

ATTACHMENT I to JPN-85-08

PROPOSED TECHNICAL SPECIFICATION CHANGES

RELATED TO

PROCESS PIPING PENETRATING

PRIMARY CONTAINMENT

(JPTS-85-003)

NEW YORK POWER AUTHORITY
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
DOCKET NO. 50-333
DPR-59

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TABLE 3.7-1

PROCESS PIPELINE PENETRATING PRIMARY CONTAINMENT

(Numbers in parentheses are keyed to numbers on following page; equal codes are listed codes are listed on following pages)

Line Isolated	Drywell Penetration	Valve Type (6)	Power to Open (5) (6)	Group	Location Ref. to Drywell	Power to Close (5) (6)	Isolation Signal	Closing Time (7)	Normal Status	Remarks and Exceptions
Main Steam Line	X-7A,B,C,D	AO Globe	Air and AC, DC	A	Inside	Air and spring	B,C,D,P,E	Note (1)	Open	
Main Steam Line	X-7A,B,C,D	AO Globe	Air and AC, DC	A	Outside	Air and spring	B,C,D,P,E	Note (1)	Open	
Main Steam Line Drain	X-8	MO Gate	AC	A	Inside	AC	B,C,D,P,E	15 sec	Closed	
Main Steam Line Drain	X-8	MO Gate	DC	A	Outside	DC	B,C,D,P,E	15 sec	Closed	
From Reactor Feedwater	X-9A, B	Check	-	A	Outside	Process	Rev. flow	NA	Open	
From Reactor Feedwater	X-9A, B	Check	-	A	Inside	Process	Rev. flow	NA	Open	
Reactor Water Sample	X-41	AO Globe	Air and AC	A	Inside	Spring	B,C	NA	Open	
Reactor Water Sample	X-41	AO Globe	Air and AC	A	Outside	Spring	B,C	NA	Open	
Control Rod Hydraulic Return	X-36	Check	-	A	Inside	Process	Rev. flow	NA)		
Control Rod Hydraulic Return	X-36	Check	-	A	Outside	Process	Rev. flow	NA)		Opens on Rod movement and closed at all other times, Note (4)
Control Rod Drive Exhaust	X-38	SO Valves	Air and AC	A	Outside	Spring	Note (4)	NA)		
Control Rod Drive Exhaust	X-38	SO Valves	Air and AC	A	Outside	Spring	Note (4)	NA)		
Control Rod Drive Inlet	X-37	SO Valves	Air and AC	A	Outside	Spring	Note (4)	NA)		
Control Rod Drive Inlet	X-37	SO Valves	Air and AC	A	Outside	Spring	Note (4)	NA)		

ATTACHMENT II to JPN-85-08

SAFETY EVALUATION

RELATED TO

PROCESS PIPING PENETRATING

PRIMARY CONTAINMENT

(JPTS-85-003)

NEW YORK POWER AUTHORITY
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
DOCKET NO. 50-333
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I. Description of the Change

This proposed Amendment revises Table 3.7-1 ("Process Pipeline Penetrating Primary Containment") on page 198 to Appendix A of the James A. FitzPatrick Nuclear Power Plant Operating License. The isolation signals for two reactor water sample valves (drywell penetration X-41) are changed from "B, C, D, E, & P" to "B & C".

II. Purpose of the Change

The purpose of this change is to correct an error in Table 3.7-1 that was inadvertently introduced during the initial issuance of the FitzPatrick Technical Specifications (Appendix A). During the preparation of the original issuance of the Technical Specifications, three (3) additional isolation signals ("D, E, & P") were incorrectly added to the reactor water sample line (Penetration X-41) in the Table 3.7-1. This error was discovered during normal operation when the reactor water isolation valves did not isolate on all signals listed in Table 3.7-1.

In Reference (a), the Authority incorrectly described the error in Table 3.7-1 as a design change made during construction that had not been incorporated in the Technical Specification or Final Safety Analysis Report. However, the original plant design for the isolation of the reactor water sample line only called for isolation signals "B & C". This is consistent with General Electric design of other BWR type plants. The incorporation of these additional isolation signals is an administrative error in both the Technical Specifications and the Final Safety Analysis Report.

III. Impact of the Change

Group A isolation valves are in process lines that communicate directly with the reactor vessel and penetrate the primary containment. These lines have two isolation valves in series, one inside and one outside the primary containment. The control system for Group A isolation valves is designed to:

- provide closure of the valve in time to prevent uncovering the core as a result of a break in the line which the valves isolate; and
- provide closure of the valves with sufficient rapidity to restrict the release of radioactive material to the environs well below the values of 10 CFR 100.

Isolation signals "B, C, D, E, & P" are part of an isolation function that generate the closure of various Group A components. Total system isolation (Group A) is not always desirable and for certain trip conditions only certain isolation functions are initiated.

Group A isolation functions include generation of isolation signals for the following components:

1. Main steam line isolation valves (Penetration X-7A,B,C,D)
2. Main steam line drain isolation valves (Penetration X-8)
3. Reactor water sample isolation valves (Penetration X-41)
4. Condenser vacuum pump

The condenser vacuum pump is tripped only for a main steam high radiation trip. Reactor water sample isolation valves (02-AOV-39 & 40) are designed to receive an isolation signal to close for the following trip setpoints:

<u>SIGNAL</u>	<u>DESCRIPTION</u>
"B"	Reactor vessel low low water level trip; and
"C"	Main steam line high radiation trip.

The remaining Group A isolation valves are designed to receive an isolation signal to close when trip setpoints are exceeded for any of the following parameters:

<u>SIGNAL</u>	<u>DESCRIPTION</u>
"B"	Reactor vessel low low water level trip;
"C"	Main steam line high radiation trip;
"D"	Steam line high flow;
"E"	Steam tunnel high temperature; and
"P"	Main steam line low pressure.

The following paragraphs are a description of isolation signals "D, E, & P", which are not intended to cause reactor water sample line isolation:

Main Steam Line High Flow ("D" Isolation Signal)

A main steam line high flow could indicate a break in a main steam line. The automatic closure of various Group A valves prevents the excessive loss of reactor coolant and the release of significant amounts of radioactive material from the Reactor Coolant Pressure Boundary. Upon detection of the main steam line high flow the following lines are isolated:

- a. All four main steam lines (Penetration X-7A,B,C,D)
- b. Main steam line drain (Penetration X-8)

Main Steam Line Space High Temperature ("E" Isolation Signal)

A high temperature in the space in which the main steam lines are located outside of the primary containment could indicate a breach in a main steam line. The automatic closure of various Group A valves prevents the excessive loss of reactor coolant and the release of significant amounts of radioactive material from the Reactor Coolant Pressure Boundary. When high temperatures occur in the main steam line space, the following pipelines are isolated:

- a. All four main steam lines (Penetration X-7A,B,C,D)
- b. Main steam line drain (Penetration X-8)

Low Steam Pressure at Turbine Inlet ("P" Isolation Signal)

Low steam pressure upstream of the turbine stop valves while the reactor is operating could indicate a malfunction of the pressure regulator in which the turbine control valves or turbine bypass valves open fully. This action could cause rapid depressurization of the reactor coolant system. From part-load operating conditions, the rate of decrease of reactor coolant system saturation temperature could exceed the design rate of change of vessel temperature. A rapid depressurization of the reactor vessel while the reactor is near full power could result in undesirable differential pressures across the channels around some fuel bundles of sufficient magnitude to cause mechanical deformation of channel walls. Such depressurizations, without adequate preventive action, could require thorough vessel analysis or core inspection before returning the reactor to power operation. To avoid the time-consuming requirements following a rapid depressurization, the steam pressure at the turbine inlet is monitored. Upon falling below a preselected value with the reactor in the RUN mode a "P" isolation signal initiates the isolation of the following lines:

- a. All four main steam lines (Penetration X-7A,B,C,D)
- b. Main steam drain line (Penetration X-8)

Clearly, isolation signals "D, E & P" are from sensors that detect possible leakage outside the primary containment. Therefore, isolating the 3/4" size reactor water sample line (Penetration X-41) is pointless since no significant amount of reactor coolant inventory could escape; and release of radioactive material to the environs are well below the values set forth by 10 CFR 100.

In addition, isolation of main steam lines and main steam drain line due to signals "D, E, & P" results in a need for reactor coolant sampling analysis before returning the reactor to power operation.

The proposed changes to the Technical Specifications do not change any system or subsystem and will not alter the conclusions of either the FSAR or SER accident analyses.

The commission has provided guidance concerning the application of the standards for making a "no significant hazard considerations" determination by providing certain examples in the Federal Register (F.R.) Vol. 48, No. 67 dated April 6, 1984, page 14870. The proposed changes to Table 3.7-1 of the Technical Specifications match Commission example (i): "A purely administrative change to technical specifications: for example, ...correction of an error,"

Operation of the FitzPatrick plant in accordance with the proposed amendments, therefore, would not:

- (1) involve a significant increase in the probability or consequences of an accident previously evaluated since isolation signals "D, E, & P", as described above, are only appropriate for main steam line breaks, and closure of the reactor water sample valves will have no effect on this accident; or
- (2) create the possibility of a new or different kind of accident from any accident previously evaluated since isolation signals "D, E, & P", as described above, are not intended to isolate the reactor water sample line. Original design only called for signals "B & C"; or
- (3) involve a significant reduction in a margin of safety since the signals mentioned above are inappropriate for reactor water sample line isolation and the same level of safety will still exist.

IV. Implementation of the Changes

Implementation of the changes, as proposed, will not impact the ALARA or fire protection program at FitzPatrick, nor will the changes impact the environment.

V. Conclusion

The incorporation of these changes:

- a) will not change the probability nor the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Safety Analysis Report;
- b) will not increase the possibility of an accident or malfunction of a different type than any evaluated previously in the Safety Analysis Report;
- c) will not reduce the margin of safety as defined in the basis for any Technical Specifications;
- d) does not constitute an unreviewed safety as defined in 10 CFR 50.59; and
- e) involves no Significant Hazard Considerations, as defined in 10 CFR 50.92.

VI. References

- a. James A. FitzPatrick Nuclear Power Plant Final Safety Analysis Report (FSAR), Rev. 2, July, 1984, Sections 7.2, 7.3, and 14.5.
- b. James A. FitzPatrick Nuclear Power Plant Safety Evaluation Report (SER).
- c. PASNY letter, J. P. Bayne to D. B. Vassallo, dated May 13, 1983 (JPN-83-42).
- d. NRC letter, D. B. Vassallo to J. P. Bayne, dated February 21, 1984.
- e. NYPA letter, J. P. Bayne to D. B. Vassallo, dated March 20, 1984 (JPN-84-18).