

BROWNS FERRY NUCLEAR PLANT UNIT 1 – NOTIFICATION OF INSPECTION AND REQUEST FOR INFORMATION

Ryan Coons:

From October 22 – October 26, 2018, the Nuclear Regulatory Commission (NRC) will perform the baseline in-service inspection at the Browns Ferry Nuclear Plant, Unit 1 in accordance with NRC inspection procedure IP 71111.08, “Inservice Inspection Activities.”

Experience has shown that this inspection is resource intensive for both the NRC inspectors and your staff. In order to minimize the impact to your onsite resources and to ensure a productive inspection, we are requesting in advance documents needed for this activity. Section A of the enclosure identifies information to be provided prior to the inspection to ensure adequate sample selection and preparation. The NRC requests that these documents be provided to the lead inspector no later than October 15, 2018. Section B of the enclosure identifies additional information the inspectors will need upon arrival at the site to complete the review of inspection samples. The inspection staff will appreciate if all the documents requested 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.

Please note that our inspection dates are subject to change based on your updated schedule of outage activities. If there are any questions about this inspection, changes to the schedule of activities, or the material requested, please contact the lead inspector, Paula Cooper, at (404) 997-4468 or Paula.Cooper@nrc.gov or the Engineering Branch 3 Chief, Brian Bonser at (404) 997-4653.

In accordance with Title 10 of the Code of Federal Regulations 2.390, “Public Inspections, Exemptions, Requests for Withholding,” 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 component of NRC's Agencywide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

PAPERWORK REDUCTION ACT STATEMENT

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.

PUBLIC PROTECTION NOTIFICATION

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.

INSERVICE INSPECTION DOCUMENT REQUEST

Site: Browns Ferry Nuclear Plant Unit 1

Docket No.: 50-259

Inspection Dates: October 22 – October 26, 2018

Entrance Meeting: October 22, 2018

Inspection Procedure: IP 71111.08, "Inservice Inspection Activities," Dated December 22, 2016

Inspector(s): Paula Cooper, Reactor Inspector (Lead Inspector)

A. Information Requested for the In-Office Preparation Week

Please provide the information requested in this section to the NRC Region II Office in care of the lead inspector by October 15, 2018, in order to facilitate the selection of specific items that will be reviewed during the onsite inspection week. The information can be provided in hard copy or electronic format; however, electronic format is preferred, either by digital data storage device (compact disk, flash drive, etc.), or web-based document management system.

The inspector(s) will select specific samples from the information provided for items A.1 and A.2 below and then request additional documents needed for the onsite inspection week(s) as described in Section B of this enclosure. The specific documents selected for Section B should be available and ready for review on the first day of inspection. If requested documents are large and only hard copies are available, please inform the inspector(s) and provide the subject documentation during the first day of the onsite inspection. All documents requested in this section correspond to the Unit scheduled to be in a refueling outage during the onsite inspection week(s), unless an information request item explicitly states that it applies to all operating Units. Additionally, some of the information requested may not apply to the site depending on the scope of refueling outage activities or other plant-specific conditions. If there are any questions regarding this information request, please contact the lead inspector as soon as possible.

A.1 Non-destructive Examination and Welding Activities

- a. A detailed schedule (including preliminary dates) of nondestructive examinations (NDEs) planned for the structures, systems, and components (SSCs) listed below as part of the Inservice Inspection Program required by the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (BPVC), Section XI, as incorporated by reference in 10 CFR 50.55a, and other augmented in-service inspection activities:
 - ASME Class 1, 2, and 3 components and supports (including Risk-Informed ISI Program)
 - ASME Class MC and metallic liners of Class CC components (e.g. reactor building containment liner)

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- ASME Class CC components
 - ASME Class MC supports
 - Reactor coolant system components as part of the Electric Power Research Institute (EPRI) Boiling Water Reactors Vessel and Internals Project (BWRVIP)
 - other components to be inspected through NDE in accordance with industry initiatives or requirements (e.g. Flow Accelerated Corrosion Program)
- b. A detailed schedule (including preliminary dates) of welding activities to be completed on ASME Code Class 1, 2, or 3 components and supports during the upcoming refueling outage.
 - c. A list of NDE reports (ultrasonic, radiographic, magnetic particle, and liquid penetrant) addressing surface or volumetric indications that were analytically evaluated and accepted for continued service in ASME Code Class 1, 2, and 3 components since the beginning of the last refueling outage. This should also include any evaluations for continuous service performed as a result of Section XI pressure test(s) conducted during start up from the last refueling outage.
 - d. A list of the welds in ASME Code Class 1, 2, and 3 systems that have been fabricated due to component repair/replacement activities since the beginning of the last refueling outage. Please include a brief description of the welds such as system, material, pipe size, weld number, and NDEs performed. Additionally, please indicate which of those welds are risk-significant.
 - e. If NDE of pressure retaining welds in the reactor vessel shell required by the ASME BPVC, Section XI, Subsection IWB (also known as "10-year Reactor Vessel ISI") 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 include reference numbers for applicable procedures that will be used to conduct these examinations.
 - f. A copy of ASME BPVC, Section XI Relief Requests and associated NRC Safety Evaluation Reports applicable to the NDEs scheduled for the upcoming refueling outage.
 - g. A list of temporary Code or temporary non-Code repairs installed in ASME Class components (e.g., pinhole leaks or mechanical clamping devices).
 - h. A copy of the most recent program self-assessments addressing the ISI Program and welding activities.

A.2 Other Information Related to ISI Activities

- a. A list with a brief description of ISI-related issues entered into the corrective action program for all operating Units since the beginning of the last Unit 1 refueling outage. For example, provide a list of condition reports based upon database searches using keywords related to piping, vessels, and supports degradation such as: ISI, ASME Code, Section XI, NDE, welding, reactor vessel, reactor coolant system, crack, wear, thinning, leakage, thru-wall, rust, corrosion, BWRVIP, or errors in piping examinations.
- b. Copy of the site's response to recent NRC generic communications and other industry

operating experience notifications associated with the inservice inspection and structural integrity of ASME Class components issued since the beginning of the last refueling outage (e.g. Generic Letters, Information Notices, etc.).

- c. Names and contact information for the following program leads:
- ISI Program (examination, planning)
 - Licensing
 - Reactor Containment Building ISI Program
 - Repair and Replacement Program
 - Site Welding
 - Snubbers and Supports Inspection Program
- d. Current outage and ISI program information including:
- Current edition and addendum of the ASME Code being used for inspection, NDE, welding and repair/replacement activities
 - Current edition and addendum of the ASME Code being used for containment inspections
 - Outage name (e.g. U3R20)
 - Current ISI interval number, period within the interval, outage within the period and total number of outages overall for the interval (e.g. the first outage of the third period in the fourth interval of the ISI inspection program, and the fifth outage for the interval

B. Information Requested for the Onsite Inspection Week

Please provide the information requested below in hard copy or electronic (preferred) format to the lead inspector at the entrance meeting, in order to finalize the planning of inspection activities onsite. Prior to the onsite inspection, the inspector(s) will select part of the inspection samples from the information provided in response to Section A of this enclosure, and then request additional information needed to complete the review. There is a possibility that some of the inspection samples for which direct observation is desired (e.g. planned NDEs) will not be selected until the inspector(s) arrives onsite and confirms the current schedule of refueling outage activities for that week. All documents requested in this section correspond to the Unit scheduled to be in a refueling outage during the onsite inspection week, unless an information request item explicitly states that it applies to all operating Units. Additionally, some of the information requested may not apply depending on the scope of refueling outage activities or other plant-specific conditions.

B.1 Non-destructive Examination Activities, Welding Activities, and Schedule Information

- a. Updated schedules for the planned NDE and welding activities described in the response to items A.1.a and A.1.b of this enclosure.
- b. For the NDEs selected by the inspector(s) from item A.1.a of this enclosure, please provide a copy of the NDE procedures used to perform the examinations (including calibration and flaw characterization/sizing procedures). For ultrasonic examination procedures qualified in accordance with ASME Code, Section XI, Appendix VIII, please provide documentation supporting the procedure qualification (e.g., the EPRI

performance demonstration qualification summary sheets). Please include documentation of the specific equipment to be used (e.g., ultrasonic unit, cables, and transducers including serial numbers) and NDE personnel qualification records.

- c. For the NDE reports with relevant indications on ASME Code Class 1, 2, and 3 components selected by the inspector(s) from item A.1.c of this enclosure, please provide a copy of the examination records, NDE qualification records, and associated corrective action documents, including technical evaluations supporting the acceptability of the indications for continuous service.
- d. For the ASME Code Class 1, 2, and 3 welds selected by the inspector(s) from item A.1.d of this enclosure, please provide copies of the following documentation for each subject weld:
 - weld data sheet (traveler)
 - weld configuration and supporting drawings (e.g. ISI isometric drawings)
 - applicable ASME BPVC Edition and Addenda
 - Weld Procedure Specification (WPS) used to fabricate the welds
 - Procedure Qualification Records (PQRs) supporting the WPS
 - mechanical test reports supporting the applicable PQRs
 - welder performance qualifications records, including documentation that welder maintained proficiency in the applicable welding processes specified in the WPS
 - examination records for the NDEs performed during weld fabrication
 - preservice NDE records
 - personnel qualification records for both fabrication and preservice NDEs
 - nonconformance reports for the selected welds (if applicable)

B.2 Other Information Related To ISI Activities

- a. For the ISI-related corrective action issues selected by the inspector(s) from item A.2.a of this enclosure, please provide a copy of the corrective action documents and supporting documentation (e.g. cause evaluations, work orders, corrective action plan, etc.).
- b. An updated list of ISI-related issues entered into the corrective action program for the current refueling outage.
- c. A copy of or ready access to:
 - applicable editions and sections of the ASME BPVC (e.g. Sections II, III, V, IX, and XI) for the inservice inspection and repair/replacement activities selected for review
 - EPRI and other industry standards applicable to the inservice inspection activities selected for review (e.g. BWRVIP documents)
 - a current revision of the ISI Program Manual and Plan for the current interval

Inspector(s) Contact Information:

Paula Cooper
Reactor Inspector
Engineering Branch 3
Division of Reactor Safety
404-997-4468

Mailing Address:

US NRC Region II
Attn: Paula Cooper
245 Peachtree Center Avenue, Suite 1200
Atlanta, GA 30303

From: [Cooper, Paula](#)
To: ["rwcoons@tva.gov"](mailto:rwcoons@tva.gov)
Subject: Browns Ferry U1 ISI Request for Information
Date: Friday, September 21, 2018 10:58:05 AM
Attachments: [Browns Ferry U1 ISI 2018004 PC.pdf](#)

Mr. Coons,

Attached is the request for information associated with the U1 ISI inspection occurring the week of October 22, 2018.

I am currently out of the office but if you'd like to discuss the contents of the RFI I will be back in the office on Tuesday.

Please let me know if you need any additional information.

Thanks!

Paula E. Cooper, PE - Reactor Inspector
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