UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-4125

March 4, 2011

Joseph Kowalewski
Vice President, Operations
Entergy Operations, Inc.
Waterford Steam Electric Station, Unit 3
17265 River Road
Killona, LA 70057-3093

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 - NOTIFICATION OF INSPECTION (NRC INSPECTION REPORT 05000382/2011003) AND REQUEST FOR INFORMATION

Dear Mr. Kowalewski:

From April 11-15 and 25-29, 2011, reactor inspectors from the Nuclear Regulatory Commission's (NRC) Region IV office will perform the baseline inservice inspection at Waterford, using NRC Inspection Procedure 71111.08, "Inservice Inspection Activities," and TI 2515/172, "Reactor Coolant System Dissimilar Metal Butt Welds." Experience has shown that this inspection is a resource intensive inspection both for the NRC inspectors and your staff. In order to minimize the impact to your onsite resources and to ensure a productive inspection, we have enclosed a request for documents needed for this inspection. These documents have been divided into two groups. The first group (Section A of the enclosure), due by March 28, 2011, identifies information to be provided prior to the inspection to ensure that the inspectors are adequately prepared. The second group (Section B of the enclosure) identifies the information the inspectors will need upon arrival at the site. It is important that all of these documents are up to date and complete in order to minimize the number of additional documents requested during the preparation and/or the onsite portions of the inspection.

We have discussed the schedule for these inspection activities with your staff and understand that our regulatory contact for this inspection will be Mr. Jim Pollock of your licensing organization. Our inspection dates are subject to change based on your updated schedule of outage activities. If there are any questions about this inspection or the material requested, please contact the lead inspector Shiattin Makor (817) 276-6507 (shiattin.makor@nrc.gov) or Megan Williams at (817) 860-8076 (megan.williams@nrc.gov).

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, Control Number 3150-0011. The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget control number.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/ James F. Drake for

Gregory E. Werner, Chief
Plant Support Branch 2
Division of Reactor Safety

Docket No: 50-382
License No. NPF-38

Enclosure:
Inservice Inspection Document Request

Enclosure:
Inservice Inspection Document
Request

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SUNSI Review Completed: ___Y___ ADAMS: ☒ Yes □ No Initials: _JFD_
☒ Publicly Available □ Non-Publicly Available □ Sensitive ☒ Non-Sensitive

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INSERVICE INSPECTION DOCUMENT REQUEST

Inspection Dates: April 11-15 and 25-29, 2011

Inspection Procedures: IP 71111.08 “Inservice Inspection (ISI) Activities”
TI 2515/172 “Reactor Coolant System Dissimilar Metal Butt Welds”

Inspectors: Shiattin Makor, Reactor Inspector (Lead Inspector - ISI)
Megan Williams, Reactor Inspector

A. Information Requested for the In-Office Preparation Week

The following information should be sent to the Region IV office in hard copy or electronic format (ims.certrec.com preferred), in care of Shiattin Makor, by March 28, 2011, to facilitate the selection of specific items that will be reviewed during the onsite inspection week. The inspectors will select specific items from the information requested below and then request from your staff additional documents needed during the onsite inspection week (Section B of this enclosure). We ask that the specific items selected from the lists be available and ready for review on the first day of inspection. Please provide requested documentation electronically if possible. If requested documents are large and only hard copy formats are available, please inform the inspector(s), and provide subject documentation during the first day of the onsite inspection. If you have any questions regarding this information request, please call the inspector as soon as possible.

A.1 ISI/Welding Programs and Schedule Information

a) A detailed schedule (including preliminary dates) of:

i) Nondestructive examinations planned for Class 1 & 2 systems and containment, performed as part of your ASME Section XI, risk informed (if applicable), and augmented inservice inspection programs during the upcoming outage

Provide a status summary of the nondestructive examination inspection activities vs. the required inspection period percentages for this interval by category per ASME Section XI, IWX-2400. Do not provide separately if other documentation requested contains this information

ii) Reactor pressure vessel head examinations planned for the upcoming outage

iii) Examinations planned for Alloy 82/182/600 components that are not included in the Section XI scope (If applicable)

iv) Examinations planned as part of your boric acid corrosion control program (Mode 3 walkdowns, bolted connection walkdowns, etc.)

v) Welding activities that are scheduled to be completed during the upcoming outage (ASME Class 1, 2, or 3 structures, systems, or components)

b) A copy of ASME Section XI Code Relief Requests and associated NRC safety evaluations applicable to the examinations identified above.

c) A list of nondestructive examination reports (ultrasonic, radiography, magnetic particle, dye penetrant, Visual VT-1, VT-2, and VT-3), which have identified relevant conditions on Code Class 1 & 2 systems since the beginning of the last refueling outage. This should include the previous Section XI pressure test(s) conducted during start up and any evaluations associated with the results of the pressure tests. Also, include in the list the nondestructive examination reports with relevant conditions in the reactor pressure vessel head penetration nozzles that have been accepted for continued service. The list of nondestructive examination reports should include a brief description of the structures, systems, or components where the relevant condition was identified.

d) A list with a brief description (e.g., system, material, pipe size, weld number, and nondestructive examinations performed) of the welds in Code Class 1 and 2 systems which have been fabricated due to component repair/replacement activities since the beginning of the last refueling outage, or are planned to be fabricated this refueling outage.

e) If reactor vessel weld examinations required by the ASME Code are scheduled to occur during the upcoming outage, provide a detailed description of the welds to be examined and the extent of the planned examination. Please also provide reference numbers for applicable procedures that will be used to conduct these examinations.

f) Copy of any 10 CFR Part 21 reports applicable to your structures, systems, or components within the scope of Section XI of the ASME Code that have been identified since the beginning of the last refueling outage.

g) A list of any temporary noncode repairs in service (e.g., pinhole leaks).

h) Please provide copies of the most recent self-assessments for the inservice inspection, welding, and Alloy 600 programs.

A.2 Reactor Pressure Vessel Head

a) Provide the detailed scope of the planned nondestructive examinations of the reactor vessel head which identifies the types of nondestructive examination methods to be used on each specific part of the vessel head to fulfill commitments made in response to NRC Bulletin 2002-02 and NRC Order EA-03-009. Also, include examination scope expansion criteria and

planned expansion sample sizes if relevant conditions are identified. (If applicable)

b) A list of the standards and/or requirements that will be used to evaluate indications identified during nondestructive examination of the reactor vessel head (e.g., the specific industry or procedural standards which will be used to evaluate potential leakage and/or flaw indications).

A.3 Boric Acid Corrosion Control Program

a) Copy of the procedures that govern the scope, equipment and implementation of the inspections required to identify boric acid leakage and the procedures for boric acid leakage/corrosion evaluation.

b) Please provide a list of leaks (including Code class of the components) that have been identified since the last refueling outage and associated corrective action documentation. If during the last cycle, the unit was shutdown, please provide documentation of containment walkdown inspections performed as part of the boric acid corrosion control program.

c) Please provide a copy of the most recent self-assessment performed for the boric acid corrosion control program.

A.4 Steam Generator Tube Inspections

a) A detailed schedule of:

i) Steam generator tube inspection, data analyses, and repair activities for the upcoming outage (If occurring)

ii) Steam generator secondary side inspection activities for the upcoming outage. (If occurring)

b) Please provide a copy of your steam generator inservice inspection program and plan. Please include a copy of the operational assessment from last outage and a copy of the following documents as they become available:

i) Degradation assessment
ii) Condition monitoring assessment

c) If you are planning on modifying your Technical Specifications such that they are consistent with Technical Specification Task Force Traveler TSTF-449, “Steam Generator Tube Integrity,” please provide copies of your correspondence with the NRC regarding deviations from the standard technical specifications.

d) Copy of steam generator history documentation given to vendors performing eddy current testing of the steam generators during the upcoming outage.

e) Copy of steam generator eddy current data analyst guidelines and site validated eddy current technique specification sheets. Additionally, please provide a copy of EPRI Appendix H, "Examination Technique Specification Sheets," qualification records.

f) Identify and quantify any steam generator tube leakage experienced during the previous operating cycle. Also provide documentation identifying which steam generator was leaking and corrective actions completed or planned for this condition (If applicable).

g) Provide past history of the condition and issues pertaining to the secondary side of the steam generators (including items such as loose parts, fouling, top of tube sheet condition, crud removal amounts, etc.)

h) Provide copies of your most recent self assessments of the steam generator monitoring, loose parts monitoring, and secondary side water chemistry control programs.

i) Indicate where the primary, secondary, and resolution analyses are scheduled to take place.

j) Provide a summary of the scope of the steam generator tube examinations, including examination methods such as Bobbin, Rotating Pancake, or Plus Point, and the percentage of tubes to be examined. Do not provide these documents separately if already included in other information requested.

A.5 Materials Reliability Program: Primary System Piping Butt Weld Inspection and Evaluation Guideline (MRP-139) Activities

a) A list, with verification, that the baseline inspections of all applicable dissimilar metal butt welds have been completed by December 31, 2010.

b) Verification that baseline inspection of hot leg and cold leg temperature dissimilar metal butt welds have been included in the inspection program and that the schedules for the baseline inspections are consistent with the baseline schedules in MRP-139.

c) A list and schedule (examination dates) of all dissimilar metal butt weld examinations planned for the upcoming refueling outage. If none are scheduled, then data from previous examinations should be available for review.

d) A list and schedule for any welding to be performed on dissimilar metal butt welds in the upcoming outage. If no welding will be performed then records of previous welding on dissimilar metal butt welds and postweld nondestructive examination documentation.

e) A list and schedule of any stress improvement activities planned for the upcoming refueling outage. If none are scheduled then have qualification reports for any stress improvements previously performed.

f) Documentation and description of how the baseline and inservice inspection specifications in MRP-139 are satisfied at your facility.

g) A list of weld locations controlled by MRP-139 which includes the MRP-139 weld category, pre-mitigation volumetric examination date, type of mitigation or stress improvement, post mitigation volumetric examination date, and plans for future MRP-139 required examinations.

A.6 Additional Information Related to all Inservice Inspection Activities

a) A list with a brief description of inservice inspection, boric acid corrosion control program, and steam generator tube inspection related issues (e.g., condition reports) entered into your corrective action program since the beginning of the last refueling outage (for Unit 2). For example, a list based upon data base searches using key words related to piping or steam generator tube degradation such as: inservice inspection, ASME Code, Section XI, NDE, cracks, wear, thinning, leakage, rust, corrosion, boric acid, or errors in piping/steam generator tube examinations.

b) Please provide names and phone numbers for the following program leads:

Inservice inspection (examination, planning)
Containment exams
Reactor pressure vessel head exams
Snubbers and supports
Repair and replacement program
Licensing
Site welding engineer
Boric acid corrosion control program
Steam generator inspection activities (site lead and vendor contact)

B. Information to be Provided Onsite to the Inspector(s) at the Entrance Meeting (April 12, 2011):

B.1 Inservice Inspection / Welding Programs and Schedule Information

a) Updated schedules for inservice inspection/nondestructive examination activities, including steam generator tube inspections, planned welding activities, and schedule showing contingency repair plans, if available.

b) For ASME Code Class 1 and 2 welds selected by the inspector from the lists provided from section A of this enclosure, please provide copies of the following documentation for each subject weld:

i) Weld data sheet (traveler)

ii) Weld configuration and system location

iii) Applicable Code Edition and Addenda for weldment

iv) Applicable Code Edition and Addenda for welding procedures

v) Applicable weld procedures used to fabricate the welds

vi) Copies of procedure qualification records supporting the weld procedures from B.1.b.v

vii) Copies of mechanical test reports identified in the procedure qualification records above

viii) Copies of the nonconformance reports for the selected welds (If applicable)

ix) Radiographs of the selected welds and access to equipment to allow viewing radiographs (If radiographic testing was performed)

x) Copies of the preservice examination records for the selected welds

xi) Copies of welder performance qualifications records applicable to the selected welds, including documentation that welder maintained proficiency in the applicable welding processes specified in the weld procedures (at least 6 months prior to the date of subject work)

xii) Copies of nondestructive examination personnel qualifications (Visual inspection, penetrant testing, ultrasonic testing, radiographic testing), as applicable

c) For the inservice inspection related corrective action issues selected by the inspectors from section A of this enclosure, provide a copy of the corrective actions and supporting documentation.

d) For the nondestructive examination reports with relevant conditions on Code Class 1 and 2 systems selected by the inspectors from Section A above, provide a copy of the examination records, examiner qualification records, and associated corrective action documents.

e) A copy of (or ready access to) most current revision of the inservice inspection program manual and plan for the current Interval.

f) For the nondestructive examinations selected by the inspectors from section A of this enclosure, provide a copy of the nondestructive examination procedures used to perform the examinations (including calibration and flaw

characterization/sizing procedures). For ultrasonic examination procedures qualified in accordance with ASME Section XI, Appendix VIII, provide documentation supporting the procedure qualification (e.g., the EPRI performance demonstration qualification summary sheets). Also, include qualification documentation of the specific equipment to be used (e.g., ultrasonic unit, cables, and transducers including serial numbers) and nondestructive examination personnel qualification records.

B.2 Reactor Pressure Vessel Head

a) Provide the nondestructive personnel qualification records for the examiners who will perform examinations of the reactor pressure vessel head.

b) Provide drawings showing the following: (If a visual examination is planned for the upcoming refueling outage)

i) Reactor pressure vessel head and control rod drive mechanism nozzle configurations

ii) Reactor pressure vessel head insulation configuration

Note: The drawings listed above should include fabrication drawings for the nozzle attachment welds as applicable.

c) Copy of nondestructive examination reports from the last reactor pressure vessel head examination.

d) Copy of evaluation or calculation demonstrating that the scope of the visual examination of the upper head will meet the 95 percent minimum coverage required by NRC Order EA-03-009 (If a visual examination is planned for the upcoming refueling outage).

e) Provide a copy of the procedures that will be used to identify the source of any boric acid deposits identified on the reactor pressure vessel head. If no explicit procedures exist which govern this activity, provide a description of the process to be followed including personnel responsibilities and expectations.

f) Provide a copy of the updated calculation of effective degradation years for the reactor pressure vessel head susceptibility ranking.

g) Provide copy of the vendor qualification report(s) that demonstrates the detection capability of the nondestructive examination equipment used for the reactor pressure vessel head examinations. Also, identify any changes in equipment configurations used for the reactor pressure vessel head examinations which differ from that used in the vendor qualification report(s).

B.3 Boric Acid Corrosion Control Program

a) Please provide boric acid walkdown inspection results, an updated list of boric acid leaks identified so far this outage, associated corrective action documentation, and overall status of planned boric acid inspections.

b) Please provide any engineering evaluations completed for boric acid leaks identified since the end of the last refueling outage. Please include a status of corrective actions to repair and/or clean these boric acid leaks. Please identify specifically which known leaks, if any, have remained in service or will remain in service as active leaks.

B.4 Steam Generator Tube Inspections

a) Copies of the Examination Technique Specification Sheets and associated justification for any revisions.

b) Copy of the guidance to be followed if a loose part or foreign material is identified in the steam generators.

c) Please provide a copy of the eddy current testing procedures used to perform the steam generator tube inspections (specifically calibration and flaw characterization/sizing procedures, etc.). Also include documentation for the specific equipment to be used.

d) Please provide copies of your responses to NRC and industry operating experience communications such as Generic Letters, Information Notices, etc. (as applicable to steam generator tube inspections) Do not provide these documents separately if already included in other information requested such as the degradation assessment.

e) List of corrective action documents generated by the vendor and/or site with respect to steam generator inspection activities.

B.5 Codes and Standards

a) Ready access to (i.e., copies provided to the inspector(s) for use during the inspection at the onsite inspection location, or room number and location where available):

i) Applicable Editions of the ASME Code (Sections V, IX, and XI) for the inservice inspection program and the repair/replacement program.

ii) EPRI and industry standards referenced in the procedures used to perform the steam generator tube eddy current examination.

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