel is necessary. We believe that the sooner all pertinent information is put on the table, the sooner we can complete this process avoiding future motions, replies and appeals. We believe that efficiency and public safety are in the interest of all parties.

Respectfully submitted,

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the matter of Docket # 50-293

Entergy Corporation

Pilgrim Nuclear Power Station

License Renewal Application December 21, 2007

CERTIFICATE OF SERVICE

I Hereby Certify That The Foregoing Pilgrim Watch Motion For Clarification Was Served December 21, 2007 By Electronic Mail And By U.S. Mail, First Class To Each Of The Following:

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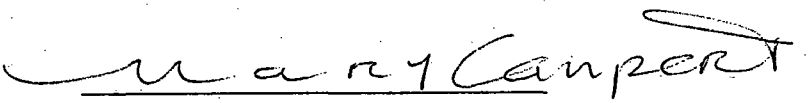

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