

ATTACHMENT I to JPN-92-021

CURRENT TECHNICAL SPECIFICATIONS TO BE CHANGED REGARDING
REMOVAL OF REACTOR VESSEL HEAD SPRAY PORTION OF RHR
PIPING AND ASSOCIATED VALVES

JPTS-92-016

New York Power Authority

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
Docket No. 50-333

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TABLE 4.2-1
 MINIMUM TEST AND CALIBRATION FREQUENCY FOR PCIS

Instrument Channel (8)	Instrument Functional Test	Calibration Frequency	Instrument Check (4)
1) Reactor High Pressure (Shutdown Cooling Permissive)	(1)	Once/3 months	None
2) Reactor Low-Low-Low Water Level	(1)(5)	(15)	Once/day
3) Main Steam High Temp.	(1)(5)	(15)	Once/day
4) Main Steam High Flow	(1)(5)	(15)	Once/day
5) Main Steam Low Pressure	(1)(5)	(15)	Once/day
6) Reactor Water Cleanup High Temp.	(1)	Once/3 months	None
7) Condenser Low Vacuum	(1)(5)	(15)	Once/day
Logic System Functional Test (7) (9)		Frequency	
1) Main Steam Line Isolation valves Main Steam Line Drain Valves Reactor Water Sample Valves		Once/6 months	
2) RHR - Isolation Valve Control Shutdown Cooling Valves Head Spray		Once/6 months	
3) Reactor Water Cleanup Isolation		Once/6 months	
4) Drywell Isolation Valves Tip Withdrawal Atmospheric Control Valves		Once/6 months	
5) Standby Gas Treatment System Reactor Building Isolation		Once/6 months	

NOTE: See listing of notes following Table 4.2-3 for the notes referred to herein.

ATTACHMENT II to JPN-92-021

PROPOSED TECHNICAL SPECIFICATION CHANGES REGARDING
REMOVAL OF REACTOR VESSEL HEAD SPRAY PORTION OF RHR
PIPING AND ASSOCIATED VALVES

JPTS-92-016

New York Power Authority

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
Sheet No. 50-333

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TABLE 4.2-1

MINIMUM TEST AND CALIBRATION FREQUENCY FOR PCIS

Instrument Channel (8)	Instrument Functional Test	Calibration Frequency	Instrument Check (4)
1) Reactor High Pressure (Shutdown Cooling Permissive)	(1)	Once/3 months	None
2) Reactor Low-Low-Low Water Level	(1)(5)	(15)	Once/day
3) Main Steam High Temp.	(1)(5)	(15)	Once/day
4) Main Steam High Flow	(1)(5)	(15)	Once/day
5) Main Steam Low Pressure	(1)(5)	(15)	Once/day
6) Reactor Water Cleanup High Temp.	(1)	Once/3 months	None
7) Condenser Low Vacuum	(1)(5)	(15)	Once/day
Logic System Functional Test (7) (9)		Frequency	
1)	Main Steam Line Isolation Valves Main Steam Line Drain Valves Reactor Water Sample Valves	Once/6 months	
2)	RHR - Isolation Valve Control Shutdown Cooling Valves	Once/6 months	
3)	Reactor Water Cleanup Isolation	Once/6 months	
4)	Drywell Isolation Valves TIP Withdrawal Atmospheric Control Valves	Once/6 months	
5)	Standby Gas Treatment System Reactor Building Isolation	Once/6 months	

NOTE: See listing of notes following Table 4.2-6 for the notes referred to herein.

ATTACHMENT III to JPN-92-021

SAFETY EVALUATION FOR
PROPOSED TECHNICAL SPECIFICATION CHANGES REGARDING
REMOVAL OF REACTOR VESSEL HEAD SPRAY PORTION OF RHR
PIPING AND ASSOCIATED VALVES

IPTS-92-016

New York Power Authority

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
Docket No. 50-333

**SAFETY EVALUATION FOR
PROPOSED TECHNICAL SPECIFICATION CHANGE
REMOVAL OF REACTOR VESSEL HEAD SPRAY PORTION OF RHR
PIPING AND ASSOCIATED VALVES (JPTS-92-016)**

Page 1 of 6

I. DESCRIPTION OF THE PROPOSED CHANGES

The proposed change to the James A. FitzPatrick Technical Specifications revises Table 4.2-1 entitled, "Minimum Test Calibration Frequency for PCIS" on page 78. Part of item (2) "Head Spray" is deleted from the table.

II. PURPOSE OF THE PROPOSED CHANGES

MODIFICATION TO REMOVE HEAD SPRAY

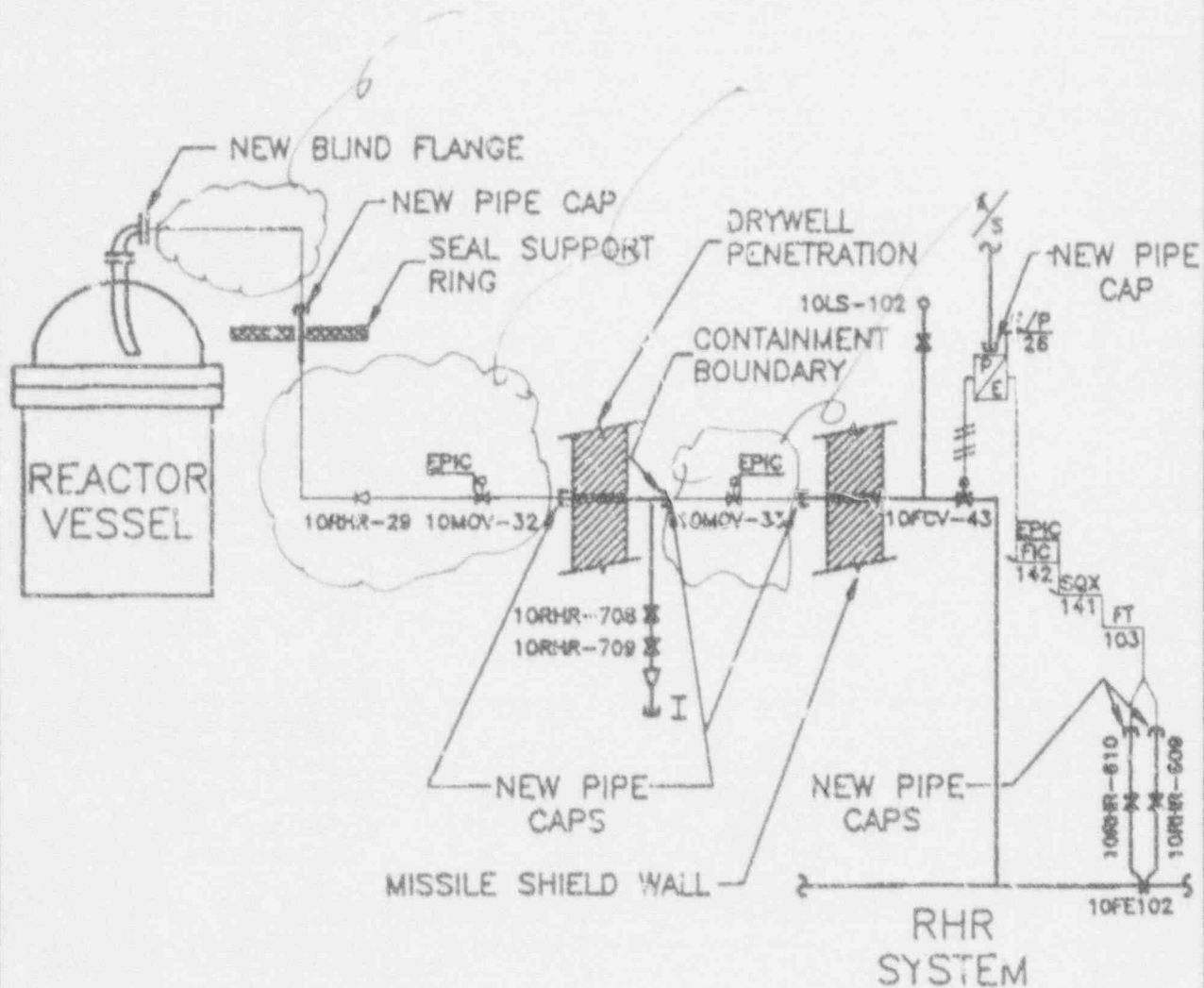
The purpose of this change is to reflect a plant modification which will deactivate the reactor vessel head spray portion of the Residual Heat Removal (RHR) System. This modification involves the removal of portions of the spray pipe and hangers from the flanged elbow attached to the spray nozzle connection on the reactor vessel head (the flanged elbow will be retained) to the west (inboard) side of the missile protective wall at elevation 336'-0". Figure 1 provides a schematic of the Reactor Vessel Head Spray System. Valves 10MOV-32, 10MOV-33 and check valve 10RHR-29 are located in the portions of pipe that will be removed. The end of the retained piping will be capped. The spray piping running through the drywell penetration thermal sleeve will be cut near both ends of the penetration, and a cap installed on each end of the pipe. This will be the primary containment boundary for this penetration. The existing LLRT connection on the pipe (including valves 10RHR-708 and 10RHR-709) located on the spray piping just outside the drywell, will be retained for use during preoperational testing of the new end caps. An ASTM blind flange will be installed on the retained flanged elbow at the reactor vessel head to ensure reactor vessel pressure integrity. All retained piping will be seismically analyzed to ensure system integrity. This modification will be completed during the 1992 Refueling Outage.

The Authority analyzed the head spray's function and design and determined that the head spray system may be deactivated without causing any affects to other systems that perform safety-related functions.

CONTAINMENT ISOLATION VALVES

One reason for this modification is that the containment isolation valves (CIVs), 10MOV-32 and 10MOV-33 recently failed the local leak rate test (LLRT). These CIVs automatically isolate the process line which penetrates the primary containment for head spray. Head spray is an optional capability of RHR which is not used at FitzPatrick.

MODIFICATION NO. F1-92-091
 DEACTIVATION OF RHR HEAD SPRAY SYSTEM



LEGEND

- = TO BE RETAINED PIPING
- - - - - = TO BE REMOVED PIPING

REACTOR VESSEL HEAD SPRAY SCHEMATIC

SAFETY EVALUATION

The Authority determined that a modification to eliminate system maintenance and surveillance testing of these valves could be done. This determination was based upon scheduler constraints, estimated high repair costs for the CIVs, and the fact that head spray is an optional capability of RHR which is not used at FitzPatrick.

PERSONNEL RADIATION EXPOSURE

Another reason for this modification is to reduce personnel radiation exposure during vessel disassembly and reassembly. The flanged section of the head spray piping within the drywell must be unbolted and removed prior to removal of the reactor vessel head and then reinstalled prior to startup. This section of the piping will be permanently removed by this modification reducing personnel radiation exposure in future maintenance outages associated with this removable pipe section.

This modification will also reduce personnel radiation exposure associated with the repair of the containment isolation valves and the Inservice Inspection (ISI) of the piping and components in this subsystem.

III. SAFETY IMPLICATION OF THE PROPOSED CHANGES

FUNCTION OF HEAD SPRAY

The head spray portion of the RHR system supplies water to the vessel steam dome through the head spray nozzle at low reactor pressures. It is intended for use during shutdown cooling to enhance reactor vessel head cooling with the remainder of the vessel metal below the water line. In Reference 1, General Electric (GE) stated that this design feature was installed to reduce outage time based on the assumption that the vessel cooldown and head removal would be critical path activities. At Fitzpatrick, head spray is not used, and head cooldown is not on the outage critical path. The head spray is an optional capability and credit is not taken for it in the accident analysis.

The modification does not degrade the capability of RHR to meet its safety objective. As stated in Section 4.8.3 of the Updated FSAR, the safety objective reads, "The objective of the RHR System is to restore and maintain the coolant inventory in the reactor vessel so that the core is adequately cooled after a LOCA." The head spray is not used to restore or maintain reactor vessel water level after a LOCA. The low pressure coolant injection (LPCI) mode of RHR performs this function. Head spray may be used to augment the RHR system in the shutdown cooling mode to provide normal shutdown cooling. However, as documented in Reference 2, head spray is not required, and the design of RHR is adequate for cooldown without head spray.

SAFETY EVALUATION

The head spray system is not described in the basis for any Technical Specification. This subsystem is not required to perform any safety-related functions.

Head Spray is mentioned in the Emergency Operating Procedure (EOP)-10, "Primary Containment Flooding." In this EOP, Head Spray is listed as one of ten available sources of water that may be used to maintain containment water level between 85 ft. and 105 ft. This procedure is only used if there is a need to flood the drywell under emergency conditions. The Head Spray system will be removed from EOP-10 when this modification is completed.

FUNCTION OF PRIMARY CONTAINMENT ISOLATION SYSTEM

The Primary Containment Isolation System (PCIS) provides timely protection against the consequences of accidents involving the release of radioactive materials from the fuel and Reactor Coolant Pressure Boundary. The PCIS initiates automatic isolation of appropriate process lines which penetrate the primary containment whenever monitored variables exceed preselected operational limits.

This modification removes the containment isolation valves 10MOV-32 and 10MOV-33 from the head spray portion of the RHR system. Since the head spray containment isolation valves will be removed, the logic system functional test for these valves will not be necessary.

The PCIS for other CIVs will not be affected by this change. The logic functional test for other portions of PCIS will continue at the current frequency. Control room panels 9-3 and 9-4 will be revised due to the removal of indicators, switches, and indication lights.

SIMILAR CHANGES AT OTHER BWRs

Functionally similar modifications have been performed at BWR plants including Hatch Units 1 and 2 and Brunswick Units 1 and 2. This modification was evaluated by General Electric (GE) for Hatch in Reference 1. The GE evaluation concluded that, "Removal of the head spray capability of the RHR system was found to have no significant impact on plant safety or operations while providing substantial benefits for plant capacity factor and personnel radiation exposure reduction. Consequently, removal of the function is recommended."

In May of 1990, Carolina Power & Light Company submitted a request for two license amendments regarding the removal of RHR head spray flow transmitter for Brunswick Unit 1 and 2. In January of 1991, the NRC issued license amendments 151 and 181 regarding the removal of residual heat removal head spray flow transmitter for Brunswick Units 1 and 2 (Reference 3). This amendment request is similar to the license amendments the NRC approved for Brunswick Units 1 and 2 to reflect the deactivation of head spray function.

SAFETY EVALUATION

IV. EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATION

Operation of the James A. FitzPatrick Nuclear Power Plant in accordance with this proposed amendment would not involve a significant hazards consideration, as defined in 10 CFR 50.92, since the proposed changes would not:

1. involve a significant increase in the probability of an accident or consequence previously evaluated.

This change will not increase the possibility of an accident or malfunction of safety-related structures, systems or components as evaluated previously in the FSAR. There are no safety-related functions associated with the operation of head spray. Head spray is an optional capability and credit is not taken for it in the accident analysis.

2. create the possibility of a new or different kind of accident from those previously evaluated.

The proposed amendment does not create the possibility of a new or different kind of accident from any previously evaluated because there are no new interfaces with safety-related equipment, systems or structures. No new systems have been introduced which by their failure or malfunction could create a new or different accident.

The change deletes the logic system functional test for the head spray containment isolation valves (CIVs) that will be removed as part of the plant modification. The Primary Containment Isolation System (PCIS) for all other CIVs will not be affected by this change. The logic functional test for other portions of PCIS will continue at the current frequency.

3. involve a significant reduction in the margin of safety as defined in the basis for Technical Specifications.

The change will not reduce the margin of safety as defined in the Technical Specification.

The head spray system is not described in the basis for any Technical Specification. This subsystem is not required to perform any safety-related functions. Head spray is an optional capability and credit is not taken for it in the accident analysis.

SAFETY EVALUATION

V. IMPLEMENTATION OF THE PROPOSED CHANGES

Implementation of the proposed changes will not impact the ALARA or Fire Protection Programs at the FitzPatrick plant, nor will the changes impact the environment.

VI. CONCLUSION

These changes, as proposed, do not constitute an unreviewed safety question as defined in 10 CFR 50.59. That is, they:

- a. will not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report;
- b. will not increase the possibility for an accident or malfunction of a different type from any evaluated previously in the safety analysis report;
- c. will not reduce the margin of safety as defined in the basis for any technical specification; and
- d. involve no significant hazards consideration, as defined in 10 CFR 50.92.

VII. REFERENCES

1. General Electric Company Report No. MDE Memo 109-1284 (DRF #E00-00157), "Evaluations to Justify Head Spray Removal", dated December 1984.
2. General Electric letter, John Cihl to Alan Ettlinger, dated May 13, 1992, "NYPA/FitzPatrick DBD Development Program RHR DBD/Rev B - Reactor Vessel Head Spray Sub-System."
3. NRC letter, Ngoc Le to Lynn Eury, dated January 9, 1991, "Issuance of Amendment 151 and Amendment 121 Regarding Removal RHR Head Spray Flow Transmitter - Brunswick Steam Electric Plant, Units 1 and 2."
4. James A. FitzPatrick Nuclear Power Plant Technical Specifications, Section 4.2, "Surveillance Requirements - Instrumentation."
5. James A. FitzPatrick Nuclear Power Plant Updated Final Safety Analysis Report, Sections 4.8, "Residual Heat Removal System" and 7.3, "Primary Containment and Reactor Vessel Isolation Control System."