Attachment 1 to JPN-99-002

PROPOSED TECHNICAL SPECIFICATION PAGES

LPRM CALIBRATION

(JPTS-99-001)

New York Power Authority

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

4.1 BASES (cont'd)

The individual sensor response time may be measured by simulating a step change of the particular parameter. This method provides a conservative value for the sensor response time, and confirms that the instrument has retained its specified electromechanical characteristics. When sensor response time is measured independently, it is necessary to also measure the remaining portion of the response time in the logic train up to the time at which the scram pilot valve solenoids de-energize. The channel response time must include all component delays in the response chain to the ATTS output relay plus the design allowance for RPS logic system response time. A response time for the RPS logic relays in excess of the design allowance is acceptable provided the overall response time does not exceed the response time limits specified in the UFSAR. The basis for excluding the neutron detectors from response time testing is provided by NRC Regulatory Guide 1.118, Revision 2, section C.5.

The sensors for the Reactor High Pressure and Reactor Water Level - Low (L3) trip functions are exempted from response time testing based on analyses provided in NEDO-32291-A, "System Analyses for the Elimination of Selected Response Time Testing".

Two instrument channels in Table 4.1-1 have not been included in Table 4.1-2. These are: mode switch in shutdown and manual scram. All of the devices or sensors associated with these scram functions are simple on-off switches and, hence, calibration during operation is not applicable.

B. The MFLPD is checked once per day to determine if the APRM scram requires adjustment. Only a small number of control rods are moved daily and thus the MFLPD is not expected to change significantly and thus a daily check of the MFLPD is adequate.

LPRM gain settings are determined from the local flux profiles measured by the Traversing Incore Probe (TIP) System. This establishes the relative local flux profile for appropriate representative input to the APRM System. The 1000 MWD/T frequency is based on operating experience with LPRM sensitivity changes.

TABLE 4.1-2

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

Instrument Channel	Group (1)	Calibration	Frequency (2)
IRM High Flux	C	Comparison to APRM on Controlled Shutdowns	W
APRM High Flux Output Signal	B	Heat Balance	D
Flow Bias Signal	B	Internal Power and Flow Test with Standard Pressure Source	R
LPRM Signal	B		Every 1000 MWD/T average core exposure
High Reactor Pressure	B	Standard Pressure Source	(Note 6)
High Drywell Pressure	B	Standard Pressure Source	(Note 6)
Reactor Low Water Level	B	Standard Pressure Source	(Note 6)
High Water Level in Scram Discharge Instrument Volume	A	Water Column (Note 5)	R (Note 5)
High Water Level in Scram Discharge Instrument Volume	B	Standard Pressure Source	Q
Main Steam Line Isolation Valve Closure	A	(Note 4)	(Note 4)
Turbine First Stage Pressure Permissive	B	Standard Pressure Source	(Note 6)

Attachment II to JPN-99-002

SAFETY EVALUATION

LPRM CALIBRATION

(JPTS-99-001)

New York Power Authority

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

SAFETY EVALUATION
LPRM CALIBRATION

I. DESCRIPTION

This section provides a description of the proposed changes to the Technical Specifications (TS). Minor changes in format, such as type font, margins or hyphenation, are not described in this submittal. The proposed TS changes remove the Local Power Range Monitor (LPRM) signal calibration methodology from TS Table 4.1-2. Inclusion of this calibration method in the TS is not required because it does not meet any of the criteria for retention in the TS in accordance with 10 CFR 50.36(c)(2)(ii). In addition, the units for LPRM signal calibration Frequency on TS Table 4.1-2 and the TS Bases regarding LPRM calibration are changed. The above noted changes adopt the applicable provisions of the Standard Technical Specifications (STS) (Reference 1). The specific changes are as follows:

1. **TS Bases, Section 4.1.B, Page 38**

   Replace:

   "The sensitivity of LPRM detectors decreases with exposure to neutron flux at a slow and approximately constant rate. This is compensated for in the APRM system by calibrating twice a week using heat balance data and by calibrating individual LPRM's every 1000 effective full power hours, using TIP traverse data."

   With:

   "LPRM gain settings are determined from the local flux profiles measured by the Traversing Incore Probe (TIP) System. This establishes the relative local flux profile for appropriate representative input to the APRM system. The 1000 MWD/T Frequency is based on operating experience with LPRM sensitivity changes."

2. **Line Item 4, Table 4.1-2, Page 46**

   a. Delete:

      "TIP System Traverse"

   b. Replace:

      "Every 1000 effective full power hours"

      With:

      "Every 1000 MWD/T average core exposure"

SAFETY EVALUATION
LPRM CALIBRATION

II. PURPOSE OF THE PROPOSED CHANGE

The Authority has chosen to adopt the applicable provisions of the STS to clarify LPRM calibration requirements.

III. SAFETY IMPLICATIONS OF THE PROPOSED CHANGE

This change proposes to delete the listed requirements on TS table 4.1-2 for the method of calibration of the LPRM's. Table 4.1-2 identifies the type of test equipment used to perform channel calibration. These details are not necessary because the definition of Instrument Channel Calibration provides the necessary guidance. This change is consistent with STS.

The proposed change to the Table 4.1-2 LPRM signal calibration frequency units is from "every 1000 effective full power hours" to "every 1000 Megawatt Days per Ton (MWD/T) average core exposure". Both Frequencies consider the LPRM sensitivity changes based on operating history, and represent roughly the same time interval (i.e., for Cycle 14, 1000 effective full power hours is approximately 985 MWD/T). The units change allows a more convenient tracking parameter since MWD/T is commonly calculated and recorded by the core monitoring system. Therefore, this change is consistent with STS.

The change to the Bases does not affect normal plant operation and testing and is consistent with the current licensing basis regarding LPRM signal calibration. This change only replaces Custom TS wording with STS wording. The proposed TS Bases change states that LPRM gain settings are determined from the local flux profiles measured by the Traversing Incore Probe (TIP) System. In conjunction with 3D-Monicore power distribution models, the TIP System data can be from direct readings, symmetrical readings, or calculated data.

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.

   This change proposes to remove the listed requirement for the method of calibration of the LPRM Signal from TS Table 4.1-2 because the definition for Instrument Channel Calibration provides the necessary guidance.

   Other changes to the bases and adopting signal calibration frequency units of MWD/T vice effective full power hours is consistent with STS.

   The proposed changes do not increase the probability of an accident because the proposed surveillance requirements still ensure that the LPRM signal is adequately calibrated. The proposed change provides assurance that the

associated Reactor Protection System (RPS) functions are tested consistent with the analysis assumptions. As a result, the consequences of an accident are not affected by this change. This change will not alter assumptions relative to the mitigation of an accident or transient event. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The proposed changes will not physically alter the plant. As such, no new or different types of equipment will be installed. The methods governing normal plant operation and testing are consistent with current safety analysis assumptions. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

   The proposed change removes specific calibration method information in Table 4.1-2 regarding the LPRM signal which is adequately addressed in the definition for Instrument Channel Calibration.

   Other changes to the Bases and adopting a signal calibration Frequency units of MWD/T vice effective full power hours is consistent with STS.

   The proposed changes still provide the necessary control of testing to ensure operability of the RPS instrumentation. The safety analysis assumptions will still be maintained, thus no question of safety exists. Therefore, this change does not involve a significant reduction in a margin of safety.

V. IMPLEMENTATION OF THE PROPOSED CHANGE

This amendment request meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) as follows:

(i) The amendment involves no significant hazards consideration.

As described in Section IV of this evaluation, the proposed change involves no significant hazards consideration.

(ii) There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

The proposed change does not involve the installation of any new equipment, or the modification of any equipment that may affect the types or amounts of effluents that may be released offsite. Therefore, there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

(iii) There is no significant increase in individual or cumulative occupational radiation exposure.

The proposed changes do not involve plant physical changes, or introduce any new mode of plant operation. Therefore, there is no significant increase in individual or cumulative occupational radiation exposure.

Based on the above, the Authority concludes that the proposed changes meet the criteria specified in 10 CFR 51.22 for a categorical exclusion from the requirements of 10 CFR 51.21 relative to requiring a specific environmental assessment by the Commission.

VI. CONCLUSION

The proposed changes will not alter assumptions relative to the mitigation of an accident or transient event, and will not adversely affect normal plant operation and testing. The proposed changes are consistent with the current safety analysis assumptions and with STS. As such, no question of safety exists.

The Plant Operating Review Committee (PORC) and Safety Review Committee (SRC) have reviewed this proposed change to the TS 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. NUREG-1433, "Standard Technical Specifications," General Electric Plants, BWR/4, Revision 1, dated April 1995

Attachment III to JPN-99-002

MARKED-UP TECHNICAL SPECIFICATION PAGES

TRAVERSING INCORE PROBE SYSTEM

(JPTS-99-001)

New York Power Authority

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

4.1 BASES (cont'd)

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Amendment No. ~~44, 89, 134, 182, 227, 232,~~ 235

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INSERT HERE

The sensitivity of LPRM detectors decreases with exposure to neutron flux at a slow and approximately constant rate. This is compensated for in the APRM system by calibrating twice a week using heat balance data and by calibrating individual LPRM's every 1000 effective full power hours, using TIP traverse data.

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LPRM Signal	B	TIP System Traverse	Every 1000 MWD/T average core exposure ~~effective full power hours~~
High Reactor Pressure	B	Standard Pressure Source	(Note 8)
High Drywell Pressure	B	Standard Pressure Source	(Note 8)
Reactor Low Water Level	B	Standard Pressure Source	(Note 8)
High Water Level in Scram Discharge Instrument Volume	A	Water Column (Note 5)	R (Note 5)
High Water Level in Scram Discharge Instrument Volume	B	Standard Pressure Source	Q
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