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Information Request
September 1, 2021
Notification of Inspection and Request for Information
Palo Verde Unit 2
NRC Inspection Report 05000529/2021004

INSERVICE INSPECTION DOCUMENT REQUEST

Inspection Dates: October 19 – 29, 2021

Inspector: Jim Drake
Johnathan Lee (trainee)

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 or via a secure document management service, in care of Jim Drake, by September 20, 2021, to facilitate the selection of specific items that will be reviewed during the inspection. **It has not yet been determined if the inspection will be onsite or conducted remotely.** The inspector will select specific items from the information requested below and then request from your staff additional documents needed during the onsite inspection week. 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, 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.

On October 19, 2021, a reactor inspector from the Region IV office will perform the baseline inservice inspection at Palo Verde Unit 2, using NRC Inspection Procedure 71111.08, "Inservice Inspection Activities." Experience has shown that this inspection is a resource intensive inspection both for the NRC inspector and your staff. The date of this inspection may change dependent on the outage schedule you provide. 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. The information identified on this request (Section A) is to be provided prior to the inspection to ensure that the inspector(s) are adequately prepared. The section identified as "Documents Upon Request" is intended to provide guidance to the type of information an inspector(s) will be requesting to complete the inspection following the initial request. 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 (i.e., condition reports with attachments).

We have discussed the schedule for these inspection activities with your staff and understand that our regulatory contact for this inspection will be Mohamed Mory Diané of your licensing organization. The tentative inspection schedule is as follows:

Preparation week: October 12, 2021
Onsite weeks: October 19– 29, 2021

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 Jim Drake at (817) 200-1558. ([email: James.Drake@nrc.gov](mailto:James.Drake@nrc.gov))

A.1 ISI/Welding Programs and Schedule Information

1. A detailed schedule (including preliminary dates) of:
 - 1.1. Nondestructive examinations planned for ASME Code Class Components performed as part of your ASME Section XI, risk informed (if applicable), and augmented inservice inspection programs during the upcoming outage.
 - 1.2. Examinations planned for Alloy 82/182/600 components that are not included in the Section XI scope (If applicable)
 - 1.3. Examinations planned as part of your boric acid corrosion control program (Mode 3 walkdowns, bolted connection walkdowns, etc.)
 - 1.4. Welding activities that are scheduled to be completed during the upcoming outage (ASME Class 1, 2, or 3 structures, systems, or components)
2. A copy of ASME Section XI Code Relief Requests and associated NRC safety evaluations applicable to the examinations identified above.
 - 2.1. A list of ASME Code Cases currently being used to include the system and/or component the Code Case is being applied to.

3. A list of nondestructive examination reports which have identified recordable or rejectable indications on any ASME Code Class components 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.
4. A list including a brief description (e.g., system, code class, weld category, nondestructive examination performed) associated with the repair/replacement activities of any ASME Code Class component since the beginning of the last outage and/or planned this refueling outage.
5. 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.
6. Copy of any 10 CFR Part 21 reports applicable to 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.
7. A list of any temporary non-code repairs in service (e.g., pinhole leaks).
8. Please provide copies of the most recent self-assessments for the inservice inspection, welding, and Alloy 600 programs.
9. A copy of (or ready access to) most current revision of the inservice inspection program manual and plan for the current interval.
10. Copy of NDE procedures for NDE that will be used during the outage.
11. Copy of overarching site procedure for welding.

A.2 Reactor Pressure Vessel Head

1. Provide a detailed scope of the planned bare metal visual examinations (e.g., volume coverage, limitations, etc.) of the vessel upper head penetrations and/or any nonvisual nondestructive examination of the reactor vessel head including the examination procedures to be used.
 - 1.1. Provide the records recording the extent of inspection for each penetration nozzle including documents which resolved interference or masking issues that confirm that the extent of examination meets 10 CFR 50.55a(g)(6)(ii)(D).
 - 1.2. Provide records that demonstrate that a volumetric or surface leakage path examination assessment was performed.

2. Copy of current calculations for EDY, and RIY as defined in Code Case N-729-1 that establish the volumetric and visual inspection frequency for the reactor vessel head and J-groove welds.

A.3 Boric Acid Corrosion Control Program

1. 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.
2. 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.

A.4 Steam Generator Tube Inspections (If Being Inspected, otherwise N/A)

1. A detailed schedule of:
 - Steam generator tube inspection, data analyses, and repair activities for the upcoming outage (if occurring).
 - Steam generator secondary side inspection activities for the upcoming outage (if occurring).
2. Copy of SG history documentation given to vendors performing eddy current (ET) testing of the SGs during the upcoming outage.
3. Copy of SG condition monitoring and operational assessment of previous cycle. Also include a copy of the following documents as they become available for the current cycle:
 - Degradation assessment
 - Condition monitoring assessment
4. Define the planned SG ET scope (e.g., 100 percent of unrepaired tubes with bobbin probe and 20 percent sample of hot leg expansion transition regions with rotating probe) and identify the scope expansion criteria, which will be applied.
5. Identify and quantify any SG tube leakage experienced during the previous operating cycle. Also provide documentation identifying which SG was leaking and corrective actions completed and planned for this condition.
6. 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.

7. Copy of the guidance to be followed if a loose part or foreign material is identified in the steam generators.
8. 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.).

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

A.5 Additional Information Related to all Inservice Inspection Activities

1. A list with a brief description of inservice inspection, and boric acid corrosion control program related issues (e.g., Condition Reports) entered into your corrective action program since the beginning of the last refueling outage. For example, a list based upon data base searches using key words related to piping such as: inservice inspection, ASME Code, Section XI, NDE, cracks, wear, thinning, leakage, rust, corrosion, boric acid, or errors in piping examinations.
2. Provide training (e.g. Scaffolding, Fall Protection, FME, Confined Space) if they are required for the activities described in A.1 through A.3.
3. 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)

DOCUMENTS UPON REQUEST

Inservice Inspection / Welding Programs and Schedule Information

1. Updated schedules for inservice inspection/nondestructive examination activities, including planned welding activities, and schedule showing contingency repair plans, if available.
2. For ASME Code Class welds selected by the inspector please provide copies of the following documentation (as applicable) for each subject weld:
 - Weld data sheet (traveler).
 - Weld configuration and system location.

- Applicable welding procedures used to fabricate the welds.
 - Copies of procedure qualification records (PQRs).
 - Welder's performance qualification records (WPQ).
 - Nonconformance reports for the selected welds (If applicable).
 - Radiographs of the selected welds and access to equipment to allow viewing radiographs (if radiographic testing was performed).
 - Preservice and inservice examination records for the selected welds.
 - Readily accessible copies of nondestructive examination personnel qualifications records for reviewing.
3. For ultrasonic examination procedures qualified in accordance with ASME Code, 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.

Reactor Pressure Vessel Head

1. Nondestructive personnel qualification records for the examiners who will perform examinations of the reactor pressure vessel head replacement. (If applicable)
2. Drawings showing the following:
 - Reactor pressure vessel head and control rod drive mechanism nozzle configurations
 - Reactor pressure vessel head insulation configuration

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

Boric Acid Corrosion Control Program

1. Boric acid walk down 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.
2. List of boric acid evaluation and corrective action documents associated with the leakage.

Codes and Standards

1. 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):
 - Applicable Editions of the ASME Code (Sections V, IX, and XI) for the inservice inspection program and the repair/replacement program.
2. Copy of the performance demonstration initiative (PDI) generic procedures with the latest applicable revisions that support site qualified ultrasonic examinations of piping welds and components (e.g., PDI-UT-1, PDI-UT-2, PDI-UT-3, PDI-UT-10, etc.).
3. Boric Acid Corrosion Guidebook Revision 1 – EPRI Technical Report 1000975.