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

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

Docket # 50-293

June 27, 2007

PILGRIM WATCH'S ANSWER OPPOSING ENTERGY'S MOTION FOR SUMMARY DISPOSITION OF PILGRIM WATCH CONTENTION 1

For the reasons set forth below, Pilgrim Watch submits that Entergy has failed to show that a material dispute has ceased to exist or has been resolved since the Board's review of Pilgrim Watch's initial contention 1 and the Board's order of October 16, 2006 confirming existence of material dispute regarding Contention 1.

LEGAL STANDARDS FOR GRANTING/DENYING A MOTION FOR SUMMARY DISPOSITION

a. Under the Rules of Practice, 10 CFR Part 2, a motion for summary disposition should be granted if the Licensing Board determines, with respect to the question at issue, that there is no genuine issue as to any material fact and that the moving party is entitled to a decision as a matter of law. 10 CFR § 2.749(d).

b. Under the concept of summary disposition (or summary judgment), the motion is granted only where the movant is entitled to judgment as a matter of law, where it is quite clear what the truth is and where there is no genuine issue of material fact that remains for trial. [Tennessee Valley Authority (Browns Ferry Nuclear Plant, Units 1, 2 & 3), LBP-73-29, 6 AEC 682, 688 (1973); Private Fuel Storage. L.L.C., LBP-99-23, 49 NRC

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485, 491 (1999); Carolina Power & Light Co. (Shearon Harris Nuclear Power Plant), CLI-O0-1 1, 53 NRC 370,384 (2001).

c. Summary disposition is a useful tool for resolving contentions that, after discovery is completed are shown by undisputed facts to have nothing to commend them, but it is not a tool for trying to convince a Licensing Board to decide genuine issues of material fact that warrant resolution at a hearing. Private Fuel Storage. L.L.C. (Independent Spent Fuel Storage Installation), LBP-01-39, 54 NRC 497,509 (2001).

d. Once an applicant has submitted a motion that makes a proper showing for summary disposition, the litmus test of whether or not to grant the summary disposition motion is whether the Intervenor has presented a genuine issue as to any material fact that is relevant to its allegation that could lead to some form of relief. Georgia Power Company (Vogtle Electric Generating Plant, Units I and 2) LBP-94-37,40 NRC 288 (1994).

e. If there is any possibility that a litigable issue of fact exists or any doubt as to whether the parties should have been permitted or required to proceed further, the motion must be denied. General Electric Co. (GE Morris Operation Spent Fuel Storage Facility), LBP-82-14, 15 NRC 530, 532 (1982); Safety Light Corn. (Bloomsburg Site Decommissioning and License Renewal Denials), LBP-95-9,41 NRC 412,449 n.167) citing Anderson v. Liberty Lobby. Inc., 477 U.S. 242, 248 (1986).

f. The party seeking summary judgment has the burden to show the absence of a genuine issue as to any material fact. Evidence must be reviewed in the light most favorable to the party opposing summary judgment. Advanced Medical Systems. Inc. (One Factory Row, Geneva, Ohio 44041), CLI-93-22, 38 NRC 98, 102 (1993); Dr. James E. Bauer (Order Prohibiting Involvement in NRC Licensed Activities), LBP-95-7, 41 NRC 323,329 (1995).

g. Based on judicial interpretations of Rule 56, the burden of proof with respect to summary disposition is upon the Movant who must demonstrate the absence of any genuine issue of material fact. Private Fuel Storage. L.L.C.(Independent Spent Fuel Storage Installation), LBP-00-6,51 NRC 101, 112 (2000).

h. The Board's function, based on the filing and supporting material, is simply to determine whether genuine issues exist between the parties. It has no role to decide or resolve such issues at this stage of the proceeding. The parties opposing such motions may not rest on mere allegations or denials, and facts not controverted are deemed to be admitted. Since the burden of proof is on the proponent of the motion, the evidence submitted must be construed in favor of the party in opposition thereto, who receives the benefit of any favorable inferences that can be drawn. Sequoyah Fuels Corp. and General Atomics (Gore, Oklahoma Site Decontamination and Decommissioning Funding), LBP-94-17, 39 NRC 359,361 (1994).

i. Commission decisions affirm that a summary disposition opponent is entitled to the favorable inferences that may be drawn from any evidence submitted. See Sequoyah Fuels Corp. (Gore, Oklahoma Site Decontamination and Decommissioning Funding), LBP-94-17, 39 NRC 359,361, affd, CLI-94-11,40 NRC 55 (1994). This authority, however, does not relieve the opposing party from the responsibility, in the face of well pled undisputed material facts, of providing something more than suspicions or bald assertions as the basis for any purported material factual disputes. Private Fuel Storage. L.L.C., LBP- 99-35, 50 NRC 180, 194 (1999).

j. If it appears from the affidavits of a party opposing the motion for summary disposition that the party cannot for reasons stated present by affidavit facts essential to justify the party's opposition, the Board may refuse the application for summary disposition or may order a continuance as my be necessary or just. See Rule 56(t) of the Federal Rules of Civil Procedure.

DISCUSSION

Pilgrim Watch avers that the instant Motion raises primarily the same arguments as were raised by Entergy previously, and Pilgrim Watch therefore incorporates by reference its responses to Entergy's previous arguments regarding the admissibility of Pilgrim Watch's Contention. Further Pilgrim Watch contends, that lacking new compelling or overwhelming evidence which would absolutely negate Pilgrim Watch's issues and concerns already determined by the Board to be litigable, the Board must affirm its earlier judgment, deny Entergy's Motion for Summary Disposition, and make good its offer of a hearing on the disputed issues in Contention 1.

PILGRIM WATCH'S ANSWER TO ENTERGY'S STATEMENT OF MATERIAL FACTS REGARDING PILGRIM WATCH'S CONTENTION 1

Introduction

Pilgrim Watch, by and through its pro se representative, Mary Lampert, herein answers, disputes, and takes issue with certain statements included in Entergy's Statement of Material Facts regarding Pilgrim Watch's Contention 1.

Each "Statement of Material Fact" assembled by Entergy is reproduced below, followed by Pilgrim Watch's answer.

STATEMENT OF MATERIAL FACTS

A. General

1. *The purpose of the aging management programs ("AMP") identified in the PNPS license renewal application is to manage the effects of aging so that the intended function(s) of systems, structures, and components will be maintained consistent with the current licensing basis ("CLB") for the period of extended operation in accordance with 10 C.F.R. § 54.21(a)(3). Cox Decl. at ¶ 7.*

PW - Dispute: Irrelevant/obscures pertinent issue. In order to protect public health and safety the purpose of the aging management programs is to manage the effects of aging so that BOTH the intended and unintended function(s) of systems, structures, and components are maintained to avoid detrimental effects. In reactor license renewals, 10 CFR § 54 requires the Applicant to submit as part of its application an Aging Management Program for all passive systems at the facility, which includes the methods they use to monitor the condition of important equipment so that they can make repairs and replacements before safety margins are compromised. 10 CFR § 54, as with other

NRC regulations, cannot be satisfied in isolation but in fidelity with other NRC regulations. For example, the spent fuel pool is within the scope of 10 CFR § 54 as evidenced by it inclusion in the NRC's Generic Aging Lessons Learned (GALL) report. The intended function is to enable adequate cooling of the irradiated fuel stored in the spent fuel pool. Single-minded focus on 10 CFR § 54 alone theoretically would permit the spent fuel pool, if shown to be properly monitored under an Aging Management Program to provide reasonable assurance of the adequate cooling intended function, to be relocated outside of the protected area onto the playground of a nearby elementary school. 10 CFR § 54 might permit it, but numerous other regulations would not. It is a material fact that licensees must comply with 10 CFR § 54 in concert, not in isolation from, other regulations.

2. 10 C.F.R. §§ 54.4(a)(1)-(3) define both the safety-related and non-safety-related systems, structures and components that are within the scope of license renewal and the functions of the systems, structures and components that are intended to be ensured by AMPs. Cox Decl. at ¶ 8.

PW - Dispute: Irrelevant/obscures pertinent issue. The ASLB's Memorandum and Order, October 16, 2006, ruled that the contention, as limited by the board, was within the scope and material. PW explained in the Motion to Intervene that in order to renew its license for another 20 years Pilgrim is required, under 10CFR§54.21 to demonstrate that for each structure and component identified in that section the effects of aging will be adequately managed for the period of extended operation. The Pilgrim Nuclear Power Plant Application for License Renewal (Application) includes a list of systems that require aging management. Among them are pipes and tanks. (Application, B.1.2 Buried

Piping and Tanks Inspection, page B-17). An important function of the aging management plan is to assure that they do not leak.

3. 10 C.F.R. § 54.21(a)(1) defines the systems, structures, and components that are subject to aging management review as those that (i) perform an intended function, as described in § 54.4, without moving parts or without a change in configuration or properties; and (ii) are not subject to replacement based on a qualified life or specified time period. Cox Decl. at ¶ 8

PW - Dispute: Irrelevant/obscures pertinent issue. The only point to consider is that in order to renew its license for another 20 years Pilgrim is required, under 10CFR§54.21 to demonstrate that for each structure and component identified in that section the effects of aging will be adequately managed for the period of extended operation. The Pilgrim Nuclear Power Plant Application for License Renewal (Application) includes a list of systems that require aging management. Among them are pipes and tanks. (2) In order to protect public health and safety the purpose of the aging management programs is to manage the effects of aging so that BOTH the unintended and intended function(s) of systems, structures, and components will be maintained. (3) Protecting the environment – public health and safety – is a primary function.

4. Leakage of radioactive liquid from buried piping and tanks is not a design basis event that could cause accident consequences comparable to those referred to in §§ 50.34(a)(1), 50.67(b)(2) or 100.11. Cox Decl. at ¶ 9.

PW - Dispute: At issue here is that leakage of radioactive liquid from buried piping and tanks can harm public health; unmonitored releases are against regulation for that reason.

Section 9.1 of the Pilgrim Updated Final Analysis Report states quite clearly and unambiguously, "The Radioactive Waste Systems include equipment, instrumentation, and operating procedures which ensure that radioactive wastes may be safely processed and discharged from the station at levels which are as low as reasonably achievable." It is a material fact that Pilgrim's design and licensing bases are required to handle and control radioactive wastes to assure discharges are at levels as low as reasonably achievable. PW seeks compliance with this legal obligation. Last, the topography of the Pilgrim site is such that, were a leak to develop in an underground pipe or tank, the contaminated water would migrate seaward and drain into the ocean [Pilgrim Nuclear Power Station Groundwater Protection Questionnaire Response, Question 2, NEI, July 31, 2006, NRC Accession Number ML 062280602]. Once in the Bay, contaminants can not be easily identified or retrieved; and then they can impact the environment by bioaccumulation in marine material and later re-suspension into the air from beaches.

5. Preventing radioactive liquid leakage from buried pipes and tanks is not an intended safety function or other license renewal intended function that is to be ensured by AMPs implemented under the license renewal rules. Cox Decl. at ¶ 9.

PW Dispute: The ASLB Order determined that buried pipes and tanks are within this scope, as defined at 10 C.F.R. Part 54. Indeed, the fact that the Application itself contains sections concerning "Buried Piping and Tanks Inspection" indicates that Entergy implicitly agrees that this subject, insofar as it concerns those buried pipes and tanks in its aging management program, is within the scope of license renewal Application, §§ A.2.1.2, B.1.2. The inspections utilize methods to assure the integrity of the pipes/tanks – so that they will function and will not leak.

B. *PNPS Buried Pipes and Tanks within the Scope of License Renewal with the Potential for Containing Radioactive Liquids*

6. The following systems are the only systems at PNPS with buried pipes and/or tanks that meet the scoping criteria of 10 C.F.R. § 54.4: (1) standby gas treatment; (2) salt service water; (3) fuel oil; (4) station blackout diesel generator; (5) fire protection; and (6) condensate storage. Cox Decl. at ¶ 10.

PW- Dispute: Pilgrim Watch is not certain if when Entergy says "that these are the only buried pipes and/or tanks that meet the scoping criteria" that they mean there are no other pipes/tanks within scope that "may" contain radioactive isotopes of any kind at any time. Our concern is not just normal operations, but also when things go wrong. For example, there are two water storage tanks on the Bay side of the reactor building. The applicant neglects to answer if these water storage tanks ever contain radioactively contaminated water (such as water drained from the reactor cavity during refueling) or whether they always contain clean water (such as potable water).

7. The condensate storage system is the only system at PNPS within the license renewal scoping criteria of 10 C.F.R. § 54.4 with buried pipes or tanks that contain radioactive liquid. Cox Decl. at ¶ 11.

PW- Dispute: (1) Pilgrim Watch contends that it is equally important to consider systems within the scoping criteria with buried pipes or tanks that contain radioactive liquid to include BOTH by design and not by design – but that can happen. (2) Material Fact 8 contradicts this material fact by stating, "*Radioactive contamination of the salt service water ("SSW") system... is highly unlikely.*" The word "unlikely" is not a

quantitative term. How much "un-likeliness" do they mean and how much is enough - , highly, totally? (3) Other systems that need to be considered include, for example: a) the **offgas system piping** is used only during normal operation. It has no accident/post-accident role. To improve the performance of the condenser (e.g., to enable it to "draw" steam through the turbine better), the condenser is maintained at pressure below atmospheric pressure, as low as possible. The offgas system is used to suck air from the condenser to maintain it at a lower pressure than outside air pressure. Part of the offgas system includes a re-combiner to match hydrogen and oxygen atoms to form water molecules. The non-condensibles (xenon, krypton, iodine, etc) are sent through charcoal beds and then released from the main stack vent. When the plant shuts down, radioactive water could collect in and leak from the offgas system piping. b) **The salt service water (SSW) system** is used to remove heat from the reactor building closed cooling water (RBCCW) and the turbine building closed cooling water (TBCCW) systems. The RBCCW system sends cooling water to emergency equipment like the air conditioners inside the containment building. The TBCCW system sends cooling water to non-emergency equipment like the re-combiner in the offgas system. The SSW system circulates ocean water through heat exchangers in the RBCCW and TBCCW systems. The SSW removes the heat, allowing cooling RBCCW and TBCCW water to be reused for cooling. If tubes were to leak inside the RBCCW or TBCCW heat exchangers, the SSW water is supposed to leak into the plant instead of the potentially radioactively contaminated RBCCW or TBCCW water leaking out, but that differential pressure is not always maintained and SSW might be radioactively contaminated.

8. Radioactive contamination of the salt service water ("SSW") system, which is designed to contain only non-radioactive water but cools systems that contain radioactive liquid, is highly unlikely. Cox Decl. at ¶ 12.

PW - Disputes: (1) To repeat a portion of the above response: Our understanding is that the salt service water (SSW) system is used to remove heat from the reactor building closed cooling water (RBCCW) and the turbine building closed cooling water (TBCCW) systems. The RBCCW system sends cooling water to emergency equipment like the air conditioners inside the containment building. The TBCCW system sends cooling water to non-emergency equipment like the recombiner in the offgas system. The SSW system circulates ocean water through heat exchangers in the RBCCW and TBCCW systems. The SSW removes the heat, allowing cooling RBCCW and TBCCW water to be reused for cooling. If tubes were to leak inside the RBCCW or TBCCW heat exchangers, the SSW water is supposed to leak into the plant instead of the potentially radioactively contaminated RBCCW or TBCCW water leaking out, but that differential pressure is not always maintained and SSW might be radioactively contaminated.(2) "Highly unlikely" has no quantitative definition. How much "un-likeliness" is not enough – highly, extremely, or radically?

9. The buried pipes and tanks for the fuel oil system, the station blackout diesel generator system and the fire protection system do not contain radioactive materials, nor do they interact with any systems that contain radioactivity. Cox Decl. at ¶ 13.

PW – No Dispute: To the best of our knowledge, we do not dispute.

10. The piping in the standby gas treatment system would, during accident conditions, contain radioactively contaminated gas, but does not contain radioactively contaminated water. Cox Decl. at ¶ 13.

PW- Dispute: To repeat a portion of our response to Material Fact # 7: Our understanding is that the offgas system piping is used during normal operation to improve the performance of the condenser (e.g., to enable it to "draw" steam through the turbine better), the condenser is maintained at pressure below atmospheric pressure, as low as possible. The offgas system is used to suck air from the condenser to maintain it at a lower pressure than outside air pressure. Part of the offgas system includes a recombiner to match hydrogen and oxygen atoms to form water molecules. The non-condensibles (xenon, krypton, iodine, etc) are sent through charcoal beds and then released from the main stack vent. When the plant shuts down, radioactive water could collect in and leak from the offgas system piping. Again there is a failure to appreciate the importance of "by design" and when things go wrong. By letter dated July 31, 2006, the Pilgrim licensee informed the NRC about past leaks at Pilgrim involving radioactive liquids and materials. Among these reported leaks and spills was an event occurring on July 13, 1984, where "during a routine radiological survey of the Protected Area (PA), a discrete radioactive particle was found on the ground in front of the Augmented Offgas Building. The area was surveyed and the particle removed." It clearly was a prudent, responsible practice to survey the surfaces around the Pilgrim facility for radioactivity even though radioactivity was not supposed to or designed to be contaminating those surfaces. PW contends it is equally prudent, responsible practice to consider credible leaks of radioactive materials from sub-surface components.

11. The condensate storage system provides for station makeup needs and accepts condensate discharges to maintain appropriate condenser water level. Cox Decl. at ¶ 14.

PW- Dispute: Entergy leaves out pertinent parts to the story. The condensate storage tank (CST) has two functions. In event of an accident, the CST provides water that is delivered by various emergency pumps to the reactor vessel to compensate for water being lost through a broken pipe or whatever. During normal operation, the CST serves as a "surge tank." In BWRs like Pilgrim, steam produced in the reactor vessel spins the turbine/generator and gets turned back into water within the condenser. The water is pumped from the condenser to the reactor vessel to re-use in making more steam. The condenser is connected to the CST. When water level in the condenser drops, CST water flows in to restore the water level. When water level in the condenser gets too high, water flows to the CST to return to the desired water level. The CST water is radioactively contaminated. The radioactively contaminated water within the condensate system has already been involved in a leakage event at Pilgrim. By letter dated July 31, 2006, the Pilgrim licensee informed the NRC of a January 7, 1981, event at Pilgrim where two one-inch diameter valves were inadvertently left open on the condensate resin fill hopper for condensate demineralizer "B." Resin leaked out of the open valves and was carried towards a storm drain. Therefore the AMP has another function – prevent radioactive contamination from a leak in this system from migrating unmonitored offsite.

12. The condensate storage system buried piping is made of stainless steel and runs from the condensate storage tanks to the reactor core isolation cooling ("RCIC") and high pressure coolant injection ("HPCI") pumps. Cox Decl. at ¶ 14.

PW - Dispute: Entergy leaves out pertinent parts to the story by omitting the material fact that buried piping for the HPCI system pumps have repeatedly been the sources of uncontrolled, unplanned, and unmonitored releases of radioactively contaminated water into the ground. For example, the licensee of the Dresden nuclear plant in Illinois submitted a letter dated July 28, 2006, to the NRC reported leaks from buried HPCI piping 1994, 2004, and 2006. PW seeks to have all of the material facts about buried HPCI piping on the record, not merely a cherry-picked subset of the relevant facts.

13. The AMPs related to the condensate storage system buried piping are intended to preserve its capability to provide a source of water to the HPCI and RCIC systems so as to avoid the loss of plant safety functions. Cox Decl. at ¶ 14.

PW - Dispute: Entergy leaves out a pertinent point; the AMPs are to ensure the integrity of the piping – so that they do not leak or are not leaking.

14. The SSW functions as the ultimate heat sink for the reactor building closed cooling water and turbine building closed cooling water systems during plant operations. Cox Decl. at ¶ *15*

PW - Disputes: Irrelevant. The ASLB Order stated very clearly that these SSW pipes are within scope and material. As explained in our response to Material Fact 7 they may contain radioactive liquids If tubes were to leak inside the RBCCW or TBCCW heat exchangers, the SSW water is supposed to leak into the plant instead of the potentially radioactively contaminated RBCCW or TBCCW water leaking out, but that differential pressure is not always maintained and SSW might be radioactively contaminated. If the

pipes leak and flow unnoticed and unmonitored offsite, the public's health and safety is placed at risk.

15. The buried piping in the SSW is made of titanium and carbon steel and consists of piping from the intake structure as well as two discharge loops. Cox Decl. at ¶ 15. Both the titanium and carbon steel piping have external coatings and the carbon steel piping is lined internally with cured-in-place rubber pipe linings to protect against corrosion. Cox Decl. at ¶ 19, n.4, & ¶ 26.

PW -Dispute – Irrelevant, pertinent facts omitted. This has no bearing on measures to assure that Entergy would be capable of detecting and remedying leaks before they went offsite; and pertinent facts are omitted. For example, the discussion, at 26, states that, "a portion of the SSW discharge piping was replaced in 1999." No facts are provided to give confidence in the integrity of the portions not replaced. All we can conclude is that there has been corrosion. Entergy states at 26 that, "Under the program, the components are routinely inspected…" however no facts are provided on what "routinely" means. How often are they inspected; how extensive are the inspections - do they include the whole component, a segment, and precisely what per-cent of the whole is inspected? Nor do they explain what method was used in the inspection. Therefore to conclude, as they do, that the program has been "successful" to identify degradation from loss of material due to internal corrosion prior to the loss of function is a large and unsubstantiated overstatement. What it does is simply show that there has been corrosion; and indicates the importance of supplementing the aging management program with a monitoring well system to provide reasonable assurance to the public that contaminated water does not migrate offsite from leaks from increasingly aging components.

16. The following table summarizes the details of the buried tanks and pipes in systems that contain, or potentially contain, radioactive water within the scope of license renewal under 10 C.F.R. Part 54.

System	Intended function	Buried Material	Internal Environment	Potentially Radioactive
Condensate Storage	10CFR54.4(a)(1), (a)(2) and (a)(3)	Stainless steel	Treated water	Yes
Salt Service Water	10CFR54.4(a)(1), (a)(2) and (a)(3)	Carbon steel, Titanium	Raw water	Highly unlikely

Cox Decl. at ¶ 16.

PW - Dispute: We contend that the condensate storage tank, off-gas system piping, salt water service system is potentially radioactive. In addition the water storage tanks are at question; and there is no hard evidence provided by the applicant that there are not other buried pipes in scope that "may" have radioactive liquids under certain conditions. Please refer to PW response, Material fact 7.

C. PNPS AMPs for In-Scope Buried Pipes and Tanks that Contain or May *Contain Radioactively Contaminated Water*

17. PNPS implements the Buried Piping and Tanks Inspection Program, the Water Chemistry Control-BWR Program, the Service Water Integrity Program, and the One-Time Inspection Program to manage the effects of aging on buried piping and tanks that are within the scope of license renewal and subject to aging management review. Cox Decl. at ¶ 17.

PW- Dispute - Irrelevant. Entergy describes methods they use to try to prevent leaks; but Entergy has not demonstrated they have sufficient means to detect leaks if they occur. We know that even with the best intentioned efforts to prevent leaks that leaks can and do occur. NRC'S Groundwater Contamination (tritium) at Nuclear Plants-Task Force – Final Report, Sept 1, 2006, reviewed industry experience of groundwater contamination. They stated explicitly, at 3, that, "The events described...do not constitute a complete list of all events that may have occurred during this time period." They concluded that, " The task force did identify that under the existing regulatory requirements the potential exists for unplanned and unmonitored releases of radioactive liquids to migrate offsite into the public domain undetected" [at Executive Summary, ii]. We know that leaks can start and stop- only to reoccur again; or can continue at a low flow rate for extended periods. These and other leakage modes produce subsurface contamination that is virtually impossible to detect without the use of direct sampling methods such as monitoring wells.

18. The objective of the AMPs as applied to buried pipes and tanks is to maintain the pressure boundary of the buried pipes and tanks so as to ensure that the systems containing the buried pipes and tanks can perform their system intended functions in accordance with 10 C.F.R. §§ 54.4(a)(1), (a)(2) or (a)(3). Cox Decl. at ¶ 17.

PW- Dispute: As stated above to this same argument, there are multiple functions of the AMPs not simply a narrowly defined purpose as the applicant persists in repeatedly stating. The applicant fails to acknowledge that a purpose of the AMP is to assure the integrity of the system so that there are no unmonitored leaks from the system's pipes and unmonitored contamination offsite.

19. The Buried Piping and Tanks Inspection Program ("BPTIP") manages the effects of aging on the external surfaces of buried components through preventive measures to inhibit the corrosion of external surfaces of buried pipes and tanks exposed to soil, such as protective coatings applied to the external surfaces, and periodic and opportunistic inspections to manage the effects of external surface corrosion on the pressure-retaining capability of buried carbon steel, stainless steel, and titanium components. Cox Decl. at ¶¶ 18, 22-23.

PW- Dispute: The applicant describes what they plan to do; but we dispute that these are sufficient "preventative" measures to provide reasonable assurance that there will not be unmonitored releases offsite from leaks. The history of leaks nation-wide to date indicates that similar preventative measures have not always worked. And the identified leaks to date may be only the "tip of the iceberg." Without appropriately placed monitoring wells, no one knows, including the applicant, what has leaked, is leaking now or may leak at any time in the future. We know that there is no groundwater monitoring program at Pilgrim Station from the applicant's response to NEI's voluntary questionnaire. [Pilgrim Nuclear Power Station-Groundwater Protection-Data Collection Questionnaire, July 31, 2006, NRC Electronic Library, Accession ML062280602]. Further industry's "lessons learned" are based upon reactors operating within their original 40-year license. We are talking about a reactor operating until 2032 – operating a total of 60 years. We know that more things go wrong in the end period of a life-cycle – during the so-called "wear- out phase" [Pilgrim Watch, Motion to Intervene at 1.3.3]. Further, the Aging Management Program is untested. For example, phased array UT

program is, according to the licensee themselves, an untested program; the long-term effectiveness, life span, of the protective wraps is not certain, either. The applicant provided no documentation. The applicant does not provide detail either about more basic and important information. For example: what is the total length of the pipes in question; how many segments make up each component, particularly how many joints are there in the component; nor were we told the number of turns in each pipe and the angles of those turns. We understand that joints and turns are more susceptible to leakage. Are they treated differently and if so how? Insufficient facts are provided. The primary fact was stated in NRC's Groundwater Contamination (Tritium) At Nuclear Plants-Task Force – Final Report, Sept 1, 2006, Executive Summary at ii, "Portions of some components and structures are physically not visible to operators, thereby reducing the likelihood that leakage will be identified. Examples of such components include buried pipes and spent fuel pool."

20. The preventive measures employed at PNPS for buried pipes are in accordance with standard industry practice for installing external coatings and wrappings. Cox Decl. at ¶ 19.

PW - Dispute: Irrelevant. The standard industry practice for installing external coatings and wrappings has not been tested over the length of time the extended license will run nor in this precise environment on this particular reactor; and the fact that they install them in this manner provides no evidence that the coatings and wraps will prevent leaks or assurance to the public that our health and safety shall not be harmed. And the

applicant provides no hard evidence that standard industry practice for installing external coatings and wrappings is effective; in point of fact, this would not be possible because we have no idea how many leaks there are yet undiscovered where coatings and wraps have been installed.

21. Industry operating experience has shown that properly applied coatings will prevent the exterior degradation of components buried in the soil for extended periods of time absent unusually aggressive soil chemistry (which is not the case at PNPS) or damage during installation and maintenance. Cox Decl. at ¶ 20.

PW Dispute: Irrelevant. Again the public deserves monitoring wells for times where systems/components/practices do not operate according to design – for example, when coatings are applied improperly or wear out sooner than designed. The applicant provides no back-up evidence for its claims concerning coatings. How is "extended periods of time" defined – 2, 5, 10 years? How is "unusually aggressive soil chemistry" defined? This is not a quantitative term. Is Pilgrim's environment "unusually aggressive?" At 20, the applicant states that, "The effectiveness of properly applied coatings has also been confirmed by operating experience at PNPS during the excavation of buried piping for maintenance and modification activities." The applicant fails to describe exactly what their operating experience has been during the excavation of buried piping for maintenance and modification activities. For example: what is the total length of pipe, inclusive of number of segments, joints, angles in each system identified as having the potential for radioactive liquids? When were those sections installed; what

material was used to coat the section and when was the coating applied; and precisely when were all those sections examined? Absent more information, simple broad-brushed assurances are insufficient.

22. The effectiveness of properly applied coatings to prevent exterior degradation of buried piping is confirmed by operating experience at PNPS. PNPS examined external coatings on buried SSW buried piping and found the coatings to be in good condition with no external corrosion of the piping. Cox Decl. at ¶¶ 20-21.

PW- Dispute: The later portion of our response to 21, above, applies here. (1) The effectiveness of properly applied coatings to prevent exterior degradation of buried piping is not confirmed by operating experience at PNPS. In point of fact, without monitoring wells they do not know with any certainty what pipes have or have not leaked. (2) The key word is "properly applied" coatings. The public deserves assurance when things go wrong from personnel error not just assurance if everything goes according to design. (3) SSW inlet piping was replaced in 1995 and 1997; and portions of the SSW discharge piping were replaced in 1999. They claim, without providing any evidence whatsoever, that "these new materials and coatings have superior corrosion resistance compared to the original materials and coatings." However "superior corrosion resistance" is not a quantitative term – "superior" could mean anything. For example are these new materials and coatings superior to demonstrably inferior ones – up a notch but still not very good? Even if the coatings "appear" to be intact there is no reason to believe that a one time event from a pressure surge, for example, could not cause a leak; or that the coatings will continue to have "superior corrosion resistance" for 10 more years - until the next inspection. Also a very small leak might not be readily detectable by simple observation. The applicant states that, "portions of the SSW discharge piping were replaced in 1999" - what is the condition of the portions that they did not re-wrap and re-coat? More basically, there is no evidence that "lessons learned" on the SSW are

transferable to the other pipes. What this very limited "operating experience" demonstrates is not that the program in place is acceptable - but that there is corrosion and a demonstrated need for supplementing the AMP with monitoring wells and more frequent inspections.

23. Operating experience at PNPS demonstrates the sufficiency of the protection provided by the protective coatings used on buried pipes and tanks at PNPS. Cox Decl. at ¶¶ 22, 40.

PW - Dispute: Operating experience for the components within scope is very limited. SSW inlet: "PNPS examined external coatings on buried SSW buried piping and found the coatings to be in good condition." The LRA Section B.1.2 site specific historical experiences – Salt Service Water system (SSW) - states that,

> "...**SSW system has had leaks on the buried inlet** (screen house to auxiliary bays) piping due to internal corrosion. The original piping material was rubber-lined carbon steel wrapped with reinforced fiberglass, coal tar saturated felt, and heavy Kraft paper. The leaks were determined to be results of the rubber lining degrading from contact with sea water. These pipes were replaced in 1995 and 1997 with the same external and internal coating as for the original pipe." [emphasis added]

How applicable is the experience of the SSW inlet to other components under consideration – exactly what lesson was learned? The applicant provides no quantitative evidence. This tells us that salt water provides a corrosive environment; that the pipes were replaced awhile back with the same external and internal coatings so that they are likely to leak again; and, more broadly, that systems and components do in fact have deficiencies.

The LRA Section B.1.2 site specific historical experiences – Salt Service Water system (SSW) – goes on to describe the **SSW discharge,**

> "In addition, the SSW buried discharge piping (also rubber-lined carbon steel with external pipe wrapping) from the auxiliary bays to the discharge canal experienced severe internal corrosion due to failure of the rubber lining."

And,

> "Since then, the entire length of both SSW buried discharge loops have been lined internally with pipe linings cured in place-"B" Loop in 2001 and "A" Loop in 2003."

What this very limited "operating experience" demonstrates is not that the program in place is acceptable but that there is corrosion and a demonstrated need for more frequent inspections and monitoring wells added to the aging management program [Safety Evaluation Report with Open items Related to the Renewal of PNPS, Docket No. 50-293, 50-293 -"The LRA Section B.1.2 states that there is no operating experience for the new Buried Piping and Tanks Inspection Program,." [At 3-37]

24. The periodic and opportunistic inspection part of the PNPS BPTIP provides that (1) buried components will be inspected when excavated during maintenance; (2) an inspection will be performed prior to entering the period of extended operation, unless plant operating experience shows that an inspection occurred within the ten year period prior to extended operations; and (3) a focused inspection will be performed within the first 10 years of the period of extended operation, unless an opportunistic inspection occurs within this ten-year period. Cox Decl. at ¶ 23.

PW- Dispute: Pilgrim Watch acknowledges that this is the aging management plan but we dispute any implication that it will provide adequate assurance that public health and safety will be protected from 2012-2032. The applicant does not give a specific definition of what type of inspection will be required "prior to entering the period of extended operation." Will a yet untested UT array be sufficient, and if so what % of the components will be scanned; will a visual exam suffice and again what % of the component will be examined? And, the same questions apply to what "bar" is set in deciding that an inspection that occurred within the ten-year period prior to extended operations was sufficient to provide a "pass" so that an inspection is not required prior to re-licensing.

25. The purpose of the periodic and opportunistic inspections under the PNPS BPTIP is to ensure that the protective coatings are being maintained in place to protect against corrosion of the external surfaces of the buried components. If coatings on buried components are maintained, the coatings will prevent the soil from adversely affecting the exterior surface of the components such that they can continue to perform their intended function. Cox Decl. at ¶¶ 23-24.

PW - Dispute: Pilgrim Watch disputes that the periodic and opportunistic inspection will in fact ensure that the protective coatings are being maintained in place to protect against corrosion of the external surfaces of the buried components. Inspection only once in 10 years is not sufficient in our view and no evidence has been provided by Entergy to convince us otherwise. UT testing is an untested process; a visual inspection is no

guarantee either. No information is provided concerning the per-cent of the component that will be inspected and how that provides any assurance that the remaining sections coatings are not degraded or that those sections do not have a hole, or crack or leaking joint. Leaks can and do occur. It is virtually impossible to detect leaks, whether due to coating or any other cause, without supplementing these measures with direct sampling methods provided by monitoring wells.

26. Based on the PNPS plant-specific operating experience, the periodicity of periodic and opportunistic inspections under the PNPS BPTIP is sufficient to ensure that the protective coatings are being maintained in place to protect against corrosion of the external surfaces of the buried components and to maintain the intended functions of the buried components. Cox Decl. at ¶ 23.

PW- Dispute: (1) Pilgrim NPS has no groundwater monitoring program [Entergy response to NEI Groundwater Protection Data Collection Questionnaire, July 31, 2006, NRC Accession ML062280602]; therefore Entergy has provided no evidence that there were no leaks in the past, are no leaks now, will be no leaks in the future. (2) The plant specific operating experience is very limited; no support is provided that the "lessons learned" are transferable to the question at hand; and the minimal experience provided indicates that there have been problems.

NRC Safety Evaluation Report with Open items Related to the Renewal of PNPS, Docket No. 50-293, The LRA Section B.1.2 states that, "there is no operating experience for the new Buried Piping and Tanks Inspection Program." 3-37. NRC cites limited experience

with the inspection of buried piping, mainly on the fire water underground inspection system, specifically two instances iron piping fire water underground system. They report, "*This system, approximately 35 years old, consists of cement-lined malleable iron pipe, with mechanical joints and no history of significant leaks other than during two instances in 2001 and 2005. In the first, the 8 inch underground line...failed, the probable cause induced most likely by minor fabrication anomalies compounded by marginal installation techniques. When examined (not say how), this piping was found to be in very good external condition overall except for a small area of surface corrosion attributed to marginal installation techniques.*" No information is provided to convince us that this is representative of the pipes under consideration, in fact the pipe described is not made of the same material under consideration; does not contain radioactive contaminated water; they opine, not know, the cause of the problem nor explain how it was examined. NRC describes, "*In the second instance...due to congestion and the presence of the tank (installed after the piping) it was not possible to dig up the piping for examination to determine the cause of the failure - possibly related to the tank installation.*" No examination. Other site specific historical experiences – Salt Service Water system (SSW): "*...SSW system has had leaks on the buried inlet (screen house to auxiliary bays) piping due to internal corrosion. The original piping material was rubber-lined carbon steel wrapped with reinforced fiberglass, coal tar saturated felt, and heavy Kraft paper. The leaks were determined to be results of the rubber lining degrading from contact with sea water. These pipes were replaced in 1995 and 1997 with the same external and internal coating as for the original pipe.*" What this shows is the corrosive nature of a salt water environment; it does not provide evidence in support of

the Material Fact. In the second SSW example:" *In addition, the SSW buried discharge piping (also rubber-lined carbon steel with external pipe wrapping) from the auxiliary bays to the discharge canal experienced severe internal corrosion due to failure of the rubber lining. Since then, the entire length of both SSW buried discharge loops have been lined internally with pipe linings cured in place-"B" Loop in 2001 and "A" Loop in 2003."* What this very limited "operating experience" demonstrates is not that the program in place is acceptable but that there is corrosion and a demonstrated need for more frequent and comprehensive inspections supplemented by appropriately placed monitoring wells.

27. The Water Chemistry Control-BWR Program optimizes the water chemistry in the condensate storage system to minimize the potential for loss of material and cracking due to internal corrosion of the system by limiting the levels of contaminants in the condensate storage system that could cause loss of material and cracking. Cox Decl. at ¶ 25.

PW - Dispute: The issue here is that the water chemistry program is judged on the period of time that it has been in effect in the past, note that the licensee does not provide that time period; and we are looking forward to its effect upon perhaps a 50 or 60 year old component. Further the applicant states in non-quantitative terms that it "optimizes" and it "minimize(s)" the potential for loss of material and cracking – even they do not claim, or provide evidence, that it eliminates. And again we are concerned about what may

happen not by design or plan – for example as a result of personnel error or error in the water chemistry instrumentation.

28. The Water Chemistry Control-BWR Program is based on Electric Power Research Institute BWR water chemistry guidelines. The effectiveness of the Program is confirmed by industry and PNPS operating experience. Cox Decl. at ¶ 25.

PW - Dispute: same response at to Material Fact 27, above

29. Under the Service Water Integrity Program, the components of the SSW system are routinely inspected for internal erosion and corrosion and other aging mechanisms that can degrade the SSW system. This Program has been successfully implemented at PNPS to identify SSW degradation from loss of material due to internal corrosion prior to the loss of its intended function. Cox Decl. at ¶ 26.

PW- Dispute: Please refer to comments to Material Fact 23. Entergy keeps describing methods that they use to reduce – not prevent - the risk of leaks but there is nothing there to detect leaks if and when they occur. And as far as methods to reduce the risk, sufficient facts are not provided. For example "routinely inspected" does not provide enough detail to assure that inspections occur with sufficient frequency or are complete enough to identify a problem before there is a leak. The discussion at 26 describing the inspection methods does not provide enough detail to assure that the inspections will identify a problem before there is a leak. The public deserves better and wants better assurance as

evidenced by the vote in Duxbury at Annual Town Meeting, 2007 that approved an article stating that,

> "That the Town of Duxbury will advocate that the Pilgrim Nuclear Power Station's aging management plan, now and in the future, shall consist of more effective methods to inspect and monitor for leaks of radioactive water from systems and components, including underground pipes and tanks, including the proper placement and regular inspection of monitoring wells between the reactor and Cape Cod Bay in order to better protect public health, safety and our marine aquaculture."

30. The One-Time Inspection Program confirms the absence of significant aging effects for the internal surfaces of piping though a visual inspection of a representative sample of the interior piping surface which will be performed prior to the period of extended operation. The One-Time Inspection Program will be implemented to ensure the effectiveness of the Water Chemistry Control-BWR Program. Cox Decl. at ¶ 27.

PW Dispute: (1) The "One-Time Inspection Program" may tell something about the condition now but not about what will happen on the increasingly aging material 1-10 days, months, or years after the inspection. (2) It inspects internal services, but not external surfaces – evidence to convince that wraps and coatings are sufficient for external surfaces is not provided. (3) Sufficient facts to support those inspections are in fact "of a representative sample of the interior piping surface" – insufficient facts to draw conclusions regarding the entire component.

RESPONSE TO THE ISSUES RAISED IN PILGRIM WATCH CONTENTION 1

31. The purpose of AMPs implemented under 10 C.F.R. Part 54 is to ensure that the intended functions of in-scope systems and components, as identified in the scoping criteria of 10 C.F.R. § 54.4, are maintained for the period of extended operation. Cox Decl. at ¶ 29.

PW Dispute: We are going over old ground. The ASLB accepted Contention 1 and determined that Contention 1 was within the scope and material. For example it is clear that the SW system is used to remove heat from the reactor building closed cooling water (RBCCW) and the turbine building closed cooling water (TBCCW) systems. Therefore it is important that there are not holes in the pipes to interfere with the flow of water in or out; and at the same time it is clear that it is important that radioactively contaminated water that may enter the system does not leak into the environment and pose an unknown threat to the public. Therefore the integrity of the piping serves two very important purposes.

32. The objective of AMPs as applied to buried pipes and tanks is to maintain the pressure boundary of the buried pipes and tanks so as to ensure that systems containing these components can perform their system intended functions in accordance with 10 C.F.R. §§ 54.4(a)(1), (a)(2) or (a)(3). Cox Decl. at ¶¶ 30, 33, 35.

PW - Dispute: One function is to maintain the pressure boundary of the buried pipes and tanks so as to ensure that systems containing these components can perform their system's intended functions; but that is not the only function – as explained in the response to Material Fact 31, above.

33. The purpose of the AMPs is not to monitor or detect radioactive leaks from underground pipes and tanks that do not affect intended license renewal functions of the systems or to protect groundwater from contamination. Cox Decl. at ¶¶ 30, 33, 35.

PW - Dispute: The ASLB Order stated that,

> We would also note that the subject of "monitoring" is not irrelevant merely because some monitoring may be part of operational activities on a continuing basis. The fact that some "monitoring" may occur as part of ordinary plant operations does not exclude it from license renewal, as illustrated, for example, by section A.2.1.10 of the Application, concerning the "Diesel Fuel Monitoring Program. [ASLB Order at 66]

34. The BPTIP AMP solely concerns the exterior surfaces of buried pipes. *Cox Decl. at ¶ 32.*

PW - Dispute: (1) One function of the BPTIP AMP concerns the exterior surfaces of buried pipes; however this is not the only function. The concern is on the integrity of the entire component – inside and outside, so that it will do its job and not leak and release unknown quantities of radionuclides, for an unknown period of time, into the environment. (2) Nor has Entergy established at what set point a small leak could go unnoticed without noticeably affecting pressure boundary.

35. Wholly separate programs are established for managing potential degradation of the interior surfaces of the buried pipes and tanks, including the Water Chemistry Control-BWR Program, the Service Water Integrity Program, and the One-Time Inspection Program. Cox Decl. at ¶¶ 25-27, 32-34.

PW - Dispute: The above programs are part of the effort to maintain the components integrity. The Water Chemistry Control-BWR Program, the Service Water Integrity Programs, in one fashion or another, exist at other reactors - some of whom have been identified as having leaked offsite. Although instructive, we know that no two reactors or two environments are the same; and we appreciate that personnel error, design deficiencies and component failures occur. Therefore, in the hopes not to join the growing list of reactors that now have documented unmonitored offsite groundwater contamination, we ask that the aging management program be supplemented by a more vigorous inspection schedule and that a sufficient number of appropriately located and tested monitoring wells installed.

36. The objective of the BPTIP, the Water Chemistry Control-BWR Program, the Service Water Integrity Program, and the One-Time Inspection Program as applied to buried pipes and tanks is to maintain the pressure boundary of the buried pipes and tanks so as to ensure that the systems containing the components can perform their intended functions in accordance with 10 C.F.R. §§ 54.4(a)(1), (a)(2) or (a)(3), and not to prevent or detect small radioactive leaks that do not affect system functions or to protect groundwater from radioactive contamination. Cox Decl. at ¶ 33.

PW - Dispute: Material Fact after Material fact restates the same issue so that we must apologize for repetitive responses. (1) Maintaining pressure boundary is one function of the systems listed; however this is not the only function. The concern is to maintain the integrity of the entire component – inside and outside, so that it will do its job and not leak and release unknown quantities of radionuclides, for an unknown period of time, into the environment. (2) Entergy has not established either at what set point a small leak

could go unnoticed without noticeably affecting pressure boundary. (3) The ASLB, Order, October 2006, stated at 66 that the subject of "monitoring" is not irrelevant.

37. Pilgrim is a boiling water reactor ("BWR"), and its spent fuel pool is above grade within the reactor building, which makes a leak from the spent fuel pool readily detectable by plant personnel and unrelated to AMPs for buried pipes and tanks. Cox Decl. at ¶ 37.

PW - No Dispute: Pilgrim Watch appreciates that the one face of the pool where a leak might be difficult to detect is the face that abuts the reactor shield wall. Leakage at this point could conceivably lead to corrosion of the steel containment vessel; however, that is a different issue than buried pipes and tanks to the best of our current knowledge.

38. The radioactive leakage events at Palo Verde, Braidwood, and Byron had nothing to do with the leakage of buried components that were in contact with a soil environment and had experienced aging as a result of this environment. Cox Decl. at ¶ 38 & note 8.

PW -Dispute: Irrelevant. True the, "leakage events at Palo Verde, Braidwood, and Byron had nothing to do with the leakage of buried components that were in contact with a soil environment and had experienced aging as a result of this environment." However they were cited in Pilgrim Watch's Motion to Intervene as examples of identified recent events in several U.S. nuclear facilities that undetected leaks of radioactive materials have occurred and can go unnoticed offsite. Dresden [August 2004, January 2006) and Point Beach (1999) provide examples of known leaks from pipes. Further we appreciate that the list of plant events compiled by the NRC Groundwater Contamination at Nuclear Power Plants-Final Report, September 1, 2006 is not necessarily definitive; and further we recognize that each reactor is different, each site is unique, and personnel error is a wild card. The real lesson is, as stated in the Executive Summary at ii,

"The task Force did identify that under the existing regulatory requirements the potential exists for unplanned and unmonitored releases of radioactive liquids to migrate offsite into the public domain undetected."

Some of the elements that they listed that lead to this conclusion were:

- "relatively low leakage rates may not be detected by plant operators, even over an extended period of time;"
- "Portions of some components or structures are physically not visible to operators, thereby reducing the likelihood that leakage will be identified. Examples of such components include buried pipes and tanks."
- "Contamination in groundwater onsite may migrate offsite undetected."

39. The Palo Verde event identified in March 2006 involved tritium found in a water sample from a test hole caused by gaseous releases from an evaporator system prior to the mid 1990s which had been condensed by rain, and the resulting water runoff on the site was absorbed into the ground and also ran into the storm drain system. Cox Decl. at ¶ 38.

PW- Dispute: Irrelevant. Same response as provided by PW to Material Fact 38, above.

40. *The Braidwood and Byron events were caused by leakage through vacuum breaker valves on a line that periodically transported liquid radioactive effluent discharges. The PNPS buried piping containing radioactively contaminated water includes no vacuum breaker valves or similar valves that discharge to the environment. Cox Decl. at ¶ 38 & note 8.*

PW - Dispute: Irrelevant. We do not dispute that The Braidwood and Byron events were caused by leakage through vacuum breaker valves on a line that periodically transported liquid radioactive effluent discharges and that ; however our response is the same as to Material Fact 38

41. *The leakage event at the Dresden facility concerned leakage from the non-safety-related condensate storage system buried aluminum piping that supplies the RCIC and HPCI systems. At PNPS, the condensate storage system is safety-related, and its piping is made of corrosion resistant stainless steel. Cox Decl. at ¶ 39.*

PW- Dispute: Irrelevant. We do not dispute that Dresden facility's leakage is not an exact replica of what could happen here; as stated above all reactors and reactor sites are unique. However our response is the same as to Material Facts 38, 39 & 40. Again, the real lesson is as stated in the NRC Groundwater Contamination at Nuclear Power Plants-Final Report, September 1, 2006, Executive Summary at ii,

> "The task Force did identify that under the existing regulatory requirements the potential exists for unplanned and unmonitored releases of radioactive liquids to migrate offsite into the public domain undetected."

42. None of the reported industry events of radioactive leakage are identified as having conditions that are analogous or relevant to the configuration or design of the buried piping containing radioactively contaminated water at PNPS. Cox Decl. at ¶¶ 37-40 & note 9.

PW - Dispute: Irrelevant. We do not dispute that the reported industry events of radioactive leakage are not exact replicas of what could happen here; as stated above many times - all reactors and reactor sites are unique. However our response is the same as to Material Fact 39, 40 & 41; and we apologize for repeating. However the Material Facts themselves are very repetitive. Again, the real lesson is as stated in the NRC Groundwater Contamination at Nuclear Power Plants-Final Report, September 1, 2006, Executive Summary at ii,

"The task Force did identify that under the existing regulatory requirements the potential exists for unplanned and unmonitored releases of radioactive liquids to migrate offsite into the public domain undetected."

And as stated in response to Material Fact # 4, the topography of the Pilgrim site is such that, were a leak to develop in an underground pipe or tank, the contaminated water would migrate seaward and drain into the ocean [Pilgrim Nuclear Power Station Groundwater Protection Questionnaire Response, Question 2, NEI, July 31, 2006, NRC Accession Number ML 062280602]. Once in the Bay, contaminants can not be easily identified or retrieved; and then they can impact the environment by bioaccumulation in marine material and later re-suspension into the air from beaches. Unique characteristics of Pilgrim's topography also must be considered.

43. The operating experience review conducted for the PNPS license renewal application identified no occurrences of degraded buried piping containing radioactively contaminated water. Cox Decl. at ¶ 40.

PW - Dispute: We do not dispute the fact that the operating experience review conducted for the PNPS license renewal application identified no occurrences of degraded buried piping containing radioactively contaminated water because, and this is the issue, the operating experience review is limited and does not provide information required to provide any assurance to predict whether degradation would not occur in the future or is not occurring at sections not tested now. Pilgrim Station does not currently have a groundwater-monitoring program to say with any degree of confidence that there have not been leaks; are not leaks now; or will not be leaks tomorrow.

44. *NRC Bulletin 88-05 alerted utilities to potential counterfeit and substandard pipe fittings and flanges, and the previous PNPS owner and operator identified, located and*

remediated, as appropriate, any counterfeit and substandard pipe fittings and flanges at PNPS. Cox Decl. at ¶ 44.

PW - Dispute: (1) "As appropriate" does not answer the question of whether all counterfeit/ substandard pipe fittings, flanges parts were replaced in the pipes in question – nor does it answer if substandard parts and components in systems that could leak into the pipes/tanks under consideration were replaced so as not to leak into pipes that by design would not normally have radioactive liquids. In other words it is important to take a step back to systems that feed into the pipes/tanks under consideration. (2) The NRC Groundwater Contamination at Nuclear Power Plants-Final Report, September 1, 2006, Task Force at Executive Summary, ii pointed out that,

> "Some of the power plant components that contain radioactive liquids that have leaked were constructed to commercial standards, in contrast to plant safety systems that are typically fabricated to more stringent requirements. The result is a lower level of assurance that these types of components will be leak proof over the life of the plant"

This brings up three important considerations. A) Are the pipes and fittings "constructed to commercial standards, in contrast to plant safety systems that are typically fabricated to more stringent requirements?" B) What counterfeit and substandard pipe fittings and flanges in the piping under question were not remediated - so that we now may have an even lower level of assurance that these pipes will not leak? C) The Task Force warned that, "The result is a lower level of assurance that these types of components will be leak proof over the life of the plant" – that was for a reactor life of 40 years, not 60 years.

PILGRIM WATCH - CONCLUSION

Entergy fails to establish that a genuine issue of material dispute has ceased to exist. Since the burden of proof is on the proponent of the motion, the evidence submitted must be construed in favor of the party in opposition thereto, who receives the benefit of any favorable inferences that can be drawn. *Sequoyah Fuels Corp. and General Atomics (Gore, Oklahoma Site Decontamination and Decommissioning Funding), LBP-94-17, 39 NRC 359, 361 (1994).*

Pilgrim Watch has responded to Entergy's Motion with expert, factual, and documented affirmation of the issues brought forward in Contention 1 and on point rebuttal of Entergy's pleading. An expert declaration is provided by Dr. David P. Ahlfeld, Professor of Civil and Environmental Engineering, University of Massachusetts, Amherst and an official record of an on point vote taken at the Town of Duxbury, Annual Town Meeting, March 10, 2007.

If there is any possibility that a litigable issue of fact exists or any doubt as to whether the parties should have been permitted or required to proceed further, the motion for summary disposition must be denied. *General Electric Co. (GE Morris Operation Spent Fuel Storage Facility), LBP-82-14, 15 NRC 530, 532 (1982); Safety Light Corn. (Bloomsburg Site Decommissioning and License Renewal Denials), LBP-95-9,41 NRC 412449 n.167) citing Anderson v. Liberty Lobby. Inc., 477 US. 242, 248 (1986).*

Indeed there is a genuine dispute on the facts brought forward by the applicant. Pilgrim Watch concludes with The NRC Groundwater Contamination Task Force that,

> The NRC should require adequate assurance that leaks and spills will be detected before radionuclides migrate offsite via an unmonitored pathway. [NRC Groundwater Contamination at Nuclear Power Plants-Final Report, September 1, 2006, Task Force, recommendation (6) at 22].

We believe that 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 may contain radioactively contaminated water, because it does not provide for monitoring wells that would detect leakage. Pilgrim Watch's requests are simple, straightforward and not expensive. We ask the ASLB to require adding a supplement to the Aging Management Plan that will include more frequent inspections; and installation of an adequate number of appropriately placed monitoring wells - tested on a reasonable schedule for the range of radionuclides that could be expected to be in the liquid, and reports made public.

This is not a big step financially for Entergy by any stretch of the imagination; but a very big step to protect the public and to give the public peace of mind and confidence that the industry is doing what it is supposed to be doing. The importance of this added assurance to local citizens is evidenced by the vote of Annual Town Meeting, Town of Duxbury, attached.

Respectfully submitted,

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June 27, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before The Atomic Safety And Licensing Board

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

Docket # 50-293-LR

June 18, 2007

DECLARATION OF DAVID AHLFELD, PhD, PE IN SUPPORT OF PILGRIM WATCH'S RESPONSE OPPOSING ENTERGY'S MOTION FOR SUMMARY DISPOSTION OF PILGRIM WATCH CONTENTION 3

1. I am presently a Professor in the Department of Civil and Environmental Engineering at the University of Massachusetts, Amherst. I have taught, conducted research and worked on projects in the area of groundwater flow and contaminant transport in the subsurface for over 20 years.

2. The Pilgrim facility has several components from which radioactive contaminants could leak into the subsurface. These include the condensate storage system, offgas system piping, the salt service water system and perhaps others. Entergy describes the several methods they use to prevent leaks from occurring, however, Entergy has not demonstrated that they have sufficient means of detecting leaks if they occur. Decades of experience with subsurface facilities, much of it since Pilgrim was constructed, indicates that, even with the best-intentioned efforts of leak prevention, leaks of contaminants can and do occur. There are numerous instances of this across many industries and examples at nuclear power plants. Leakage can occur for a period and then stop or it can continue at a low flow rate for an extended periods. These and other leakage modes produce subsurface contamination that is virtually impossible to detect without the use of direct sampling methods such as monitoring wells. This observation is not predictive of any particular site, but, rather, an assertion that no site, including Pilgrim, can guarantee that leaks will not occur regardless of the care taken in designing preventative procedures.

3. The Pilgrim site is underlain by materials that include glacial outwash sands and gravels. It is likely that the groundwater flow direction is generally from the plant facilities towards Cape Cod Bay. It is also likely that any radioactive contaminants that might leak from plant facilities will migrate through the subsurface and enter the waters of the Bay where they could pose a threat to public health and safety.

4. The use of monitoring wells as part of a leak detection system is commonplace in the United States. Monitoring wells are routinely used at landfills, subsurface fuel tanks and other facilities, such as nuclear power plants, where leaks of contaminants into the subsurface are possible.

5. Placement of monitoring wells and the frequency at which they are sampled depends upon the possible locations of leaks and the characteristics of the groundwater flow that would convey the contaminant from the site. While the general groundwater flow behavior mentioned in paragraph 3 can be inferred from regional behavior, virtually nothing is known about the detailed groundwater conditions at the Pilgrim site. Entergy has not brought forward the site specific data needed to make even a rudimentary characterization of groundwater flow direction on the site. The direction of flow in the horizontal plane and the tendency of groundwater to move upwards or downwards at a site must be understood in detail before a proper monitoring system can be designed. The process for designing an appropriate monitoring system for Pilgrim should include a detailed site characterization study.

I declare that under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

David P. Ahlfeld, PhD, PE

DECLARATION – DR DAVID P. AHLFELD

Biographical Sketch

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II. EDUCATION

Humboldt State Univ., Arcata, California B.S. in Environmental Resources Engineering,1983
Princeton University, M.A. in Civil Engineering, 1985

Princeton University Ph.D. in Civil Engr. and Oper. Research, 1983-1987

Academic Appointments

Professor, Department of Civil and Environmental Engineering, University of Massachusetts, September 2004 to present.
Associate Professor, Department of Civil and Environmental Engineering, University of Massachusetts, January 1998 to September 2004.
Associate Professor, Department of Civil and Environmental Engineering, University of Connecticut, September 1994 to January 1998.
Assistant Professor, Department of Civil Engineering, University of Connecticut, January 1988 to August 1994.
Lecturer, Department of Civil Engineering and Operations Research, Princeton University, Spring semester 1987 and Spring semester 1988

Selected Recent Publications

M.G. Kennedy, D.P. Ahlfeld, D.P. Schmidt, J.E. Tobiason, "Three Dimensional Modeling for Estimation of Hydraulic Retention Time in a Reservoir", in press, Journal of Environmental Engineering.

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ANNUAL TOWN MEETING
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73 ALDEN STREET,
DUXBURY, MA

The meeting was called to order by the Moderator at 9:05am, recessed for lunch at 12:15pm, reconvened at 1:15pm, recessed at 5;05pm until Monday at 7:30pm and adjourned sine die at 10:20pm all at the Duxbury Performing Arts Center

Article 38-Pilgrim Aging Management Plan-Moved and seconded that the town vote to approve the matter set forth in Article 38:
"That the Town of Duxbury will advocate that the Pilgrim Nuclear Power Station's aging management plan, now and in the future shall consist of more effective methods to inspect and monitor for leaks of radioactive water from systems and components, including underground pipes and tanks, including the proper placement and regular inspection of monitoring wells between the reactor and Cape Cod Bay in order to better protect public health, safety and our marine aquaculture. The Town Clerk of Duxbury shall forward the text of this Article to the Town of Duxbury's State and Federal delegations, to all Select Boards within the Emergency Planning Zone of Pilgrim NPS, the Nuclear Regulatory Commission and Entergy Corp., so that the intent of the Citizens of Duxbury is widely known. Motion carried

A true copy, Attest:
Nancy M. Oates

Nancy M. Oates
Duxbury Town Clerk

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 June 27, 2007

CERTIFICATE OF SERVICE

I hereby certify that the foregoing Pilgrim Watch Answer Opposing Entergy's Motion for Summary Disposition of Pilgrim Watch Contention 1 has been served this 27th day of June, 2007 by electronic mail and by U.S. Mail, first class to each of the following:

Administrative Judge
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US NRC
Washington, DC 20555-0001
amy@nrc.gov

Administrative Judge
Paul B. Abramson
Atomic Safety and Licensing Board
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Administrative Judge
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Secretary of the Commission
Attn: Rulemakings and Adjudications Staff
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Mary Lampert

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