Duke Energy.

W. R. McCollum, Jr.
Vice President

Duke Energy
Oconee Nuclear Station
7800 Rochester Highway
Seneca, SC 29672
(864) 885-3107 OFFICE
(864) 885-3564 FAX

July 29, 2002

U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Document Control Desk

Subject: Oconee Nuclear Station
Docket Numbers 50-269, 270, and 287
License Amendment Request for Turbine Stop Valves
Technical Specification 3.7.2, Surveillance
Requirement 3.7.2.2
Technical Specification Change (TSC) Number
2002-02

Pursuant to Title 10, Code of Federal Regulations, Part 50, Section 90 (10 CFR 50.90), Duke Energy (Duke) proposes to amend Appendix A, Technical Specifications, for Facility Operating Licenses DPR-38, DPR-47 and DPR-55 for Oconee Nuclear Station, Units 1, 2, and 3. Technical Specification (TS) 3.7.2 Turbine Stop Valves (TSVs), Surveillance Requirement (SR) 3.7.2.2 currently requires verification that closure time for each TSV is $\leq$ 15 seconds on an actual or simulated actuation signal from Channel B. The proposed license amendment request (LAR) revises TS 3.7.2, SR 3.7.2.2 to decrease the allowable closure time from 15 seconds to 1 second.

The revised Technical Specification pages are included in Attachment 1. Attachment 2 contains the markup of the current Technical Specification pages. The Technical Justification for the amendment request is included in Attachment 3. Attachments 4 and 5 contain the No Significant Hazards Consideration Evaluation and the Environmental Impact Analysis, respectively.

Approval of this proposed LAR is requested by December 31, 2002.

Implementation of these changes will not result in an undue risk to the health and safety of the public.

A001

The Oconee Updated Final Safety Analysis Report has been reviewed and no changes are necessary to support this LAR.

This proposed change to the TS has been reviewed and approved by the Plant Operations Review Committee and Nuclear Safety Review Board.

Pursuant to 10 CFR 50.91, a copy of this proposed amendment is being sent to the South Carolina Department of Health and Environmental Control for review, and as deemed necessary and appropriate, subsequent consultation with the NRC staff.

If there are any additional questions, please contact Noel Clarkson at (864) 885-3077.

Very truly yours,

W. R. McCollum, Jr., Vice President
Oconee Nuclear Site

cc: Mr. L. N. Olshan, Project Manager
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Mail Stop O-14 H25
Washington, D. C. 20555

Mr. L. A. Reyes, Regional Administrator
U. S. Nuclear Regulatory Commission - Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, Georgia 30303

Mr. M. C. Shannon
Senior Resident Inspector
Oconee Nuclear Station

Mr. Virgil R. Autry, Director
Division of Radioactive Waste Management
Bureau of Land and Waste Management
Department of Health & Environmental Control
2600 Bull Street
Columbia, SC 29201

W. R. McCollum, Jr., being duly sworn, states that he is Vice President, Oconee Nuclear Site, Duke Energy Corporation, that he is authorized on the part of said Company to sign and file with the U. S. Nuclear Regulatory Commission this revision to the Renewed Facility Operating License Nos. DPR-38, DPR-47, DPR-55; and that all the statements and matters set forth herein are true and correct to the best of his knowledge.

W. R. McCollum, Jr., Vice President
Oconee Nuclear Site

Subscribed and sworn to before me this 29th day of July, 2002

Notary Public

My Commission Expires:

2/12/03

ATTACHMENT 1

TECHNICAL SPECIFICATION

Remove Page	Insert Page
3.7.2-2	3.7.2-2
B 3.7.2-1	B 3.7.2-1
B 3.7.2-4	B 3.7.2-4
B 3.7.2-5	B 3.7.2-5

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	----------NOTE---------- Only required to be performed in MODES 1 and 2. ---------- Verify closure time of each TSV is ≤ 1.0 seconds on an actual or simulated actuation signal from Channel A.	18 months
SR 3.7.2.2	----------NOTE---------- Only required to be performed in MODES 1 and 2. ---------- Verify closure time of each TSV is ≤ 1.0 second on an actual or simulated actuation signal from Channel B.	18 months

B 3.7 PLANT SYSTEMS

B 3.7.2 Turbine Stop Valves (TSVs)

BASES

BACKGROUND

The TSVs partially isolate steam flow from the secondary side of the steam generators following a high energy line break (HELB). TSV closure partially terminates flow from the unaffected (intact) steam generator.

Two TSVs are provided for each main steam line and are located outside of containment. The TSVs are downstream from the main steam safety valves (MSSVs) and emergency feedwater pump turbine's steam supply to prevent the MSSVs and EFW pump's steam supply from being isolated from the steam generators by TSV closure. Closing the TSVs partially isolates each steam generator from the other, and isolates the turbine from the steam generators.

TSV Closure is initiated by a reactor trip. To keep from rapidly cooling down the primary plant by drawing off too much steam, the turbine is tripped when the reactor trips. Two independent and redundant "Reactor Trip Confirmed" signals in the form of contact closures from the control rod drive system will energize two independent turbine trip mechanisms. The Channel A and B trip circuits will close all four TSVs within a maximum of 1 second.

A discussion of the TSV's function is found in the UFSAR, Section 10.3 (Ref. 1).

APPLICABLE SAFETY ANALYSES

The design basis of the TSVs is established by the analysis for the main steam line break (MSLB) as discussed in the UFSAR, Section 15.13 (Ref. 2). TSV closure is necessary to stop steam flow to the turbine (to prevent overcooling) following all reactor trips. Another failure considered is the loss of one switchgear.

The accident analysis compares several different MSLB events. The main SLB outside containment upstream of the TSV is limiting for offsite dose. The MSLB with ICS low level control and no operator action prior to ten minutes is the limiting case for a post-trip return to power. With offsite power available, the reactor coolant pumps continue to circulate coolant through the steam generators, maximizing the Reactor Coolant System (RCS) cooldown. With a loss of offsite power, the response of mitigating systems, such as the High Pressure Injection (HPI) System pumps, is delayed.

BASES

ACTIONS

C.1 and C.2 (continued)

Inoperable TSVs that cannot be restored to OPERABLE status within the specified Completion Time, but are closed, must be verified on a periodic basis to be closed. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day Completion Time is reasonable, based on engineering judgment, in view of TSV status indications available in the control room, and other administrative controls, to ensure these valves are in the closed position.

D.1 and D.2

If the TSV cannot be restored to OPERABLE status or closed in the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 12 hours and in MODE 4 within 18 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from MODE 2 conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.2.1 and SR 3.7.2.2

These SRs verify that TSV closure time of each TSV is ≤ 1.0 second on an actual or simulated actuation signal from Channel A and Channel B. The 1.0 second TSV closure time is assumed in the accident and containment analyses. This Surveillance is normally performed upon returning the unit to operation following a refueling outage.

The Frequency for this SR is 18 months. The 18 month Frequency to demonstrate valve closure time is based on the refueling cycle. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency. Therefore, the Frequency is acceptable from a reliability standpoint.

This test is conducted in MODE 3, with the unit at operating temperature and pressure, as discussed in the Reference 5 exercising requirements. This SR is modified by a Note that allows entry into and operation in MODE 3 prior to performing the SR. This allows delaying testing until MODE 3 in order to establish conditions consistent with those under which the acceptance criterion was generated.

BASES

REFERENCES

1. UFSAR, Section 10.3.
2. UFSAR, Section 15.13.
3. 10 CFR 50.36.
4. 10 CFR 100.11.

ATTACHMENT 2

MARKUP OF TECHNICAL SPECIFICATION

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	----------NOTE---------- Only required to be performed in MODES 1 and 2. ---------- Verify closure time of each TSV is ≤ 1.0 seconds on an actual or simulated actuation signal from Channel A.	18 months
SR 3.7.2.2	----------NOTE---------- Only required to be performed in MODES 1 and 2. ---------- Verify closure time of each TSV is ≤ 1~~5~~.0 second~~s~~ on an actual or simulated actuation signal from Channel B.	18 months

B 3.7 PLANT SYSTEMS

B 3.7.2 Turbine Stop Valves (TSVs)

BASES

BACKGROUND

The TSVs partially isolate steam flow from the secondary side of the steam generators following a high energy line break (HELB). TSV closure partially terminates flow from the unaffected (intact) steam generator.

Two TSVs are provided for each main steam line and are located outside of containment. The TSVs are downstream from the main steam safety valves (MSSVs) and emergency feedwater pump turbine's steam supply to prevent the MSSVs and EFW pump's steam supply from being isolated from the steam generators by TSV closure. Closing the TSVs partially isolates each steam generator from the other, and isolates the turbine from the steam generators.

TSV Closure is initiated by a reactor trip. To keep from rapidly cooling down the primary plant by drawing off too much steam, the turbine is tripped when the reactor trips. Two independent and redundant "Reactor Trip Confirmed" signals in the form of contact closures from the control rod drive system will energize two independent turbine trip mechanisms. The Channel A *and B* trip circuit*s* will close all four TSVs within a maximum of 1 second. ~~The Channel B trip circuit will close the TSVs within a maximum of 15 seconds.~~

A discussion of the TSV's function is found in the UFSAR, Section 10.3 (Ref. 1).

APPLICABLE SAFETY ANALYSES

The design basis of the TSVs is established by the analysis for the main steam line break (MSLB) as discussed in the UFSAR, Section 15.13 (Ref. 2). TSV closure is necessary to stop steam flow to the turbine (to prevent overcooling) following all reactor trips. Another failure considered is the loss of one switchgear.

The accident analysis compares several different MSLB events. The main SLB outside containment upstream of the TSV is limiting for offsite dose. The MSLB with ICS low level control and no operator action prior to ten minutes is the limiting case for a post-trip return to power. With offsite power available, the reactor coolant pumps continue to circulate coolant through the steam generators, maximizing the Reactor Coolant System (RCS) cooldown. With a loss of offsite power, the response of mitigating systems, such as the High Pressure Injection (HPI) System pumps, is delayed.

BASES

ACTIONS

C.1 and C.2 (continued)

Inoperable TSVs that cannot be restored to OPERABLE status within the specified Completion Time, but are closed, must be verified on a periodic basis to be closed. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day Completion Time is reasonable, based on engineering judgment, in view of TSV status indications available in the control room, and other administrative controls, to ensure these valves are in the closed position.

D.1 and D.2

If the TSV cannot be restored to OPERABLE status or closed in the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 12 hours and in MODE 4 within 18 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from MODE 2 conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.2.1 *and SR 3.7.2.2*

Th*ese*~~eis~~ SR*s* verif*y*~~ies~~ that TSV closure time of each TSV is ≤ 1.0 second on an actual or simulated actuation signal from Channel A *and Channel B*. The 1.0 second TSV closure time is assumed in the accident and containment analyses. This Surveillance is normally performed upon returning the unit to operation following a refueling outage.

The Frequency for this SR is 18 months. The 18 month Frequency to demonstrate valve closure time is based on the refueling cycle. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency. Therefore, the Frequency is acceptable from a reliability standpoint.

This test is conducted in MODE 3, with the unit at operating temperature and pressure, as discussed in the Reference 5 exercising requirements. This SR is modified by a Note that allows entry into and operation in MODE 3 prior to performing the SR. This allows delaying testing until MODE 3 in order to establish conditions consistent with those under which the acceptance criterion was generated.

BASES

~~SURVEILLANCE REQUIREMENTS (continued)~~

~~SR 3.7.2.2~~

~~This SR verifies that TSV closure time of each TSV is ≤ 15.0 seconds on an actual or simulated actuation signal from Channel B. This Surveillance is normally performed upon returning the unit to operation following a refueling outage.~~

~~The Frequency for this SR is 18 months. The 18 month Frequency to demonstrate valve closure time is based on the refueling cycle. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency. Therefore, the Frequency is acceptable from a reliability standpoint.~~

~~This test is conducted in MODE 3, with the unit at operating temperature and pressure, as discussed in the Reference 5 exercising requirements. This SR is modified by a Note that allows entry into and operation in MODE 3 prior to performing the SR. This allows delaying testing until MODE 3 in order to establish conditions consistent with those under which the acceptance criterion was generated.~~

REFERENCES

1. UFSAR, Section 10.3.

2. UFSAR, Section 15.13.

3. 10 CFR 50.36.

4. 10 CFR 100.11.

Attachment 3

Technical Justification

Attachment 3

Technical Justification

Background

The Turbine Stop Valves (TSVs) partially isolate steam flow from the secondary side of the steam generators following a high energy line break (HELB). TSV closure partially terminates flow from the unaffected (intact) steam generator (SG).

Two TSVs are provided for each main steam line and are located outside of containment. The TSVs are downstream from the main steam safety valves (MSSVs). Closing the TSVs partially isolates each steam generator from the other, and isolates the turbine from the steam generators.

TSV closure is initiated by a reactor trip. To keep from rapidly cooling down the primary plant by drawing off too much steam, the turbine is tripped when the reactor trips. Two independent and redundant "Reactor Trip Confirmed" signals in the form of contact closures from the control rod drive system will energize two independent turbine trip mechanisms. The Channel A and Channel B circuits both close all four TSVs.

Description of the Technical Specification Change and Technical Justification

This proposed change to Technical Specification (TS) 3.7.2, Surveillance Requirement (SR) 3.7.2.2 will decrease the allowed Channel B closure time for each TSV from $\leq$ 15 seconds to $\leq$ 1 second.

On July 23, 1998, Duke Power (Duke) responded to a Nuclear Regulatory Commission (NRC) request for additional information (RAI) on Topical Report DPC-NE-3005-P, "UFSAR Chapter 15 Transient Analysis Methodology". In Attachment 1 of this response, Duke responded to a number of questions that the NRC had raised concerning Duke's request to use a new methodology in modeling Oconee Nuclear Station (ONS) Chapter 15 accident analysis. NRC question 9 in the aforementioned RAI referred to TS SR 3.7.2.2. In this question the NRC noted that one of the turbine trip circuitry channels had a slower response time than the value assumed in the proposed new Chapter 15 Transient Analysis Methodology. The NRC requested that Duke confirm that the required

modifications to improve the response time, to match the assumed value in the new methodology, be completed prior to approval of the proposed methodology. Duke responded by requesting approval based on the preliminary implementation plan for these modifications. Duke pointed out that the current design has been the licensing basis since 1973 and that the proposed modifications are an enhancement. Duke made these modifications and the implementation plan a formal commitment to the NRC. Based on this commitment, the NRC granted Duke approval to the proposed revision to Topical Report DPC-NE-3005-P.

The modification to Channel B of the TSV closure circuitry has been completed on all three ONS units and this TS change reflects the installation of this modification. This TS change also reflects assumptions made in Topical Report DPC-NE-3005-P.

ATTACHMENT 4

NO SIGNIFICANT HAZARDS CONSIDERATION

Attachment 4
No Significant Hazards Consideration

Pursuant to 10 CFR 50.91, Duke Power Company (Duke) has made the determination that this amendment request involves a No Significant Hazards Consideration by applying the standards established by the NRC regulations in 10 CFR 50.92. This ensures that operation of the facility in accordance with the proposed amendment would not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated:

No. The request is for a decrease in the Turbine Stop Valve (TSV) closure time acceptance criteria of Technical Specification (TS) Surveillance Requirement (SR) 3.7.2.2, from a value $\leq$ 15 seconds to a value of $\leq$ 1 second. This decrease in the closure time for the Channel B closure circuitry is more conservative and is being made to match the existing 1 second or less acceptance criteria of the closure time of the Channel A closure circuitry. The new Chapter 15 Transient Analysis Methodology assumes that the TSVs will be closed in 1 second or less by either the Channel A or Channel B closure circuitry. The new design has already been installed and tested, and is more conservative than the previous design. Therefore, the request for a more restrictive TS SR does not involve a significant increase in the probability or consequences of an accident previously evaluated.

(2) Create the possibility of a new or different kind of accident from any kind of accident previously evaluated:

No. The 1 second or less closure time was and is acceptable under the existing TS SR for the Channel B circuitry since the existing acceptance criteria is 15 seconds or less. This request is to change the TS SR and its Bases to a more restrictive requirement (1 second or less). This more restrictive requirement is being requested to ensure that the installed equipment will continue to meet the conditions and assumptions that are currently in the analysis model described in the Topical Report DPC-NE-3005-P, "UFSAR Chapter 15 Transient Analysis Methodology". Therefore, this request does not create the possibility of a new or different kind of accident from any kind of accident

previously evaluated.

(3) Involve a significant reduction in a margin of safety.

No. The proposed change does not adversely affect any plant safety limits, setpoints, or design parameters. The change also does not adversely affect the fuel, fuel cladding, Reactor Coolant System, or containment integrity. Therefore, the proposed change does not involve a reduction in a margin of safety.

Duke has concluded, based on the above, that there are no significant hazards considerations involved in this amendment request.

ATTACHMENT 5

ENVIRONMENTAL ASSESSMENT

ATTACHMENT 5

Environmental Assessment

Pursuant to 10 CFR 51.22(b), an evaluation of the license amendment request (LAR) has been performed to determine whether or not it meets the criteria for categorical exclusion set forth in 10 CFR 51.22(c)9 of the regulations. The LAR does not involve:

1) A significant hazards consideration.

   This conclusion is supported by the determination of no significant hazards contained in Attachment 4.

2) A significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

   This LAR will not change the types or amounts of any effluents that may be released offsite.

3) A significant increase in the individual or cumulative occupational radiation exposure.

   This LAR will not increase the individual or cumulative occupational radiation exposure.

In summary, this LAR meets the criteria set forth in 10 CFR 51.22 (c)9 of the regulations for categorical exclusion from an environmental impact statement.