



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

June 14, 2018

Mr. Richard L. Anderson, Site Vice President
Arkansas Nuclear One
Entergy Operations, Inc.
N-TSB-58
1448 S.R. 333
Russellville, AR 72802-0967

SUBJECT: ARKANSAS NUCLEAR ONE - NOTIFICATION OF NRC DESIGN BASES
ASSURANCE INSPECTION (TEAMS) (05000313/20180011 and
05000368/20180011) AND INITIAL REQUEST FOR INFORMATION

Dear Mr. Anderson:

On July 31, 2018, the Nuclear Regulatory Commission (NRC) will begin a triennial baseline Component Design Bases Inspection at the Arkansas Nuclear One. A six-person team will perform this inspection using NRC Inspection Procedure 71111, Attachment 21M "Design Bases Assurance Inspection (Teams)."

The inspection focuses on the maintenance of component design bases and modifications made to structures, systems, and components. The samples reviewed during this inspection will be identified during an information gathering visit and during the subsequent in-office preparation week. In addition, a number of operating experience issues will be selected for review.

The inspection will include an information gathering site visit by the team leader and a risk analyst, and two weeks of onsite inspection by the team. The inspection will consist of three NRC inspectors and two contractors, of which four will focus on engineering and one on operations. The current inspection schedule is as follows:

Onsite Information Gathering Visit: July 31 – August 2, 2018
Preparation Week(s): August 6 – 10, 2018 and August 20 – 24, 2018
Onsite Week(s): August 13 – 17, 2018 and August 27 – 31, 2018

The purpose of the information gathering visit is to meet with members of your staff to identify potential risk-significant components and operator actions. The lead inspector will also request a tour of the plant with members of your operations staff and probabilistic safety assessment staff. During the onsite weeks, several days and administration will be needed on the plant-referenced simulator in order to facilitate the development of operator action-based scenarios. Additional information and documentation needed to support the inspection will be identified during the inspection, including interviews with engineering managers, engineers, and probabilistic safety assessment staff.

Our experience with these inspections has shown that they are extremely resource intensive, both for the NRC inspectors and the licensee staff. In order to minimize the inspection impact on the site and to ensure a productive inspection, we have enclosed a request for information needed for the inspection. The request has been divided into two groups. The first group lists information necessary for the information gathering visit and for general preparation. This information should be available to the regional office no later than July 23, 2018, unless otherwise stated. If possible, this information should be provided electronically to the lead inspector. Since the inspection will be concentrated on high risk/low margin components and modifications, calculations associated with your list of high risk components and modifications should be available to review during the information gathering visit to assist in our selection of components based on available design margin.

The second group of documents requested lists information necessary to aid the inspection team in tracking issues identified as a result of the inspection. It is requested that this information be provided to the lead inspector as the information is generated during the inspection. An additional request will be made by the team during the preparation week once the specific components and modifications have been selected. Additional requests by inspectors will also be made throughout the onsite weeks for specific documents needed to complete the review. 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 onsite portions of the inspection. In order to facilitate the inspection, we request that a contact individual be assigned to each inspector to ensure information requests, questions, and concerns are addressed in a timely manner.

The lead inspector for this inspection is Wayne C. Sifre. We understand that our licensing engineer contact for this inspection is N. Mosher. If there are any questions about the inspection or the requested materials, please contact the lead inspector by telephone at 817-200-1193 or by e-mail at Wayne.Sifre@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 Title 10 of the *Code of Federal Regulations* (CFR) 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be made 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).

R. Anderson

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ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Thomas R. Farnholtz, Chief
Engineering Branch 1
Division of Reactor Safety

Docket Nos: 50-313; 50-368
License Nos: DPR-51; NPF-6

Enclosure:
Design Bases Assurance
Inspection (Teams) Request for Information

ARKANSAS NUCLEAR ONE - NOTIFICATION OF NRC DESIGN BASES ASSURANCE INSPECTION (TEAMS) (05000313/20180011 and 05000368/20180011) AND INITIAL REQUEST FOR INFORMATION – June 14, 2018

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**Initial Request for Information
Design Bases Assurance Inspection (Teams)
Arkansas Nuclear One**

Inspection Report: 05000313/20180011, 05000368/20180011

Information Gathering Dates: July 31 – August 2, 2018

Inspection Dates: August 13 – 17 and August 27 – 31, 2018

Inspection Procedure: IP 71111, Attachment 21M, “Design Bases Assurance Inspection (Teams)”

Lead Inspector: Wayne C. Sifre, Senior Reactor Inspector

I. Information Requested Prior to Information Gathering Visit (July 23, 2018)

The following information (Section I of this enclosure) should be sent to the Region IV office in hard copy or electronic format (Certrec IMS preferred), to the attention of Wayne Sifre by July 23, 2018, to facilitate the reduction in the items to be selected for a final list during the preparation week, August 6 – 10, 2018. The inspection team will finalize the selected list during the prep week using the additional documents requested in Section I of this enclosure. The specific items selected from the lists shall be available and ready for review on the day indicated in this request. Please provide requested documentation electronically in “pdf” files, Excel, or other searchable formats, if possible. The information should contain descriptive names and be indexed and hyperlinked to facilitate ease of use. Information in lists should contain enough information to be easily understood by someone who has knowledge of pressurized water reactor technology. 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.

1. An Excel spreadsheet of equipment basic events (with definitions), including importance measures sorted by risk achievement worth and Fussell-Vesely from your internal events probabilistic risk assessment. Include basic events with risk achievement worth value of 1.3 or greater.
2. A list of the top 50 cut-sets from your PRA.
3. Copies of probabilistic risk assessment “system notebooks” and the latest probabilistic risk assessment summary document.
4. An Excel spreadsheet of probabilistic risk assessment human action basic events or risk ranking of operator actions from your site-specific PSA sorted by risk achievement worth and Fussell-Vesely. Provide copies of your human reliability worksheets for these items.
5. If you have an external events or fire PSA model, provide the information requested in items 1-4 for external events and fire.

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6. A list of high large early release frequency impact events and associated components.
7. Structures, systems, and components in the Maintenance Rule (a)(1) category.
8. A list of high risk maintenance rule systems/components and functions; based on engineering or expert panel judgment.
9. Site top 10 issues list, if available.
10. Any pre-existing list of components and associated calculations with low design margins.
11. A list of operating experience evaluations for the last 3 years.
12. A list of all time-critical operator actions in procedures.
13. A list of current "operator work arounds/burdens."
14. Procedures, including emergency and abnormal, used to accomplish operator actions associated with the basic events credited in your PRA.
15. Lists of permanent and temporary modifications performed in the past 5 years to structures, systems, and components sorted by component identified in Item 1.
16. List of root cause evaluations associated with component failures or design issues initiated/completed in the last 5 years.
17. A list of any common-cause failures of components in the last 3 years.
18. A copy of any internal/external self-assessments and associated corrective action documents generated in preparation for this inspection.
19. A copy of engineering/operations-related audits completed in the last 2 years.
20. Electronic copies of the Technical Specifications, Technical Specifications Bases, and the Final Safety Analysis Report, as updated.
21. A copy of the Individual Plant Examination of External Events, if available electronically.
22. One-line drawings of emergency core cooling system, ultimate heat sink, Emergency Feedwater, safety-related electrical systems.
23. A copy of condition reports associated with inspection findings from the previous NRC Inspection Procedure 71111.21 (or 71111.21 Attachment M inspection).
24. A list of system designators.
25. A list of licensee contacts for the inspection team with phone numbers.
26. A copy of the current management and engineering organizational charts.

II. Information Requested to be provided throughout the inspection.

1. Electronic copies of the design bases documents for selected components and modifications.
2. Electronic copies of the system health notebooks for selected components and modifications.
3. A list of the design calculations that provide the design margin information for selected components. (Calculations for selected components should be available during the information gathering visit.)
4. Calculations and drawings associated with selected components.
5. Modification documentation associated with modifications selected from Item I.15, this includes:
 - a. Post-modification testing, including performance characteristics affected, assumptions, and acceptance criteria associated with modifications selected.
 - b. Updated maintenance and surveillance procedures associated with modifications.
 - c. Updated operation procedures and training plans associated with the modifications.
6. Copies of any corrective action documents generated as a result of the team's questions or queries during this inspection.
7. Copies of the list of questions submitted by the team members and the status/resolution of the information requested (provide daily during the inspection to each team member).

Inspector Contact Information:

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