

ATTACHMENT 3

NRC DOCKET 50-366  
OPERATING LICENSE NPF-5  
EDWIN I. HATCH NUCLEAR PLANT UNIT 2  
TRAVERSING INCORE PROBE SYSTEM TECHNICAL SPECIFICATION  
CHANGE PROPOSAL

1. Change "three" to "four" in both Section 3.3.6.6.a and 3.3.6.6.b:

BASIS:

This change constitutes a more restrictive operational limitation. Therefore, this change is consistent with Item (ii) of the "Examples of Amendments that are Considered Not Likely to Involve Significant Hazards Considerations" listed on page 14,870 of the April 6, 1983, issue of the Federal Register.

2. Add "...preventing normalization of the TIP detectors..." and ".... for more than 31 EFPD following the last normalization."

BASIS:

The proposed changes would allow the use of any functioning TIP machine, during periods when the TIP system is declared inoperable (unable to normalize all four probes), to increase the accuracy of LPRM monitoring of core parameters. Currently, with more than one TIP machine failed, continued full power plant operation is allowed; however, the plant process computer must use increasingly less accurate LPRM readings for its monitoring of core thermal limits. By allowing the use of still functioning TIP machines, some LPRM readings can be conservatively adjusted during periods prior to the required (Technical Specification Table 4.3.1-1, note g) full-core LPRM recalibration, which must take place every 1000 Effective Full Power Hours (EFPH).

The current and the proposed Technical Specifications restrict TIP system usage for the performance of the following functions:

- a. Recalibration of the LPRM detectors.
- b. Monitoring the APLHGR, LHGR, or MCPR.
- c. Adjustment of the APRM setpoints.

Function "a." above requires the usage of the process computer program known as OD-1. OD-1 is set up to run only if all four TIP machines are available; therefore, the proposed changes would have no affect on this calibration operation. Functions "b." and "c." above would not be affected by the proposed Technical Specification changes when the plant process computer is operable, since these values are normally calculated using program P-1 which

does not directly utilize TIP data. However, should the process computer and its backup be unavailable, then the parameters covered by "b." and "c." could be figured using a manual calculation known as P-lB, which does utilize data directly from TIP traces. The P-lB calculation can be performed correctly and conservatively with only a portion of the TIP system functioning as is noted in General Electric Topical Report NEDO-25443 dated November, 1981. Requirement "c." indirectly and unnecessarily affects the use of a computer program, OD-2, which is used to provide substitute or updated LPRM readings for a particular LPRM string. The OD-2 calculation can be performed correctly and conservatively for any LPRM string accessed by an operable TIP. When this program is run the new data obtained from the TIP system can be used to update the thermal limit known as CMFLPD (Core Maximum Fraction of Limiting Power Density). Technical Specification Section 4.2.2.c. requires that any time that CMFLPD exceeds the FRTP (Fraction of Rated Thermal Power), which occurs frequently after an OD-2 run, the APRM setpoints must be adjusted to correct the situation. Since APRM adjustment (item "c." above) requires operability of the TIP system, the current Technical Specifications effectively prohibit use of the OD-2 calculation with less than three probes operable. The proposed requirements would allow usage of OD-2 for APRM adjustment when a portion of the TIP system is inoperable.

Using the manual Pl-B calculation it would be possible, under the proposed Technical Specifications, to increase the reactor power under certain conditions to a level somewhat higher than is currently allowed when less than three TIP detectors are operable. However, plant procedures only allow usage of P-lB when the process computer and its backup are inoperable, a fairly rare occurrence. Furthermore, the vendor guidelines for usage of P-lB, which the plant follows, are designed to prevent usage of this calculation in a manner which could produce a non-conservative result, especially during periods of degraded TIP system operability.

Correct usage of the OD-2 program during periods when less than three TIP probes are operable typically results in a more conservative monitoring of core parameters than is currently possible. LPRM drift, during the 1000 EFPH interval between full-core calibrations, tends to be in the non-conservative direction due to the burn-up of the fissionable material in the ionization chambers. Use of any operable TIP detectors in performing individual LPRM string recalibrations, within the proposed 31 Effective Full Power Day (EFPD) period, would result in more accurate knowledge of the reactor core status with respect to the various fuel limits. Usage of the OD-2 program, during periods of degraded TIP system operability, would not permit operation of the reactor at a power level higher than is currently allowed.

The probability of occurrence or the consequences of an accident or malfunction of safety-related equipment would not be increased above those analyzed in the FSAR because under the proposed regulations the calibrated input signals to the RPS provided by the TIP system operating with less than four probes is within the same limits of accuracy as that provided by the fully operational TIP system. The TIP system does affect the safety-related functions of the Reactor Protection System (RPS) by providing calibration signals for the LPRMs and APRMs. The TIP system is used to calibrate the LPRMs which provide signals for the APRMs. The safety-related functions of the RPS receive input signals from the APRMs. The possibility of an accident or malfunction of a different type than analyzed in the FSAR would not result from this change, because the function of the TIP machines is not changed and no new modes of operation or failure are introduced. The margin of safety as defined in the Technical Specifications would not be reduced by this change because this change would allow for an increase in input data for monitoring of core thermal limits while still maintaining the required accuracy of the TIP system output data.