



James Scarola
Vice President
Harris Nuclear Plant

MAY 29 2002

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

SERIAL: HNP-02-078
10CFR50.90

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR EMERGENCY LICENSE AMENDMENT
TECHNICAL SPECIFICATIONS 3/4.3.3.6

Dear Sir or Madam:

In accordance with the Code of Federal Regulations, Title 10, Part 50.90, Carolina Power & Light Company (CP&L) requests a revision to the Technical Specifications (TS) for the Harris Nuclear Plant (HNP). The proposed amendment revises Technical Specifications 3/4.3.3.6 "Accident Monitoring Instrumentation" and associated bases.

Enclosure 1 provides a description of the proposed changes, the basis for the changes, and the basis of emergency need. Enclosure 2 details, in accordance with 10 CFR 50.91(a), the basis for CP&L's determination that the proposed changes do not involve a significant hazards consideration. Enclosure 3 provides an environmental evaluation which demonstrates that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental assessment is required for approval of this amendment request. Enclosure 4 provides page change instructions for incorporating the proposed revisions. Enclosure 5 provides the proposed Technical Specification pages.

In accordance with 10 CFR 50.91(b), CP&L is providing the State of North Carolina with a copy of the proposed license amendment. CP&L requests that the proposed amendment be issued such that implementation will occur within 2 days of issuance to allow time for procedure revision and orderly incorporation into copies of the Technical Specifications.

Please refer any questions regarding this submittal to Mr. J. R. Caves at (919) 362-3137.

Sincerely,

RTG/rtg

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New Hill, NC 27562

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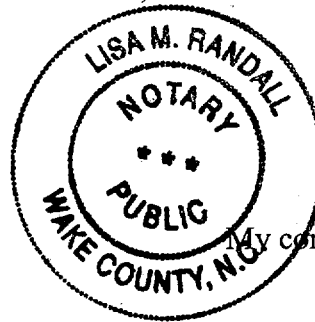
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Enclosures:

1. Basis for Change Request
2. 10 CFR 50.92 Evaluation
3. Environmental Considerations
4. Page Change Instructions
5. Technical Specification Pages

James Scarola, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief, and the sources of his information are employees, contractors, and agents of Carolina Power & Light Company.

Lisa M. Randall



Notary (Seal)

My commission expires:

6-7-03

c:

- Mr. J. B. Brady, NRC Sr. Resident Inspector
- Mr. M. Fry, Director, N.C. DEHNR
- Mr. J. M. Goshen, NRC Project Manager
- Mr. L. A. Reyes, NRC Regional Administrator

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BASIS FOR CHANGE REQUEST

Background

Design

The Reactor Vessel Level Indicating System (RVLIS) consists of two redundant independent trains that monitor the reactor vessel water level. Each train provides three level indications: full range, upper range, and dynamic head. The full range RVLIS reading provides an indication of reactor vessel water level from the bottom of the vessel to the top of the vessel during natural circulation conditions. The upper range RVLIS reading provides an indication of reactor vessel level from the hot leg pipe to the top of the reactor vessel head during natural circulation conditions. The dynamic head reading provides an indication of reactor core, internals, and outlet nozzle pressure drop for any combination of operating reactor coolant pumps. Comparison of the measured pressure drop with the normal, single-phase pressure drop provides an approximate indication of the relative void content of the circulating fluid.

RVLIS is a fully qualified and redundant system for monitoring water inventory in the reactor vessel. Each of the two channels provides differential pressure cells and transmitters for narrow and wide range monitoring over the full length of the vessel, with the reactor coolant pumps off (natural circulation) and on, respectively. Additionally, narrow range monitoring is provided for each channel of the upper plenum during natural circulation. Each channel's microprocessor utilizes these D/P signals in conjunction with other inputs such as Reactor Coolant System (RCS) pressure, RCS temperature, (loop RTDs or in core thermocouples), RVLIS reference leg temperature sensors, to compensate for density changes in the system reference legs so as to provide direct water level readings available for operator use.

Qualified in core thermocouples are utilized to determine core exit temperature. These thermocouples are inputs to and processed by the RVLIS microprocessors. Both RVLIS water level readings and incore exit thermocouple data are data-linked to the plant computer for primary display, which is located on the Main Control Board. The data link is supplied from an isolated non-Class 1E output from the qualified RVLIS microprocessors. The RVLIS Train A cabinet and associated isolation device is located on the 286 ft level of the Reactor Auxiliary Building (RAB) and the RVLIS Train B cabinet and associated isolation device is located on the 305 ft level of the RAB adjacent to the Main Control Room.

Additionally, qualified microprocessor outputs (RVLIS water level and thermocouple data) are transmitted to dedicated redundant backup displays. These backup displays are alphanumeric and qualified (Class 1E), and are located in the control room. The primary and backup displays have a selective capability for providing RVLIS water level, thermocouple data, and temperature mapping functions.

The input to the plant computer is also used to determine the margin to saturation, which can be displayed on demand. The plant computer processes and calculates subcooling data using temperature and pressure signals from the reactor coolant system. Displayed information includes margin of subcooling data both graphically and in engineering units. In accordance with the provisions of Regulatory Guide 1.97, Rev. 3, operator confirmation of subcooling data is provided through the use of qualified pressure and temperature signals and ASME steam tables.

Thermocouples utilized for the core exit for each core quadrant (in conjunction with core inlet temperature data) are sufficient to provide indication of radial distribution of the coolant enthalpy rise across representative regions of the core.

The primary display has the following capabilities:

1. A spatially oriented core map indicating the temperature or temperature difference across the core (at each thermocouple location) is displayed on the operator display device.
2. A selective reading of core exit temperature, which is consistent with parameters pertinent to operator actions in connection with plant-specific inadequate core cooling procedures, is continuous on demand.
3. Direct readout and hard copy capability is available for all thermocouple temperatures. The range meets the 200°F to 2300°F requirement of Regulatory Guide 1.97. Hard copy is provided by computer printout.
4. Trend capability showing the temperature-time history of representative core exit temperature values is available on demand.
5. Alarms are provided in the control room. These alarms are set to be consistent with the decision points in the emergency operating procedures.
6. The display interface is located in accordance with human-factor design in order to provide rapid access to requested displays.

A backup display in the Control Room is provided with the capability for selective reading of each of the operable thermocouples. The range meets the 200°F to 2300°F requirement of Regulatory Guide 1.97.

The types and locations of displays and alarms will take into account the following:

1. The use of this information by an operator during both normal and abnormal plant conditions.
2. Integration into emergency procedures.
3. Integration into operator training.
4. Other alarms during an emergency and need for prioritization of alarms.

The primary and backup display channels are electrically independent, energized from independent station Class 1E power sources, and physically separated in accordance with Regulatory Guide 1.75 up to and including the isolation devices. The primary display and associated hardware beyond the isolation device are energized from a high reliability power source. The backup display, associated hardware, and power source is Class 1E.

Reason For Request to Issue Under Emergency Situations

Recently, one train of the Inadequate Core Cooling Monitors at Harris Nuclear Plant (HNP) experienced a failure. The associated Technical Specifications (TS) require that the inoperable channel be restored to service within 7 days or the plant must be shutdown. It is possible that the failed channel will not be restored within the allowed out of service time such that a plant shutdown would be required.

Maintenance to recover the failed channel has been successful in restoring the equipment to an operable condition for limited periods. The HNP staff has not been successful in determining the appropriate permanent repair through electronic card replacements, recalibration efforts, and other electronic component replacements. After diligent efforts to find and repair the problem, including bringing in the vendor's system expert, it is evident that there is a strong possibility that it will take longer than the allowed 7 days to both make the necessary repairs and provide a reasonable run duration to ensure sustained operability.

Failure to issue this emergency TS change in a timely manner could result in an unnecessary shutdown of the HNP without any significant benefit to public health and safety. A plant shutdown would be an inappropriate burden on the plant considering the low risk associated with allowing a channel of the post-accident monitoring instrumentation to be out of service for 30 days, based on industry operating experience and the availability of redundant equipment.

Proposed Change

Revise TS 3/4.3.3.6 "Accident Monitoring Instrumentation Limiting Condition for Operation" action statements for RVLIS and In Core Thermocouples to be consistent with previously NRC approved guidance contained in NUREG-1431, Rev. 2.

Basis for the Proposed Change

The HNP TS Bases for Accident Monitoring states the following: "The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, Revision 3." The RVLIS and In Core Thermocouple design meets the intent of Regulatory Guide 1.97. The HNP design stipulates redundancy for RVLIS and In Core thermocouples. A fully 100% functional channel would be available should a channel fail. The RVLIS and In Core Thermocouple systems do not automatically actuate any component. These monitoring systems are used for indication only. Diverse monitoring is available for core cooling indication requirements such as Reactor Coolant Hot and Cold Leg temperature indications as well as Reactor Coolant System pressure.

Current HNP TS were modeled after NUREG-0452, which was the previous Westinghouse TS standard prior to generation of NUREG-1431 (improved TS, ITS). The current HNP TS are much more restrictive in terms of TS allowed out of service than ITS. The current HNP TS require a plant shutdown with one channel of accident monitors inoperable after seven days has elapsed. ITS bases allow up to 30 days for a single channel of accident monitoring to be inoperable. The bases in ITS for the thirty days are as follows: "The thirty-day completion time is based on operating experience and 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 a PAM instrument during this interval." If the thirty-day completion time was not met, then a written report to the NRC would be required to outline the preplanned alternate method of monitoring (in this case the other redundant channel would be available), the cause of the inoperability, and plans and a schedule for restoring the instrumentation channels of the function to operable status.

The ITS require that if both channels of RVLIS or In Core thermocouples are inoperable then restore an inoperable channel within 7 days. The completion time of 7 days is based on the relatively low probability of an event requiring post accident monitoring instrumentation operation and the availability of alternate means to obtain the required information. Diverse monitoring is available for core cooling indication requirements such as Reactor Coolant Hot and Cold Leg temperature indications as well as Reactor Coolant System pressure. These parameters can be used to manually calculate subcooling margin, which normally uses core exit temperatures. Other parameters are available to the operators that provide indication that a steam bubble may be forming in the reactor vessel head area such as: make up water flow (charging flow) balanced with letdown flow, RCS subcooling margin (can be determined manually using

RCS pressure and temperature), RCS pressure, and pressurizer level. Guidance for the plant operators can be found in procedures such as Emergency Operating Procedure-End Path Procedure (EPP)-007, "Natural Circulation Cooldown with Steam Void in Vessel Without RVLIS."

Conclusion

The proposed changes are acceptable because they present no significant reduction in the margin of safety and no significant increase in risk. The proposed changes are consistent with changes previously approved by the NRC for these instruments at other operating water-cooled power reactors.

SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
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10 CFR 50.92 EVALUATION

The Commission has provided standards in 10 CFR 50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazards consideration if 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, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety. Carolina Power & Light Company has reviewed this proposed license amendment request and determined that its adoption would not involve a significant hazards determination. The bases for this determination are as follows:

Proposed Change

Revise the requirements for inoperable Reactor Vessel Level and In Core Thermocouples channels to be consistent with NUREG-1431.

Basis

This change does not involve a significant hazards consideration for the following reasons:

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The Harris Nuclear Plant (HNP) Technical Specification (TS) Bases for Accident Monitoring states the following: "The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide (RG) 1.97, Revision 3." The Reactor Vessel Level Indicating System (RVLIS) and In Core Thermocouple design meets the intent of RG 1.97. The HNP design (and RG 1.97) stipulates redundancy for RVLIS and In Core thermocouples. A fully 100% functional channel would be available should a channel fail. The RVLIS and In Core Thermocouple systems do not automatically actuate any component. These monitoring systems are used for indication only. Diverse monitoring is available for core cooling indication requirements such as

Reactor Coolant Hot and Cold Leg temperature indications as well as Reactor Coolant System pressure.

Since the RVLIS and In Core Thermocouple systems do not automatically actuate any component and these monitoring systems are used for indication only, these changes do not significantly affect the consequences of an accident. RVLIS and In Core Thermocouples are not credited in the HNP Final Safety Analysis Report (FSAR) accident analysis as equipment available for transient and accident conditions. The changes in this license amendment do not modify the design or operation of Structures, Systems, and Components (SSCs) that initiate or mitigate the consequences of an accident.

RVLIS and In Core Thermocouples as monitoring instrumentation systems cannot affect system parameters and therefore cannot initiate an accident as described in the HNP FSAR. Therefore, the proposed amendment does not involve a significant increase in the probability of an accident previously evaluated.

2. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes do not involve new plant components or procedures, but only revise existing Technical Specification Actions Requirements. RVLIS and In Core Thermocouples as monitoring instrumentation systems cannot affect system parameters and therefore cannot initiate an accident as described in the HNP FSAR. These changes do not modify the design or operation of Structures, Systems, and Components (SSCs) that could initiate an accident.

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

3. The proposed amendment does not involve a significant reduction in the margin of safety.

The inclusion of RG 1.97 category 1, type A or B, instrumentation in the TS provides assurance that adequate information is available to the operators to maintain HNP in a safe condition during and following a design basis accident. The proposed changes do not affect the design or operation of safety related components relied upon to automatically mitigate the consequences of a design basis event. The RVLIS and In Core Thermocouple systems do not automatically actuate any component. These monitoring systems are used for indication only. Diverse monitoring is available for core cooling indication requirements such as Reactor Coolant Hot and Cold Leg temperature, Pressurizer level, Charging and Letdown flow indications as well as Reactor Coolant System pressure. Plant procedures are in place to direct operators on the availability of alternate monitoring parameters in the event they are necessary. RVLIS and In Core Thermocouples as monitoring instrumentation systems cannot affect system parameters and therefore cannot initiate an accident as described in the HNP FSAR.

The required 30-day action time associated with this change for when one or more functions have one required channel that is inoperable, takes into account recent operating experience and 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 Post Accident Monitoring (PAM) instrumentation during this interval.

For conditions when two required channels are inoperable, the revised action in this license amendment requires restoring one channel in the function to OPERABLE status within 7 days. The Completion Time of 7 days is based on the relatively low probability of an event requiring PAM instrument operation and the availability of alternate means to obtain the required information. The proposed change will not allow continuous operation with two required channels inoperable. 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.

Based on these considerations, the proposed change does not involve a significant reduction in the margin of safety.

SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR EMERGENCY LICENSE AMENDMENT
TECHNICAL SPECIFICATIONS 3/4.3.3.6

ENVIRONMENTAL CONSIDERATIONS

10 CFR 51.22(c)(9) provides criterion for and identification of licensing and regulatory actions eligible for categorical exclusion from performing an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration; (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite; (3) result in a significant increase in individual or cumulative occupational radiation exposure. Carolina Power & Light Company has reviewed this request and determined that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of the amendment. The basis for this determination follows:

Proposed Change

Revise the requirements for inoperable Reactor Vessel Level and In Core Thermocouples channels to be consistent with NUREG-1431.

Basis

The change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) for the following reasons:

1. As demonstrated in Enclosure 2, the proposed amendment does not involve a significant hazards consideration.
2. The proposed amendment does not result in a significant change in the types or increase in the amounts of any effluents that may be released offsite.

The change does not introduce any new effluents or significantly increase the quantities of existing effluents. As such, the change cannot significantly affect the types or amounts of any effluents that may be released offsite.

3. The proposed amendment does not result in a significant increase in individual or cumulative occupational radiation exposure.

The proposed change does not result in any physical plant changes or new surveillances that would require additional personnel entry into radiation controlled areas. Therefore, the amendment has no significant affect on either individual or cumulative occupational radiation exposure.

ENCLOSURE 4 TO SERIAL: HNP-02-078

SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR EMERGENCY LICENSE AMENDMENT
TECHNICAL SPECIFICATIONS 3/4.3.3.6

PAGE CHANGE INSTRUCTIONS

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3/4 3-66	3/4 3-66
3/4 3-67	3/4 3-67
B3/4 3-5	B3/4 3-5

ENCLOSURE 5 TO SERIAL: HNP-02-078

SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
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TECHNICAL SPECIFICATIONS 3/4.3.3.6

TECHNICAL SPECIFICATION PAGES

INSTRUMENTATION

ACCIDENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.6 The accident monitoring instrumentation channels shown in Table 3.3-10 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION: Add — except In Core Thermocouples and Reactor Vessel Level,

- a. With the number of OPERABLE accident monitoring instrumentation channels less than the Total Required Number of Channels requirements shown in Table 3.3-10 restore the inoperable channel(s) to OPERABLE status within 7 days, or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours.
- b. Add — In Core Thermocouples or Reactor Vessel Level,
With the number of OPERABLE accident monitoring instrumentation channels, except the radiation monitors, the Pressurizer Safety Valve Position Indicator, or the Reactor Coolant System Subcooling Margin Monitor, less than the Minimum Channels OPERABLE requirements of Table 3.3-10, restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours.
- c. With the number of OPERABLE accident monitoring instrumentation channels for the radiation monitor(s), the Pressurizer Safety Valve Position Indicator*, or the Reactor Coolant System Subcooling Margin Monitor#, less than the Minimum Channels OPERABLE requirements of Table 3.3-10, initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours, and either restore the inoperable channel(s) to OPERABLE status within 7 days or prepare and submit a Special Report to the Commission, pursuant to Specification 6.9.2, within the next 14 days, that provides actions taken, cause of the inoperability, and the plans and schedule for restoring the channel(s) to OPERABLE status.

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The provisions of Specification 3.0.4 are not applicable.

* The alternate method shall be a check of safety valve piping temperatures and evaluation to determine position.

The alternate method shall be the initiation of the backup method as required by Specification 6.8.4.d.

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SURVEILLANCE REQUIREMENTS

4.3.3.6 Each accident monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION at the frequencies shown in Table 4.3-7.

Add
Amendment No.

Insert d & e. for page 3/4 3-66

that provides actions taken, cause of the inoperability, and the plans and schedule for restoring the channel(s) to OPERABLE status.

- d. With the number of OPERABLE accident monitoring instrumentation channels for In Core Thermocouples or Reactor Vessel Level less than the Total Required Number of channels shown in Table 3.3-10, restore the inoperable channel(s) to OPERABLE status within 30 days or submit a Special Report, pursuant to specification 6.9.2, within the following 14 days from the time the action is required. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels to operable status.
- e. With the number of OPERABLE accident monitoring instrument channels for In Core Thermocouples or Reactor Vessel Level less than the minimum channels OPERABLE requirement of Table 3.3-10, either restore one channel to OPERABLE status within 7 days or be in at least HOT STANDBY in the next 6 hours and in HOT SHUTDOWN within the next 12 hours.

SHEARON HARRIS - UNIT 1 3/4 3-66

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Amendment No.

INSTRUMENTATION

BASES

REMOTE SHUTDOWN SYSTEM (Continued)

This capability is consistent with General Design Criterion 3 and Appendix R to 10 CFR Part 50.

3/4.3.3.6 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, Revision 3, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," May 1983 and NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.

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BASES

REMOTE SHUTDOWN SYSTEM (Continued)

This capability is consistent with General Design Criterion 3 and Appendix R to 10 CFR Part 50.

3/4.3.3.6 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, Revision 3, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," May 1983 and NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.

The RVLIS and In Core Thermocouple design meets the intent of Regulatory Guide 1.97. The HNP design (and Regulatory Guide 1.97) stipulates redundancy for RVLIS and Incore thermocouples. A fully 100% functional channel would be available should a channel fail.

The RVLIS and In Core Thermocouple systems do not automatically actuate any component. These monitoring systems are used for indication only. Diverse monitoring is available for core cooling indication requirements such as Reactor Coolant Hot and Cold Leg temperature indications as well as Reactor Coolant System pressure.

The thirty-day completion time for one inoperable channel of RVLIS or In Core Thermocouples is based on operating experience and 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 an instrument during this interval. If the thirty-day completion time was not met, then a written report to the NRC would be required to outline the preplanned alternate method of monitoring (in this case the other redundant channel would be available), the cause of the inoperability, and plans and a schedule for restoring the instrumentation channels of the Function to operable status.

If both channels of RVLIS or In Core Thermocouples are inoperable, then restore an inoperable channel within 7 days. The completion time of 7 days is based on the relatively low probability of an event requiring RVLIS and In Core Thermocouple instrumentation operation and the availability of alternate means to obtain the required information. Diverse monitoring is available for core cooling indication requirements such as Reactor Coolant Hot and Cold Leg temperature indications as well as Reactor Coolant System pressure. These parameters can be used to manually determine subcooling margin, which normally uses core exit temperatures.

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INSTRUMENTATION

ACCIDENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.6 The accident monitoring instrumentation channels shown in Table 3.3-10 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With the number of OPERABLE accident monitoring instrumentation channels, except In Core Thermocouples and Reactor Vessel Level, less than the Total Required Number of Channels requirements shown in Table 3.3-10 restore the inoperable channel(s) to OPERABLE status within 7 days, or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours.
- b. With the number of OPERABLE accident monitoring instrumentation channels, except the radiation monitors, the Pressurizer Safety Valve Position Indicator, the Reactor Coolant System Subcooling Margin Monitor, In Core Thermocouples or Reactor Vessel Level, less than the Minimum Channels OPERABLE requirements of Table 3.3-10, restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours.
- c. With the number of OPERABLE accident monitoring instrumentation channels for the radiation monitor(s), the Pressurizer Safety Valve Position Indicator*, or the Reactor Coolant System Subcooling Margin Monitor#, less than the Minimum Channels OPERABLE requirements of Table 3.3-10, initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours, and either restore the inoperable channel(s) to OPERABLE status within 7 days or prepare and submit a Special Report to the Commission, pursuant to Specification 6.9.2, within the next 14 days, that provides actions taken, cause of the inoperability, and the plans and schedule for restoring the channel(s) to OPERABLE status.
- d. With the number of OPERABLE accident monitoring instrumentation channels for In Core Thermocouples or Reactor Vessel Level less than the total required number of channels shown in Table 3.3-10, restore the inoperable channel(s) to OPERABLE status within 30 days or submit a Special Report, pursuant to specification 6.9.2, within the following 14 days from the time the action is required. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels to operable status.
- e. With the number of OPERABLE accident monitoring instrument channels for In Core Thermocouples or Reactor Vessel Level less than the minimum channels OPERABLE requirement of Table 3.3-10, either restore one channel to OPERABLE status within 7 days or be in at

INSTRUMENTATION

ACCIDENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

least HOT STANDBY in the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours.

f. The provisions of Specification 3.0.4 are not applicable.

* The alternate method shall be a check of safety valve piping temperatures and evaluation to determine position.

The alternate method shall be the initiation of the backup method as required by Specification 6.8.4.d.

SURVEILLANCE REQUIREMENTS

4.3.3.6 Each accident monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION at the frequencies shown in Table 4.3-7.

INSTRUMENTATION

BASES

REMOTE SHUTDOWN SYSTEM (Continued)

This capability is consistent with General Design Criterion 3 and Appendix R to 10 CFR Part 50.

3/4.3.3.6 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, Revision 3, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," May 1983 and NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980. The RVLIS and In Core Thermocouple design meets the intent of Regulatory Guide 1.97. The HNP design (and Regulatory Guide 1.97) stipulates redundancy for RVLIS and In Core Thermocouples. A fully 100% functional channel would be available should a channel fail.

The RVLIS and In Core Thermocouple systems do not automatically actuate any component. These monitoring systems are used for indication only. Diverse monitoring is available for core cooling indication requirements such as Reactor Coolant Hot and Cold Leg temperature indications as well as Reactor Coolant System pressure.

The thirty-day completion time for one inoperable channel of RVLIS or In Core Thermocouples is based on operating experience and 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 an instrument during this interval. If the thirty-day completion time was not met, then a written report to the NRC would be required to outline the preplanned alternate method of monitoring (in this case the other redundant channel would be available), the cause of the inoperability, and plans and a schedule for restoring the instrumentation channels of the Function to operable status.

If both channels of RVLIS or In Core Thermocouples are inoperable, then restore an inoperable channel within 7 days. The completion time of 7 days is based on the relatively low probability of an event requiring RVLIS and In Core Thermocouple instrumentation operation and the availability of alternate means to obtain the required information. Diverse monitoring is available for core cooling indication requirements such as Reactor Coolant Hot and Cold Leg temperature indications as well as Reactor Coolant System pressure. These parameters can be used to manually determine subcooling margin, which normally uses core exit temperatures.

3/4.3.3.7 DELETED

3/4.3.3.8 DELETED

3/4.3.3.9 DELETED

3/4.3.3.10 DELETED