Duke Power®
A Duke Energy Company

RON A. JONES
Vice President
Oconee Nuclear Site

Duke Power
ON01VP / 7800 Rochester Highway
Seneca, SC 29672

864 885 3158
864 885 3564 fax

August 20, 2004

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 to revise RBS flow Technical Specifications based on recent Reactor Building Spray System Modifications
Technical Specification Change (TSC) Number 2004-01

Pursuant to Title 10, Code of Federal Regulations (CFR), Part 50, Section 90 (10 CFR 50.90), Duke Energy Corporation (Duke) proposes to amend Appendix A, Technical Specifications, for Facility Operating Licenses DPR-38, DPR-47 and DPR-55 for Oconee Nuclear Station (ONS), Units 1, 2, and 3. The proposed amendment revises Technical Specification (TS) 3.3.8, "Post Accident Monitoring Instrumentation," to eliminate TS requirements associated with the Reactor Building Spray (RBS) flow instruments commensurate with the importance of their revised post accident function.

The Reactor Building Spray (RBS) System has been recently modified on all three Oconee Units to improve post-accident RBS operation. The modification eliminates the need to manually throttle RBS flow rate within 15 minutes of accident mitigation during the injection phase of post-accident operation, and the need to manually throttle RBS flow rate prior to transferring suction to the Reactor Building Emergency Sump (RBES). With this change, the RBS flow instrument is only needed to monitor operation of the RBS System. Per Regulatory Guide (RG) 1.97, Revision 3, Table 3, this variable is Category 2, Type D. Since the RBS flow is no longer a Type A or Category 1 variable, Duke proposes to eliminate the TS requirements for the RBS flow instruments.

A001

The revised TS pages are included in Attachment 1. Attachment 2 contains the markup of the current TS 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.

The proposed changes to the Technical Specifications have been reviewed and approved by the Plant Operations Review Committee and Nuclear Safety Review Board.

Approval of this proposed LAR is requested by August 31, 2005. A 90-day implementation period is requested for the Technical Specification change.

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

UFSAR changes necessary to reflect approval of this submittal will be made in accordance 10 CFR 50.71(e).

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 Boyd Shingleton at (864) 885-4716.

Very truly yours,

R. A. Jones, 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. W. D. Travers, 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. Henry Porter, Director
Division of Radioactive Waste Management
Bureau of Land and Waste Management
Department of Health & Environmental Control
2600 Bull Street
Columbia, SC 29201

R. A. Jones, 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.

R. A. Jones, Vice President
Oconee Nuclear Site

Subscribed and sworn to before me this 20th day of August, 2004

Notary Public

My Commission Expires:

6-12-2013

August 20, 2004

ATTACHMENT 1

TECHNICAL SPECIFICATION

Remove Page	Insert Page
3.3.8-1	3.3.8-1
3.3.8-2	3.3.8-2
3.3.8-3	3.3.8-3
3.3.8-5	3.3.8-5

TECHNICAL SPECIFICATION BASES

B 3.3.8-12 - 20	B 3.3.8-12 - 19
B 3.5.3-4	B 3.5.3-4
B 3.6.5-4	B 3.6.5-4

3.3 INSTRUMENTATION

3.3.8 Post Accident Monitoring (PAM) Instrumentation

LCO 3.3.8 The PAM instrumentation for each Function in Table 3.3.8-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

----------NOTES----------

1. LCO 3.0.4 is not applicable.
2. Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- Not applicable to Functions 14, 18, 19, and 22. ---------- One or more Functions with one required channel inoperable.	A.1 Restore required channel to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action in accordance with Specification 5.6.6.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- Not applicable to Functions 10, 14, 18, 19, and 22. ---------- One or more Functions with two required channels inoperable.	C.1 Restore one channel to OPERABLE status.	7 days
D. ----------NOTE---------- Only applicable to Function 10. ---------- Two required channels inoperable.	D.1 Restore one required channel to OPERABLE status.	72 hours
E. ----------NOTE---------- Only applicable to Function 14. ---------- One required channel inoperable.	E.1 Restore required channel to OPERABLE status.	24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
F. ----------NOTE---------- Only applicable to Functions 18, 19, and 22. ---------- One or more Functions with required channel inoperable.	F.1	Declare the affected train inoperable.	Immediately
G. Required Action and associated Completion Time of Condition C, D or E not met.	G.1	Enter the Condition referenced in Table 3.3.8-1 for the channel.	Immediately
H. As required by Required Action G.1 and referenced in Table 3.3.8-1.	H.1	Be in MODE 3.	12 hours
	AND		
	H.2	Be in MODE 4.	18 hours
I. As required by Required Action G.1 and referenced in Table 3.3.8-1.	I.1	Initiate action in accordance with Specification 5.6.6.	Immediately

Table 3.3.8-1 (page 1 of 1)
Post Accident Monitoring Instrumentation

	FUNCTION	REQUIRED CHANNELS	CONDITIONS REFERENCED FROM REQUIRED ACTION G.1
1.	Wide Range Neutron Flux	2	H
2.	RCS Hot Leg Temperature	2	H
3.	RCS Hot Leg Level	2	I
4.	RCS Pressure (Wide Range)	2	H
5.	Reactor Vessel Head Level	2	I
6.	Containment Sump Water Level (Wide Range)	2	H
7.	Containment Pressure (Wide Range)	2	H
8.	Containment Isolation Valve Position	2 per penetration flow path[(a)(b)(c)]	H
9.	Containment Area Radiation (High Range)	2	I
10.	Containment Hydrogen Concentration	2	H
11.	Pressurizer Level	2	H
12.	Steam Generator Water Level	2 per SG	H
13.	Steam Generator Pressure	2 per SG	H
14.	Borated Water Storage Tank Water Level	2	H
15.	Upper Surge Tank Level	2	H
16.	Core Exit Temperature	2 independent sets of 5[(d)]	H
17.	Subcooling Monitor	2	H
18.	HPI System Flow	1 per train	NA
19.	LPI System Flow	1 per train	NA
20.	Not used		
21.	Emergency Feedwater Flow	2 per SG	H
22.	Low Pressure Service Water Flow to LPI Coolers	1 per train	NA

(a) Not required for isolation valves whose associated penetration is isolated by at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.

(b) Only one position indication channel is required for penetration flow paths with only one installed control room indication channel.

(c) Position indication requirements apply only to containment isolation valves that are electrically controlled.

(d) The subcooling margin monitor takes the average of the five highest CETs for each of the ICCM trains.

BASES

LCO (continued)

19. LPI System Flow

LPI System Flow instrumentation is a Type A, Category 1 variable provided to support action for long term cooling requirements. The flow instrumentation is provided to prevent LPI and Reactor Building Spray pump runout as well as providing flow indication for HPI termination. The indication is also used to identify an LPI pump operating at system pressures above its shutoff head. Flow measurement is provided by one channel per train with readout on an indicator and recorder. There are two LPI trains. Prior to completion of the LPI cross connect modification, the LPI channels provide flow indication over a range of 0 to 6000 gpm. After completion of the LPI cross connect modification, the LPI channels provide flow indication over a range of 0 to 4000 gpm.

20. Not used

21. Emergency Feedwater Flow

EFW Flow instrumentation is a Type D, Category 1 variable provided to monitor operation of RCS heat removal via the SGs. Two channels provide indication of EFW Flow to each SG over a range of approximately 100 gpm to 1200 gpm. Redundant monitoring capability is provided by the two independent channels of instrumentation for each SG. Each flow transmitter provides an input to a control room indicator. One channel also provides input to a recorder.

EFW Flow is the primary indication used by the operator to verify that the EFW System is delivering the correct flow to each SG. However, the primary indication used by the operator to ensure an adequate inventory is SG level.

22. Low Pressure Service Water (LPSW) flow to LPI Coolers

LPSW flow to LPI Coolers is a Type A, Category 1 variable which is provided to prevent LPSW pump runout and inadequate NPSH. LPSW flow to LPI Coolers is throttled to maintain proper flow balance in the LPSW System.

BASES

LCO

22. Low Pressure Service Water (LPSW) flow to LPI Coolers (continued)

Flow measurement is provided by one channel per train with readout on an indicator and the plant computer via a qualified signal isolator. The channels provide flow indication over a range from 0-8000 gpm.

APPLICABILITY

The PAM instrumentation LCO is applicable in MODES 1, 2, and 3. These variables are related to the diagnosis and preplanned actions required to mitigate accidents and transients. The applicable accidents and transients are assumed to occur in MODES 1, 2, and 3. In MODES 4, 5, and 6, unit conditions are such that the likelihood of an event occurring that would require PAM instrumentation is low; therefore, the PAM instrumentation is not required to be OPERABLE in these MODES.

ACTIONS

The ACTIONS are modified by two Notes. Note 1 is added to the ACTIONS to exclude the MODE change restriction of LCO 3.0.4. This exception allows entry into an applicable MODE while relying on the ACTIONS even though the ACTIONS may eventually require a unit shutdown. This exception is acceptable due to the passive function of the instruments, the operator's ability to respond to an accident utilizing alternate instruments and methods, and the low probability of an event requiring these instruments.

Note 2 is added to the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.8-1. When the Required Channels for a function in Table 3.3.8-1 are specified on a "per" basis (e.g., per loop, per SG, per penetration flow path), then the Condition may be entered separately for each loop, SG, penetration flow path, etc., as appropriate. The Completion Time(s) of the inoperable channels of a Function are tracked separately for each Function starting from the time the Condition is entered for that Function.

A.1

When one or more Functions have one required channel inoperable, the inoperable channel must be restored to OPERABLE status within 30 days. The 30 day Completion Time is based on operating experience.

BASES

ACTIONS

A.1 (continued)

This takes into account the remaining OPERABLE channel, the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), and the low probability of an event requiring PAM instrumentation during this interval.

Condition A is modified by a Note indicating this Condition is not applicable to PAM Functions 14, 18, 19, and 22.

B.1

Required Action B.1 specifies initiation of action described in Specification 5.6.6 that requires a written report to be submitted to the NRC. This report discusses the results of the root cause evaluation of the inoperability and identifies proposed restorative actions. This action is appropriate in lieu of a shutdown requirement since alternative actions are identified before loss of functional capability and given the likelihood of unit conditions that would require information provided by this instrumentation. The Completion Time of "Immediately" for Required Action B.1 ensures the requirements of Specification 5.6.6 are initiated.

C.1

When one or more Functions have two required channels inoperable (i.e., two channels inoperable in the same Function), one channel in the Function should be restored to OPERABLE status within 7 days. This Condition does not apply to the hydrogen monitor channels. The Completion Time of 7 days is based on the relatively low probability of an event requiring PAM instrumentation action operation and the availability of alternative means to obtain the required information. Continuous operation with two required channels inoperable in a Function is not acceptable because the alternate indications may not fully meet all performance of qualification requirements applied to the PAM instrumentation. Therefore, requiring restoration of one inoperable channel of the Function limits the risk that the PAM Function will be in a degraded condition should an accident occur. Condition C is modified by a Note indicating this Condition is not applicable to PAM Functions 10, 14, 18, 19, and 22.

BASES

ACTIONS (continued)

D.1

When two required hydrogen monitor channels are inoperable, Required Action D.1 requires one channel to be restored to OPERABLE status. This action restores the monitoring capability of the hydrogen monitor. The 72 hour Completion Time is based on the relatively low probability of an event requiring hydrogen monitoring. Continuous operation with two required channels inoperable is not acceptable because alternate indications are not available.

Condition D is modified by a Note indicating this Condition is only applicable to PAM Function 10.

E.1

When one required BWST water level channel is inoperable, Required Action E.1 requires the channel to be restored to OPERABLE status. The 24 hour Completion Time is based on the relatively low probability of an event requiring BWST water and the availability of the remaining BWST water level channel. Continuous operation with one of the two required channels inoperable is not acceptable because alternate indications are not available. This indication is crucial in determining when the water source for ECCS should be swapped from the BWST to the reactor building sump.

Condition E is modified by a Note indicating this Condition is only applicable to PAM Function 14.

F.1

When a flow instrument channel is inoperable, Required Action F.1 requires the affected HPI or LPI train to be declared inoperable and the requirements of LCO 3.5.2 or LCO 3.5.3 apply. For Function 22, LPSW flow to LPI coolers, the affected train is the associated LPI train. For Function 18, HPI flow, an inoperable flow instrument channel causes the affected HPI train's automatic function to be inoperable. The HPI train continues to be manually OPERABLE provided the HPI discharge crossover valves and associated flow instruments are OPERABLE. Therefore, HPI is in a condition where one HPI train is incapable of being automatically actuated but capable of being manually actuated. The required Completion Time for declaring the train(s) inoperable is immediately. Therefore, LCO 3.5.2 or LCO 3.5.3 is entered immediately, and the Required Actions in the LCOs apply without delay.

BASES

ACTIONS

F.1 (continued)

This action is necessary since there is no alternate flow indication available and these flow indications are key in ensuring each train is capable of performing its function following an accident. HPI and LPI train OPERABILITY assumes that the associated PAM flow instrument is OPERABLE because this indication is used to throttle flow during an accident and assure runout limits are not exceeded or to ensure the associated pumps do not exceed NPSH requirements.

Condition F is modified by a Note indicating this Condition is only applicable to PAM Functions 18, 19, and 22.

G.1

Required Action G.1 directs entry into the appropriate Condition referenced in Table 3.3.8-1. The applicable Condition referenced in the Table is Function dependent. Each time an inoperable channel has not met the Required Action and associated Completion Time of Condition C, D, or E, as applicable, Condition G is entered for that channel and provides for transfer to the appropriate subsequent Condition.

H.1 and H.2

If the Required Action and associated Completion Time of Conditions C, D or E are not met and Table 3.3.8-1 directs entry into Condition H, the unit must be brought to a MODE in which the requirements of this LCO do not apply. To achieve this status, the unit must be brought to at least MODE 3 within 12 hours and MODE 4 within 18 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

I.1

If the Required Action and associated Completion Time of Condition C, D or E are not met and Table 3.3.8-1 directs entry into Condition I, alternate means of monitoring the parameter should be applied and the Required Action is not to shut down the unit, but rather to follow the directions of Specification 5.6.6 in the Administrative Controls section of the Technical Specifications. These alternative means may be temporarily installed if the normal PAM channel cannot be restored to OPERABLE status within the allowed time. The report provided to the NRC should discuss the

BASES

ACTIONS

I.1 (continued)

alternative means used, describe the degree to which the alternative means are equivalent to the installed PAM channels, justify the areas in which they are not equivalent, and provide a schedule for restoring the normal PAM channels.

Both the RCS Hot Leg Level and the Reactor Vessel Level are methods of monitoring for inadequate core cooling capability. The subcooled margin monitors (SMM), and core-exit thermocouples (CET) provide an alternate means of monitoring for this purpose. The function of the ICC instrumentation is to increase the ability of the unit operators to diagnose the approach to and recovery from ICC. Additionally, they aid in tracking reactor coolant inventory.

The alternate means of monitoring the Reactor Building Area Radiation (High Range) consist of a combination of installed area radiation monitors and portable instrumentation.

SURVEILLANCE REQUIREMENTS

As noted at the beginning of the SRs, the SRs apply to each PAM instrumentation Function in Table 3.3.8-1 except where indicated.

SR 3.3.8.1

Performance of the CHANNEL CHECK once every 31 days for each required instrumentation channel that is normally energized ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel with a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the two instrument channels could be an indication of excessive instrument drift in one of the channels or of something even more serious. CHANNEL CHECK will detect gross channel failure; therefore, it is key to verifying that the instrumentation continues to operate properly between each CHANNEL CALIBRATION. The high radiation instrumentation should be compared with similar unit instruments located throughout the unit. If the radiation monitor uses keep alive sources or check sources OPERABLE from the control room, the CHANNEL CHECK should also note the detector's response to these sources.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.8.1 (continued)

Agreement criteria are based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the sensor or the signal processing equipment has drifted outside its limit. If the channels are within the criteria, it is an indication that the channels are OPERABLE. If the channels are normally off scale during times when surveillance is required, the CHANNEL CHECK will only verify that they are off scale in the same direction. Offscale low current loop channels are, where practical, verified to be reading at the bottom of the range and not failed downscale.

The Frequency is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal but more frequent checks of channels during normal operational use of the displays associated with this LCO's required channels.

SR 3.3.8.2 and SR 3.3.8.3

A CHANNEL CALIBRATION is a complete check of the instrument channel, including the sensor. This test verifies the channel responds to measured parameters within the necessary range and accuracy.

Note 1 to SR 3.3.8.3 clarifies that the neutron detectors are not required to be tested as part of the CHANNEL CALIBRATION. There is no adjustment that can be made to the detectors. Furthermore, adjustment of the detectors is unnecessary because they are passive devices, with minimal drift. Slow changes in detector sensitivity are compensated for by performing the daily calorimetric calibration and the monthly axial channel calibration.

For the Containment Area Radiation instrumentation, a CHANNEL CALIBRATION may consist of an electronic calibration of the channel, not including the detector, for range decades above 10 R/hr, and a one point calibration check of the detector below 10 R/hr with a gamma source.

Whenever a sensing element is replaced, the next required CHANNEL CALIBRATION of the resistance temperature detectors (RTD)sensors or Core Exit thermocouple sensors is accomplished by an inplace cross calibration that compares the other sensing elements with the recently installed sensing element.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.8.2 and SR 3.3.8.3 (continued)

SR 3.3.8.2 is modified by a Note indicating that it is applicable only to Functions 7, 10 and 22. SR 3.3.8.3 is modified by Note 2 indicating that it is not applicable to Functions 7, 10 and 22. The Frequency of each SR is based on operating experience and is justified by the assumption of the specified calibration interval in the determination of the magnitude of equipment drift.

REFERENCES

1. Duke Power Company letter from Hal B. Tucker to Harold M. Denton (NRC) dated September 28, 1984.

2. UFSAR, Section 7.5.

3. NRC Letter from Helen N. Pastis to H. B. Tucker, "Emergency Response Capability - Conformance to Regulatory Guide 1.97," dated March 15, 1988.

4. Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Revision 3, May 1983.

5. NUREG-0737, "Clarification of TMI Action Plan Requirements," 1980.

6. 10 CFR 50.36.

BASES

APPLICABLE SAFETY ANALYSES (continued)

opening and pump start. Further, LPI flow is not credited until RCS pressure drops below the pump's shutoff head. For a large break LOCA, HPI is not credited at all.

The LPI trains satisfy Criterion 3 of 10 CFR 50.36 (Ref. 4).

LCO

In MODES 1, 2, and 3, two independent (and redundant) LPI trains are required to ensure that at least one LPI train is available, assuming a single failure in the other train. Additionally, individual components within the LPI trains may be called upon to mitigate the consequences of other transients and accidents. Each LPI train includes the piping, instruments, pumps, valves, heat exchangers and controls to ensure an OPERABLE flow path capable of taking suction from the BWST upon an ES signal and the capability to manually (remotely) transfer suction to the reactor building sump. The safety grade flow indicator of an LPI train is required to support OPERABILITY of the LPI and RBS trains to preclude NPSH or runout problems. RBS flow is hydraulically maintained by system resistance, and throttling of RBS flow is not required. Therefore, RBS flow indication is not required to support LPI or RBS train OPERABILITY. The safety grade flow indicator associated with LPSW flow to an LPI cooler is required to be OPERABLE to support LPI train OPERABILITY.

LPI BWST Suction Valves, LP-21 and LP-22 do not have an ES signal to open. These valves shall be open when automatic initiation of the LPI and the RBS system is required to be OPERABLE. If either one is closed during this time, the associated LPI and RBS train is inoperable.

In MODE 4, one of the two LPI trains is required to ensure sufficient LPI flow is available to the core.

During an event requiring LPI injection, a flow path is required to provide an abundant supply of water from the BWST to the RCS, via the LPI pumps and their respective supply headers, to the reactor vessel. In the long term, this flow path may be switched to take its supply from the reactor building sump.

This LCO is modified by four Notes. Note 1 changes the LCO requirement when in MODE 4 for the number of OPERABLE trains from two to one. Note 2 allows an LPI train to be considered OPERABLE during alignment, when aligned or when operating for decay heat removal if capable of being manually (remotely) realigned to the LPI mode of operation. This provision is necessary because of the dual requirements of the components that comprise the LPI and decay heat removal modes of the LPI System.

BASES

LCO (continued)

Each reactor building spray train shall include a spray pump, spray headers, nozzles, valves, piping, instruments, and controls to ensure an OPERABLE flow path capable of taking suction from the BWST (via the LPI System) upon an Engineered Safeguards Protective System signal and manually transferring suction to the reactor building sump. The OPERABILITY of RBS train flow instrumentation is not required for OPERABILITY of the corresponding RBS train because system resistance hydraulically maintains adequate NPSH to the RBS pumps and manual throttling of RBS flow is not required. During an event, LPI train flow must be monitored and controlled to support the RBS train pumps to ensure that the NPSH requirements for the RBS pumps are not exceeded. If the flow instrumentation or the capability to control the flow in a LPI train is unavailable then the associated RBS train's OPERABILITY is affected until such time as the LPI train is restored or the associated LPI pump is placed in a secured state to prevent actuation during an event.

Each reactor building cooling train shall include cooling coils, fusible dropout plates or duct openings, an axial vane flow fan, instruments, valves, and controls to ensure an OPERABLE flow path. Valve LPSW-108 shall be locked open to support system OPERABILITY.

APPLICABILITY

In MODES 1, 2, 3, and 4, an accident could cause a release of radioactive material to containment and an increase in containment pressure and temperature, requiring the operation of the reactor building spray trains and reactor building cooling trains.

In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Thus, the Reactor Building Spray System and the Reactor Building Cooling System are not required to be OPERABLE in MODES 5 and 6.

ACTIONS

The Actions are modified by a Note indicating that the provisions of LCO 3.0.4 do not apply for Unit 2 only. As a result, this allows entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate.

August 20, 2004

ATTACHMENT 2

MARKUP OF TECHNICAL SPECIFICATION

3.3 INSTRUMENTATION

3.3.8 Post Accident Monitoring (PAM) Instrumentation

LCO 3.3.8 The PAM instrumentation for each Function in Table 3.3.8-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

----------NOTES----------

1. LCO 3.0.4 is not applicable.
2. Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- Not applicable to Functions 14, 18, 19, 20 and 22. ---------- One or more Functions with one required channel inoperable.	A.1 Restore required channel to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action in accordance with Specification 5.6.6.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- Not applicable to Functions 10, 14, 18, 19, 20 and 22. ---------- One or more Functions with two required channels inoperable.	C.1 Restore one channel to OPERABLE status.	7 days
D. ----------NOTE---------- Only applicable to Function 10. ---------- Two required channels inoperable.	D.1 Restore one required channel to OPERABLE status.	72 hours
E. ----------NOTE---------- Only applicable to Function 14. ---------- One required channel inoperable.	E.1 Restore required channel to OPERABLE status.	24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. ----------NOTE---------- Only applicable to Functions 18, 19, 20 and 22. ---------- One or more Functions with required channel inoperable.	F.1 Declare the affected train inoperable.	Immediately
G. Required Action and associated Completion Time of Condition C, D or E not met.	G.1 Enter the Condition referenced in Table 3.3.8-1 for the channel.	Immediately
H. As required by Required Action G.1 and referenced in Table 3.3.8-1.	H.1 Be in MODE 3. AND H.2 Be in MODE 4.	12 hours 18 hours
I. As required by Required Action G.1 and referenced in Table 3.3.8-1.	I.1 Initiate action in accordance with Specification 5.6.6.	Immediately

Table 3.3.8-1 (page 1 of 1)
Post Accident Monitoring Instrumentation

	FUNCTION	REQUIRED CHANNELS	CONDITIONS REFERENCED FROM REQUIRED ACTION G.1
1.	Wide Range Neutron Flux	2	H
2.	RCS Hot Leg Temperature	2	H
3.	RCS Hot Leg Level	2	I
4.	RCS Pressure (Wide Range)	2	H
5.	Reactor Vessel Head Level	2	I
6.	Containment Sump Water Level (Wide Range)	2	H
7.	Containment Pressure (Wide Range)	2	H
8.	Containment Isolation Valve Position	2 per penetration flow path[(a)(b)(c)]	H
9.	Containment Area Radiation (High Range)	2	I
10.	Containment Hydrogen Concentration	2	H
11.	Pressurizer Level	2	H
12.	Steam Generator Water Level	2 per SG	H
13.	Steam Generator Pressure	2 per SG	H
14.	Borated Water Storage Tank Water Level	2	H
15.	Upper Surge Tank Level	2	H
16.	Core Exit Temperature	2 independent sets of 5[(d)]	H
17.	Subcooling Monitor	2	H
18.	HPI System Flow	1 per train	NA
19.	LPI System Flow	1 per train	NA
20.	~~Reactor Building Spray Flow~~ Not Used	~~1 per train~~	~~NA~~
21.	Emergency Feedwater Flow	2 per SG	H
22.	Low Pressure Service Water Flow to LPI Coolers	1 per train	NA

(a) Not required for isolation valves whose associated penetration is isolated by at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.

(b) Only one position indication channel is required for penetration flow paths with only one installed control room indication channel.

(c) Position indication requirements apply only to containment isolation valves that are electrically controlled.

(d) The subcooling margin monitor takes the average of the five highest CETs for each of the ICCM trains.

BASES

LCO (continued)

19. LPI System Flow

LPI System Flow instrumentation is a Type A, Category 1 variable provided to support action for long term cooling requirements. The flow instrumentation is provided to prevent LPI and Reactor Building Spray pump runout as well as providing flow indication for HPI termination. The indication is also used to identify an LPI pump operating at system pressures above its shutoff head. Flow measurement is provided by one channel per train with readout on an indicator and recorder. There are two LPI trains. Prior to completion of the LPI cross connect modification, the LPI channels provide flow indication over a range of 0 to 6000 gpm. After completion of the LPI cross connect modification, the LPI channels provide flow indication over a range of 0 to 4000 gpm.

Not Used

20. Reactor Building Spray Flow

Reactor Building Spray Flow instrumentation is a Type D, Category 1 variable provided to support action for long term cooling requirements and iodine removal. No operator action is required for throttling Reactor Building Spray flow. Flow measurement is provided by one channel per train with readout on an indicator and recorder. There are two RBS trains. The channels provide flow indication over a range from 0 to 1500 gpm.

The need for the RBS flow instrumentation to support action to prevent RBS and LPI pump runout was eliminated by NSM ON-X3105. This modification, which was completed on all three units as of the 1EOC21 refueling outage, added system resistance by plugging approximately 50% of the RBS spray nozzles and installing a combination pressure reducing and flow metering orifice.

The PAM TS continues to require the RBS trains associated with an inoperable PAM flow instrument to be declared inoperable until a TS change is approved to remove the unnecessary but conservative requirement.

Category 1 non-Type A instruments must be retained in the Technical Specifications because they are intended to assist operators in minimizing the consequences of certain events.

21. Emergency Feedwater Flow

EFW Flow instrumentation is a Type D, Category 1 variable provided to monitor operation of RCS heat removal via the SGs.

BASES

LCO

21. Emergency Feedwater Flow (continued)

Two channels provide indication of EFW Flow to each SG over a range of approximately 100 gpm to 1200 gpm. Redundant monitoring capability is provided by the two independent channels of instrumentation for each SG. Each flow transmitter provides an input to a control room indicator. One channel also provides input to a recorder.

EFW Flow is the primary indication used by the operator to verify that the EFW System is delivering the correct flow to each SG. However, the primary indication used by the operator to ensure an adequate inventory is SG level.

22. Low Pressure Service Water (LPSW) flow to LPI Coolers

LPSW flow to LPI Coolers is a Type A, Category 1 variable which is provided to prevent LPSW pump runout and inadequate NPSH. LPSW flow to LPI Coolers is throttled to maintain proper flow balance in the LPSW System.

Flow measurement is provided by one channel per train with readout on an indicator and the plant computer via a qualified signal isolator. The channels provide flow indication over a range from 0-8000 gpm.

APPLICABILITY

The PAM instrumentation LCO is applicable in MODES 1, 2, and 3. These variables are related to the diagnosis and preplanned actions required to mitigate accidents and transients. The applicable accidents and transients are assumed to occur in MODES 1, 2, and 3. In MODES 4, 5, and 6, unit conditions are such that the likelihood of an event occurring that would require PAM instrumentation is low; therefore, the PAM instrumentation is not required to be OPERABLE in these MODES.

ACTIONS

The ACTIONS are modified by two Notes. Note 1 is added to the ACTIONS to exclude the MODE change restriction of LCO 3.0.4. This exception allows entry into an applicable MODE while relying on the ACTIONS even though the ACTIONS may eventually require a unit shutdown. This exception is acceptable due to the passive function of the instruments, the operator's ability to respond to an accident utilizing alternate instruments and methods, and the low probability of an event requiring these instruments.

BASES

ACTIONS (continued)

Note 2 is added to the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.8-1. When the Required Channels for a function in Table 3.3.8-1 are specified on a "per" basis (e.g., per loop, per SG, per penetration flow path), then the Condition may be entered separately for each loop, SG, penetration flow path, etc., as appropriate. The Completion Time(s) of the inoperable channels of a Function are tracked separately for each Function starting from the time the Condition is entered for that Function.

A.1

When one or more Functions have one required channel inoperable, the inoperable channel must be restored to OPERABLE status within 30 days. The 30 day Completion Time is based on operating experience. This takes into account the remaining OPERABLE channel, the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), and the low probability of an event requiring PAM instrumentation during this interval.

Condition A is modified by a Note indicating this Condition is not applicable to PAM Functions 14, 18, 19, 20, and 22.

B.1

Required Action B.1 specifies initiation of action described in Specification 5.6.6 that requires a written report to be submitted to the NRC. This report discusses the results of the root cause evaluation of the inoperability and identifies proposed restorative actions. This action is appropriate in lieu of a shutdown requirement since alternative actions are identified before loss of functional capability and given the likelihood of unit conditions that would require information provided by this instrumentation. The Completion Time of "Immediately" for Required Action B.1 ensures the requirements of Specification 5.6.6 are initiated.

C.1

When one or more Functions have two required channels inoperable (i.e., two channels inoperable in the same Function), one channel in the Function should be restored to OPERABLE status within 7 days. This Condition does not apply to the hydrogen monitor channels. The Completion Time of 7 days is based on the relatively low probability of an event requiring PAM instrumentation action operation and the availability of alternative means to obtain the required information. Continuous

BASES

ACTIONS

C.1 (continued)

operation with two required channels inoperable in a Function is not acceptable because the alternate indications may not fully meet all performance of qualification requirements applied to the PAM instrumentation. Therefore, requiring restoration of one inoperable channel of the Function limits the risk that the PAM Function will be in a degraded condition should an accident occur. Condition C is modified by a Note indicating this Condition is not applicable to PAM Functions 10, 14, 18, 19, 20, and 22.

D.1

When two required hydrogen monitor channels are inoperable, Required Action D.1 requires one channel to be restored to OPERABLE status. This action restores the monitoring capability of the hydrogen monitor. The 72 hour Completion Time is based on the relatively low probability of an event requiring hydrogen monitoring. Continuous operation with two required channels inoperable is not acceptable because alternate indications are not available.

Condition D is modified by a Note indicating this Condition is only applicable to PAM Function 10.

E.1

When one required BWST water level channel is inoperable, Required Action E.1 requires the channel to be restored to OPERABLE status. The 24 hour Completion Time is based on the relatively low probability of an event requiring BWST water and the availability of the remaining BWST water level channel. Continuous operation with one of the two required channels inoperable is not acceptable because alternate indications are not available. This indication is crucial in determining when the water source for ECCS should be swapped from the BWST to the reactor building sump.

Condition E is modified by a Note indicating this Condition is only applicable to PAM Function 14.

F.1

When a flow instrument channel is inoperable, Required Action F.1 requires the affected HPI, LPI, or RBS train to be declared inoperable

or

BASES

ACTIONS

F.1 (continued)

or

and the requirements of LCO 3.5.2, LCO 3.5.3, ~~or LCO 3.6.5~~ apply. For Function 22, LPSW flow to LPI coolers, the affected train is the associated LPI train. For Function 18, HPI flow, an inoperable flow instrument channel causes the affected HPI train's automatic function to be inoperable. The HPI train continues to be manually OPERABLE provided the HPI discharge crossover valves and associated flow instruments are OPERABLE. Therefore, HPI is in a condition where one HPI train is incapable of being automatically actuated but capable of being manually actuated. The required Completion Time for declaring the train(s) inoperable is immediately. Therefore, LCO 3.5.2, LCO 3.5.3, ~~or LCO 3.6.5~~ is entered immediately, and the Required Actions in the LCOs apply without delay. This action is necessary since there is no alternate flow indication available and these flow indications are key in ensuring each train is capable of performing its function following an accident. HPI and LPI train OPERABILITY assumes that the associated PAM flow instrument is OPERABLE because this indication is used to throttle flow during an accident and assure runout limits are not exceeded or to ensure the associated pumps do not exceed NPSH requirements.

or

~~For Function 20, the RBS train associated with an inoperable RBS flow instrument must be declared inoperable even though it is no longer needed to support throttling flow because this action is required by Technical Specifications.~~

Condition F is modified by a Note indicating this Condition is only applicable to PAM Functions 18, 19, ~~20~~ and 22.

G.1

Required Action G.1 directs entry into the appropriate Condition referenced in Table 3.3.8-1. The applicable Condition referenced in the Table is Function dependent. Each time an inoperable channel has not met the Required Action and associated Completion Time of Condition C, D, or E, as applicable, Condition G is entered for that channel and provides for transfer to the appropriate subsequent Condition.

BASES

ACTIONS

H.1 and H.2 (continued)

If the Required Action and associated Completion Time of Conditions C, D or E are not met and Table 3.3.8-1 directs entry into Condition H, the unit must be brought to a MODE in which the requirements of this LCO do not apply. To achieve this status, the unit must be brought to at least MODE 3 within 12 hours and MODE 4 within 18 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

I.1

If the Required Action and associated Completion Time of Condition C, D or E are not met and Table 3.3.8-1 directs entry into Condition I, alternate means of monitoring the parameter should be applied and the Required Action is not to shut down the unit, but rather to follow the directions of Specification 5.6.6 in the Administrative Controls section of the Technical Specifications. These alternative means may be temporarily installed if the normal PAM channel cannot be restored to OPERABLE status within the allowed time. The report provided to the NRC should discuss the alternative means used, describe the degree to which the alternative means are equivalent to the installed PAM channels, justify the areas in which they are not equivalent, and provide a schedule for restoring the normal PAM channels.

Both the RCS Hot Leg Level and the Reactor Vessel Level are methods of monitoring for inadequate core cooling capability. The subcooled margin monitors (SMM), and core-exit thermocouples (CET) provide an alternate means of monitoring for this purpose. The function of the ICC instrumentation is to increase the ability of the unit operators to diagnose the approach to and recovery from ICC. Additionally, they aid in tracking reactor coolant inventory.

The alternate means of monitoring the Reactor Building Area Radiation (High Range) consist of a combination of installed area radiation monitors and portable instrumentation.

BASES

SURVEILLANCE REQUIREMENTS

As noted at the beginning of the SRs, the SRs apply to each PAM instrumentation Function in Table 3.3.8-1 except where indicated.

SR 3.3.8.1

Performance of the CHANNEL CHECK once every 31 days for each required instrumentation channel that is normally energized ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel with a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the two instrument channels could be an indication of excessive instrument drift in one of the channels or of something even more serious. CHANNEL CHECK will detect gross channel failure; therefore, it is key to verifying that the instrumentation continues to operate properly between each CHANNEL CALIBRATION. The high radiation instrumentation should be compared with similar unit instruments located throughout the unit. If the radiation monitor uses keep alive sources or check sources OPERABLE from the control room, the CHANNEL CHECK should also note the detector's response to these sources.

Agreement criteria are based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the sensor or the signal processing equipment has drifted outside its limit. If the channels are within the criteria, it is an indication that the channels are OPERABLE. If the channels are normally off scale during times when surveillance is required, the CHANNEL CHECK will only verify that they are off scale in the same direction. Offscale low current loop channels are, where practical, verified to be reading at the bottom of the range and not failed downscale.

The Frequency is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal but more frequent checks of channels during normal operational use of the displays associated with this LCO's required channels.

SR 3.3.8.2 and SR 3.3.8.3

A CHANNEL CALIBRATION is a complete check of the instrument channel, including the sensor. This test verifies the channel responds to measured parameters within the necessary range and accuracy.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.8.2 and SR 3.3.8.3 (continued)

Note 1 to SR 3.3.8.3 clarifies that the neutron detectors are not required to be tested as part of the CHANNEL CALIBRATION. There is no adjustment that can be made to the detectors. Furthermore, adjustment of the detectors is unnecessary because they are passive devices, with minimal drift. Slow changes in detector sensitivity are compensated for by performing the daily calorimetric calibration and the monthly axial channel calibration.

For the Containment Area Radiation instrumentation, a CHANNEL CALIBRATION may consist of an electronic calibration of the channel, not including the detector, for range decades above 10 R/hr, and a one point calibration check of the detector below 10 R/hr with a gamma source.

Whenever a sensing element is replaced, the next required CHANNEL CALIBRATION of the resistance temperature detectors (RTD)sensors or Core Exit thermocouple sensors is accomplished by an inplace cross calibration that compares the other sensing elements with the recently installed sensing element.

SR 3.3.8.2 is modified by a Note indicating that it is applicable only to Functions 7, 10 and 22. SR 3.3.8.3 is modified by Note 2 indicating that it is not applicable to Functions 7, 10 and 22. The Frequency of each SR is based on operating experience and is justified by the assumption of the specified calibration interval in the determination of the magnitude of equipment drift.

REFERENCES

1. Duke Power Company letter from Hal B. Tucker to Harold M. Denton (NRC) dated September 28, 1984.

2. UFSAR, Section 7.5.

3. NRC Letter from Helen N. Pastis to H. B. Tucker, "Emergency Response Capability - Conformance to Regulatory Guide 1.97," dated March 15, 1988.

4. Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Revision 3, May 1983.

BASES

REFERENCES (continued)

5. NUREG-0737, "Clarification of TMI Action Plan Requirements," 1980.

6. 10 CFR 50.36.

BASES

APPLICABLE SAFETY ANALYSES (continued)

opening and pump start. Further, LPI flow is not credited until RCS pressure drops below the pump's shutoff head. For a large break LOCA, HPI is not credited at all.

The LPI trains satisfy Criterion 3 of 10 CFR 50.36 (Ref. 4).

LCO

In MODES 1, 2, and 3, two independent (and redundant) LPI trains are required to ensure that at least one LPI train is available, assuming a single failure in the other train. Additionally, individual components within the LPI trains may be called upon to mitigate the consequences of other transients and accidents. Each LPI train includes the piping, instruments, pumps, valves, heat exchangers and controls to ensure an OPERABLE flow path capable of taking suction from the BWST upon an ES signal and the capability to manually (remotely) transfer suction to the reactor building sump. The safety grade flow indicator of an LPI train is required to support OPERABILITY of the LPI and RBS trains to preclude NPSH or runout problems. RBS flow is hydraulically maintained by system resistance, and throttling of RBS flow is not required. Therefore, RBS flow indication is not required to support LPI or RBS train OPERABILITY. ~~However, TS 3.8, Required Action F.1 requires the affected RBS train to be declared inoperable when an RBS flow instrument is inoperable. A license amendment is being processed to eliminate this requirement.~~ The safety grade flow indicator associated with LPSW flow to an LPI cooler is required to be OPERABLE to support LPI train OPERABILITY.

LPI BWST Suction Valves, LP-21 and LP-22 do not have an ES signal to open. These valves shall be open when automatic initiation of the LPI and the RBS system is required to be OPERABLE. If either one is closed during this time, the associated LPI and RBS train is inoperable.

In MODE 4, one of the two LPI trains is required to ensure sufficient LPI flow is available to the core.

During an event requiring LPI injection, a flow path is required to provide an abundant supply of water from the BWST to the RCS, via the LPI pumps and their respective supply headers, to the reactor vessel. In the long term, this flow path may be switched to take its supply from the reactor building sump.

This LCO is modified by four Notes. Note 1 changes the LCO requirement when in MODE 4 for the number of OPERABLE trains from two to one. Note 2 allows an LPI train to be considered OPERABLE during alignment, when aligned or when operating for decay heat removal if capable of being manually (remotely) realigned to the LPI mode of operation. This provision is necessary because of the dual requirements of the components that comprise the LPI and decay heat removal modes of the LPI System.

BASES

LCO (continued)

Each reactor building spray train shall include a spray pump, spray headers, nozzles, valves, piping, instruments, and controls to ensure an OPERABLE flow path capable of taking suction from the BWST (via the LPI System) upon an Engineered Safeguards Protective System signal and manually transferring suction to the reactor building sump. The OPERABILITY of RBS train flow instrumentation is not required for OPERABILITY of the corresponding RBS train because system resistance hydraulically maintains adequate NPSH to the RBS pumps and manual throttling of RBS flow is not required. However, TS 3.3.8, Required Action F.1 requires the affected RBS train to be declared inoperable when the RBS flow instrument is inoperable. A license amendment is being processed to eliminate this requirement. During an event, LPI train flow must be monitored and controlled to support the RBS train pumps to ensure that the NPSH requirements for the RBS pumps are not exceeded. If the flow instrumentation or the capability to control the flow in a LPI train is unavailable then the associated RBS train's OPERABILITY is affected until such time as the LPI train is restored or the associated LPI pump is placed in a secured state to prevent actuation during an event.

Each reactor building cooling train shall include cooling coils, fusible dropout plates or duct openings, an axial vane flow fan, instruments, valves, and controls to ensure an OPERABLE flow path. Valve LPSW-108 shall be locked open to support system OPERABILITY.

APPLICABILITY

In MODES 1, 2, 3, and 4, an accident could cause a release of radioactive material to containment and an increase in containment pressure and temperature, requiring the operation of the reactor building spray trains and reactor building cooling trains.

In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Thus, the Reactor Building Spray System and the Reactor Building Cooling System are not required to be OPERABLE in MODES 5 and 6.

ACTIONS

The Actions are modified by a Note indicating that the provisions of LCO 3.0.4 do not apply for Unit 2 only. As a result, this allows entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate.

Attachment 3
Technical Justification

Overview

Over the past three outages, Duke modified the Reactor Building Spray (RBS) System on each Oconee unit to improve post-accident RBS operation. The modification eliminates the need to manually throttle RBS flow rate within 15 minutes of accident mitigation during the injection phase of post-accident operation, eliminates the need to manually throttle RBS flow rate prior to switching to the RBES, and improves the accuracy of installed instrumentation for pump testing.

The proposed amendment revises Technical Specification (TS) 3.3.8, "Post Accident Monitoring Instrumentation," to eliminate TS requirements associated with the Reactor Building Spray (RBS) flow instruments commensurate with the importance of their revised post accident function.

Description of the Technical Specification Change

The proposed change revises TS 3.3.8, TS Bases 3.3.8, 3.5.3 & 3.6.5.

TS 3.3.8 - Post Accident Monitoring Instrumentation

Technical Specification 3.3.8 requires one RBS flow instrument channel per train be OPERABLE when in MODES 1, 2, and 3. With the required channel inoperable, ACTION F requires the affected RBS train to be declared inoperable immediately. The proposed TS change removes the RBS flow function from Table 3.3.8-1 thereby eliminating the TS requirements for the RBS flow instrument channels. Condition A, C and F Notes are modified to remove reference to Function 20 (RBS flow). The Bases for TS 3.3.8 is modified accordingly.

TS 3.5.3 Bases - Low Pressure Injection
TS 3.6.5 Bases - Reactor Building Spray and Cooling Systems

The LCO Bases currently requires the affected RBS train to be declared inoperable when the RBS flow instrument is

inoperable. The recently completed RBS modification eliminates the need to manually throttle RBS flow rate within 15 minutes of accident mitigation during the injection phase of post-accident operation and eliminates the need to manually throttle RBS flow rate prior to switching to the RBES. As such, the requirement to declare the train inoperable has been eliminated and the LCO Bases for 3.5.3 and 3.6.5 have been modified accordingly.

Justification for Change

The RBS system has been recently modified to preclude pump runout; therefore, the flow instrument is only needed to monitor system operation. Prior to the modification, the RBS flow indication was needed to allow the operator to throttle RBS flow to prevent RBS and LPI pump runout during certain accident scenarios. As such, the Required Action of declaring the affected RBS train inoperable when the flow instrument is inoperable is conservative (and no longer appropriate) and needs to be eliminated. There are alternate means to verify that the RBS is in operation, such as, verifying the RBS pump and valve status.

With this modification, the RBS flow instrument is only needed to monitor operation of the RBS System. Per Regulatory Guide (RG) 1.97, Revision 3, Table 3, this variable is Type D, Category 2. During conversion to Improved Standard Technical Specifications, Duke was required to include all Type A and Category 1 instruments identified in the NRC RG 1.97 Safety Evaluation Report for Oconee in TS Table 3.3.8-1. Since the RBS flow instrument is no longer a Type A or Category 1 variable, Duke proposes to remove the RBS flow instrument from the table.

The RBS System was modified as follows:

- The existing flow metering orifice in each RBS header was replaced with a combination pressure break down and flow metering orifice,
- 50% of the active RBS spray nozzles were plugged to assist in reducing the RBS header flow rates, to limit the pressure drop across the combination orifice to prevent cavitation, and to maintain pressure drop across the remaining spray nozzles in order to provide adequate

spray coverage area and spray droplet size for containment atmospheric washing effects, and

- High accuracy RBS pump differential pressure local indicators were installed, RBS flow transmitters were replaced, and the RBS flow indicators were re-scaled.

The components installed by this modification meet or exceed the existing design, material and construction standards. The redundancy and separation of the two independent trains were maintained. Although there was a change in the delivered RBS design flow, the effect on system performance is within the required parameters for the RBS System to meet its intended event mitigation functions. Duke analyses demonstrated that the modification has no adverse effects on the RBS system's ability to meet its required design functions, and that there are no new safety issues involved by this modification. The analyses also demonstrated that the modification did not have an adverse effect on overall system performance or on RBS pump performance due to flow restrictions or increased system pressures.

Prior to the modification, the RBS flow instruments were classified as Regulatory Guide 1.97 Category 1 Type A. Type A variables are defined as those variables which are monitored to provide the primary information required to permit the Control Room operator to take specific manually controlled actions for which no automatic control is provided and that are required for safety systems to accomplish their safety functions for design basis accidents. Primary information is defined as that which is essential for the direct accomplishment of the specified safety functions; it does not include those variables associated with contingency action which may also be identified in written procedures. This modification eliminates the need to throttle the RBS system during event mitigation. Since throttling is no longer required to assure that the RBS System accomplishes its safety function for design basis accidents, the flow instruments are no longer RG 1.97 Category 1, Type A. These flow instruments only provide information to indicate the operation of an individual safety system; therefore, they have been re-classified as Category 2, Type D variables consistent with RG 1.97.

Attachment 4
No Significant Hazards Consideration

Pursuant to 10 CFR 50.91, Duke Energy Corporation (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:

Duke proposes to remove the RBS flow instrument from Technical Specification Table 3.3.8-1 based on a change in its purpose due to recent modifications completed at Oconee. The TS 3.3.8 requirement to declare the affect RBS System train inoperable is conservative (and inappropriate) when the associated RBS flow instrument is inoperable. Due to recent plant modifications, the RBS flow instruments are no longer needed to allow the operator to throttle flow to preclude RBS pump runout post accident. The revised post accident function of this PAM instrument is to provide information to indicate the operation of the RBS System. There are alternate means to verify that the RBS is in operation, such as, verifying the RBS pump and valve status. The failure of an RBS flow instrument has no impact on the probability of an accident analyzed in the UFSAR. The RBS flow instrument is no longer needed to mitigate the consequences of an accident analyzed in the UFSAR. As such, the proposed LAR 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:

Duke proposes to remove the RBS flow instrument from Technical Specification Table 3.3.8-1 based on a change in its purpose due to recent modifications completed at Oconee. The TS 3.3.8 requirement to declare the affect RBS System train inoperable is conservative (and

inappropriate) when the associated RBS flow instrument is inoperable. Due to recent plant modifications, the RBS flow instruments are no longer needed to allow the operator to throttle flow to preclude RBS pump runout post accident. These changes do not alter the nature of events postulated in the Safety Analysis Report nor do they introduce any unique precursor mechanisms. Therefore, the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The proposed TS changes do not unfavorably affect any plant safety limits, set points, or design parameters. The changes also do not unfavorably affect the fuel, fuel cladding, RCS, or containment integrity. Therefore, the proposed TS change, which changes TS requirements associated with revised PAM function of the RBS flow instrument channels, does not involve a significant reduction in the 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

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.