BASES

APPLICABLE SAFETY ANALYSES (continued)

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.

The TSVs remain open during power operation. These valves close upon a reactor trip. (or turbine trip signal)

CHANGES MADE VIA BASES REVISION DATED 6/2/99

a. For an HELB or an MSLB inside containment, ~~the analysis assumes the TSV in the affected steam generator remains open. For this scenario,~~ steam is discharged into containment from both steam generators until closure of the TSVs ~~in the intact steam generator occurs~~. After TSV closure, steam is discharged into containment only from the affected steam generator.

b. An MSLB outside of containment and upstream from the TSVs is not a containment pressurization concern. The uncontrolled blowdown of both steam generators must be prevented to limit the potential for uncontrolled RCS cooldown and positive reactivity addition. Closure of the TSVs isolates the break and limits the blowdown to a single steam generator.

c. An event such as increased steam flow through the turbine will terminate on closing the TSVs.

d. Following a steam generator tube rupture, closure of the TSVs isolates the ruptured steam generator from the intact steam generator.

The TSV Closure function satisfies Criterion 3 of 10 CFR 50.36 (Ref. 2).

LCO

Two TSV Closure channels are required to be OPERABLE.

This LCO provides assurance that the TSVs will perform their design safety function to mitigate the consequences of accidents that could result in offsite exposures comparable to the 10 CFR 100 limits (Ref. 3).

for Units not analyzed in accordance with DPC-NE-3005-PA

CHANGES MADE VIA BASES REVISION DATED 6/2/99

BASES

Insert A

APPLICABLE SAFETY ANALYSES (continued)

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.

The TSVs remain open during power operation. These valves close upon a turbine trip or reactor trip signal.

a. For an HELB or an SLB inside containment, ~~the analysis assumes the TSV for the affected steam generator remains open. For this scenario,~~ steam is discharged into containment from both steam generators until closure of the TSVs ~~in the intact steam generator occurs~~. After TSV closure, steam is discharged into containment only from the affected steam generator.

Insert A

For Units analyzed in accordance with DPC-NE-3005-PA, 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.

b. An MSLB outside of containment and upstream from the TSVs is not a containment pressurization concern. The uncontrolled blowdown of both steam generators must be prevented to limit the potential for uncontrolled RCS cooldown and positive reactivity addition. Closure of the TSVs isolates the break and limits the blowdown to a single steam generator.

c. Steam flow to the turbine if not controlled by the turbine control valves will terminate on closing the TSVs.

d. Following a steam generator tube rupture, closure of the TSVs isolates the ruptured steam generator from the intact steam generator.

The TSVs satisfy Criterion 3 of 10 CFR 50.36, (Ref. 3).

LCO

This LCO requires that the two TSVs in each steam line be OPERABLE. The TSVs are considered OPERABLE when the isolation times are within limits and they close on an isolation actuation signal.

This LCO provides assurance that the TSVs will perform their design safety function to mitigate the consequences of accidents that could result in offsite exposures comparable to the 10 CFR 100 limits (Ref. 4).

Attachment 2

Markup of Attachment III

of the April 5, 1999,

License Amendment Request

This License Amendment Request proposes changes to the Oconee Technical Specifications, associated Bases, UFSAR, and Core Operating Limits Report (COLR) to implement Topical Report DPC-NE-3005-PA. These proposed changes are dependent upon NRC approval of Revision 1 to DPC-NE-3005-P.

Proposed Changes to Technical Specifications and Bases

Mark-ups of the proposed changes to the Oconee Technical Specifications and Bases are provided in Attachment I. Retyped pages of the Oconee Technical Specifications and Bases are provided in Attachment II.

Proposed Changes to ITS 3.4.1 and Associated Bases

Duke proposes to modify the Note to SR 3.4.1.2 by identifying that the delta-Tcold (ΔTc) limits are applied to the loop with the lowest average temperature when there is a 0°F ΔTc setpoint dialed into the ICS. In addition, Duke proposes to revise the Bases discussions for LCO 3.4.1 and SR 3.4.1.2 to reflect the change.

When operating with three reactor coolant pumps, the NOTE to SR 3.4.1.2 allows the use of the lowest loop average temperature when comparing against the Tavg limit. The proposed change clarifies that the NOTE is valid only for operation with a ΔTc setpoint of 0°F dialed into the ICS. With units analyzed in accordance with DPC-NE-3005-PA, ΔTc operation of up to 5°F will be allowed. Analyses are underway to justify a 5°F ΔTc provided the maximum loop average temperature remains below the limits specified in the COLR (the values presently listed are typical). To account for a 5°F ΔTc, the limiting DNB peaking limits have been appropriately penalized for units analyzed in accordance with DPC-NE-3005-PA.

break (MSLB) analysis for units analyzed in accordance with DPC-NE-3005-PA;

2. identify that, for units analyzed in accordance with DPC-NE-3005-PA, the RCS variable low pressure trip setpoint allowable value does not include errors induced by the harsh environment because the trip function actuates prior to the harsh environment; and

3. clarify that the RCS low pressure reactor trip function remains the primary reactor trip function credited in the MSLB analysis for units not analyzed in accordance with DPC-NE-3005-PA.

The current analysis credits the RCS low pressure trip as the primary trip function in the MSLB analysis. The methodology approved by the NRC in DPC-NE-3005-PA credits the RCS variable low pressure reactor trip function as the primary reactor trip function in the MSLB analysis. Thus, the proposed changes to the Bases for ITS 3.3.1 were revised to reflect this revised methodology.

Proposed Changes to the Bases for ITS 3.3.15

Duke proposes to revise the Bases for ITS 3.3.15 to:

1. define in the Background and Applicable Safety Analyses sections that the turbine stop valves (TSVs) on both main steam lines are closed following a turbine or reactor trip signal;

2. define in the Applicable Safety Analyses section, for units analyzed in accordance with DPC-NE-3005-PA, the MSLB with ICS low level control and without operator action prior to ten minutes is the limiting case for a post-trip return to power;

3. clarify in the Applicable Safety Analyses section, for units not analyzed in accordance with DPC-NE-3005-PA, that the MSLB without ICS and without operator actions remains the limiting case for a post-trip return to power; and

4. clarify that the turbine stop valves on both steam generators close for an HELB or an MSLB inside containment.

For an HELB or an MSLB inside containment, the turbine stop valves in both steam lines are assumed to close in the analyses for all units. The TSVs do not close on the break, but instead close when a turbine or reactor trip signal is generated. After closure of the TSVs, steam continues to be discharged into the containment only from the affected steam generator.

Currently, the MSLB without operator action and without ICS is the limiting return to power case. For units analyzed in accordance with DPC-NE-3005-PA, the limiting case for a post-trip return to power is a MSLB with ICS low level control and no operator action prior to 10 minutes. Thus, the proposed changes to the Bases for ITS 3.3.15 were revised to reflect this methodology.

Proposed Changes to the Bases for ITS 3.7.2

Duke proposes to revise the Bases for ITS 3.7.2 to:

1. define in the Applicable Safety Analyses section that the TSVs on both main steam lines are closed following a turbine or reactor trip signal;

2. define in the Applicable Safety Analyses section, for units analyzed in accordance with DPC-NE-3005-PA, the MSLB with ICS low level control and without operator action prior to ten minutes is the limiting case for a post-trip return to power;

3. clarify in the Applicable Safety Analyses section, for units not analyzed in accordance with DPC-NE-3005-PA, that the MSLB without ICS and without operator actions remains the limiting case for a post-trip return to power; and

4. clarify that the turbine stop valves on both steam generators close for an HELB or an MSLB inside containment.

For an HELB or an MSLB inside containment, the turbine stop valves in both steam lines are assumed to close in the analyses for all units. The TSVs do not close on the break, but instead close when a turbine or reactor trip signal is generated. After closure of the TSVs, steam continues to be discharged into the containment only from the affected steam generator.

Currently, the MSLB without operator action and without ICS is the limiting return to power case. For units analyzed in accordance with DPC-NE-3005-PA, the limiting case for a post-trip return to power is a MSLB with ICS low level control and no operator action prior to 10 minutes. Thus, the proposed changes to the Bases for ITS 3.3.15 were revised to reflect this methodology.

These changes are consistent with the changes proposed to be made to the Bases for ITS 3.3.15.

Proposed Changes to the UFSAR

Mark-ups of the UFSAR are provided in Attachment VII. Oconee Unit 2 Cycle 18 will implement the revised UFSAR Chapter 15 non-LOCA analysis methodology of topical report DPC-NE-3005-P, "UFSAR Chapter 15 Transient Analysis Methodology." Revision 0 of this topical report was conditionally approved by the NRC Safety Evaluation Report (SER) dated October 1, 1998. Revision 1 was submitted on February 1, 1999 to respond to the conditions in the SER. The UFSAR Chapter 15 revisions are based on the Revision 1 methodology. Since the methodology is being separately reviewed, and since the analysis results presented follow the methodology, the UFSAR revisions are the implementation of an approved methodology once Revision 1 is approved by the NRC. Many of the results in the UFSAR revisions were already presented in Revisions 0 and 1 of DPC-NE-3005-P.

Note that the environmental consequences (offsite dose analysis) content of this revision to Chapter 15 has not been completed and will be submitted for NRC review at a

Δρ/°F		Δρ/°F	
0.90	0	0.700	0
0.00	95	0.030	15
0.00	100	-0.281	95
		-0.300	100
		-0.375	120

2) The departure from nuclear boiling parameter for the RCS loop pressure was revised as follows

Old Limits	New Limits
4 RCP: measured hot leg pressure ≥ 2070 psig	4 RCP: measured hot leg pressure ≥ 2125 psig
3 RCP: measured hot leg pressure ≥ 2100 psig	3 RCP: measured hot leg pressure ≥ 2125 psig

3) The DNB parameter for RCS loop average temperature was changed from 581 °F at a ΔTc of 0 °F to a range of values dependent upon the ΔTc. These values are presently being validated. Typical (i.e., expected) values are:

Maximum Loop Tavg Including 2°F Uncertainty	ΔTc, °F
582.20	5
582.00	4
581.75	3
581.50	2
581.25	1
581.00	0

4) The DNB parameter for RCS loop total flow was revised as follows:

Attachment 3

Revised Pages of the Core Operating Limits Report