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10 CFR 50.90

W3F1-2018-0011

March 8, 2018

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

Subject: License Amendment Request to Update the Results for the Inadvertent Loading of a Fuel Assembly into the Improper Position (Fuel Assembly Misload) Event
Waterford Steam Electric Station, Unit 3 (Waterford 3)
Docket No. 50-382
License No. NPF-38

References:

1. Notice of Meeting with Entergy Operations, Inc. Regarding a Planned License Amendment to Revise the Fuel Misload Analysis for the Waterford Steam Electric Station, Unit 3 [ADAMS Accession Number ML18037B112].

2. Waterford 3 - Presentation slides for February 8, 2018 preapplication meeting to discuss Chapter 15 Fuel Misload (EPID L-2017-LRM-0068) [ADAMS Accession Number ML18037B110].

Dear Sir or Madam:

On February 8, 2018, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives of Entergy Operations, Inc. (Entergy). The purpose of the meeting was to discuss Entergy's License Amendment Request regarding changes to the Waterford Steam Electric Station, Unit 3 (Waterford 3) Inadvertent Loading of a Fuel Assembly into the Improper Position (Fuel Assembly Misload) Event Analysis. Reference 1 provided the meeting announcement and Reference 2 provided the meeting presentation information.

As discussed in the public meeting and pursuant to 10 CFR 50.90, Entergy hereby requests an amendment to update the Fuel Assembly Misload Event analysis as described in the Waterford 3 UFSAR. The new analysis determines an increase in the dose consequence of the worst undetectable misload event (UFSAR 15.4.3.1) including consideration for failed incore detectors during startup and during operation.

The proposed change has been evaluated in accordance with 10 CFR 50.91(a)(1) using the criteria in 10 CFR 50.92(c); it was determined that the changes involve no significant hazards consideration. The bases for these determinations are included in the Enclosure.

This letter contains no new commitments.

Entergy requests approval of the proposed license amendment by March 8, 2019 to support Waterford 3 restart following completion of Refueling Outage 22.

If you have any questions or require additional information, please contact John Jarrell, Regulatory Assurance Manager, at 504-739-6685.

I declare under penalty of perjury that the foregoing is true and correct. Executed on March 8, 2018.

Sincerely,

JCD/JPJ/mmz/mpp

Enclosure: Evaluation of the Proposed Change

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Enclosure to

W3F1-2018-0011

Waterford Steam Electric Station, Unit 3

Evaluation of the Proposed Change

(9 Pages)

Waterford Steam Electric Station, Unit 3
Evaluation of the Proposed Change

Subject: License Amendment Request to Update the Inadvertent Loading of a Fuel Assembly into the Improper Position (Fuel Assembly Misload) Event Analysis

1. SUMMARY DESCRIPTION

On February 8, 2018, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives of Entergy Operations, Inc. (Entergy). The purpose of the meeting was to discuss Entergy's plan for a License Amendment Request (LAR) regarding changes to the Inadvertent Loading of a Fuel Assembly into the Improper Position (Fuel Assembly Misload) Event Analysis. Reference 13 provides the meeting announcement and Reference 14 provides the meeting presentation information.

Pursuant to 10 CFR 50.90, Entergy hereby requests an amendment for Waterford Steam Electric Station, Unit 3 (Waterford 3) to update the results of the revised Fuel Assembly Misload Event as described in Waterford 3 UFSAR which concludes that the worst undetectable misload could result in fuel failure. This change is due to the implementation of the Zirconium Diboride (ZrB2) integral fuel burnable absorber (IFBA) (Reference 5). The use of ZrB2 IFBA was continued with the implementation of Next Generation Fuel (NGF) (Reference 10, 11). The fuel assembly misload event analysis is consistent with the guidance described by the NRC in the Standard Review Plan (SRP), NUREG-0800 (Reference 2).

2. DETAILED DESCRIPTION

2.1 <u>System Design and Operation</u>

Waterford 3 UFSAR Section 15.4.3.1 describes the worst undetectable single fuel assembly misload event (worst undetectable misload). The fuel assembly misload event is defined as the erroneous placement or orientation of fuel assemblies. The worst undetectable misload is defined as an undetectable misload that either results in the minimum overpower margin (OPM) to Departure From Nucleate Boiling (DNB), if DNB is not predicted to occur, or results in the maximum number of rods in DNB if DNB is predicted to occur. The licensing classification of the fuel assembly misload event as a limiting fault means that the licensing analyses need not consider concurrent design basis accidents.

2.2 <u>Current Analysis of Record</u>

The current Analysis of Record (AOR) concluded that the worst undetectable misload did not result in fuel failure since the decrease in DNB OPM resulting from the misload was less than the Required Overpower Margin (ROPM) preserved by the Core Operating Limits Supervisory System (COLSS).

2.3 <u>Reason for the Proposed Change</u>

The use of ZrB2 IFBA was approved in License Amendment 210 for Waterford 3 (Reference 5). This change in burnable absorber was also incorporated in the design for NGF (approved in License Amendments 214 and 215). As a result of the use of ZrB2 IFBA, the conclusions given in the updated fuel assembly misload event analysis are more adverse than the AOR. This condition was entered into the Waterford 3 corrective action program. Waterford 3 has implemented administrative controls, in accordance with NRC Administrative Letter 98-10 (Reference 6), to require more restrictive Technical Requirement Manual (TRM) requirements on incore detector operability. This LAR is submitting the revised fuel assembly misload event analysis that reports more adverse results for NRC approval as required by 10 CFR 50.59. Following approval of this LAR, the UFSAR will be updated to reflect the new fuel assembly misload event analysis pursuant to 10 CFR 50.71(e).

2.4 Description of the Proposed Change

The new fuel assembly misload event analysis determines an increase in the dose consequence of the worst undetectable misload event (UFSAR 15.4.3.1) including consideration for failed incore detectors during startup and during operation. The consequence is expressed in terms of maximum fuel failure.

The new fuel assembly misload event analysis described in this LAR uses the same methodology as the current AOR but has concluded that the worst undetectable misload could result in fuel failure under the worst combination of operating conditions and inoperable incore detectors since the DNB OPM penalty exceeds the margin preserved in COLSS. As a conservative simplification, all rods in an assembly were treated as failed if DNB is predicted to occur for a single rod in the assembly. This additional conservatism accounts for postulated DNB propagation. This analysis demonstrates that the maximum percentage of fuel pin failure remains below that calculated for other Waterford 3 Condition 3 (Infrequent Event) accidents for which the dose has already been demonstrated to be within the 10 CFR 50.67 acceptance criteria.

As an approved Technical Specification limit, azimuthal tilt may be used in misload analyses. The new fuel assembly misload event analysis does not use azimuthal tilt to detect fuel assembly misloads as was done in the current AOR. The new analysis allowing for fuel failure determines the maximum ROPM for a given misload, regardless of the azimuthal tilt observed.

The neutronics code is being changed to ANC in the new analysis. ANC has been approved for application at Waterford 3 in License Amendment 200 (Reference 4). ANC is utilized to determine core operating limits as described in Technical Specification 6.9.1.11.1 (Reference 9).

The new misload event analysis allows fuel failure rather than imposing additional COLSS operating margin penalties since this could restrict operation even with a fully operational incore detector system. The new misload event analysis also removes the continued use of interim administrative Technical Requirements Manual (TRM) incore detector restrictions which required cycle specific analysis and could impact operations by significantly limiting the number of incore detectors that are allowed to be out of service.

3. TECHNICAL EVALUATION

3.1 Selecting the Worst Undetectable Misload

Detectability of a fuel assembly misload is determined by simulation of the beginning of cycle (BOC) startup test. The relevant startup test criterion for Waterford 3 is ±10% on the power symmetry in instrumented assemblies. However since the maximum DNB OPM penalty generally occurs near middle of cycle (MOC), after burnable absorber burnout, determination of the consequence requires a simulation of full power operation with the undetectable misload.

The procedure for identifying the worst undetectable misload begins with an initial survey of a large number of potential assembly misloads from several representative and potential future loading patterns by comparing assembly reactivity, peaking factors, and proximity to incore detectors to determine several potential candidates for the worst undetectable misload for which explicit analysis was performed. All the candidate worst undetectable misloads from this initial survey are then explicitly analyzed during startup and full power operation with ANC.

The Waterford 3 fuel assembly misload event analysis assumes the worst configuration of failed incore detectors permitted by the TRM (Reference 8) in the vicinity of the two interchanged assemblies. This worst configuration corresponds to having only one operable detector in the 4x4 array of assemblies surrounding the interchanged assemblies. Note that such a configuration is highly conservative compared to operating experience since multiple failures in close proximity would be necessary to obtain this configuration. Also, this approach does not credit the actual number of failed detectors since all the detectors most sensitive to the misload are always failed. For this reason this approach has been judged sufficient to bound any reasonably expected configuration of operable detectors permitted by the current TRM operability requirements. The current TRM operability requirements are provided for information in Attachment 1.

3.2 <u>Determining Fuel Pin Failure</u>

Several candidate worst undetectable misloads were simulated at startup and during full power operation using the ANC code. The CECOR code was used to simulate the power distribution measurement based on the incore detector signals calculated by ANC. The results of the CECOR simulated measurements at startup were used to determine detectability by comparing these results to the startup test criterion. Those misloads that did not exceed the startup test criterion were depleted with ANC under full power conditions with CECOR used to simulate the monthly Technical Specification radial peaking factor surveillance. These CECOR peaking factor measurements were used to determine the value of the core peaking factor corresponding to the minimum DNB OPM allowed by COLSS under any allowed operating conditions (currently 123%). The monthly CECOR Technical Specification peaking factor surveillance is used to determine the value of the radial peaking factor that is installed into COLSS. The DNB OPM penalty for the misload is determined by using the CETOP thermal hydraulics code to calculate the change in DNB OPM associated with the difference between the ANC and CECOR peaking factors. If this margin penalty is less than the COLSS ROPM, then no fuel failure is predicted to occur for the misload. However if the margin penalty is greater than the COLSS ROPM, then DNB fuel failure cannot be ruled out with 95/95 confidence.

The amount of fuel failure that occurs as a direct result of DNB is determined by counting the number of fuel rods that have a power greater than the radial peaking factor that is greater than the CECOR measured value by an amount corresponding to a decrease in OPM equivalent to the ROPM (as determined by CETOP). However in order to account for the impact of postulated DNB propagation, where the ballooning of a rod in DNB may result in flow starvation and subsequent DNB in neighboring rods, a conservative approach was taken to fail all rods in any assembly that contained at least one rod in DNB. This approach was used to determine the total amount of fuel failure for all core burnup points where the misload DNB OPM penalty exceeded the COLSS ROPM.

The revised analysis demonstrates that there remains significant margin to fuel centerline melt for the worst undetectable misload under all allowed operating conditions.

3.3 <u>Fuel Assembly Misload Event Analysis Results</u>

The maximum value of fuel failure calculated for the worst undetectable misload, including very conservative consideration for DNB Propagation, was determined to be 3.2%. The maximum amount of fuel failure for the misload, including consideration of DNB propagation, was compared with the amount of fuel failure reported for the Excess Load with Loss of Alternating Current (LOAC) event AOR. Since the Excess Load with LOAC event has a larger amount of fuel failure (8%) than the worst undetectable misload, the dose consequences reported for the excess load with LOAC event (which has already been shown to be within the 10 CFR 50.67 acceptance criteria) also bound the consequences of the worst undetectable misload.

The excess load with LOAC event is described in UFSAR Section 15.1.2.3. The fuel assembly misload and the excess load with LOAC events both have fuel failure caused by exceeding the DNBR limit. The excess load with LOAC radiological consequences are described in UFSAR Section 15.1.2.3.5. The excess load with LOAC release begins when the reactor coolant source term enters the secondary side due to the Technical Specification maximum primary to secondary leakage. The release to atmosphere is from the secondary side through the atmospheric dump valves. This release pathway is the same for the fuel assembly misload event.

The result of the fuel assembly misload event analysis also bounds other less severe categories of misloads such as those of fuel pellets, fuel rods, and fuel assembly misrotations. Thus, the conclusion that the fuel failure and dose associated with an undetectable misload is bounded by the Excess Load with LOAC also applies to these events.

4. REGULATORY EVALUATION

4.1 <u>Applicable Regulatory Requirements/Criteria</u>

The Inadvertent Loading of a Fuel Assembly into the Improper Position (Fuel Assembly Misload) Event is classified as a “Limiting Fault” in the current Waterford 3 UFSAR (Reference 1, Section 15.4.3.1). The NRC guidelines for this analysis are provided by SRP 15.4.7 (Reference 2). The specific requirements on what the analysis should consider and how the requirements were met in the subject analysis are as follows:

1. *“A sufficient number of fuel-loading errors must be studied by the applicant and presented to show that the worst situation undetectable by incore instrumentation has been identified.”*

   In the present analysis, this criterion has been satisfied by explicitly calculating the power distribution associated with several postulated misloads and then analytically determining whether any of the various power distribution related startup tests will be able to detect the specific misload. An initial survey of a large number of potential assembly misloads from several representative and potential future loading patterns was performed by comparing assembly reactivity, peaking factors, and proximity to incore detectors to determine several potential candidates for the worst undetectable misload for which explicit analysis was performed. This approach, which is based on quantitative criteria, guarantees that a “sufficient number” are considered.

2. *"Changes in the power distribution and increased local power density [must be considered]."*

   This criterion has been satisfied by calculating the power distributions associated with various misloads, including the power distributions associated with the worst undetectable misload during power operation throughout the cycle.

3. *"In the event the error is not detectable by the instrumentation system and fuel rod failure limits could be exceeded during normal operation, the offsite consequences should be a small fraction of the 10 CFR Part 100 criteria."*

   Waterford 3 was licensed to the 10 CFR 50.67 limits for offsite dose consequences in License Amendment 198 (Reference 12). The offsite dose consequence acceptance criteria for a Category 3 event in 10 CFR 50.67 are the same as that for 10 CFR Part 100, i.e., a small fraction of the guideline values. Since both of these acceptance criteria are the same and the excess load with LOAC event meets the small fraction criteria, showing that the fuel assembly misload event is bounded by the excess load with LOAC event demonstrates it meets the 10 CFR 50.67 criteria.

   Per Section 15.4.7 of the SRP for the fuel assembly misload event, fuel failure is permitted provided the offsite radiological dose consequences are limited to a small fraction, or 10%, of the 10 CFR Part 100 guideline values. The Waterford 3 UFSAR identifies that an excess load with LOAC event has the same offsite radiological dose consequence limit and the same release path. The results for the excess load with LOAC event currently bound the offsite radiological consequences of the worst undetectable misload event. Therefore, the fuel assembly misload event offsite consequences are within the 10 CFR 50.67 limits and is consistent with the SRP.

   Since the fuel failure is bounded by another event which has already been shown to be within the 10 CFR 50.67 limits approved for Waterford 3 in License Amendment 198 (Reference 12), the fuel assembly misload event is within the 10 CFR 50.67 requirements for this classification of event.

4.2 Precedent

This evaluation employs the same methodology as that described in the Safety Evaluation approving Palo Verde for NGF (Reference 7) except that the ANC nuclear physics code was used as a replacement for ROCS. ANC was approved for use at Waterford 3 by License Amendment 200 (Reference 4).

4.3 No Significant Hazards Consideration Determination Analysis

The proposed change will update the results as described in Waterford 3 UFSAR of the Inadvertent Loading of a Fuel Assembly into the Improper Position (Fuel Assembly Misload) Event which concludes that the worst undetectable misload could result in fuel failure. Entergy has evaluated whether or not a significant hazards consideration is involved with the proposed change by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No

   The proposed change revises the fuel assembly misload event analysis. The analysis of the fuel assembly misload event showed that the total number of failed fuel rods is less than other Waterford 3 Condition 3 events that have already been demonstrated to meet the 10 CFR 50.67 acceptance criteria. For Waterford 3, the Excess Load with Loss of Alternating Current (LOAC) has this same release and fuel failure that has been shown to meet the offsite dose requirements. Since the worst undetectable misload has a fuel failure less than the excess load with LOAC event, the fuel assembly misload event is consistent with the Standard Review Plan 15.4.7 and meets the 10 CFR 50.67 requirements.

   This change is only analyzing the consequences of the fuel assembly misload event and no changes are being made that would impact the probability of the event occurring.

   Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No

   The proposed change revises the fuel assembly misload event analysis. The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing plant operations. The proposed change will not introduce new failure modes or effects and will not, in the absence of other unrelated failures, lead to an accident whose consequences exceed the consequences of accidents previously analyzed.

   Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

   Response: No

   The proposed change revises the fuel assembly misload event analysis. The worst undetectable misloads have fuel failure less than the excess load with the Excess Load with Loss of Alternating Current (LOAC) event; the fuel assembly misload event meets the 10 CFR 50.67 criteria and is consistent with the Standard Review Plan Section 15.4.7 guidance. The new analysis shows more adverse consequences than were shown in previous fuel assembly misload event analyses, but remains within the regulatory acceptance limits. Since the event remains within the 10 CFR 50.67 requirements and is bounded by the excess load with LOAC event, this is not a significant reduction in margin.

   Therefore, this change does not involve a significant reduction in a margin of safety.

Based on the above, Entergy concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

4.4 Conclusions

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

5. ENVIRONMENTAL CONSIDERATION

The proposed amendment has been evaluated for environmental considerations. The review has resulted in the determination that the proposed amendment would change requirements with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22, paragraph (b), no environmental impact statement or environmental assessment needs to be prepared in connection with the proposed amendment.

6. REFERENCES

1. Waterford Steam Electric Station, Unit 3, Updated Final Safety Analysis Report (UFSAR), Revision 310.
2. Standard Review Plan 15.4.7 (NUREG-0800), "Inadvertent Loading and Operation of a Fuel Assembly in an Improper Position."
3. CN-WTR3-GEN-019, Revision 1, "Fuel Assembly Misload Analysis for Waterford-3 Assuming Fuel Failure" (Proprietary).
4. NRC Safety Evaluation Report, Waterford 3 Amendment 200, Modification of Technical Specification TS 5.3.1, Fuel Assemblies, TS 5.6.1, Criticality, TS 6.9.1.11.1 Core Operating Limits Reports, and Deletion of TS Index, May 9, 2005 [ADAMS Accession Number ML051290368].
5. NRC Safety Evaluation Report, Waterford 3 Amendment 210, Core Operating Limits Report, October 6, 2006 [ADAMS Accession Number ML061930421].
6. NRC Administrative Letter 98-10, "Dispositioning of Technical Specifications that are Insufficient to Assure Plant Safety."
7. Safety Evaluation Report for Palo Verde Nuclear Generating Station, Units 1, 2, and 3 – Related to Next Generation Fuel, January 23, 2018 [ADAMS Accession Number ML17319A107].
8. Waterford Steam Electric Station Unit 3, Technical Requirements Manual, through Amendment 145.

9. Waterford Steam Electric Station, Unit 3, Technical Specifications, through Amendment 250 [ADAMS Accession Number ML053130318].

10. NRC Safety Evaluation Report, Waterford 3 Amendment 214, Next Generation Fuel, April 15, 2008 [ADAMS Accession Number ML080880014].

11. NRC Safety Evaluation Report, Waterford 3 Amendment 215, Optimized Zirlo Fuel Rod Cladding, April 16, 2008 [ADAMS Accession Number ML080380005].

12. NRC Safety Evaluation Report, Waterford 3 Amendment 198, Full Scope Implementation of an Alternative Accident Source Term, March 29, 2005 [ADAMS Accession Number ML050890248].

13. Notice of Meeting with Entergy Operations, Inc. Regarding a Planned License Amendment to Revise the Fuel Misload Analysis for the Waterford Steam Electric Station, Unit 3 [ADAMS Accession Number ML18037B112].

14. Waterford 3 - Presentation Slides for February 8, 2018 preapplication meeting to discuss Chapter 15 Fuel Misload (EPID L-2017-LRM-0068) [ADAMS Accession Number ML18037B110].

Attachment 1: Current Technical Requirements Manual Requirements
(for information only)

Enclosure Attachment 1 to

W3F1-2018-0011

Current Technical Requirements Manual Requirements

(2 Pages)

3/4.3 INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION/INCORE DETECTORS

LIMITING CONDITION FOR OPERATION

3.3.3.2 The incore detection system shall be OPERABLE with:

a. At least 75% of all incore detector locations,

b. A minimum of two quadrant symmetric incore detector locations per core quadrant, and

c. At least 75% of all incore detectors operable with at least one incore detector in each quadrant at each level.

→(DRN 03-1608, Am. 83)
←(DRN 03-1608, Am. 83)

→(DRN 03-1608, Am. 83)

d. At least one incore detector location in each 4x4 array of adjacent fuel assemblies with at least three functional rhodium detectors (one each at any three of the five axial levels).

Except for Item 3.3.3.2.d above, an OPERABLE incore detector location shall consist of a fuel assembly containing a fixed detector string with a minimum of four OPERABLE rhodium detectors.

←(DRN 03-1608, Am. 83)

APPLICABILITY: When the incore detection system is used for monitoring:

a. AZIMUTHAL POWER TILT,

b. Radial Peaking Factors,

c. Local Power Density,

d. DNB Margin.

ACTION:

a. With the incore detection system inoperable do not use the system for the above applicable monitoring or calibration functions.

→(DRN 04-1191, Am.91)

b. The provisions of TRM LCO 3.0.3 and 3.0.4 are not applicable.

←(DRN 04-1191, Am. 91)

→(DRN 03-1608, Am. 83)

c. If requirement 3.3.3.2.d above is not satisfied, then perform one of the following actions:

   1. During initial startup testing for a cycle, perform CEA symmetry checks prior to exceeding 50% power for at least one CEA group having a CEA in the 4x4 array of fuel assemblies for each 4x4 array not in compliance with Item 3.3.3.2.d above; or

3/4.3 INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION/INCORE DETECTORS (Continued)

2. Perform an evaluation within 7 EFPD to determine the ability of the incore detector system to detect an average power asymmetry of at least 10% between quadrant 4x4 arrays of assemblies with the actual operable incore detector pattern and suitable adjustments to COLSS and CPCS are installed to assure conservative predictions of the DNBR and Peak Linear Heat Rate margins. During initial startup testing for a cycle, if fuel symmetry verification testing has not been successfully completed as required, then this evaluation must be completed prior to exceeding 50% power.

←(DRN 03-1608, Am. 83)

SURVEILLANCE REQUIREMENTS

4.3.3.2 The incore detection system shall be demonstrated OPERABLE:

a. By performance of a CHANNEL CHECK within 24 hours prior to its use and at least once per 7 days thereafter when required for monitoring the AZIMUTHAL POWER TILT, radial peaking factors, local power density or DNB margin:

b. At least once per 18 months by performance of a CHANNEL CALIBRATION operation which exempts the neutron detectors but includes all electronic components. The neutron detectors shall be calibrated prior to installation in the reactor core.

→(DRN 03-1608, Am. 83)

←(DRN 03-1608, Am. 83)