ATTACHMENT I to JPN-93-061

Proposed Technical Specification Change
One-time Extension to the Surveillance Interval for
Turbine Control Valve Fast Closure Pressure Switch

(JPTS-93-019)

New York Power Authority

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

TABLE 4.1-2 (Cont'd)

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT CALIBRATION
MINIMUM CALIBRATION FREQUENCIES FOR REACTOR PROTECTION INSTRUMENT CHANNELS

Instrument Channel	Group (1)	Calibration	Minimum Frequency (2)
Turbine Control Valve Fast Closure Oil Pressure Trip	A	Standard Pressure Source	Once/operating cycle*
Turbine Stop Valve Closure	A	Note (4)	Note (4)

NOTES FOR TABLE 4.1-2

1. A description of three groups is included in the Bases of this Specification.
2. Calibration test is not required on the part of the system that is not required to be operable, or is tripped, but is required prior to return to service.
3. The current source provides an instrument channel alignment. Calibration using a radiation source shall be performed each refueling outage.
4. Actuation of these switches by normal means will be performed during the refueling outages.
5. Calibration shall be performed utilizing a water column or similar device to provide assurance that damage to a float or other portions of the float assembly will be detected.
6. Sensor calibration once per operating cycle. Master/slave trip unit calibration once per 6 months.

* The current surveillance interval for calibrating the turbine control valve fast closure oil pressure trip is extended until the fall 1993 maintenance outage, currently scheduled for October 23, 1993. This extension is effective only for this surveillance interval. The next surveillance interval will begin upon completion of this surveillance.

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SAFETY EVALUATION FOR PROPOSED CHANGE TO THE TECHNICAL SPECIFICATION REGARDING ONE-TIME EXTENSION TO SURVEILLANCE INTERVAL FOR PRESSURE SWITCH SENSING TURBINE CONTROL VALVE FAST CLOSURE (JPTS-93-019)

I. DESCRIPTION OF THE PROPOSED CHANGES

The proposed change to the James A. FitzPatrick Technical Specifications is as follows:

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Add an asterisk to the first table entry, turbine control valve fast closure oil pressure trip, after the words "once/operating cycle."

Add at the bottom of the page the following footnote:

> * The current surveillance interval for calibrating the turbine control valve fast closure oil pressure trip is extended until the fall 1993 maintenance outage, currently scheduled for October 23, 1993. This extension is effective only for this surveillance interval. The next surveillance interval will begin upon completion of this surveillance.

II. PURPOSE OF THE PROPOSED CHANGE

The FitzPatrick fall maintenance outage was recently rescheduled from September 11, 1993 to October 23, .993. The surveillance interval including the allowed 25% extension for calibrating the pressure switches which sense the turbine control valve fast closure expires prior to the start of the outage. The purpose of this proposed change to the James A. FitzPatrick Technical Specifications is to extend the surveillance interval for the pressure switches until the fall maintenance outage.

The rescheduled outage allows the Authority to obtain lower cost replacement power. The cost savings realized by the Authority's customers is approximately $100,000 per day after November 1, '993, totaling approximately $1.5 million for the duration of the outage.

III. SAFETY IMPLICATIONS OF THE PROPOSED CHANGE

Turbine control valve fast closure initiates a reactor scram as sensed by pressure switches 94PS-200A, B, C, D. These switches sense the sudden drop of electro-hydraulic control system oil pressure which holds the turbine control valves open. The decrease in oil pressure results in fast closure of the turbine control valves. The trip level setting specified in Technical Specification Table 3.1-1 is between 500 and 850 psig. The purpose of calibrating these pressure switches every refuel outage is to ensure the instrument has not drifted out of this specified range.

Although it is possible to perform this calibration while FitzPatrick is on line, it is not practical for the following reasons:

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The pressure switches are located in a high radiation and high noise area. In addition, the ambient temperature in the area is elevated due to the presence of main steam lines. These conditions are not favorable for conducting safety related work. The technicians performing the calibration and the verification would receive a significant radiation dose. At 100% power with hydrogen water chemistry in service, the dose rate in the area is approximately 2 to 3 R/hr. Survey data at 51% power with the hydrogen water chemistry out of service shows the dose rate in the area ranging from 170 to 400 mR/hr. If this amendment was not granted and the calibration performed with FitzPatrick on line, power would be reduced to approximately 60% and the hydrogen injection system taken out of service. The calibration is expected to be performed in 1 to 2 hours. Two technicians (one to perform the calibration and one to conduct the verification) could each receive a dose of approximately 200 to 400 mR.

Performing the calibration while FitzPatrick is on line increases the potential for a reactor scram. Half scram signals are generated in the Reactor Protection System (RPS) during the calibration of the pressure switches. Consequently, a spurious half scram signal in the opposite RPS logic channel, during the calibration, would result in a reactor scram.

The calibration will be performed with the main turbine electro-hydraulic control (EHC) system operating. The manipulations necessary to perform the calibration while the EHC line is pressurized may perturb the system, causing a turbine trip and resulting reactor scram.

The surveillance interval for the calibration of the pressure switches which senses the turbine control valves fast closure oil pressure trip can be safely extended until the fall 1993 maintenance outage for the following reasons:

Instrument drift and setpoint analyses for the Reactor Protection System (Reference 3 and 4), performed to support the proposed 24 month operating cycle Technical Specification changes, include an evaluation of the expected drift of pressure switches 94PS-200A, B, C, D. During the 1992 refueling outage, the original pressure switches were replaced with identical switches (same make and model) due to excessive wear on the conduit to switch connectors. This resulted from inadequate support of the conduit and had no effect on the performance of the switches.

Field calibration data for the original switches, which have been calibrated once every 18 months (plus the allowable 25% for a maximum of 22.5 months), were evaluated to assess the acceptability of extending the nominal surveillance interval to 24 months plus the allowable 25% for a maximum of 30 months. The maximum expected drift including instrument uncertainty was calculated for a 30 month period with a 95% probability at a 95% confidence level to be approximately 56 psig. The four pressure switches were calibrated during the last outage to actuate between 598 and 610 psig. For the purpose of this proposed amendment, this maximum expected drift was added to the highest calibrated pressure (610 psig) and subtracted from the lowest calibrated pressure (598

psig). All four pressure switches remain within the specified range of 500 to 850 psig. Since the current surveillance interval including the requested extension is approximately 23 months rather than 30 months, it is enveloped by this evaluation. Therefore, these instruments are not expected to drift outside the Technical Specification limits.

The original pressure switches have a good operational history. The calibration data from 1986 to present shows the pressure switches have not drifted out of the Technical Specification specified range. The new pressure switches can be expected to behave in a similar manner.

The surveillance interval is effectively being extended for five days which is less than 1% of the total surveillance interval. This minimal extension to the allowable surveillance interval should not have an affect on the drift characteristics of the pressure switches as was shown in the instrument drift analysis discussed above.

The ability of the pressure switches to rapidly detect loss of the electro-hydraulic control system oil pressure or turbine control valve closure will not be affected as a result of this extension. This extension does not involve hardware modifications, changes to system operating procedures or a change in the ability of the system to perform its intended safety function.

This is a one-time extension. This extension applies only to this surveillance interval. The next surveillance interval will begin upon completion of this surveillance.

The proposed change does not affect transient or accident analyses. None of the accidents evaluated in Chapter 14 of the FSAR are affected by the surveillance interval extension. However, one of the FSAR Chapter 14 transients, generator load rejection without bypass, takes credit for the pressure switches affected by this proposed amendment. This transient is described in FSAR Section 14.5.2.1 and the results are shown in figures 14.5-14 through 25. This limiting transient, evaluated for the current operating cycle in Reference 4, assumes a reactor scram is initiated by the turbine control valve oil pressure trip signal.

To affect this transient analysis, the pressure switches must fail to actuate within the assumed time. As previously discussed, the instrument drift and setpoint analyses for pressure switches 94PS-200A, B, C, D, evaluated the extension of the surveillance interval to 30 months. Considering maximum expected drift and instrument uncertainties, all four pressure switches remained within the specified range of 500 to 850 psig. Since the pressure switches remain within Technical Specification limits, they would be expected to actuate within the time assumed in the analysis. Therefore, the proposed change does not affect this transient analysis.

IV. EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATION

Operation of the James A. FitzPatrick Nuclear Power Plant in accordance with the

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proposed amendment would not involve a significant hazards consideration, as defined in 10 CFR 50.92, since the proposed changes would not:

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

   None of the accidents evaluated in Chapter 14 of the FSAR are affected by the surveillance interval extension. However, one of the FSAR Chapter 14 transients, generator load rejection without bypass, takes credit for the pressure switches affected by this proposed amendment. This transient is described in FSAR Section 14.5.2.1 and the results are shown in figures 14.5-14 through 25. This limiting transient, evaluated for the current operating cycle in the Supplemental Reload Licensing Report, assumes a reactor scram is initiated by the turbine control valve oil pressure trip signal.

   To affect this transient analysis, the pressure switches must fail to actuate within the assumed time. The instrument drift analysis for Reactor Protection System, including pressure switches 94PS-200A, B, C, D, evaluated the extension of the surveillance interval to 30 months (24 months plus the allowable 25%). Field calibration data for identical switches were used to determine the maximum expected drift. During the last outage, the four pressure switches were calibrated to actuate between 598 and 610 psig. The maximum expected drift was then added to the highest calibrated pressure (610 psig) and subtracted from the lowest calibrated pressure (598 psig). All four pressure switches remained within the specified range of 500 to 850 psig. Since the switch setpoints remain within Technical Specification limits, the pressure switches would be expected to actuate within the time assumed in the analysis.

   A load rejection event is a function of the off-site power grid reliability. Therefore, the extension to the surveillance interval does not increase the probability of this event.

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

   The pressure switches will perform their intended safety function. Since the maximum expected drift does not exceed Technical Specification limits, the pressure switches would be expected to actuate within the time assumed in the transient analysis. Therefore, the proposed extension to the surveillance interval does not create the possibility of a new or different type of accident.

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

   The pressure switches detect loss of the electro-hydraulic control system oil pressure within the specified range. The purpose of calibrating the pressure switches is to verify the trip level setting is between 500 and 850 psig.

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The proposed extension to the pressure switch surveillance calibration interval does not change the operation of the switches or change the ability of the pressure switches to perform their intended function. The requested extension is less than a 1% increase to the surveillance interval. This minimal extension to the surveillance interval should not have an affect on the drift characteristics of the pressure switches.

The next surveillance interval will begin upon completion of this surveillance. Therefore, the proposed extension does not involve a significant reduction in the margin of safety as defined in the basis for Technical Specifications.

V. IMPLEMENTATION OF THE PROPOSED CHANGES

Implementation of the proposed changes will not adversely affect the ALARA or Fire Protection Program at the FitzPatrick plant, nor will the changes impact the environment. These changes will not result in any new releases to the environment since there are no hardware, structural, or operational changes. For the same reasons, the changes pose no radiological or fire hazards.

VI. CONCLUSION

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

a. will not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the safety analysis report;

b. will not increase the possibility of an accident or malfunction of a different type from any evaluated previously in the safety analysis report;

c. will not reduce the margin of safety as defined in the basis for any technical specification; and

d. involve no significant hazards consideration, as defined in 10 CFR 50.92.

VII. REFERENCES

1. James A. FitzPatrick Nuclear Power Plant Updated Final Safety Analysis Report (FSAR) Section 14.5.

2. James A. FitzPatrick Nuclear Power Plant Technical Specifications Section 2.1, 3.1, and 4.1.

3. James A. FitzPatrick Nuclear Power Plant Instrument Drift Analysis for Reactor Protection System Report No. JAF-RPT-RPS-00456, dated April 20, 1993.

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4. NYPA Calculation, JAF-CALC-MTG-00667, "94PS-200A, B, C & D Turbine Control Fast Closure," dated May 20, 1993.

5. General Electric Report 23A7114, Revision 1, "Supplemental Reload Licensing Report for James A. FitzPatrick Nuclear Power Plant Reload 10 Cycle 11," dated July 1992.