PilgrimRenewal NPEmails

From: Lynch, Joseph R [jlynch4@entergy.com]
Sent: Friday, January 07, 2011 10:15 AM
To: Regner, Lisa
Cc: Mogolesko, Fred
Subject: Pilgrim License Renewal Application (LRA) Supplemental Information Letter to NRC
Attachments: 2.11.001.pdf

Importance: High

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Lisa,

Attached you will find a scanned copy of the subject letter for your reference. Please feel free to contact Fred Mogolesko or myself with any questions or follow-up information needed to support your review of the attached.

Regards,

Joe

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Entergy

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Stephen J. Bethay
Director, Nuclear Safety Assurance

January 7, 2011

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
Docket No. 50-293
License No. DPR-35

Pilgrim Nuclear Power Station (PNPS) License Renewal Application (LRA) Supplemental Information

REFERENCES:
1. Entergy Letter No. 2.06.003, to USNRC, "Entergy Nuclear Operations Inc., License No. DPR-35, License Renewal Application," dated January 25, 2006.

LETTER NUMBER: 2.11.001

Dear Sir or Madam:

On January 25, 2006, Entergy Nuclear Operations, Inc. (Entergy) submitted the License Renewal Application (LRA) for the Pilgrim Nuclear Power Station (PNPS) as indicated by Reference 1.

This letter provides supplemental information to the LRA to address the following five areas which Entergy agreed to evaluate and supplement the LRA, as necessary.

1. Aging management of neutron-absorbing materials
2. Inspection of socket welds in small-bore piping
3. Inspection of buried pipe and tanks
4. Aging management of low voltage cables
5. Inspection of containment coatings

New and revised regulatory commitments are provided in the PNPS License Renewal Commitment List as Attachment 2.

Should you have any questions or require additional information concerning this submittal, please contact Mr. Joseph R. Lynch at 508-830-8403.

I declare under penalty of perjury that the foregoing is true and correct. Executed on January 7th, 2011.

Sincerely,

Stephen J. Bethay
Director Nuclear Safety Assessment

JRL/jl

Attachments: 1. License Renewal Application Supplemental Information (12 Pages)
2. License Renewal Commitment List (3 Pages)

cc:
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Attachment 1 to Letter No. 2.11.001

Pilgrim Nuclear Power Station
License No. DPR-35 (Docket No. 50-293)

License Renewal Application

Supplemental Information

Pilgrim Nuclear Power Station
License Renewal Application - Supplemental Information

Entergy provides the following supplemental information as a result of operating experience (OE) and industry activities potentially relevant to aging management in the following areas at Pilgrim Nuclear Power Station (PNPS).

- Neutron-Absorbing Material
- Socket Welds in Small-Bore Piping
- Buried Piping and Tanks
- Low-Voltage Cables
- Protective Containment Coatings

Neutron-Absorbing Material

The final license renewal interim staff guidance LR-ISG-2009-01, "Aging Management of Spent Fuel Pool Neutron-Absorbing Materials Other than Boraflex," discusses operating experience with neutron-absorbing materials. Specifically, the ISG identifies instances of degradation and deformation of carborundum and Boral neutron-absorbing materials. The ISG recommends that license renewal applicants demonstrate adequate management of loss of material and loss of neutron-absorbing capability of Boral and Metamic in spent fuel pools (SFP) for the period of extended operation (PEO). The PNPS spent fuel storage racks utilize Boraflex, Boral, and Metamic neutron-absorbing material.

Entergy inspects and performs neutron absorber testing of sample Boral coupons. Boral coupons were retrieved and inspected in 2006 and 2009. Results indicated no loss of material and no loss of neutron-absorbing capability. A Metamic SFP rack and a coupon tree were installed in 2009. Testing of Metamic will be in accordance with the methods and frequency recommended by ISG-2009-01. The first Metamic coupon is scheduled for retrieval for inspection and testing in 2011. Acceptance criteria will be that measured and analyzed neutron-absorbing capacity is adequate to ensure 5% subcriticality margin for the spent fuel pool, assuming neutron absorber degradation as the applicable aging effect.

Commitment

Entergy is providing the following commitment (Commitment 49) for neutron-absorbing material in the spent fuel pool.

> Entergy will perform periodic inspection and neutron absorber testing of Boral and Metamic in accordance with the methods and frequencies recommended by ISG-2009-01. Acceptance criteria will be that measured and analyzed neutron-absorbing capacity is adequate to ensure 5% subcriticality margin for the spent fuel pool, assuming neutron absorber degradation as the applicable aging effect. Results not meeting the acceptance criteria will be entered into the PNPS corrective action program for evaluation and corrective action. One test on each material will be performed within the five years preceding the PEO, with additional testing performed on each material at least once every 10 years during the PEO.

Socket Welds in Small Bore Piping

Entergy will perform volumetric or destructive examination of small-bore Class 1 socket welds. There are 117 Class 1 socket welds within the PNPS ISI Program boundary.

The PNPS ASME B&PV Code Section XI Fourth Ten Year Interval (2005 – 2015) In-Service Inspection Program Plan includes inspection of socket welds. Entergy has been inspecting socket welds under the ISI program in accordance with ASME Code Section XI since 1997 and since 2001 has employed a risk-informed in-service inspection (RI-ISI) program to identify candidate Class I piping welds. This RI-ISI program was approved by an NRC SER on May 2, 2001. Since 1997, Entergy inspected 22 Class I socket and butt welds $\leq$ 4" NPS. A dye penetrant (PT) surface examination and a VT-2 examination were performed on the socket welds. Since 2001, volumetric (UT) examinations have been performed on a selection of these welds under the risk-informed ISI program. No age-related cracking was identified in these examinations.

PNPS experienced cracking of four socket welds, all between 1982 and 1986, and none were age related. Details of each event are provided as follows.

- In 1982, a ¾" reactor water cleanup vent line leak was attributed to improper fabrication during original construction. A new vent line assembly was fabricated and installed to replace all the socket welds in the assembly.
- In 1985, a leak was identified in a Class 1 socket weld on the vessel drain line. The porous weld was evidence of poor installation. The spool piece, approximately 10" in length, was cut from the drain line and a new spool piece was welded in place.
- In 1986, a cracked weld at a 2" by 1" reducing coupling in the reactor water level instrument line resulted from an incomplete root pass combined with thermally induced stresses from a bound up guide and missing insulation. The corrective action was to repair the affected piping and reduce thermal stresses by replacing the missing pipe insulation and restoring the guide to its original design configuration.
- In 1986, following replacement of the reactor recirculation lines, a small-bore vent line which was cantilevered off the RHR piping developed a crack at a transition weld. PNPS repaired the cracked weld, shortened the vent pipe and added a support bracket. A similar (undamaged) line was also modified as a precautionary measure and supports were added to drain lines from additional valves inside containment that were subject to personnel stepping on the piping. As a further precaution, the small-bore nozzle to pipe transition welds and all socket welds up to and including the welds on either side of the first valve off the branch line were PT and visually inspected. No crack-like defects associated with fatigue were identified. No further cracking has been detected since modifications were made to these configurations.

In addition to the four events discussed above, a 2005 UT of a socket weld revealed an indication. The socket weld was removed and destructively examined and the indication was determined to be an installation flaw (localized lack of fusion between weld passes).

Entergy will perform volumetric examination of 10% of the population of Class 1 ISI small-bore socket welds at PNPS. In lieu of a volumetric examination technique, Entergy will perform destructive examinations. The total welds inspected will be any combination of volumetric and destructive examinations, where one destructive examination may be substituted for two volumetric examinations. In addition to the destructive examination performed in 2005, Entergy will schedule four volumetric examinations for 2013. Entergy will schedule the remaining inspections as early as practical and all inspections will be completed no later than 2017. An opportunistic destructive examination may be substituted for two socket weld examinations.

In addition, the PNPS ASME B&PV Code Section XI Fourth Ten Year Interval In-Service Inspection Program Plan defines the inspection of butt welds using volumetric techniques. Entergy uses a risk-informed in-service inspection (RI-ISI) program to identify candidate Class I small-bore piping butt welds for inspection. The total population of small-bore butt welds in the ISI program is 75 and Entergy selected eight of these for volumetric inspection during this inspection interval using the RI-ISI methodology. Since 2005, four Class 1 small-bore butt welds have been inspected, another three welds will be inspected in 2011, and one more will be inspected in 2015. No failures have been identified in the volumetric examinations of these welds.

Commitment

Entergy provides the following addition to Commitment #20, One-Time Inspections, for welds in small-bore piping.

> Entergy will perform volumetric examinations of 10% of the population of Class 1 ISI small-bore socket welds at PNPS. In lieu of volumetric examinations, destructive examinations may be performed. The total welds inspected will be any combination of volumetric and destructive examinations, where one destructive examination may be substituted for two volumetric examinations. In addition to the destructive examination performed in 2005, Entergy will schedule four volumetric examinations for 2013. The remaining inspections will be completed no later than 2017.
>
> As a further enhancement, Entergy will inspect three small-bore butt welds in 2011 and another one in 2015.

Buried Piping and Tanks

The buried piping in the scope of license renewal includes the following.

- Fire protection system piping (gray cast iron and carbon steel (CS)) No cathodic protection (No CP)). The CS portion is in an underground vault (~51 ft).
- Station Blackout (SBO) diesel generator fuel oil and cooling system piping (CS) (CP).
- Standby gas treatment piping (CS) (No CP) (~700 ft).
- Salt service water (SSW) system piping (CS w/cured in place pipe (CIPP) (~200ft), and titanium (~200 ft) (No CP).
- High Pressure Coolant Injection/Reactor Core Isolation Cooling (HPCI/RCIC) condensate suction piping (stainless steel) (No CP).
- Emergency Diesel Generator (EDG) fuel oil (CS) (CP).

The cathodic protection system is in service, routinely monitored, and inspected yearly by a NACE-licensed vendor, with structure to soil measurements obtained in accordance with NACE Standard SPO-0169.

There is reasonable assurance of in-scope piping integrity at PNPS based on the following.

- PNPS pipe/tank installations specified an "engineered backfill", clean, free-draining sand, excluding material >3/8" within 6" of coated pipes and underground tanks.
- Visual inspections of excavated fire protection, service water, and diesel generator fuel oil piping components in recent years indicate that the exteriors of piping components and applicable coatings remain in good condition, and from those inspections we conclude that the soil is non-aggressive to the coating material.
- Review of plant records indicates no age-related failures of in-scope buried piping due to external corrosion at PNPS.
- All license renewal in-scope piping is located above the groundwater table.

Inspection methods for buried piping include visual inspections of excavated components, non-visual methods such as ultrasonic thickness measurements, and pressure tests. Other inspection techniques may be employed if proven effective for the detection of piping degradation.

Entergy is aware of the limitations of non-visual examination methods such as the torsional guided wave method. Entergy will ensure those limitations are considered during application of non-visual examination methods such that any method employed is assured of providing valid assessment results for the specific application.

In the LRA, Entergy committed to the aging management program (AMP) described in NUREG-1801, Revision 1, Section XI.M34, Buried Piping and Tanks Inspection. The NUREG-1801 AMP required at least one inspection prior to the PEO and at least one inspection during the first ten years of the PEO to confirm the acceptable condition of the protective coatings on buried components.

Discussion

Having already performed several examinations, Entergy will exceed the recommendations of NUREG-1801, Revision 1, Section XI.M34.

- In 2009, an 8-foot section of cast iron piping from the firewater system was excavated and sent offsite for analysis. The laboratory analysis determined that an identified through-wall leak was due to installation damage and that the piping's exterior coating showed no age-related degradation.

- In 2010, Entergy adopted NFPA 25 flow testing on a yearly frequency, which assures the integrity of firewater system piping.
- In 2010, Entergy performed guided wave ultrasonic testing on the stainless steel buried piping for the HPCI/RCIC system, and for buried carbon steel and stainless steel piping of the condensate transfer system.
- In 2010, ultrasonic and visual inspection of CS EDG fuel tank (126-A) revealed no degradation. The previous inspection ten years earlier also indicated no degradation.
- A portion of the SSW piping is coated CS, >40 years of age. This piping was buried in soil > 22 years and has since been vaulted and internally lined with CIPP. In 2010, Entergy performed a visual inspection of this piping. It showed no signs of degradation of its external coating. Where the coating was removed, the exposed surface of the pipe had no indication of pitting or loss of material.
- Entergy will perform at least one inspection in each of the remaining in-scope systems by 12/31/2013.

PNPS adopted the Entergy corporate Buried Piping and Tanks Inspection and Monitoring Program in response to industry initiatives designed to address ongoing concerns with leaks from buried piping. The program contains a sample selection methodology which considers soil resistivity, soil drainage, materials of construction, cathodic protection, and coatings. It also addresses inspection intervals, inspection techniques, acceptance criteria, and corrective actions if the acceptance criteria are not met.

Excavation and inspection of certain out-of-scope pipes of the same material, age, and susceptibility as piping in the in-scope systems will be performed prior to PEO. Should problems of external corrosion be identified in out-of-scope systems, the corrective action program would engender appropriate corrective actions to address in-scope systems.

Commitment

The following commitment (Commitment 50) is provided to augment the aging management program for buried piping.

> Buried CS piping in all in-scope systems except fire protection will be inspected by 12/31/2013, using a direct visual inspection of the entire circumference of at least ten linear feet of exposed pipe. Results not meeting the inspection acceptance criteria will be entered into the PNPS corrective action program for evaluation and corrective actions.
>
> Prior to the period of extended operation, Entergy will implement the corporate Buried Piping and Tanks Inspection and Monitoring Program which defines the requirements for continuing inspection of buried and underground piping and tanks.

Section A.2.1.1 of Appendix A to the PNPS LRA is modified to read as shown below

A.2.1.1 Buried Piping Inspection Program
The Buried Piping Inspection Program includes (a) preventive measures to mitigate corrosion and (b) inspections to manage the effects of corrosion on the pressure-retaining capability of buried carbon steel, stainless steel, and gray cast iron piping components. Preventive measures are in accordance with standard industry practice for maintaining external coatings and wrappings. Buried components are inspected periodically. If trending within the corrective action program identifies susceptible systems, locations, or environments, the progressive corrective

actions within the program will cause increased inspection, maintenance, or modification. An inspection of each in-scope system will have been performed by 12/31/2013.

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.

Operating Experience

Entergy responded to Generic Letter (GL) 2007-01, "Inaccessible or Underground Power Cable Failures That Disable Accident Mitigation Systems or Cause Plant Transients" in a letter dated May 3, 2007. In the letter, Entergy reported that no failures were found during a review of PNPS operating experience involving medium-voltage or low-voltage inaccessible cables. PNPS operating experience since the response to GL 2007-01 was researched in the corrective action program database and no failures of in-scope inaccessible 400 to 2KV cable were found.

Entergy reviewed information provided in industry responses to GL 2007-01 and recent NRC and Electric Power Research Institute (EPRI) guidance documents. In light of the information reviewed, Entergy is expanding the scope of the B.1.19 (Non-EQ Inaccessible Medium-Voltage Cable) aging management program to include inaccessible 400V to 2 KV cables with a license renewal intended function and increasing the frequency of testing of cables and inspecting manholes.

Discussion

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.

The following sections are revised text for LRA Section A.2.1.21 and Section B.1.19.

A.2.1.21 Non-EQ Inaccessible Medium-Voltage Cable Program

In the Non-EQ Inaccessible Medium-Voltage Cable Program, in-scope cables (400V to 35 kV)

exposed to significant moisture will be tested at least once every six years to provide an indication of the condition of the conductor insulation. The specific test performed is a proven commercially availble test for detecting deterioration of the insulation system due to wetting. Significant moisture is defined as periodic exposures that last more than a few days.

Inspections for water collection in cable manholes and conduit containing inaccessible medium-voltage cables in scope of this program will occur at least annually, with some manholes inspected more frequently based on evaluation of inspection results.

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.

NUREG-1801 Consistency

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

Exceptions to NUREG-1801

None.

Enhancements

This program includes inaccessible 400 V to 2 kV cables with a license renewal intended function.

Operating Experience

This program is a new aging management program based on the program description in NUREG-1801, which in turn is based on relevant industry operating experience. As such, this program will provide reasonable assurance that effects of aging will be managed such that applicable components will continue to perform their intended functions consistent with the current licensing basis for the period of extended operation. Lessons learned from operating experience identified in GL 2007-01 and IN 2010-26 have been utilized in the PNPS program development. The Entergy operating experience review process ensures that future relevant operating experience is evaluated to identify appropriate program enhancements.

Commitment

License renewal commitment #15 is revised to read as follows.

> Implement the Non-EQ Inaccessible Medium-Voltage Cable Program as described in LRA Section B.1.19.
>
> Include inaccessible 400 V to 2 kV cables with a license renewal intended function in this program. Cables will be tested for cable insulation degradation at least once every six years after entering the period of extended operation, using a proven, commercially available test for detecting cable insulation deterioration. Review test results to determine the need for more frequent testing.
>
> Inspections for water accumulation in manholes containing in-scope inaccessible low-voltage and medium-voltage cables will be performed at least annually. Inspection results will be reviewed to determine the need for more frequent inspections.

Protective Containment Coatings

Program Description

The Protective Coating Monitoring and Maintenance Program at PNPS will be the program described in NUREG-1801, Section XI.S8, Protective Coating Monitoring and Maintenance Program.

The Protective Coating Monitoring and Maintenance Program will ensure that Service Level I coatings inside primary containment are monitored and maintained. The program will review the suitability of coatings applied to carbon steel and concrete surfaces inside containment (e.g., steel liner, steel containment shell, structural steel, supports, penetrations, and concrete walls and floors) and manage the effects of aging on those coatings consistent with the recommendations of NUREG 1801, Section XI.S8.

Service Level I protective coatings are not credited to manage the effects of aging, however proper maintenance of protective coatings inside containment is essential to ensure operability of post-accident safety systems that rely on water recycled through the containment. The proper selection, maintenance and monitoring of Level I coatings ensures there is no coating degradation that would impact safety functions.

NUREG-1801 Consistency

The Protective Coating Monitoring and Maintenance Program at PNPS will be consistent with the program described in NUREG-1801, Section XI.S8, Protective Coating Monitoring and Maintenance Program.

Exceptions to NUREG-1801

There are no exceptions to NUREG-1801 XI.S8.

Enhancements

None

Operating Experience

Containment coatings are subject to routine inspection in accordance with Pilgrim procedures and inspection checklists. Anomalies are identified, compared to previous inspections and established criteria, and where appropriate, entered into the corrective action program. Coating inspections were conducted and documented in conjunction with the IWE containment examinations in 1999, 2003, and 2007; and are scheduled for 2011. Torus desludging, coating inspection and coating repair were performed by divers in 1997, 1999, and 2007. The Structures Monitoring Program inherently addresses protective coatings on structures and structural components inside primary containment through visual inspections of those structures and components. Operating experience discussed in SER Section 3.0.3.2.17 includes identification and repair of degraded coatings.

Conclusion

The PNPS Protective Coating Monitoring and Maintenance Program will be effective for managing aging effects of Service Level 1 coatings since it will incorporate proven monitoring techniques, acceptance criteria, corrective actions, and administrative controls consistent with those described in NUREG 1801, Section XI.S8. The PNPS Protective Coating Monitoring and Maintenance Program provides reasonable assurance that the effects of aging on Service Level 1 coatings will be managed such that applicable systems, structures and components will continue to perform their intended functions consistent with the current licensing basis for the period of extended operation.

Attachment 2

Pilgrim Nuclear Power Station
License No. DPR-35 (Docket No. 50-293)

License Renewal Application

License Renewal Commitment List

This table identifies actions discussed in this letter that Entergy commits to perform. Any other actions discussed in this submittal are described for the NRC's information and are **not** commitments.

ITEM	COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE (If Required)
		ONE-TIME ACTION	CONTINUING COMPLIANCE	
15	Implement the Non-EQ Inaccessible Medium-Voltage Cable Program as described in LRA Section B.1.19. Include inaccessible 400 V to 2 kV cables with a license renewal intended function in this program. Inaccessible cables will be tested for cable insulation degradation at least once every six years after entering the period of extended operation, using a proven, commercially available test for detecting cable insulation deterioration for inaccessible cables in this program. . Review test results to determine the need for more frequent testing. Inspections for water accumulation in manholes containing in-scope inaccessible low-voltage and medium-voltage cables will be performed at least annually. Inspection results will be reviewed to determine the need for more frequent inspections.		X	As stated in the commitment.
20	Implement the One-Time Inspection program as described in LRA Section B.1.23 Entergy will perform volumetric examination of 10% of the population of Class 1 ISI small-bore socket welds at PNPS. In lieu of volumetric examinations, destructive examinations may be performed. The total welds inspected will be any combination of volumetric and destructive examinations, where one destructive examination may be substituted for two volumetric examinations. In addition to the destructive examination performed in 2005, Entergy will schedule four volumetric examinations for 2013. The remaining inspections will be completed no later than 2017. As a further enhancement, Entergy will inspect three small-bore butt welds in 2011 and another one in 2015.		X	As stated in the commitment

49	Entergy will perform periodic inspection and neutron absorber testing of Boral and Metamic in accordance with the methods and frequencies recommended by ISG-2009-01. Acceptance criteria will be that measured and analyzed neutron-absorbing capacity is adequate to ensure 5% subcriticality margin for the spent fuel pool, assuming neutron absorber degradation as the applicable aging effect. Results not meeting the acceptance criteria will be entered into the PNPS corrective action program for evaluation and corrective action. One test on each material will be performed within the five years preceding the PEO, with additional testing performed on each material at least once every 10 years during the PEO.		**X**	As stated in the commitment.
50	Buried carbon steel (CS) piping in all in-scope systems except fire protection will be inspected by 12/31/2013, using a direct visual inspection of the entire circumference of at least ten linear feet of exposed pipe. Results not meeting the inspection acceptance criteria will be entered into the PNPS corrective action program for evaluation and corrective actions. Prior to the period of extended operation, Entergy will implement the corporate Buried Piping and Tanks Inspection and Monitoring Program which defines the requirements for continuing inspection of buried and underground piping and tanks.		**X**	As stated in the commitment.