

official copy

FEB 26 1992

Docket No. 50-260
License No. DPR-52

Tennessee Valley Authority
ATTN: Mr. D. A. Nauman
Senior Vice President,
Nuclear Power
6N 38A Lookout Place
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Chattanooga, TN 37402-2801

Gentlemen:

SUBJECT: TEMPORARY WAIVER OF COMPLIANCE - BROWNS FERRY UNIT 2

This letter confirms the telephone conversation between Mr. R. P. Baron of your staff and Mr. J. Johnson of my staff on February 25, 1992, granting a Regional Waiver of Compliance for Browns Ferry Unit 2. Our action was based on your written request letters dated February 25, 1992 (copies enclosed).

Technical Specification 3.5.B.9, "Residual Heat Removal (RHR) System," requires in part, that at least one RHR loop with two pumps be OPERABLE when the reactor vessel is at atmospheric pressure and irradiated fuel is in the reactor vessel. During the current maintenance shutdown of Browns Ferry Unit 2, TVA discovered that repair of a leaking RHR Valve in Loop I will render that RHR/Low Pressure Coolant Injection (LPCI) loop inoperable. RHR/LPCI Loop II will be in the Shutdown Cooling mode of operation and will not be capable of automatic realignment from the Shutdown Cooling mode to the LPCI mode. Since automatic initiation of LPCI is not available, Loop II is not considered OPERABLE and thus TVA requested a Temporary Waiver of Compliance of TS 3.5.B.9. for a period of time not to exceed 60 hours.

We understand that the compensatory measures which will be in effect for the duration of this waiver include the following:

1. Both Core Spray Loops will be maintained operable.
2. LPCI Loop II will be capable of being realigned manually from the RHR Shutdown Cooling mode in an adequate time frame to ensure core cooling requirements for the Cold Shutdown condition.
3. Additional training and procedures will be provided to the operators to ensure that manual realignment will take place upon the need for LPCI injection.

This waiver request was reviewed by the Plant Operations Review Committee (PORC) and approved by the Vice President, Browns Ferry Operations. It is our understanding that TVA will submit a formal request for change to the Technical Specification that will clarify the need for LPCI availability and capability in Cold Shutdown.

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Tennessee Valley Authority

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Prior to granting the Temporary Waiver of Compliance, the technical issues and extent of the Waiver were reviewed. They were discussed in a telephone call among J. Johnson, E. Merschoff, B. Wilson and C. Patterson of RII; and F. Hebdon and T. Ross of NRR; and O. Zeringue and J. Scalice of TVA and concurred in by G. Lainas of NRR. This one-time Waiver of Compliance was granted for up to 60 hours based on the justification and compensatory measures documented in your request letters. If you have any questions concerning this letter, please contact us.

Sincerely,

(Original signed by S. Ebnetter)

Stewart D. Ebnetter
Regional Administrator

Enclosures:

1. Letter from TVA dated
February 25, 1992
2. Letter from TVA faxed
on February 25, 1992

cc w/encs: (See page 3)

Tennessee Valley Authority

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*FOR PREVIOUS CONCURRENCE - SEE ATTACHED COPY
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*BWilson:vyg
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for LReyes
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FEB 26 1992

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FEB 25 1992

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Vice President, Browns Ferry Operations

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of
Tennessee Valley Authority

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Docket Nos. 50-259
50-260
50-296

BROWNS FERRY NUCLEAR PLANT (BFN) - WAIVER OF COMPLIANCE FOR RESIDUAL HEAT REMOVAL SYSTEM (RHRS) (LPCI and CONTAINMENT COOLING) TECHNICAL SPECIFICATION (TS) REQUIREMENTS 3.5.B.9

As discussed with NRC on February 24, 1992, it has been determined that the LPCI function of an RHR loop in Shutdown Cooling service should be considered operable in Cold shutdown. The interpretation is essential to effect necessary repairs to components in the second RHR/LPCI loop while maintaining BFN Unit 2 in Cold Shutdown. It is further necessary because the BFN TS do not explicitly identify the manual realignment of RHRS from Shutdown Cooling to LPCI mode as acceptable in Cold Shutdown for operability considerations. Manual realignment of the RHRS for this purpose is a widely accepted practice throughout the Boiling Water Reactor (BWR) industry. The requirements for at least two RHR pumps will be satisfied with the additional substitution of operator realignment of LPCI pump suction and verifying logic reset.

BFN Unit 2 has been shutdown to identify and repair components causing an increasing amount of unidentified leakage in the Drywell. One component repair will render an RHR/LPCI loop inoperable during the effort. To minimize further leakage to the Drywell, to provide maximum personnel safety, and to continue removal of residual heat this effort should proceed as expeditiously as reasonable.

Plant operators are currently trained and have procedures which provide for realignment of the RHRS from Shutdown Cooling to LPCI configuration. Additional training and procedures have been provided to ensure such actions will take place upon the need for LPCI injection.

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U. S. Nuclear Regulatory Commission

FEB 25 1992

The intent of TS 3.5.B.9 is to ensure that, at atmospheric pressure, at least one supply of makeup water is available to the core. Requiring two operable RIIR pumps and one operable Core Spray System pump, per TS 3.5.A.4, ensures this redundancy. The safety design basis for the RIIRS is that it will operate automatically except when in the Shutdown Cooling Mode. Because of low pressure and low temperature conditions in the Cold Shutdown mode, sufficient time will be available to manually align and initiate LPCI to provide core cooling prior to postulated core uncover. Additional margin has been achieved since Unit 2 has been in Shutdown since 0025 February 23, 1992.

The maintenance and repair activities necessitating this request will be needed only during the repair of components in the affected LPCI loop. This repair activity is expected to last less than 10 days. Subsequent to this request, TVA will submit a formal request for change to the TS referenced above. This proposed change will clearly identify the need for LPCI availability and capability in Cold Shutdown.

The requested action is viewed to have no safety significance because LPCI can be realigned manually from the RHR Shutdown cooling mode in an adequate time frame to ensure core cooling requirements for the Cold Shutdown condition. For this reason TVA has determined that this proposed waiver will not involve a significant increase in the probability or consequences of accident previously evaluated; or create the possibility of a new or different kind of accident from an accident previously evaluated; or involve a significant reduction in a margin of safety.

TVA, therefore, requests a verbal approval for a 10-day temporary waiver of compliance for TS 3.5.B.9 until the above repairs can be completed and the affected LPCI loop can be considered operable for automatic injection without manual realignment.

Sincerely,



O. J. Zeringue

cc: See page 3

U.S. Nuclear Regulatory Commission

FEB 25 1997

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Gentlemen:

In the Matter of)
Tennessee Valley Authority)

Docket Nos. 50-259
50-260
50-296

BROWNS FERRY NUCLEAR PLANT (BFN) - WAIVER OF COMPLIANCE FOR RESIDUAL HEAT REMOVAL SYSTEM (RHRS) (LPCI and CONTAINMENT COOLING) TECHNICAL SPECIFICATION (TS) REQUIREMENTS 3.5.B.9

As discussed with NRC on February 25, 1992, this letter provides clarification and additional compensatory actions to those stated in our previous request.

It has been determined that the LPCI function of an RHR loop in Shutdown Cooling service should be considered operable in Cold shutdown. The interpretation is essential to effect necessary repairs to components in the second RHR/LPCI loop while maintaining BFN Unit 2 in Cold Shutdown. It is further necessary because the BFN TS do not explicitly identify the manual realignment of RHRS from Shutdown Cooling to LPCI mode as acceptable in Cold Shutdown for operability considerations. In addition, both Core Spray loops will be maintained operable during the period of the waiver. Manual realignment of the RHRS for this purpose is a widely accepted practice throughout the Boiling Water Reactor (BWR) industry. The requirements for at least two RHR pumps will be satisfied with the additional substitution of operator realignment of LPCI pump suction and verifying logic reset.

BFN Unit 2 has been shutdown to identify and repair components causing an increasing amount of unidentified leakage in the Drywell. One component repair will render an RHR/LPCI loop inoperable during the effort. To minimize further leakage to the Drywell, to provide maximum personnel safety, and to continue removal of residual heat this effort should proceed as expeditiously as reasonable.

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During the repair activities both Core Spray loops will be maintained operable, affording approximately 12,500 gal/min makeup water for automatic injection. The RHR loop in shutdown cooling will maintain the availability to be manually realigned and inject in the LPCI mode. Plant operators are currently trained and have procedures which provide for realignment of the RHRS from Shutdown Cooling to LPCI configuration. Additional training and procedures will have been provided to ensure such actions will take place upon the need for LPCI injection.

The intent of TS 3.5.B.9 is to ensure that, at atmospheric pressure, at least one supply of makeup water is available to the core. Requiring two operable RHR pumps and one operable Core Spray System pump, per TS 3.5.A.4, ensures this redundancy. The safety design basis for the RHRS is that it will operate automatically except when in the Shutdown Cooling Mode. Because of low pressure and low temperature conditions in the Cold Shutdown mode, sufficient time will be available to manually align and initiate LPCI to provide core cooling prior to postulated core uncover. Additional margin has been achieved since Unit 2 mode selector switch was placed in shutdown at 0025 February 23, 1992.

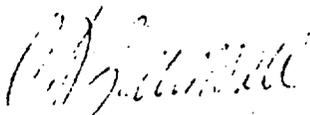
The maintenance and repair activities necessitating this request will be needed only during the repair of components in the affected LPCI loop. This repair activity is expected to last less than 60 hours. Subsequent to this request, TVA will submit a formal request for change to the TS referenced above. This proposed change will clearly identify the need for LPCI availability and capability in Cold Shutdown.

Pursuant to NRC guidance for temporary waiver of compliance, the Plant Operations Review Committee (PORC) has reviewed and approved the waiver request for this activity. The requested action is viewed to have no safety significance because LPCI can be realigned manually from the RHR Shutdown cooling mode in an adequate time frame to ensure core cooling requirements for the Cold Shutdown condition along with both operable Core Spray loops. For this reason TVA has determined that this proposed waiver will not involve a significant increase in the probability or consequences of accident previously evaluated; or create the possibility of a new or different kind of accident from an accident previously evaluated; or involve a significant reduction in a margin of safety. Further, this proposed change does not involve any adverse environmental consequences.

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TVA, therefore, requests a verbal approval for a maximum 60-hour temporary waiver of compliance for TS 3.5.B.9 commencing at the time LPCI Loop 1 becomes inoperable and until the above repairs can be completed and the affected LPCI Loop 1 can be considered operable for automatic injection without manual realignment.

Sincerely,



J. Zeringue

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Proposed No Significant Hazards Consideration

The Nuclear Regulatory Commission (NRC) has promulgated standards in 10CFR50.92(c) for determining whether a proposed amendment to a facility operating license involves no significant hazards consideration. A discussion of each of the three standards follows for the proposed waiver of compliance (WOC) for TS 3.5.B.9:

This WOC does not involve a significant increase in the probability or consequences of an accident previously evaluated. The probability of an previously evaluated accident is not increased because no new accident precursors are introduced, no new operating modes are established and no significant procedure changes are to be promulgated. The consequences of a previously analyzed accident are not increased because adequate core cooling will be assured for 2 reasons:

1. Low Pressure Coolant Injection (LPCI) can be re-aligned in time to perform its function considering current (shutdown 33 hours) residual heat loads
2. This change does not change the Core Spray (CS) availability requirements in Technical Specifications (TS)

This WOC does not create the possibility of an accident of a new or different kind than previously evaluated. There have been no new plant configurations or failure modes introduced.

This WOC does not significantly reduce the margin of safety. The time frame for responding to a requirement for LPCI injection is sufficient for manual operator actions to provide this function so that the fuel temperature does not exceed design limits. Additionally, other safety limits are not potentially compromised.