UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of Docket # 50-293-LR

Entergy Corporation

Pilgrim Nuclear Power Station

License Renewal Application January 19, 2011

Affidavit of Paul M. Blanch

I, Paul Blanch hereby declare under penalty of perjury that the following is true and correct.

1. I have been retained by Pilgrim Watch to provide expert services in connection with the above captioned matter, an application to add 20 years to the operating license of Pilgrim Station.

Experience

2. Beginning in 1964, I served in the U.S. Navy as both a nuclear reactor operator and electric plant operator on *Polaris* class submarines for seven years. These submarines typically were at sea for extended tours of duty. During my Navy service, I and my fellow crew members

were routinely in close proximity to the submarines' nuclear reactors that powered the vessels whether they were under the sea or on the surface.

3. As a qualified Reactor and Electric Plant Operator, I was responsible for the operation of the reactor and supporting safety systems including, piping, valves, radiation monitoring systems, chemical monitoring systems, reactor protection, instrumentation and control systems, cable and cable termination systems, turbines, generators, power supplies, inverters, breakers, switchgear, battery chargers, motor and steam-powered electric generators (AC and DC), and transformers and other components and systems required to support the safe operation of the submarine's nuclear power plant.

4. During my Navy career and my commercial nuclear power plant efforts I had firsthand experience with inaccessible dry and submerged power, control and instrumentation cables. I conducted testing and replacement of vital cables that were degraded due to submergence and age related degradation. Prior to cable replacement I personally tested potentially damaged cables, replaced damaged/degraded cables and conducted subsequent cable testing under fully loaded (+10%) conditions for the expected duration of needs.

5. Oftentimes we conducted routing electronic testing of cables with satisfactory results, yet when the cable was "fully loaded" and run for a short period of time, cable failures often resulted. One event occurred while on patrol where a cable failure resulted in a fire disabling some safety systems.

6. I graduated from the U.S. Navy Electronics Technician School in 1964; the U.S. Navy Nuclear Power School, in 1966; and the U.S. Navy Submarine School, in 1968.

7. As part of my Navy duties, I was certified as an operator/instructor at the Navy prototype reactor (S1C) in Windsor Locks, Connecticut. I instructed Navy officers and enlisted personnel on reactor operations and maintenance including the subjects of reactor systems and electrical theory related to nuclear systems, power generation, emergency core cooling systems, emergency power systems, diesel generators, water supplies and all other systems required for the operation of the nuclear reactor.

8. I received an honorable discharge from the Navy in 1971. In 1972, I received a Bachelor of Science in Electrical Engineering from the University of Hartford. This curriculum included numerous courses in thermal and mechanical engineering.

9. I have more than 45 years of engineering, design, operations, maintenance, engineering management, and project coordination experience for the construction maintenance and operation of nuclear power plants. This includes positions at Northeast Utilities that involved in the design, construction, operation, and maintenance of Millstone Units 1, 2, and 3 and Connecticut Yankee (Haddam Neck). During this period, I was under the direction of the Nuclear Engineering Department within Northeast Utilities. My personnel participated in the development of industry Qualification of Electrical Equipment (EEQ)under 10 CFR 50.49 programs. I personally reviewed the adequacy of EEQ programs for Millstone Units 2 and 3 and witnessed various testing conducted to assure electrical equipment met the design and testing requirements of 10 CFR 50.49.

10. I have also been employed by Consolidated Edison and Entergy at Indian Point Unit 2 as an advisor to the Chief Nuclear Officer (CNO) at that facility. I served in a similar position at Maine Yankee reporting to the CNO of Maine Yankee Atomic Power Company.

11. My duties at Northeast Utilities included piping system designs and also all Instrument and control systems. I also served as Nuclear Operations Engineer providing liaison services between the NU headquarter and Millstone Unit 2 responsible for coordination of all system design, operation and backfits of operating systems.

12. I am a registered professional engineer in the State of California. Certificate Number 2235 (currently inactive)

13. I have actively participated in industry standards writing activities with the American Nuclear Society (ANS), Instrumentation Society of America (ISA), and the Institute of Electrical and Electronics Engineers, Inc. (IEEE) for use by the nuclear industry.

14. I have been employed as a contractor for the Electric Power Research Institute (EPRI) for the development of computerized monitoring systems for nuclear power plants including monitoring the performance of safety systems and devices including pressure and level monitoring systems.

15. I have been engaged as a contractor to Nuclear Energy Institute (NEI, previously NUMARC) to attempt to educate Chief Nuclear Officers on the attributes of a Safety Conscious Work Environment (SCWE).

16. In 1993, I was named "Engineer of the Year" by Westinghouse Electric and Control magazine for my efforts in identifying the subtle failures of active electrical devices such as pressure, level, and flow transmitters and indicators. These failures included generic design deficiencies of piping and mechanical systems in reactor level monitoring systems.

17. I am an expert witness for the State of New York for Inaccessible Cables however my comments contained herein do not/may not reflect those of the State of New York.

18. Absent from the AMP is a requirement to perform a thorough subsurface hydrological-geological survey over the entire site to determine groundwater flow today as it relates to inaccessible Non-EQ cables within scope; to compare those results to the original Dames and Moore 1967 hydro study to see if locally adverse conditions are more severe than were anticipated when the plant was originally designed. Further, a requirement to follow up with regular subsequent scheduled subsurface surveys to track changes in groundwater flow and tides expected from, for example, onsite construction or impacts from global warming changes, 2012-2032.

19. National Electrical Manufacturers Association (NEMA's) position is clearly stated as follows:

> *If it is suspected that the water has unusual contaminants, such as may be found in some floodwater, the manufacturer should be consulted before any decision is made to continue using any wire or cable products.*

20. This is NEMA's position for residential, industrial and commercial facilities and it would be logical to have Nuclear Power plants comply with these minimum standards. I am not aware if the Entergy has consulted with its numerous wire and cable suppliers to receive concurrence with for Entergy's "proven" testing methodology.

21. Wire and Cable exposed to floodwaters should be replaced to assure a safe and reliable electrical system. When wire and cable products are exposed to water or excessive moisture, the components may be damaged due to mildew or corrosion. This damage can result in insulation or termination failures. The problem can be more severe if the components have been subjected to salt water during hurricanes, etc., or inland flooding where there may be high concentrations of chemicals, oils, fertilizers, etc. such as at the Pilgrim location.

> *Wire and cable that is listed for dry locations only, such as NM-B, should be replaced if it has been exposed to floodwater. NM-B cable contains paper fillers that can pull contaminated water into the cable, which can cause premature cable failure. Flood damaged cable should be replaced to assure a safe and reliable installation.*
>
> *Products listed for wet locations, such as THWN and XHHW, may be suitable for continued use if no contaminates are present in the cable. There may be problems that show up later because of corrosion of the conductor. This could result in overheating of the conductor. If the ends of a conductor have been exposed to water, the cable may be purged to remove the water. An insulation resistance test should be conducted before the cable is energized.*
>
> *All wire or cable products that have been exposed to contaminated floodwater need to be examined by a qualified person, such as an electrical contractor, to determine if the cable can be re-energized. Flood damaged cable may not fail immediately when energized. It may take months for the cable to fail due to damage caused by floodwaters*
>
> *.http://www.southwire.com/support/GuidelinesForHandlingWaterDamagedElecWireAndCable.htm*

22. (NEMA) the independent experts for electrical standards including the National Electric Code (NEC) adopted by every State in the USA states the following:

> *"When any wire or cable product is exposed to water, any metallic component (such as the conductor, metallic shield, or armor) is subject to corrosion that can damage the component itself and/or cause termination failures. If water*

remains in medium voltage cable, it could accelerate insulation deterioration, causing premature failure. Wire and cable listed for only dry locations may become a shock hazard when energized after being exposed to water. Any recommendations for reconditioning wire and cable in Section 1.0 are based on the assumption that the water contains no high concentrations of chemicals, oils, etc. If it is suspected that the water has unusual contaminants, such as may be found in some floodwater, the manufacturer should be consulted before any decision is made to continue using any wire or cable products.
http://www.nema.org/download.cfm?docId=3719&filename=/Evaluating%20Water-damaged%20Electrical%20Equipment_final.pdf

23. Pilgrim is located adjacent to Cape Cod Bay; therefore the groundwater has very high corrosive salt concentrations in the groundwater which will likely accelerate the degradation of cables in contrast to those nuclear plants located away from coastal areas. The risk of common mode failure of submerged cables at Pilgrim is significantly greater than most US nuclear plants. The submerged cables are not located in a mild environment as demonstrated by actual findings of flooded cables.

24. Another expert expresses his opinion as follows:

"In the normal electrical distribution system, the performance ability of electrical equipment and components is primarily dependent on clean, corrosion-free conductive contact surfaces and by the equipment's dielectric insulation capabilities," explains John Minick, field representative for the National Electrical Manufacturers Association *(NEMA). "Water-damaged equipment, whether through floodwaters or other means, negates that ability and raises the risk of future equipment failure and possibly fire and shock hazards to unknown levels. Expedience and the cost of rebuilding are certainly key factors in helping people regain a sense of normalcy after disasters such as hurricanes and floods, but the possible cost concerning property loss through fire and deaths through shock hazards that may be created as a result of the misuse of water-damaged electrical equipment has to be of equal importance."*
"We see damaged outlets, circuit breaker panels, air conditioning units ruined by water," the contractor says. "All metal items are corroded, including copper and aluminum cables. White jackets of Romex cable have turned black

> *from the brackish waters, and long after water subsided, you can squeeze water from the cable.*
>
> ***"It is absolutely critical that these components be replaced," he emphasizes. "Connecting power to an electrical system containing them poses a serious fire hazard and other risks.**" [Emphasis added]*
>
> *"Contaminated water that oxidizes metal contact points will increase resistance," he continues. "This resistance will generate heat directly in proportion to the amount of current that flows through the oxidized metal. The more heat that is generated, the more resistance is increased. This 'snowballing' effect can lay dormant until an appliance is used or until loads are increased across a contact point, thereby becoming a fire hazard some time after the electricity is turned on." NEMA and other industry organizations agree that flood-damaged components should be replaced.* http://www.lowesforpros.com/always-replace-water-damaged-electrical-components

25. Entergy's License Renewal Application is committed to implementing GALL, Revision 2 and states:

> *The testing must be a proven method for detecting deterioration of the insulation system due to wetting, such as power factor, partial discharge, or polarization index, or other testing that is state-of-the-art at the time the test is performed. Id. at XI.E-7. Entergy's Application committed to implement these GALL programs, making no exceptions.*

26. Implementation of a program consistent with the vague guidance of the GALL revision provides no assurance that the proposed program is in compliance with NRC regulations and industry standards. Gall must clearly recognize these cables must be addressed under the requirements of 10 CFR 50.49 as they are not located in a mild environment as originally anticipated in the design.

27. On January 7, 2011 Entergy submitted completely new information in a supplement to its License Renewal Application addressing a program for a program to monitor the condition of Low Voltage Cables. This new information is pasted below:

Low-Voltage Cables

Due to industry concerns regarding inaccessible power cables, Entergy is providing the following information enhancing its aging management program for non-EQ inaccessible medium-voltage cables to include low-voltage (400 V to 2 kV) cables, increase the inspection and testing frequencies of these cables, and describe how relevant OE is used to assure program effectiveness.

Inaccessible low-voltage power cables (400 V to 2 kV cables) that perform a license renewal intended function and are potentially exposed to significant moisture will be included in this aging management program (AMP) to address the effects of moisture on the cable insulation.

Entergy will expand the scope of the program described in LRA Section B.1.19 (Non-EQ Inaccessible Medium-Voltage Cable Program) to include inaccessible 400 V to 2kV cables with a license renewal intended function. Inaccessible cables will be tested for degradation of the cable insulation at least once every six years. A proven, commercially available test will be used for detecting cable insulation deterioration for inaccessible low-voltage cables potentially exposed to significant moisture, such as dielectric loss (dissipation factor/power factor), AC voltage withstand, partial discharge, step voltage, time domain reflectometry, insulation resistance and polarization index, line resonance analysis, or other testing that is state-of-the-art at the time the test is performed. Entergy will evaluate unacceptable test results to determine the need for increasing the testing frequency.

Inspections for water in manholes containing inaccessible cables in the scope of this program will be performed at least annually, with more frequent inspections based on evaluation of the inspection results.

28. Entergy has arbitrarily redefined the scope of its cables monitoring programs thereby eliminating the majority of vital cables within the scope of 10 CFR 54.4 and 10 CFR 54.21. There are miles of cables operating at voltages of less than 400 volts that meet the requirements defined in 10 CFR 54, yet Entergy and the NRC has failed to address any requirements for aging management for these cables and wires. Entergy and the NRC have now defined low voltages cables to eliminate all cables designed to operate at less than 400 volts. Many of these cables control systems within the scope of 10 CFR 54 and must meet the requirements of 10 CFR 50.49

to assure continued functionality for aging and submergence for normal and design bases events. All cables within the scope of 10 CFR 54 must be included in the AMP and wires and cables cannot be excluded from an AMP.

29. There is no "proven, commercially available test" that will assure cables that have experienced submergence for any voltage rating from 0 to 345 KV. This statement by Entergy infers they have a "proven method" for detecting cable deterioration yet neither the NRC, EPRI, Sandia nor Brookhaven have concluded there is any "proven" technology to detect degradation.

30. NUREG/*CR-7000* states:

> *In-service testing of safety-related systems and components can demonstrate the integrity and function of associated electric cables under test conditions. However, in-service tests do not provide assurance that cables will continue to perform successfully when they are* ***called upon to operate fully loaded for extended periods as they would under normal service operating conditions or under design basis conditions****. In-service testing of systems and components does not provide specific information on the status of cable aging degradation processes and the physical integrity and dielectric strength of its insulation and jacket materials.*

31. This statement from the NRC's own research is totally consistent with my personal experience on United States Navy submarines, surface ships, and other commercial and industrial facilities. Entergy's new information makes no reference or commitment to test any cables under normal and/or design basis conditions.

32. Any cable testing must be a proven method that will detect incipient failures for all cables within the scope of 10 CFR 54. Based upon my professional experience and industry research there is no testing methodology that provides reasonable assurance that cables will perform their

designated function with the implementation of the monitoring programs discussed in the GALL reports. 10 CFR 50.49 addresses a proven program.

33. Entergy infers they have a "proven method" for detecting cable deterioration yet NRC, EPRI, NEMA, NEC, Sandia and Brookhaven have concluded there is not any "proven" technology to detect cable and splice degradation due to periodic submergence in a saltwater and otherwise chemically contaminated environment.

34. Entergy claims it has a program (EN-DC-346, Cable Monitoring Program, which it issued on December 31, 2009) with the inference it will provide reasonable assurance that will detect degraded cable failures. Without a copy of this document it is not possible to provide any opinion as to its adequacy given the numerous industry studies that conclude there is no proven method to detect cable and splice degradation of inaccessible cables that may be immersed in corrosive water and/or moisture.

35. Prior to the PEO Entergy must substantiate that its program encompasses all cables within the scope of 10 CFR 54 and supply documentation that this is a "proven" test or methodology and that encompasses all cables (1000 volts).

36. Entergy further provides new information in its LRA Supplement:

B.1.19 Non-EQ Inaccessible Medium-Voltage Cable

Program Description

The Non-EQ Inaccessible Medium-Voltage Cable Program at PNPS will be based on and consistent with the program described in NUREG-1801, Revision 2, Section XI.E3, "Inaccessible Medium-Voltage Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements."

Inspections for water accumulation in manholes containing inaccessible low- and medium-voltage cables with a license renewal intended function will be conducted at least annually and trended to determine the need to revise manhole inspection frequency. Additional operational inspections will be performed to verify drainage systems are functional prior to predicted heavy rains or flooding events such as hurricanes. The acceptance criteria includes direct observation that the cables are not wetted or submerged, that cables/splices and cable support structures are intact, and that dewatering/drainage systems are functional.

In this program, periodic actions will be taken to prevent cables from being exposed to significant moisture, such as inspecting for water collection in cable manholes and conduit and draining water as needed. In-scope low-voltage and medium-voltage cables exposed to significant moisture will be tested at least once every six years to provide an indication of the condition of the conductor insulation. All in-scope medium-voltage cables will be tested prior to entering the PEO and low-voltage cables will be tested within six years of entering the PEO. The test is to be a proven method for detecting deterioration of the insulation system due to wetting, such as dielectric loss (dissipation factor/power factor), AC voltage withstand, partial discharge, step voltage, time domain reflectometry, insulation resistance and polarization index, line resonance analysis, or other testing that is state-of-the-art at the time the test is performed.

The program will be initiated prior to the period of extended operation.

37. It is my professional opinion that this proposed program fails to meet the requirements of 10 CFR 54 as there is no technical justification for periodicity of inspections and it is not possible to inspect the condition of cable splices that may exist within submerged conduits. Cables that have been exposed to any submergence must be replaced with cables designed and qualified for underwater operation. This is my professional opinion supported by positions proffered by the electrical industry (NEMA) for commercial and industrial facilities. One would hope to believe that a commercial nuclear power plant would, as an absolute minimum comply with and far exceed these commercial standards and guidelines and commit to comply to bring these cables within the scope of 10 CFR 50.49 for the Period of Extended Operation (POE) to address both aging and submergence.

38. 10 CFR § 50.49 titled "Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants" is a regulation provided to assure electrical equipment, including cables, will function in a harsh environment. When 50.49 was initially implemented and backfitted on existing plants such as Pilgrim, inaccessible and buried cables were never considered. This was an oversight in that it was never anticipated that these inaccessible cables would be exposed to a harsh environment such as submergence discussed in 10 CFR 50.49.

39. It is my professional opinion, now that we realize that these vital cables are subjected to a continuous harsh environment (submergence and moisture) at Pilgrim as defined in 10 CFR 50.49(d)(5) and (6) that all safety related inaccessible cables be within the scope of 10 CFR 50.49 and aging and qualification for submergence must be properly addressed.

40. Cables within the containment and other plant areas experiencing a harsh environment including submergence are within the scope of 10 CFR 50.49.

41. Corrosion is a factor due to submergence. Cables may be degraded due to manufacturing defects, installation, splices allowing contaminated and brackish water to come in contact with the metallic conductors, splices and other connections thereby resulting in corrosion and overheating due to ohmic effects. This potential for corrosion is clearly discussed in NUREG 7000 and is a function of age.

42. NUREG/CR-7000 is the most comprehensive study on cable degradation. The recommendations of this NRC sponsored study heavily rely on "baseline" inspections of cables.

Entergy has failed to provide any commitment to establishing any baseline inspections for safety related inaccessible cables.

43. This NRC sponsored study clearly states:

> *Electric equipment important to safety, including electric cables, that are required to continue to successfully perform their safety function in the harsh environment throughout the duration of and following design basis events occurring at the end of their qualified life,* ***must be environmentally qualified in accordance with the requirements of 10 CFR 50.49.***
>
> *and*
>
> *NRC regulations, such as 10 CFR 50, Appendix B, (quality assurance), the maintenance rule (10 CFR 50.65),* ***and environmental qualification regulations (10 CFR 50.49),*** *require that programs and administrative controls be established to monitor and detect degraded conditions on a regular basis and to promptly implement effective corrective actions*
>
> *and*
>
> *The licensee's listing of environmentally qualified (EQ) Class 1E electric cables, as defined in 10 CFR 50.49 and IEEE Std. 323-1974 [Ref. 32], will be a subset of the entire listing of safety-related cables in the plant. However, since there may be some non-safety-related cables that are specified with environmental qualification requirements as a result of potential exposure to other-than-mild, or locally adverse, service environments, the listing of EQ cables should be reviewed to determine whether there are any cables in this category that should be added to the list of cables for the CM program*
>
> *and*
>
> *environmental qualification regulations (10 CFR 50.49), require that programs and administrative controls be established to monitor and detect degraded conditions on a regular basis and to promptly implement effective corrective actions and design modifications, consistent with its safety significance, so that*

any further cable degradation is minimized. A cable system must be designed to meet all applicable regulations and to perform its intended function in the plant environment under all anticipated operational occurrences and design basis events.

and

NRC regulations, such as 10 CFR 50, Appendix B, (quality assurance), the maintenance rule (10 CFR 50.65), and environmental qualification regulations (10 CFR 50.49), require that programs and administrative controls be established to monitor and detect degraded conditions on a regular basis and to promptly implement effective corrective actions and design modifications, consistent with its safety significance, so that any further cable degradation is minimized.

and

4.3.1 Characterizing Cable Operating Environments

Characterization of the cable system's operating environments is necessary to establish and document the actual baseline environmental conditions that the cable system will be exposed to during normal operations. It is accomplished by:

- *review of the design, specification, and installation documentation for the cable circuit, in order to locate the routing of the cable circuit throughout the plant;*

and

- *It should be emphasized that the occurrence of cable system operating environments or locally adverse conditions that are unanticipated or more severe than the original plant design may constitute a design deficiency of the cable system, specifically, a potential violation of GDC 1, 4, 17, and 18. NRC regulations, such as 10 CFR 50, Appendix B, (quality assurance), the maintenance rule (10 CFR 50.65), and environmental qualification regulations (10 CFR 50.49), require that programs and administrative controls be established to monitor and detect degraded conditions on a regular basis and to promptly implement effective corrective actions design modifications, consistent with its safety significance, so that any further cable degradation is minimized. A cable system must be designed to meet all applicable regulations and to*

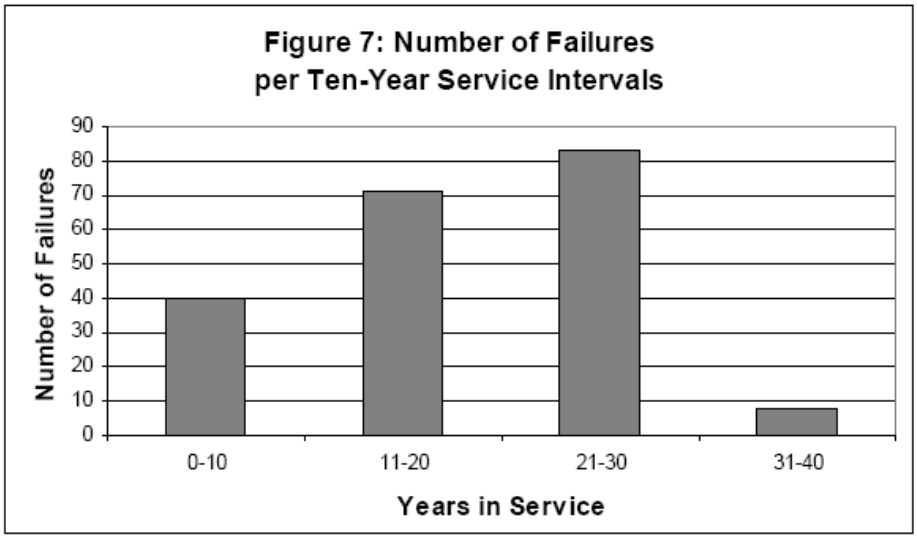
perform its intended function in the plant environment under all anticipated operational occurrences and design basis events. (2-16)

44. The NRC does not have the expertise to totally understand cable manufacturing, installation and operation. The organizations with the most detailed knowledge of this subject are ***National Electrical Manufacturers Association*** **(**NEMA) and the National Electric Code (NEC). These organizations are consistent and clearly require that cables be replaced after exposure to any type of submergence.

45. While a single event of a submerged cable failure may b***e of low safety significance*** this is a problem that may result in common mode failures of multiple redundant safety systems. Information Notice 2010-26 cites failures of 269 cables with the frequency increasing with plant aging. If the NRC believes Entergy's program is a "proven" program then it should be endorsed by the entire industry including NEMA, EPRI, Sandia, INPO, NEI, Brookhaven and the NRC itself. With a "proven" program one would expect the cable failure rate to be decreasing rather than increasing as reported by numerous industry data and studies.

46. The 269 reported failures in the Information Notice may only be the "tip of the iceberg" as many of the cables may not be normally energized and many other cables may fail when energized during a design basis event. According to many industry studies including NUREG/CR-7000 and EPRI studies have concluded that there is no proven technology to detect incipient cable failures. While not confirmed by the Information Notice, most of these failures likely occurred after the cable was required to perform its designated safety function.

47. It is very clear that the number of cable failures is rapidly increasing with age as shown from the following graph copied from the NRC's own study titled "Inaccessible Or Underground Power Cable Failures That Disable Accident Mitigation Systems Or Cause Plant Transients"



48. It may appear that the number of failure decreases after 30 years however there were very few plants operating for more than 30 years. There is no reason to suspect that the number of failures will decrease unless the requirements of 10 CFR 50.49 are imposed by the NRC now that it is recognized many inaccessible cables are being subjected to design basis events that include conditions of normal operation defined by 10 CFR 50.49

49. I agree that 10 CFR 50 Appendix A and B require testing and corrective actions however the fact that these failures are increasing with age indicates that proper corrective actions are not being

implemented by the licensees. There is no recognized testing that can provide reasonable assurance that these cables can perform "their intended functions."

50. It is my expert opinion that this is a grave safety issue that may result in common mode failures increasing the probability and possibly challenging:

- The integrity of the reactor coolant pressure boundary;
- The capability to shut down the reactor and maintain it in a safe shutdown condition; or
- The capability to prevent or mitigate the consequences of accidents

51. 10 CFR 50.49 (c) states "Requirements for (1) dynamic and seismic qualification of electric equipment important to safety, (2) protection of electric equipment important to safety against other natural phenomena and external events, and (3) environmental qualification of electric equipment important to safety located in a mild environment are not included within the scope of this section. A mild environment is an environment that would at no time be significantly more severe than the environment that would occur during normal plant operation, including anticipated operational occurrences." It is my opinion that the environment surrounding many of these cables is not a "mild environment" with extreme changes from dry to submerged due to temperature changes, high tides, snow melting, periodically exposed to corrosive groundwater and may be exposed to other environmental changes and stresses during accident conditions from natural phenomena and external events such as major flooding due to tides and hurricanes.

52. This risk will increase with continued age as clearly shown by the NRC's own published data unless the NRC is willing to implement the recommendations of industry studies and independent organizations including NEMA and NEC and its own regulations (10 CFR 50.49).

53. It is very clear that if Pilgrim is granted its license renewal it must clearly demonstrate compliance with the all the requirements of 10 CFR 50.49 with concentration on 10 CFR 50.49(d)(5) and (6) and any in scope cables, and that aging and submergence be addressed within the requirements of this regulation.

54. In lieu of any other program which is not proven, addressing the requirements for design, testing, construction and environmental qualification, 10 CFR 50.49 may provide reasonable assurance that no other proposed program can provide.

55. I have read and reviewed the enclosed proposed contention from Pilgrim Watch and fully support all technical and regulatory aspects of this contention on Inaccessible cables.

Executed in Accord with 10 CFR 2.304 (d),

Paul M. Blanch
January 19, 2011
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