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NewYorkPower Authority

Michael J. Colomb
Site Executive Officer

November 2, 2000
JAFP-00-0257

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

Subject: **James A. FitzPatrick Nuclear Power Plant**
Docket No. 50-333
Proposed Technical Specification Change (JPTS-95-004) Regarding Inservice Leak and Hydrostatic Testing Operation

References:

1. JPN-99-008, "Proposed Technical Specification Change (License Amendment) Conversion to Improved Standard Technical Specifications, dated March 31, 1999

2. JPN-99-018, "Revision to Proposed Technical Specification Change (License Amendment) Conversion to Improved Standard Technical Specifications", dated June 1, 1999

3. JAFP-99-0278, "Revision C to Proposed Technical Specification Change (License Amendment) Conversion to Improved Techical Specifications, dated October 14, 1999

Dear Sir:

This application for an amendment to the James A. FitzPatrick Technical Specifications proposes to allow Reactor Coolant System (RCS) inservice leak and hydrostatic testing to be performed with the reactor in the Cold Shutdown Mode while the RCS temperature is greater than 212°F (which normally corresponds to the Hot Shutdown Mode). The changes, with minor exceptions, adopt Special Operations Specification 3.10.1, "Inservice Leak and Hydrostatic Testing Operation", of NUREG-1433, Revision 1, Standard Techical Specifications, General Electric BWR/4 Plants, and are consistent with the proposed conversion of the current Technical Specifications to Improved Technical Specifications (References 1, 2, and 3).

A001

Approval of this proposed amendment is requested on an emergency basis in accordance with the provisions of 10 CFR 50.91 (a) (5). The basis for this request is that failure to approve this proposed amendment in a timely manner will prevent conducting the reactor vessel pressure test until repairs are complete on the "B" inboard low pressure coolant injection valve (10MOV-25B). This repair activity is therefore preventing resumption of power operation for a time period equal to that required to complete the repair.

The signed original of the Application for Amendment to the Operating License is enclosed for filing. Attachment I contains the proposed new Technical Specification pages, and Attachment II is the Safety Evaluation for the proposed changes. A markup of the affected Technical Specification pages is included as Attachment III.

There are no commitments contained in this submittal.

A copy of this application and the associated attachments are being provided to the designated New York State official in accordance with 10 CFR 50.91.

If you have any questions, please contact Mr. G. Tasick at (315) 349-6572.

Very truly yours,

Michael J. Colomb
Site Executive Officer

cc: Regional Administrator
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

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BEFORE THE UNITED STATES
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
NEW YORK POWER AUTHORITY	)	Docket No. 50-333
James A. FitzPatrick Nuclear Power Plant	)	

APPLICATION FOR AMENDMENT TO OPERATING LICENSE

The New York Power Authority requests an amendment to the Technical Specifications contained in Appendix A to Facility Operating License DPR-59 for the James A. FitzPatrick Nuclear Power Plant. This application is filed in accordance with Section 10 CFR 50.90 of the Nuclear Regulatory Commission's regulations.

This application for an amendment to the James A. FitzPatrick Technical Specifications (TS) proposes to allow reactor coolant system pressure tests to be performed while remaining in the Cold Shutdown Mode. Primary containment integrity is not required in the Cold Shutdown Mode thus allowing unrestricted access to the primary containment for the performance of inspections. The changes will also allow some outage activities on other systems to continue at the same time as during pressure testing. The changes, with minor exceptions, adopt Special Operations Section 3.10.1, "Inservice Leak and Hydrostatic Testing Operation," from Standard Technical Specifications (STS), NUREG-1433, Revision 1. Minor exceptions are required to ensure consistency within FitzPatrick TS, reflect differences between FitzPatrick TS and STS, and ensure the same level of ECCS redundancy afforded by STS during pressure testing. These exceptions will be eliminated when the FitzPatrick TS are converted to STS.

Editorial changes to improve the table of contents, relocate text, use consistent terminology, and reflect the addition of new TS pages are also proposed.

Attachment I contains the proposed new Technical Specification pages and Attachment II is the Safety Evaluation for the proposed changes. Attachment III is a markup of the affected pages.

New York Power Authority

Michael J. Colomb
Site Executive Officer

STATE OF NEW YORK
COUNTY OF OSWEGO
Subscribed and sworn to before me
this 2nd day of November 2000.

Mary Lu Moriarty

MARY LU MORIARTY #4965820
Notary Public, State of New York
Qualified in Oswego County
Commission Expires April 30, 2002

Attachment I to JAFP-00-0257

REVISED TECHNICAL SPECIFICATION PAGES

INSERVICE LEAK AND HYDROSTATIC TESTING OPERATION

(JPTS-95-004)

New York Power Authority
James A. FitzPatrick Nuclear Power Plant
Docket 50-333
DPR-59

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Amendment No. ~~7, 22, 32, 34, 37, 93, 110, 130, 137, 218~~,

3.0 Continued

G. Special Operations LCOs in Section 3.12 allow specified Technical Specification (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with the Special Operations LCOs is optional. When a Special Operations LCO is desired to be met but is not met, the ACTIONS of the Special Operations LCO shall be met. When a Special Operations LCO is not desired to be met, entry into an OPERATIONAL CONDITION (mode) or other specified condition shall only be made in accordance with the other applicable specifications.

4.0 Continued

2. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice testing activities required by the Code and applicable Addenda shall be applicable as defined in Technical Specification 1.0.T.

3. The provisions of Specification 4.0.B are applicable to the frequencies specified in Technical Specification 1.0.T for performing inservice testing activities.

4. Performance of the above inservice testing activities shall be in addition to other specified Surveillance Requirements.

5. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

3.0 Bases - Continued

F. LCO 3.0.F establishes the allowance for restoring equipment to service under administrative controls when it has been removed from service or declared inoperable to comply with required actions. The sole purpose of this Specification is to provide an exception to LCO 3.0.B to allow testing to demonstrate: (a) the operability of the equipment being returned to service; or (b) the operability of other equipment.

The administrative controls ensure the time the equipment is returned to service in conflict with the requirements of the required actions is limited to the time absolutely necessary to perform the allowed testing. This Specification does not provide time to perform any other preventive or corrective maintenance.

An example of demonstrating the operability of the equipment being returned to service is reopening a containment isolation valve that has been closed to comply with the required actions and must be reopened to perform the testing.

An example of demonstrating the operability of other equipment is taking an inoperable channel or trip system out of the tripped condition to prevent the trip function from occurring during the performance of testing on another channel in the other trip system. A similar example of demonstrating the operability of other equipment is taking an inoperable channel or trip system out of the tripped condition to permit the logic to function and indicate the appropriate response during the performance of testing on another channel in the same trip system.

G. Special Operations LCOs in Section 3.12 allow specified TS requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all the other TS requirements remain unchanged. This will ensure all appropriate requirements of the OPERATIONAL CONDITION (mode) or other specified condition not directly associated with or required to be changed to perform the special test or operation will remain in effect.

The applicability of a Special Operations LCO represents a condition not necessarily in compliance with the normal requirements of TS. Compliance with Special Operations LCOs is optional. A special operation may be performed either under the provisions of the appropriate Special Operations LCO or under the other applicable TS requirements. If it is desired to perform the special operation under the provisions of the Special Operations LCO, the requirements of the Special Operations LCO shall be followed. When a Special Operations LCO requires another LCO to be met, only the requirements of the LCO statement are required to be met (i.e., should the requirements of this other LCO not be met, the ACTIONS of the Special Operations LCO apply, not the ACTIONS of the other LCO). However, there are instances where the Special Operations LCO ACTIONS may direct the other LCOs' ACTIONS be met.

Surveillances of the other LCO are not required to be met, unless specified in the Special Operations LCO. If conditions exist such that the Applicability of any other LCO is met, all the other LCOs' requirements (ACTIONS and SR) are required to be met concurrent with the requirements of the Special Operations LCO.

3.5 (cont'd)

a. From and after the date that the HPCI System is made or found to be inoperable for any reason, continued reactor operation is permissible only during the succeeding 7 days unless such system is sooner made operable, provided that during such 7 days all active components of the Automatic Depressurization System, the Core Spray System, LPCI System, and Reactor Core Isolation Cooling System are operable.

b. If the requirements of 3.5.C.1 cannot be met, the reactor shall be placed in the cold condition and pressure less than 150 psig within 24 hrs.

2. Low power physics testing and reactor operator training shall be permitted with reactor coolant temperature $\leq 212°F$ with an inoperable component(s) as specified in 3.5.C.1 above.

4.5 (cont'd)

a. When it is determined that the HPCI System is inoperable the RCIC System, both LPCI subsystems, both core spray subsystems, and the ADS System actuation logic shall be verified to be operable immediately. The RCIC System and ADS System logic shall be verified to be operable daily thereafter.

3.5 (cont'd)

2. If the requirements of 3.5.D.1 cannot be met, the reactor shall be placed in the cold condition and pressure less than 100 psig within 24 hr.

3. Low power physics testing and reactor operator training shall be permitted with inoperable ADS components, provided that reactor coolant temperature is $\leq$212 °F and the reactor vessel is vented or reactor vessel head is removed.

4.5 (cont'd)

2. A logic system functional test.

   a. When it is determined that two valves of the ADS are inoperable, the ADS System actuation logic for the operable ADS valves and the HPCI System shall be verified to be operable immediately and at least weekly thereafter.

   b. When it is determined that more than two relief/safety valves of the ADS are inoperable, the HPCI System shall be verified to be operable immediately.

3.5 (Cont'd)

E. Reactor Core Isolation Cooling (RCIC) System

1. The RCIC System shall be operable whenever there is irradiated fuel in the reactor vessel and the reactor pressure is greater than 150 psig and reactor coolant temperature is greater than 212°F except from the time that the RCIC System is made or found to be inoperable for any reason, continued reactor power operation is permissible during the succeeding 7 days unless the system is made operable earlier provided that during these 7 days the HPCI System is operable.

2. If the requirements of 3.5.E cannot be met, the reactor shall be placed in the cold condition and pressure less than 150 psig within 24 hours.

3. Low power physics testing and reactor operator training shall be permitted with inoperable components as specified in 3.5.E.2 above, provided that reactor coolant temperature is ≤212°F.

4.5 (Cont'd)

E. Reactor Core Isolation Cooling (RCIC) System

1. RCIC System testing shall be performed as follows provided a reactor steam supply is available. If steam is not available at the time the surveillance test is scheduled to be performed, the test shall be performed within ten days of continuous operation from the time steam becomes available.

	Item	Frequency
a.	Simulated Automatic Actuation (and Restart*) Test	Once per 24 Months
b.	Verify that each valve (manual, power operated or automatic) in the system flowpath that is not locked, sealed or otherwise secured in position, is in the correct position.	Once per 31 Days
c.	Motor Operated Valve Operability	Once per 92 Days

* Automatic restart on a low water level signal which is subsequent to a high water level trip.

3.6 (cont'd)

a. ≤20°F when to the left of curve C.

b. ≤100°F when on or to the right of curve C.

3. Non-Nuclear Heatup and Cooldown

During heatup by non-nuclear means (mechanical), cooldown following nuclear shutdown and low power physics tests the Reactor Coolant System pressure and temperature shall be on or to the right of the curve B shown in Figure 3.6-1 Part 1 or 2 for the flange, upper vessel and beltline regions, and on or to the right of curve B_{BH} for the bottom head region. The maximum temperature change during any one hour shall be ≤100°F.

4. Core Critical Operation

During all modes of operation with a critical core (except for low power physics tests) the Reactor Coolant System pressure and temperature shall be at or to the right of the curve C shown in Figure 3.6-1 Part 1 or 2. The maximum temperature change during any one hour shall be ≤100°F.

4.6 (cont'd)

3. Non-Nuclear Heatup and Cooldown

During heatup by Non-Nuclear means, cooldown following nuclear shutdown and low power physics tests, the reactor coolant system pressure and temperature shall be recorded every 30 minutes until two consecutive temperature readings are within 5°F of each other.

4. Core Critical Operation

During all modes of operation with a critical core (except for low power physics tests) the Reactor Coolant System pressure and temperature shall be recorded within 30 minutes prior to withdrawal of control rods to bring the reactor critical and every 30 minutes during heatup until two consecutive temperature readings are within 5°F of each other.

3.6 (cont'd)

2. If Specification 3.6.E.1 is not met, the reactor shall be placed in a cold condition within 24 hours.

3. Low power physics testing and reactor operator training shall be permitted with inoperable components as specified in Specification 3.6.E.1 above, provided that reactor coolant temperature is $\leq$212 °F and the reactor vessel is vented or the reactor vessel head is removed.

4. The provisions of Specification 3.0.D are not applicable.

4.6 (cont'd)

2. At least one safety/relief valve shall be disassembled and inspected every 24 months.

3. The integrity of the nitrogen system and components which provide manual and ADS actuation of the safety/relief valves shall be demonstrated at least once every 3 months.

4. Manually open each safety/relief valve while bypassing steam to the condenser and observe a $\geq$10% closure of the turbine bypass valves, to verify that the safety/relief valve has opened. This test shall be performed at least every 24 months while in the RUN mode and within the first 12 hours after steam pressure and flow are adequate to perform the test.

3.6 and 4.6 BASES (cont'd)

Fig. 3.6-1, curves B and B_{BH}, provide limitations for plant heatup and cooldown when the reactor is not critical or during low power physics tests. The thermal limitation is based on maximum heatup and cooldown rates of 100°F/hr in any one-hour period.

Fig. 3.6-1, curve C, establishes operating limits when core is critical. These limits include a margin of 40°F as required by 10 CFR 50 Appendix G.

The requirements for cold boltup of the reactor vessel closure region are established based on RT_{NDT} plus 60°F. This factor is based on the original requirements of the ASME Code to which the vessel was built, as well as additional, conservative requiremements developed by General Electric that are typically applied to most BWRs. For Fig. 3.6-1, curves A, B, and C, this factor leads to the 90°F lower temperature limit. This limit is based on the closure flange materials maximum RT_{NDT} of 30°F, and the fact that the closure flange materials are not subjected to any appreciable neutron radiation exposure. Therefore, the minimum temperature for cold boltup is 30°F plus 60°F, or 90°F.

3.12 LIMITING CONDITIONS FOR OPERATION

3.12 SPECIAL OPERATIONS

Applicability:

Applies to the status of systems during special operations.

Objective:

To allow performance of special operations.

Specification:

A. Inservice Leak and Hydrostatic Testing Operation

The reactor may be considered to be in COLD SHUTDOWN with reactor coolant system (RCS) temperature between 212°F and 300°F, the reactor vessel not vented, and LCO requirements normally applicable when RCS temperature is greater than 212°F are not required, to allow performance of inservice leak or hydrostatic testing provided the following LCOs are met:

1. 3.5.F.1, "ECCS-Cold Condition," a minimum of two low pressure subsystems shall be operable;

2. LCO 3.7.B, "Standby Gas Treatment System";

3. Secondary Containment isolation and Standby Gas Treatment initiation instrumentation:

   a. LCO 3.2.A, "Primary Containment Isolation Functions", Table 3.2-1, Trip Function "Reactor Low Water Level (Notes 4 and 7)";

4.12 SURVEILLANCE REQUIREMENTS

4.12 SPECIAL OPERATIONS

Applicability:

Applies to periodic testing of systems during special operations.

Objective:

To verify operability of required systems during special operations.

Specification:

A. Inservice Leak and Hydrostatic Testing Operation

Perform the applicable surveillance requirements for the required LCOs.

3.12 LIMITING CONDITIONS FOR OPERATION

3.12 SPECIAL OPERATIONS (cont.)

b. Radiological Effluent TS LCO 3.8, "Standby Gas Treatment System", Radiological Effluent TS Table 3.10-1, Trip Functions "Refuel Area Exhaust Monitor" and "Reactor Building Area Exhaust Monitors".

4. LCO 3.7.C, "Secondary Containment"; (including the maintenance of Secondary Containment Integrity as defined by Definition 1.0.S); and

5. LCO 3.9, "Auxiliary Electrical Systems," the necessary systems shall be operable to support equipment required to be operable.

6. With the above requirements not met, immediately suspend activities that could increase reactor coolant temperature or pressure and reduce reactor coolant temperature to less than 212˚F within 24 hours.

3.12 and 4.12 BASES

A. Inservice Leak and Hydrostatic Testing Operation

The purpose of this Special Operations LCO is to allow certain reactor coolant system (RCS) pressure tests to be performed in COLD SHUTDOWN when the metallurgical characteristics of the reactor pressure vessel (RPV) require the pressure testing at temperatures greater than 212°F (normally corresponding to HOT SHUTDOWN).

Allowing the reactor to be considered in COLD SHUTDOWN during hydrostatic or leak testing, when reactor coolant temperature is >212°F, and not requiring LCO requirements normally applicable when RCS temperature is greater than 212°F to be met, effectively provides an exception to HOT SHUTDOWN Mode (or other LCO Applicability statements that address plant conditions other than the REFUEL or COLD SHUTDOWN Mode) requirements, including operability of primary containment and the full complement of redundant Emergency Core Cooling Systems. For example, the requirements of 3.5.E (RCIC) and 3.6.D (Coolant Leakage) are not applicable during operations under 3.12.A even though RCS temperature might be >212°F. Since the hydrostatic or leak tests are performed nearly water solid, at low decay heat values, and near COLD SHUTDOWN conditions, the stored energy in the reactor core will be low. Under these conditions, the potential for failed fuel and a subsequent increase in coolant activity is minimized. In addition, Special Operations LCO 3.12.A requires supporting LCOs for ECCS-Cold Condition, Standby Gas Treatment, Secondary Containment isolation and Standby Gas Treatment initiation instrumentation, and Auxiliary Electrical Systems to be met to ensure secondary containment integrity is maintained and capable of handling any airborne radioactivity or steam leaks that could occur during the performance of hydrostatic or leak testing.

The required pressure testing conditions provide adequate assurance that the consequences of a steam leak will be conservatively bounded by the consequences of the postulated main steam line break outside of primary containment.

In the event of a large primary system leak, the reactor vessel would rapidly depressurize, allowing the low pressure core cooling systems to operate. The capability of these systems, as required by this Special Operations LCO, would be adequate to keep the core flooded under this low decay heat load condition. Small system leaks would be detected by leakage inspections before significant inventory loss occurred.

For the purposes of this test, the protection provided by normally required COLD SHUTDOWN applicable LCOs, in addition to the requirements of this Special Operations LCO, will ensure acceptable consequences during normal hydrostatic test conditions and during postulated accident conditions.

Attachment II to JAFP-00-0257

SAFETY EVALUATION

INSERVICE LEAK AND HYDROSTATIC TESTING OPERATION

(JPTS-95-004)

New York Power Authority

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
Docket No. 50-333
DPR-59

I. DESCRIPTION OF THE PROPOSED CHANGES

Section 1 describes technical changes to the James A. FitzPatrick Technical Specifications that affect system operability requirements during hydrostatic and system leakage (pressure) testing of the reactor coolant system. These changes, with minor exceptions, adopt the Special Operations section from Standard Technical Specifications (NUREG-1433).

In addition to the technical changes, Section 2 describes editorial changes to improve the table of contents, relocate text, use consistent terminology, and reflect the addition of new pages to the Technical Specifications.

1. Technical Changes

Page 30b

Add Specification 3.0.G as follows:

"G. Special Operations LCOs in Section 3.12 allow specified Technical Specification (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with the Special Operations LCOs is optional. When a Special Operations LCO is desired to be met but is not met, the ACTIONS of the Special Operations LCO shall be met. When a Special Operations LCO is not desired to be met, entry into an OPERATIONAL CONDITION (mode) or other specified condition shall only be made in accordance with the other applicable specifications."

Page 30e

Add Specification 3.0.G Bases as follows:

"G. Special Operations LCOs in Section 3.12 allow specified TS requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all the other TS requirements remain unchanged. This will ensure all appropriate requirements of the OPERATIONAL CONDITION (mode) or other specified condition not directly associated with or required to be changed to perform the special test or operation will remain in effect.

The applicability of a Special Operations LCO represents a condition not necessarily in compliance with the normal requirements of TS. Compliance with Special Operations LCOs is optional. A special operation may be performed either under the provisions of the appropriate Special Operations LCO or under the other applicable TS requirements. If it is desired to perform the special operation under the provisions of the Special Operations LCO, the requirements of the Special Operations LCO shall be followed. When a Special Operations LCO requires another LCO to be met, only the requirements of the LCO statement are required to be met (i.e., should the requirements of this other LCO not be met, the ACTIONS of the Special Operations LCO apply, not the ACTIONS of the other LCO). However, there are instances where the Special Operations LCO ACTIONS may direct the other LCOs' ACTIONS be met.

Surveillances of the other LCO are not required to be met, unless specified in the Special Operations LCO. If conditions exist such that the Applicability of any other LCO is met, all the other LCOs' requirements (ACTIONS and SR) are required to be met concurrent with the requirements of the Special Operations LCO."

Page 118

Delete Specification 3.5.C.3, which states:

"3. The HPCI system is not required to be operable during hydrostatic pressure and leakage testing with reactor coolant temperatures between 212°F and 300°F and irradiated fuel in the reactor vessel provided all control rods are inserted."

Page 120

Delete Specification 3.5.D.4, which states:

"4. The ADS is not required to be operable during hydrostatic pressure and leakage testing with reactor coolant temperatures below 300°F and irradiated fuel in the reactor vessel provided all control rods are inserted."

Page 121

Delete Specification 3.5.E.4, which states:

"4. The RCIC system is not required to be operable during hydrostatic pressure and leakage testing with reactor coolant temperatures between 212°F and 300°F and irradiated fuel in the reactor vessel provided all control rods are inserted."

Page 137

Delete the following from Specification 3.6.A.2:

"Specifications 3.5.C, 3.5.D, 3.5.E and 3.6.E which would become effective because of an increase in reactor coolant temperature above 212°F or pressures above 100 and 150 psig are not required while conducting the RCS hydrostatic pressure and leakage tests between 212°F and 300°F provided all control rods are fully inserted."

Page 143

Delete Specification 3.6.E.5, which states:

"5. The safety and safety/relief valves are not required to be operable during hydrostatic pressure and leakage testing with reactor coolant temperatures between 212°F and 300°F and irradiated fuel in the reactor vessel provided all control rods are inserted."

Page 148

Delete the following from Specification 3.6 and 4.6 Bases:

"Specification 3.6.A.2 identifies four LCOs that become effective with increased reactor coolant temperature or pressure but are not in effect during the hydrostatic and leakage tests. This is necessary because, as reactor fluence increases, the minimum test temperature and pressure rises into ranges normally associated with startup or hot shutdown. RCS pressure and temperature are used throughout the Technical Specifications as a basis for establishing plant mode and system operability requirements. Some LCOs and restrictions cannot be satisfied during the test at elevated temperatures. For example, Specifications 3.5.C.1 and 3.5.E.1 require that HPCI and RCIC be operable when reactor pressure exceeds 150 psig and 212°F. HPCI and RCIC cannot be made operable during the test because piping normally filled with steam is filled with water during the test.

Hydrostatic and leakage tests shall be terminated before the reactor coolant temperature exceeds 300°F. This temperature limit is based on providing at least a 50°F band for operating flexibility between the 300°F limit and the highest estimated minimum testing temperature at 32 EFPY (originally approximated as 250°F from testing of the first surveillance capsule). Based on the latest surveillance capsule test results, the minimum temperature required to stay on or to the right of cure A at the maximum test pressure is 212°F for 32 EFPY. The previously established hydrostatic test limitation of 300°F continues to provide adequate operating flexibility above this minimum temperature.

The protection provided by LCOs applicable during cold shutdown plus the requirement that all control rods be fully inserted are adequate to ensure protection of public health and safety. The hydrostatic test is performed once every 10 years while the leakage test is performed after each refueling when conditions are similar to cold shutdown (i.e., after the reactor has been shutdown and decay heat and the energy stored in the core is very low). The consequences of accidents (small and large break LOCAs, MSLB, etc.) are bounded by analyses that assume full power operation. Specification 3.5.A requires the low pressure ECCS systems to be operable. Specifications 3.7.A, 3.7.B and 3.7.C require the containment, SGTS and Secondary Containment to be operable. Specifications 3.2.A, 3.2.B and Appendix B, Specification 3.8 require instrumentation that initiate containment, low pressure ECCS, SGTS and Secondary Containment be operable. Emergency power is required by Specification 3.9.B."

Page 244a and 244b

Add Specification 3.12 as follows:

"3.12 LIMITING CONDITIONS FOR OPERATION

3.12 SPECIAL OPERATIONS

Applicability:

Applies to the status of systems during special operations.

Objective:

To allow performance of special operations.

Specification:

A. Inservice Leak and Hydrostatic Testing Operation

The reactor may be considered to be in COLD SHUTDOWN with reactor coolant system (RCS) temperature between 212°F and 300°F, the reactor vessel not vented, and LCO requirements normally applicable when RCS temperature is greater than 212°F are not required, to allow performance of inservice leak or hydrostatic testing provided the following LCOs are met:

1. LCO 3.5.F.1, "ECCS-Cold Condition," a minimum of two low pressure subsystems shall be operable;

2. LCO 3.7.B, "Standby Gas Treatment System;"

3. Secondary Containment isolation and Standby Gas Treatment initiation instrumentation:

   a. LCO 3.2.A, "Primary Containment Isolation Functions", Table 3.2-1, Trip Function "Reactor Low Water Level (Notes 4 and 7);"

   b. Radiological Effluent TS LCO 3.8, "Standby Gas Treatment System", Radiological Effluent TS Table 3.10-1, Trip Functions "Refuel Area Exhaust Monitor" and "Reactor Building Area Exhaust Monitors."

4. LCO 3.7.C, "Secondary Containment" (including maintenance of Secondary Containment Integrity as defined by Definition 1.0.S); and

5. LCO 3.9, "Auxiliary Electrical Systems," the necessary systems shall be operable to support equipment required to be operable.

6. With the above requirements not met, immediately suspend activities that could increase reactor coolant temperature or pressure and reduce reactor coolant temperature to less than 212°F within 24 hours."

Page 244a

Add Specification 4.12 as follows:

"4.12 SURVEILLANCE REQUIREMENTS

4.12 SPECIAL OPERATIONS

Applicability:

Applies to periodic testing of systems during special operations.

Objective:

To verify operability of required systems during special operations.

Specification:

A. Inservice Leak and Hydrostatic Testing Operation

Perform the applicable surveillance requirements for the required LCOs."

Page 244c (new page)

Add Section 3/4.12 Bases as follows::

"3.12 and 4.12 BASES

A. Inservice Leak and Hydrostatic Testing Operation

The purpose of this Special Operations LCO is to allow certain reactor coolant system (RCS) pressure tests to be performed in COLD SHUTDOWN when the metallurgical characteristics of the reactor pressure vessel (RPV) require the pressure testing at temperatures greater than 212°F (normally corresponding to HOT SHUTDOWN).

Allowing the reactor to be considered in COLD SHUTDOWN during hydrostatic or leak testing, when reactor coolant temperature is >212°F, and not requiring LCO requirements normally applicable when RCS temperature is greater than 212°F to be met, effectively provides an exception to HOT SHUTDOWN mode (or other LCO applicability statements that address plant conditions other than the REFUEL or COLD SHUTDOWN mode) requirements, including operability of primary containment and the full complement of redundant Emergency Core Cooling Systems. For example, the requirements of 3.5.E (RCIC) and 3.6.D (Coolant Leakage) are not applicable during operations under 3.12.A even though RCS temperature might be > 212°F. Since the hydrostatic or leak tests are performed nearly water solid, at low decay heat values, and near COLD SHUTDOWN conditions, the stored energy in the reactor core will be low. Under these conditions, the potential for failed fuel and a subsequent increase in coolant activity is minimized. In addition, Special Operations LCO 3.12.A requires supporting LCOs for ECCS-Cold Condition, Standby Gas Treatment, Secondary Containment isolation and Standby Gas Treatment initiation instrumentation, and Auxiliary Electrical Systems to be met to ensure secondary containment integrity is maintained and capable of handling any airborne radioactivity or steam leaks that could occur during the performance of hydrostatic or leak testing. The required pressure testing conditions provide adequate assurance that the consequences of a steam leak will be conservatively bounded by the consequences of the postulated main steam line break outside of primary containment.

In the event of a large primary system leak, the reactor vessel would rapidly depressurize, allowing the low pressure core cooling systems to operate. The capability of these systems, as required by this Special Operations LCO, would be adequate to keep the core flooded under this low decay heat load condition. Small system leaks would be detected by leakage inspections before significant inventory loss occurred.

For the purposes of this test, the protection provided by normally required COLD SHUTDOWN applicable LCOs, in addition to the requirements of this Special Operations LCO, will ensure acceptable consequences during normal hydrostatic test conditions and during postulated accident conditions."

2. Editorial Changes

Page ii

Move the section headings "LIMITING CONDITIONS FOR OPERATION" and "SURVEILLANCE REQUIREMENTS" to the top of the page.

Delete blank line between "3.9 Auxiliary Electrical Systems" and "A. Normal and Reserve AC Power Systems."

Relocate LCO/SR 3.11/4.11.D and E from page iii.

Page iii

Add the section headings "LIMITING CONDITIONS FOR OPERATION" and "SURVEILLANCE REQUIREMENTS" to the top of the page.

Delete "DELETED" for page 244a and replace with LCO/SR "3.12/4.12 Special Operations" and LCO/SR "A. Inservice Leak and Hydrostatic Testing Operation."

Page 118

Revise SR 4.5.C.1.a as follows:

Change "HPCI subsystem" to "HPCI System," "the LPCI subsystem" to "both LPCI subsystems," "RCIC system" to "RCIC System," and "ADS subsystem" to "ADS System."

Revised Specification to read:

"When it is determined that the HPCI System is inoperable the RCIC, both LPCI subsystems, both core spray subsystems, and the ADS System actuation logic shall be verified to be operable immediately. The RCIC System and ADS System logic shall be verified to be operable daily thereafter."

Page 120

Revise SR 4.5.D.2.a as follows:

Change "ADS subsystem" to "ADS System" and "HPCI Subsystem" to "HPCI System."

Revised Specification to read:

"When it is determined that two valves of the ADS are inoperable, the ADS System actuation logic for the operable ADS valves and the HPCI System shall be verified to be operable immediately and at least weekly thereafter."

Page 244a

Delete "Pages 244a-244w DELETED."

II. PURPOSE OF THE PROPOSED CHANGES

1. Technical Changes

The Authority uses the guidance in NRC Generic Letter 88-11, "NRC Position on Radiation Embrittlement of Reactor Vessel Materials and Its Impact on Plant Operations," for calculation of the reactor vessel pressure and temperature (P-T) limits for hydrostatic and system leakage (pressure) testing of the reactor coolant system. The P-T curves defining these limits are periodically recalculated to consider the results of analyses of irradiated surveillance specimens to account for accumulated reactor fluence. At the current point in FitzPatrick reactor vessel life, P-T curve limitations are such that reactor coolant temperatures above 212°F are expected during pressure tests.

The purpose of the proposed technical changes is to allow reactor coolant system pressure tests to be performed while remaining in the Cold Shutdown Mode. Primary containment integrity is not required in the Cold Shutdown Mode thus allowing unrestricted access to the primary containment for the performance of inspections. The changes will also allow outage activities on other systems to continue at the same time as during pressure testing. The changes, with minor exceptions, adopt Special Operations Section 3.10.1, "Inservice Leak and Hydrostatic Testing Operation," from Standard Technical Specifications (STS), NUREG-1433, Revision 1. Minor exceptions are required to ensure consistency within FitzPatrick TS, reflect differences between FitzPatrick TS and STS, and ensure the same level of ECCS redundancy afforded by STS during pressure testing. These exceptions will be eliminated when the FitzPatrick TS are converted to STS.

Technical Specification Amendment 179 was issued on March 9, 1992 to allow the High Pressure Coolant Injection, Reactor Core Isolation Cooling, Safety Relief Valves, and Automatic Depressurization Systems to be inoperable during the performance of reactor coolant system pressure tests at temperatures up to 300°F. These exceptions to the normal system operability requirements are permissible because pressure tests are performed with the reactor shutdown, in nearly water solid conditions, with low decay heat (i.e., heat flux is approximately 1 percent of the full power value within a few hours of shutdown). The proposed changes will retain the exceptions for these systems because operability of these systems is not required with the reactor in the Cold Shutdown Mode. The effect of the proposed changes is to expand the list of exceptions to the normal operability requirements to be consistent with STS (NUREG-1433, Revision 1).

2. Editorial Changes

Editorial changes improve the table of contents, relocate text, ensure consistent use of terminology, or reflect the addition of new TS pages.

III. SAFETY IMPLICATIONS OF THE PROPOSED CHANGES

1. Technical Changes

Allowing the reactor to be considered in the Cold Shutdown Mode during reactor coolant system pressure tests, with reactor coolant temperature between 212°F and 300°F, effectively provides an exception to Hot Shutdown requirements, including maintaining primary containment integrity and operability of the full complement of redundant Emergency Core Cooling Systems. Since pressure tests are performed nearly water solid, at low decay heat values, and near Cold Shutdown conditions, the stored energy in the reactor core will be low. Under these conditions, the potential for failed fuel and a subsequent increase in coolant activity is minimized.

Analyses of a High Energy Line Break (HELB) were performed (Reference 1 and 2) to determine the response of the secondary containment to a HELB during a reactor coolant system hydrostatic test. Reactor coolant system pressure and temperature were conservatively assumed to be 300°F and 1150 psia, respectively, for this analysis. In addition, the primary containment, including the drywell head, was assumed to be open during the test in order to maximize the energy release to the secondary containment. The analysis demonstrates that in the event of a HELB during a hydrostatic test, the secondary containment will remain intact and environmental qualification of equipment within the secondary containment will not be jeopardized. Since secondary containment integrity will be maintained, in accordance with the Special Operations LCO, the secondary containment will be capable of handling any airborne radioactivity or steam leaks that could occur during the performance of hydrostatic or leak testing.

The requirements of the Special Operations LCO provide adequate assurance that the consequences of a steam leak will be conservatively bounded by the consequences of the postulated main steam line break outside of primary containment described in Reference 3. Therefore, these requirements will limit potential radiation releases to the environment.

In the event of a large reactor coolant system pressure boundary leak, the reactor vessel would rapidly depressurize, allowing the low pressure core cooling systems to operate. The capability of these systems, as required by the Special Operations LCO would be adequate to keep the core flooded under this low decay heat load condition. Small reactor coolant system pressure boundary leaks would be detected by leakage inspections before significant inventory loss occurred.

During reactor coolant system pressure tests, the protection provided by normally required Cold Shutdown applicable LCOs, in addition to the requirements of the Special Operations LCO, will ensure acceptable consequences during normal testing conditions and during postulated accident conditions.

Technical Specification Effects

The proposed changes allow reactor coolant system pressure testing to be performed in Cold Shutdown when the metallurgical characteristics of the reactor pressure vessel (RPV) require the pressure testing be performed at temperatures greater than 212°F (normally corresponding to Hot Shutdown). TS requirements for the following systems or components are affected by the proposed changes:

- Primary Containment Isolation System
- Accident Monitoring Instrumentation
- Core Spray System
- Low Pressure Coolant Injection System
- Residual Heat Removal (RHR) Cross-Tie Valve Position
- RHR Spent Fuel Pool Cooling
- RHR Containment Cooling
- Reactor Coolant System Leakage
- Primary Containment
- Auxiliary Electrical Systems
- Control Room Ventilation

The specific requirements that will no longer be in effect during reactor coolant system pressure testing and their potential safety significance are discussed below.

Specification 3.2.A: Requires that instrumentation which initiates primary containment isolation be operable whenever primary containment integrity is required. Primary containment integrity will not be required per Specification 3.7.A.2; therefore, the safety functions provided by Specification 3.2.A is not required except for the reactor low water trip function which actuates Secondary Containment isolation and Standby Gas Treatment.

Specification 3.2.H: Requires the stack, turbine building ventilation, radwaste building ventilation, and containment high range radiation monitors be operable whenever the reactor is in the Run, Startup/Hot Standby, and Hot Shutdown Modes. Proposed Specification 3.12.A will allow the reactor to be considered in Cold Shutdown during hydrostatic and system leakage tests; therefore these radiation monitors will not be required to be operable during testing. These radiation monitors provide information to the operator for use in assessing plant conditions following an accident. Since the potential for failed fuel and a subsequent increase in coolant activity is minimized during hydrostatic and system leakage testing, the safety function provided by Specification 3.2.H is not required. The containment high range radiation monitors also provide primary containment isolation signals; however, since primary containment integrity is not required during hydrostatic and system leakage tests, the isolation function provided by these radiation monitors is not required.

Specification 3.5.A.1: Requires both Core Spray Subsystems be operable whenever irradiated fuel is in the reactor vessel and prior to reactor startup from a cold condition. Since the core will remain in a subcritical condition during hydrostatic and system leakage testing, the degree of redundancy provided by Specification 3.5.A.1 is not required. Proposed Specification 3.12.A will require a minimum of two low pressure emergency core cooling subsystems be operable per Specification 3.5.F.1 during hydrostatic and system leakage testing of the reactor coolant system.

Specification 3.5.A.3: Requires both LPCI subsystems be operable whenever irradiated fuel is in the reactor vessel and prior to reactor startup from a cold condition. Since the core will remain in a subcritical condition during hydrostatic and system leakage testing, the degree of redundancy provided by Specification 3.5.A.3 is not required. Proposed Specification 3.12.A will require a minimum of two low pressure emergency core cooling subsystems be operable per Specification 3.5.F.1 during hydrostatic and system leakage testing of the reactor coolant system.

Specification 3.5.A.3.b: Requires the motor-operated and manually-operated RHR cross-tie valves be locked closed whenever reactor water temperature is greater than 212°F. The intent of this specification is to prevent a loss of both LPCI subsystems during a DBA LOCA due to a diversion of all LPCI flow to the severed recirculation loop. Proposed Specification 3.12.A will allow the reactor to be considered in Cold Shutdown during hydrostatic and system leakage tests; therefore these valves will not be required to be locked closed during testing. Due to the low reactor coolant temperature and decay heat loads during hydrostatic testing, sufficient time would be available to close the subject valves, if required to ensure core cooling. Therefore, the safety function provided by Specification 3.5.A.3.b is not required.

Specification 3.5.A.4.b: Requires that the RHR System shall not supply cooling to the spent fuel pool when the reactor coolant temperature is above 212°F. The intent of this specification is to ensure availability of both LPCI subsystems in the event of a LOCA. Due to the low reactor coolant temperature and decay heat loads during hydrostatic testing, sufficient time would be available to realign LPCI, if required to ensure core cooling. Therefore, the safety function provided by Specification 3.5.A.4.b is not required.

Specification 3.5.B: Requires both subsystems of the containment cooling mode (of the RHR System) be operable whenever there is irradiated fuel in the reactor vessel, prior to startup from a cold condition, and reactor coolant temperature is greater than or equal to 212°F. The function of the containment cooling mode is to remove heat energy from the containment in the event of a LOCA. This function ensures primary containment integrity is maintained following a LOCA by maintaining containment pressure and temperature within design limits. Since primary containment integrity will not be required during hydrostatic and system leakage tests per Specification 3.7.A.2, the safety function provided by Specification 3.5.B is not required.

Specification 3.6.D.1: Requires that reactor coolant system leakage rates be within specified limits whenever irradiated fuel is in the reactor vessel and reactor coolant temperature is above 212°F. Leakage limits are based on the predicted and experimentally observed behavior of pipe cracks. The intent of this specification is to provide early indication of potential flaws in the reactor coolant pressure boundary. Since the reactor coolant pressure boundary is visually inspected to detect leaks during hydrostatic and system leakage testing, the safety function provided by Specification 3.6.D.1 is not required.

Specification 3.6.D.4: Requires the Primary Containment Sump Monitoring System and the Continuous Atmosphere Monitoring System be operable when the reactor coolant leakage limits are in effect. Since reactor coolant leakage limits will not be in effect during hydrostatic and system leakage tests, leakage detection systems will also not be required to be operable. Visual inspection of the reactor coolant system during hydrostatic and system leakage tests satisfies the safety function provided by leakage detection systems.

Specification 3.7.A.1: Requires that torus water level and torus water temperature be maintained within specified limits whenever reactor coolant temperature is above 212°F and irradiated fuel is in the reactor vessel. Since proposed Specification 3.12.A allows the reactor to be considered in the Cold Shutdown Mode during hydrostatic and system leakage testing with reactor coolant temperature above 212°F, an exception is provided to the torus water level and water temperature limits. The purpose of these torus water level and water temperature limits is to ensure that peak primary containment pressures and temperatures do not exceed maximum allowable values during a postulated DBA or any transient resulting in heatup of the torus. Since primary containment integrity will not be required during hydrostatic and system leakage tests per Specification 3.7.A.2, the safety function provided by Specification 3.7.A.1 is not required. SR 4.5.F.3 requires that torus water level be maintained greater than or equal to 10.33 feet whenever a low pressure emergency core cooling system is aligned to the torus. This SR ensures sufficient water is available for core cooling.

Specification 3.7.A.2: Requires that primary containment integrity be maintained at all times when the reactor is critical or reactor water temperature is above 212°F and fuel is in the reactor vessel. Since proposed Specification 3.12.A allows the reactor to be considered in the Cold Shutdown Mode during hydrostatic and system leakage testing with reactor coolant temperature above 212°F, an exception is provided to the requirement to establish primary containment integrity. Since the hydrostatic or leak tests are performed nearly water solid, at low decay heat values, and near Cold Shutdown conditions, the stored energy in the reactor core will be low. Under these conditions, the potential for failed fuel and a subsequent increase in coolant activity above the limits specified in LCO 3.6.C, "Coolant Chemistry," are minimized. In addition, secondary containment integrity will be maintained, in accordance with this Special Operations LCO, and the secondary containment will be capable of handling any airborne radioactivity or steam leaks that could occur during the performance of hydrostatic or leak testing (References 1 and 2). The required pressure testing conditions provide adequate assurance that the consequences of a steam leak will be conservatively bounded by the consequences of the postulated main steam line break outside of primary containment described in Reference 3. Therefore, these requirements will conservatively limit potential radiation releases to the environment.

Specification 3.7.A.4: Requires the pressure suppression chamber - reactor building vacuum breakers to be operable whenever primary containment integrity is required. Since primary containment integrity is not required to be maintained during hydrostatic and system leakage testing of the reactor coolant system, the safety function provided by the vacuum breakers is not required.

Specification 3.7.A.5: Requires the pressure suppression chamber - drywell vacuum breakers to be operable whenever primary containment integrity is required. Since primary containment integrity is not required to be maintained during hydrostatic and system leakage testing of the reactor coolant system, the safety function provided by the vacuum breakers is not required.

Specification 3.7.D.1 Requires that primary containment isolation valves and all instrument excess flow check valves be operable whenever primary containment integrity is required. Primary containment integrity will not be required per Specification 3.7.A.2; therefore, the safety function provided by Specification 3.7.D.1 is not required.

Specification 3.9: Includes operability requirements for the Normal and Reserve AC Power Systems, Emergency AC Power System, Station Batteries, and LPCI MOV Independent Power Supplies. This specification does not specifically address operability requirements for power systems other than Emergency Diesel Generators during Cold Shutdown. In order to assure adequate power sources are available during reactor coolant system pressure testing, proposed Specification 3.12.A requires that necessary power supply systems be operable to support equipment required to be operable. This proposed change is consistent with the requirements of Standard Technical Specifications (Reference 4) for shutdown power sources. Since Specification 3.12.A will ensure adequate power source availability, the safety function provided by Specification 3.9 is not required.

Specification 3.11.A: Requires the control room emergency ventilation air supply fans and fresh air filter trains be operable whenever reactor coolant temperature is above 212°F. The purpose of the control room emergency ventilation system is to supply clean air for breathing and to maintain a positive pressure in the control room in the event of a LOCA or other design basis accidents. During reactor coolant system pressure testing, the reactor will be maintained subcritical, there is minimal potential for fuel failure, and secondary containment integrity will be maintained. Therefore, the safety function provided by specification 3.11.A is not required.

Comparison With Standard Technical Specifications

These proposed changes, with minor exceptions, adopt Special Operations Section 3.10.1, "Inservice Leak and Hydrostatic Testing Operation," from Standard Technical Specifications (Reference 4). The differences between proposed Specification 3.12.A and Standard Technical Specification (STS) Section 3.10.1 and the basis for the differences are discussed below.

- STS provide an exception to normal Hot Shutdown requirements by modifying the definition of Mode. Proposed Specification 3.12.A provides an exception in terms of reactor coolant temperature. This difference is required because FitzPatrick TS typically define system operability requirements in terms of reactor coolant temperature.

- STS provide an exception to the requirements of LCO 3.4.9, "Residual Heat Removal (RHR) Shutdown Cooling System - Cold Shutdown." This exception is not included in proposed Specification 3.12.A because FitzPatrick Technical Specifications do not address shutdown cooling system operability requirements.

- STS do not place an upper limit on reactor coolant temperature during reactor coolant system pressure testing. Proposed Specification 3.12.A limits reactor coolant temperature to 300°F. This is more conservative than STS and provides an additional margin of safety by limiting the stored energy in the reactor coolant system. The 300°F limit is consistent with current FitzPatrick Technical Specification requirements for reactor coolant system pressure testing.

- STS LCO 3.3.6.2 requires Functions 1, 3, 4, and 5 of Table 3.3.6.2-1, "Secondary Containment Isolation Instrumentation," be operable during reactor coolant system pressure testing. Proposed Specification 3.12.A requires the same trip functions where provided by design. Proposed LCO 3.12.A.3.a is comparable to STS Table 3.3.6.2-1, Function 1; proposed LCO 3.12.A.3.b is comparable to STS Table 3.3.6.2-1, Functions 3 and 4. The FitzPatrick Plant design does not include a "manual initiation" trip function for initiation of Standby Gas Treatment and Secondary Containment Isolation which is similar to STS Table 3.3.6.2-1, Function 5.

- STS requires that LCO 3.6.4.2, "Secondary Containment Isolation Valves," be met during reactor coolant system pressure testing. Proposed Specification 3.12.A also requires Secondary Containment Isolation valves to be operable (or secured in the isolated position). Proposed LCO 3.12.A.4 requires LCO 3.7.C, "Secondary Containment" to be met and includes a requirement that secondary containment integrity, as defined by Definition 1.0.S, be maintained.

- Proposed Specification 3.12.A includes the requirement to have a minimum of two low pressure emergency core cooling systems (ECCS) operable during reactor coolant system pressure testing. STS Section 3.5.2 requires two low pressure ECCS be operable at all times during Cold Shutdown. Therefore, proposed Specification 3.12.A ensures the same ECCS redundancy afforded by STS during pressure testing.

- Proposed Specification 3.12.A includes the requirement to have the necessary power supply systems operable to support equipment required to be operable during reactor coolant system pressure testing. FitzPatrick TS Section 3.9 addresses only emergency diesel generator operability during Cold Shutdown. STS Section 3.8 addresses operability of all power supply systems during Cold Shutdown. Therefore, proposed Specification 3.12.A ensures the same power supply system redundancy afforded by STS during pressure testing.

2. Editorial Changes

Editorial changes do not alter the intent of any operability or surveillance requirements contained in the TS. Therefore, these changes have no effect on safety.

IV. EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATION

Operation of the FitzPatrick plant in accordance with the proposed Amendment would not involve a significant hazards consideration as defined in 10 CFR 50.92, since it would not:

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

   The probability of a leak in the reactor coolant pressure boundary during reactor coolant system pressure testing is not increased by considering the reactor to be in Cold Shutdown. Since the pressure tests are performed nearly water solid, at low decay heat values, and near Cold Shutdown conditions, the stored energy in the reactor core will be low. Under these conditions, the potential for failed fuel and a subsequent increase in coolant activity is minimized. In addition, Special Operations LCO 3.12.A requires supporting LCOs for ECCS-Cold Condition, Standby Gas Treatment, Secondary Containment isolation and Standby Gas Treatment initiation instrumentation, and Auxiliary Electrical Systems to be met to ensure secondary containment integrity is maintained and capable of handling any airborne radioactivity or steam leaks that could occur during the performance of hydrostatic or leak testing. A listing of secondary containment isolation valves required to maintain Secondary Containment Integrity is included in plant controlled procedures. The required pressure testing conditions provide adequate assurance that the consequences of a steam leak will be conservatively bounded by the consequences of the postulated main steam line break outside of primary containment. In the event of a large primary system leak, the reactor vessel would rapidly depressurize, allowing the low pressure core cooling systems to operate. The capability of these systems would be adequate to keep the core flooded under this low decay heat load condition. Small system leaks would be detected by leakage inspections before significant inventory loss occurred. Therefore, the consequences of an accident previously evaluated are not significantly increased.

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

   The proposed changes do not introduce any new accident initiators or failure mechanisms since the changes do not involve any changes to structures, systems, or components, do not involve any change to the operation of systems, and alter procedures only to the extent that the 212°F limit may be exceeded during reactor coolant system pressure testing with certain systems inoperable. There are no alterations to plant systems designed to mitigate the consequences of accidents. The only difference is that a different subset of plant systems would be utilized for accident mitigation than those utilized during the Hot Shutdown Mode. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from those previously evaluated.

3. involve a significant reduction in the margin of safety.

   Since pressure tests are performed nearly water solid, at low decay heat values, and near Cold Shutdown conditions, the stored energy in the reactor core will be low. Under these conditions, the potential for failed fuel and a subsequent increase in coolant activity is minimized. Since secondary containment integrity will be maintained, in accordance with the Special Operations LCO, the secondary containment will be capable of handling any airborne radioactivity or steam leaks that could occur during the performance of hydrostatic or leak testing. Therefore, the proposed change does not involve a significant reduction in the margin of safety.

V. IMPLEMENTATION OF THE PROPOSED CHANGES

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

VI. CONCLUSION

Based on the discussion above, the reactor may be safely considered to be in the Cold Shutdown Mode during reactor coolant system pressure tests, with reactor coolant temperature between 212°F and 300°F.

The Plant Operating Review Committee (PORC) and Safety Review Committee (SRC) have reviewed this proposed change to the Technical Specifications and have concluded that it does not involve an unreviewed safety question or a significant hazards consideration and will not endanger the health and safety of the public.

VII. REFERENCES

1. JAF-CALC-MULT-02238, Revision 1, JAF-HELB Analysis During Hydrostatic Test
2. JAF-CALC-RBC-03400, Revision 0, Evaluation of Reactor Building Ducts and Doors for Recirc Break During Hydro, dated August 9, 1999
3. James A. FitzPatrick Updated Final Safety Analysis Report, Section 14
4. NUREG-1433, "Standard Technical Specifications for General Electric Boiling Water Reactors (BWR/4)," Revision 1, dated April 1995
5. James A. FitzPatrick Technical Specifications, Sections 3.2.A, 3.2.H, 3.5.A, 3.5.B, 3.6.C, 3.6.D, 3.6.I, 3.7.A, 3.7.D, 3.9, and 3.11

6. AEC Safety Evaluation of the James A. FitzPatrick Nuclear Power Plant, Docket No. 50-333, Dated November 20, 1972, and Supplements

7. NRC letter, B. C. McCabe to R. E. Beedle, dated March 9, 1992, issuing Amendment 179 to the Technical Specifications

8. NYPA letter (JPN-92-002) R. E. Beedle to NRC, dated January 9, 1992, regarding "Proposed Changes to the Technical Specifications Reactor Vessel Hydrostatic Testing (JPTS-91-014)"

Attachment III to JAFP-00-0257

MARKED-UP TECHNICAL SPECIFICATION PAGES

INSERVICE LEAK AND HYDROSTATIC TESTING OPERATION

(JPTS-95-004)

New York Power Authority

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
Docket No. 50-333
DPR-59

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Delete

Add

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS	
3.12 Special Operations	4.12	244a
A. Inservice Leak and Hydrostatic Testing Operation	A.	244a

3.0 Continued

Insert A

add

4.0 Continued

2. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice testing activities required by the Code and applicable Addenda shall be applicable as defined in Technical Specification 1.0.T.

3. The provisions of Specification 4.0.B are applicable to the frequencies specified in Technical Specification 1.0.T for performing inservice testing activities.

4. Performance of the above inservice testing activities shall be in addition to other specified Surveillance Requirements.

5. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

3.0 Bases - Continued

Insert B

F. LCO 3.0.F establishes the allowance for restoring equipment to service under administrative controls when it has been removed from service or declared inoperable to comply with required actions. The sole purpose of this Specification is to provide an exception to LCO 3.0.B to allow testing to demonstrate: (a) the operability of the equipment being returned to service; or (b) the operability of other equipment.

The administrative controls ensure the time the equipment is returned to service in conflict with the requirements of the required actions is limited to the time absolutely necessary to perform the allowed testing. This Specification does not provide time to perform any other preventive or corrective maintenance.

An example of demonstrating the operability of the equipment being returned to service is reopening a containment isolation valve that has been closed to comply with the required actions and must be reopened to perform the testing.

An example of demonstrating the operability of other equipment is taking an inoperable channel or trip system out of the tripped condition to prevent the trip function from occurring during the performance of testing on another channel in the other trip system. A similar example of demonstrating the operability of other equipment is taking an inoperable channel or trip system out of the tripped condition to permit the logic to function and indicate the appropriate response during the performance of testing on another channel in the same trip system.

3.5 (cont'd)

a. From and after the date that the HPCI System is made or found to be inoperable for any reason, continued reactor operation is permissible only during the succeeding 7 days unless such system is sooner made operable, provided that during such 7 days all active components of the Automatic Depressurization System, the Core Spray System, LPCI System, and Reactor Core Isolation Cooling System are operable.

b. If the requirements of 3.5.C.1 cannot be met, the reactor shall be placed in the cold condition and pressure less than 150 psig within 24 hrs.

2. Low power physics testing and reactor operator training shall be permitted with reactor coolant temperature <212°F with an inoperable component(s) as specified in 3.5.C.1 above.

3. The HPCI system is not required to be operable during hydrostatic pressure and leakage testing with reactor coolant temperatures between 212°F and 300°F and irradiated fuel in the reactor vessel provided all control rods are inserted.

delete

4.5 (cont'd)

a. When it is determined that the HPCI subsystem is inoperable the RCIC, the LPCI subsystem, both core spray subsystems, and the ADS subsystem actuation logic shall be verified to be operable immediately. The RCIC system and ADS subsystem logic shall be verified to be operable daily thereafter.

System

both

s

delete

3.5 (cont'd)

delete

2. If the requirements of 3.5.D.1 cannot be met, the reactor shall be placed in the cold condition and pressure less than 100 psig within 24 hr.

delete

3. Low power physics testing and reactor operator training shall be permitted with inoperable ADS components, provided that reactor coolant temperature is ≤212 °F and the reactor vessel is vented or reactor vessel head is removed.

delete

4. The ADS is not required to be operable during hydrostatic pressure and leakage testing with reactor coolant temperatures below 300 °F and irradiated fuel in the reactor vessel provided all control rods are inserted.

4.5 (cont'd)

2. A logic system functional test.

del

a. When it is determined that two valves of the ADS are inoperable, the ADS ~~subsystem~~ actuation logic for the operable ADS valves and the HPCI ~~subsystem~~ shall be verified to be operable immediately and at least weekly thereafter.

del

b. When it is determined that more than two relief/safety valves of the ADS are inoperable, the HPCI System shall be verified to be operable immediately.

3.5 (Cont'd)

E. Reactor Core Isolation Cooling (RCIC) System

1. The RCIC System shall be operable whenever there is irradiated fuel in the reactor vessel and the reactor pressure is greater than 150 psig and reactor coolant temperature is greater than 212°F except from the time that the RCIC System is made or found to be inoperable for any reason, continued reactor power operation is permissible during the succeeding 7 days unless the system is made operable earlier provided that during these 7 days the HPCI System is operable.

2. If the requirements of 3.5.E cannot be met, the reactor shall be placed in the cold condition and pressure less than 150 psig within 24 hours.

3. Low power physics testing and reactor operator training shall be permitted with inoperable components as specified in 3.5.E.2 above, provided that reactor coolant temperature is ≤212°F.

4. ~~The RCIC system is not required to be operable during hydrostatic pressure and leakage testing with reactor coolant temperatures between 212°F and 300°F and irradiated fuel in the reactor vessel provided all control rods are inserted.~~

delete

4.5 (Cont'd)

E. Reactor Core Isolation Cooling (RCIC) System

1. RCIC System testing shall be performed as follows provided a reactor steam supply is available. If steam is not available at the time the surveillance test is scheduled to be performed, the test shall be performed within ten days of continuous operation from the time steam becomes available.

	Item	Frequency
a.	Simulated Automatic Actuation (and Restart*) Test	Once per 24 Months
b.	Verify that each valve (manual, power operated or automatic) in the system flowpath that is not locked, sealed or otherwise secured in position, is in the correct position.	Once per 31 Days
c.	Motor Operated Valve Operability	Once per 92 Days

* Automatic restart on a low water level signal which is subsequent to a high water level trip.

delete

Amendment No. ~~40, 107, 130, 179, 233~~, 241

3.6 (cont'd)

a. ≤20°F when to the left of curve C.

b. ≤100°F when on or to the right of curve C.

~~Specifications 3.5.C, 3.5.D, 3.5.E and 3.6.E which would become effective because of an increase in reactor coolant temperature above 212°F or pressures above 100 and 150 psig are not required while conducting the RCS hydrostatic pressure and leakage tests between 212°F and 300°F provided all control rods are fully inserted.~~

Delete

3. Non-Nuclear Heatup and Cooldown

During heatup by non-nuclear means (mechanical), cooldown following nuclear shutdown and low power physics tests the Reactor Coolant System pressure and temperature shall be on or to the right of the curve B shown in Figure 3.6-1 Part 1 or 2 for the flange, upper vessel and beltline regions, and on or to the right of curve B_{BH} for the bottom head region. The maximum temperature change during any one hour shall be ≤100°F.

Delete

4. Core Critical Operation

During all modes of operation with a critical core (except for low power physics tests) the Reactor Coolant System pressure and temperature shall be at or to the right of the curve C shown in Figure 3.6-1 Part 1 or 2. The maximum temperature change during any one hour shall be ≤100°F.

4.6 (cont'd)

3. Non-Nuclear Heatup and Cooldown

During heatup by Non-Nuclear means, cooldown following nuclear shutdown and low power physics tests, the reactor coolant system pressure and temperature shall be recorded every 30 minutes until two consecutive temperature readings are within 5°F of each other.

4. Core Critical Operation

During all modes of operation with a critical core (except for low power physics tests) the Reactor Coolant System pressure and temperature shall be recorded within 30 minutes prior to withdrawal of control rods to bring the reactor critical and every 30 minutes during heatup until two consecutive temperature readings are within 5°F of each other.

3.6 (cont'd)

2. If Specification 3.6.E.1 is not met, the reactor shall be placed in a cold condition within 24 hours.

3. Low power physics testing and reactor operator training shall be permitted with inoperable components as specified in Specification 3.6.E.1 above, provided that reactor coolant temperature is ≤ 212 F and the reactor vessel is vented or the reactor vessel head is removed.

4. The provisions of Specification 3.0.D are not applicable.

delete

5. The safety and safety/relief valves are not required to be operable during hydrostatic pressure and leakage testing with reactor coolant temperatures between 212 F and 300 F and irradiated fuel in the reactor vessel provided all control rods are inserted.

4.6 (cont'd)

2. At least one safety/relief valve shall be disassembled and inspected every 24 months. del

3. The integrity of the nitrogen system and components which provide manual and ADS actuation of the safety/relief valves shall be demonstrated at least once every 3 months.

4. Manually open each safety/relief valve while bypassing steam to the condenser and observe a ≥10% closure of the turbine bypass valves, to verify that the safety/relief valve has opened. This test shall be performed at least every 24 months while in the RUN mode and within the first 12 hours after steam pressure and flow are adequate to perform the test. del

del

3.6 and 4.6 BASES (cont'd)

Fig. 3.6-1, curves B and B_{BH}, provide limitations for plant heatup and cooldown when the reactor is not critical or during low power physics tests. The thermal limitation is based on maximum heatup and cooldown rates of 100°F/hr in any one-hour period.

Fig. 3.6-1, curve C, establishes operating limits when core is critical. These limits include a margin of 40°F as required by 10 CFR 50 Appendix G.

The requirements for cold boltup of the reactor vessel closure region are established based on RT_{NDT} plus 60°F. This factor is based on the original requirements of the ASME Code to which the vessel was built, as well as additional, conservative requiremements developed by General Electric that are typically applied to most BWRs. For Fig. 3.6-1, curves A, B, and C, this factor leads to the 90°F lower temperature limit. This limit is based on the closure flange materials maximum RT_{NDT} of 30°F, and the fact that the closure flange materials are not subjected to any appreciable neutron radiation exposure. Therefore, the minimum temperature for cold boltup is 30°F plus 60°F, or 90°F.

Specification 3.6.A.2 identifies four LCOs that become effective with increased reactor coolant temperature or pressure but are not in effect during the hydrostatic and leakage tests. This is necessary because, as reactor fluence increases, the minimum test temperature and pressure rises into ranges normally associated with startup or hot shutdown. RCS pressure and temperature are used throughout the Technical Specifications as a basis for establishing plant mode and system operability requirements.

Some LCOs and restrictions cannot be satisfied during the test at elevated temperatures. For example, Specifications 3.5.C.1 and 3.5.E.1 require that HPCI and RCIC be operable when reactor pressure exceeds 150 psig and 212°F. HPCI and RCIC cannot be made operable during the test because piping normally filled with steam is filled with water during the test.

Hydrostatic and leakage tests shall be terminated before the reactor coolant temperature exceeds 300°F. This temperature limit is based on providing at least a 50°F band for operating flexibility between the 300°F limit and the highest estimated minimum testing temperature at 32 EFPY (originally approximated as 250°F from testing of the first surveillance capsule). Based on the latest surveillance capsule test results, the minimum temperature required to stay on or to the right of curve A at the maximum test pressure is 212°F for 32 EFPY. The previously established hydrostatic test limitation of 300°F continues to provide adequate operating flexibility above this minimum temperature.

The protection provided by LCOs applicable during cold shutdown plus the requirement that all control rods be fully inserted are adequate to ensure protection of public health and safety. The hydrostatic test is performed once every 10 years while the leakage test is performed after each refueling when conditions are similar to cold shutdown (i.e., after the reactor has been shutdown and decay heat and the energy stored in the core is very low). The consequences of accidents (small and large break LOCAs, MSLB, etc.) are bounded by analyses that assume full power operation. Specification 3.5.A requires the low pressure ECCS systems to be operable. Specifications 3.7.A, 3.7.B and 3.7.C require the containment, SGTS and secondary containment to be operable. Specifications 3.2.A, 3.2.B and Appendix B, Specification 3.8 require instrumentation that initiate containment, low pressure ECCS, SBGT and secondary containment be operable. Emergency power is required by Specification 3.9.B.

delete

Insert "C"

Insert "D"

delete

Pages 244a - 244w DELETED

JAFNPP

Insert "C" (Continued)

Amendment No: 244b

3.12 and 4.12 BASES

Insert "E"

Insert

A "G. Special Operations LCOs in Section 3.12 allow specified Technical Specification (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with the Special Operations LCOs is optional. When a Special Operations LCO is desired to be met but is not met, the ACTIONS of the Special Operations LCO shall be met. When a Special Operations LCO is not desired to be met, entry into an OPERATIONAL CONDITION (mode) or other specified condition shall only be made in accordance with the other applicable specifications."

B "G. Special Operations LCOs in Section 3.12 allow specified TS requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all the other TS requirements remain unchanged. This will ensure all appropriate requirements of the OPERATIONAL CONDITION (mode) or other specified condition not directly associated with or required to be changed to perform the special test or operation will remain in effect.

The applicability of a Special Operations LCO represents a condition not necessarily in compliance with the normal requirements of TS. Compliance with Special Operations LCOs is optional. A special operation may be performed either under the provisions of the appropriate Special Operations LCO or under the other applicable TS requirements. If it is desired to perform the special operation under the provisions of the Special Operations LCO, the requirements of the Special Operations LCO shall be followed. When a Special Operations LCO requires another LCO to be met, only the requirements of the LCO statement are required to be met (i.e., should the requirements of this other LCO not be met, the ACTIONS of the Special Operations LCO apply, not the ACTIONS of the other LCO). However, there are instances where the Special Operations LCO ACTIONS may direct the other LCOs' ACTIONS be met.

Surveillances of the other LCO are not required to be met, unless specified in the Special Operations LCO. If conditions exist such that the Applicability of any other LCO is met, all the other LCOs' requirements (ACTIONS and SR) are required to be met concurrent with the requirements of the Special Operations LCO."

Insert

C "3.12 LIMITING CONDITIONS FOR OPERATION

3.12 SPECIAL OPERATIONS

Applicability:

Applies to the status of systems during special operations.

Objective:

To allow performance of special operations.

Specification:

A. Inservice Leak and Hydrostatic Testing Operation

The reactor may be considered to be in COLD SHUTDOWN with reactor coolant system (RCS) temperature between 212°F and 300°F, the reactor vessel not vented, and LCO requirements normally applicable when RCS temperature is greater than 212°F are not required, to allow performance of inservice leak or hydrostatic testing provided the following LCOs are met:

1. LCO 3.5.F.1, "ECCS-Cold Condition," a minimum of two low pressure subsystems shall be operable;

2. LCO 3.7.B, "Standby Gas Treatment System;"

3. Secondary Containment isolation and Standby Gas Treatment initiation instrumentation:

   a. LCO 3.2.A, "Primary Containment Isolation Functions", Table 3.2-1, Trip Function "Reactor Low Water Level (Notes 4 and 7);"

   b. Radiological Effluent TS LCO 3.8, "Standby Gas Treatment System", Radiological Effluent TS Table 3.10-1, Trip Functions "Refuel Area Exhaust Monitor" and "Reactor Building Area Exhaust Monitors;"

4. LCO 3.7.C, "Secondary Containment" (including the maintenance of Secondary Containment Integrity as defined by Definition 1.0.S); and

5. LCO 3.9, "Auxiliary Electrical Systems," the necessary systems shall be operable to support equipment required to be operable.

6. With the above requirements not met, immediately suspend activities that could increase reactor coolant temperature or pressure and reduce reactor coolant temperature to less than 212°F within 24 hours."

Insert

D "4.12 SURVEILLANCE REQUIREMENTS

4.12 SPECIAL OPERATIONS

Applicability:

Applies to periodic testing of systems during special operations.

Objective:

To verify operability of required systems during special operations.

Specification:

A. Inservice Leak and Hydrostatic Testing Operation

Perform the applicable surveillance requirements for the required LCOs."

E "A. Inservice Leak and Hydrostatic Testing Operation

The purpose of this Special Operations LCO is to allow certain reactor coolant system (RCS) pressure tests to be performed in COLD SHUTDOWN when the metallurgical characteristics of the reactor pressure vessel (RPV) require the pressure testing at temperatures greater than 212°F (normally corresponding to HOT SHUTDOWN).

Insert

E (cont'd) Allowing the reactor to be considered in COLD SHUTDOWN during hydrostatic or leak testing, when reactor coolant temperature is >212°F, and not requiring LCO requirements normally applicable when RCS temperature is greater than 212°F to be met, effectively provides an exception to HOT SHUTDOWN Mode (or other LCO Applicability statements that address plant conditions other than the REFUEL or COLD SHUTDOWN Mode) requirements, including operability of primary containment and the full complement of redundant Emergency Core Cooling Systems. For example, the requirements of 3.5.E (RCIC) and 3.6.D (Coolant Leakage) are not applicable during operations under 3.12.A even though RCS temperature might be >212°F. Since the hydrostatic or leak tests are performed nearly water solid, at low decay heat values, and near COLD SHUTDOWN conditions, the stored energy in the reactor core will be low. Under these conditions, the potential for failed fuel and a subsequent increase in coolant activity is minimized. In addition, Special Operations LCO 3.12.A requires supporting LCOs for ECCS-Cold Condition, Standby Gas Treatment, Secondary Containment isolation and Standby Gas Treatment initiation instrumentation, and Auxiliary Electrical Systems to be met to ensure secondary containment integrity is maintained and capable of handling any airborne radioactivity or steam leaks that could occur during the performance of hydrostatic or leak testing. The required pressure testing conditions provide adequate assurance that the consequences of a steam leak will be conservatively bounded by the consequences of the postulated main steam line break outside of primary containment.

In the event of a large primary system leak, the reactor vessel would rapidly depressurize, allowing the low pressure core cooling systems to operate. The capability of these systems, as required by this Special Operations LCO, would be adequate to keep the core flooded under this low decay heat load condition. Small system leaks would be detected by leakage inspections before significant inventory loss occurred.

For the purposes of this test, the protection provided by normally required COLD SHUTDOWN applicable LCOs, in addition to the requirements of this Special Operations LCO, will ensure acceptable consequences during normal hydrostatic test conditions and during postulated accident conditions."