

October 14, 1988

Docket No. 50-305

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Mr. D. C. Hintz
 Vice President - Nuclear Power
 Wisconsin Public Service
 Corporation
 P.O. Box 19002
 Green Bay, Wisconsin 54037-9002

Dear Mr. Hintz:

On September 20, 1988, the Commission issued Amendment No. 80 to Facility Operating License No. DPR-43 for the Kewaunee Nuclear Power Plant. The amendment revised the Technical Specifications in response to your application dated October 26, 1987 as supplemented June 16, 1988, and involved administrative changes to clarify existing specifications and increase the consistency within the Technical Specifications.

Typographical errors were made on five pages of the revised Technical Specifications. These errors have been corrected and the corrected pages are transmitted herewith.

Please accept our apologies for any inconvenience these errors may have caused you.

Sincerely,

/s/

Joseph G. Gitter, Project Manager
 Project Directorate III-3
 Division of Reactor Projects - III,
 IV, V and Special Projects

Enclosures:

TS pages 3.10-7,
 3.10-17, 3.10-18,
 3.10-20, and 4.5-2

cc: See next page

Office: LA/PDIII-3
 Surname: PKreutzer
 Date: 10/12/88

PM/PDIII-3
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File for
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Mr. D. C. Hintz
Wisconsin Public Service Corporation

Kewaunee Nuclear Power Plant

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2. Not more than one inoperable full length rod shall be allowed at any time.
3. If reactor operation is continued with one inoperable full length rod, the potential ejected rod worth and associated transient power distribution peaking factors shall be determined by analysis within 30 days unless the rod is made operable earlier. The analysis shall include due allowance for nonuniform fuel depletion in the neighborhood of the inoperable rod. If the analysis results in a more limiting hypothetical transient than the cases reported in the safety analysis, the plant power level shall be reduced to an analytically determined part power level which is consistent with the safety analysis.

h. Rod Drop Time

At operating temperature and full flow, the drop time of each full length rod cluster control shall be no greater than 1.8 seconds from loss of stationary gripper coil voltage to dashpot entry. If drop time is > 1.8 seconds, the rod shall be declared inoperable.

i. Rod Position Deviation Monitor

If the rod position deviation monitor is inoperable, individual rod positions shall be logged once per shift and after a load change greater than 10 percent of rated power or after > 24 steps of control rod motion.

j. Quadrant Power Tilt Monitor

If one or both of the quadrant power tilt monitors is inoperable, individual upper and lower excore detector calibrated outputs and the quadrant tilt shall be logged once per shift and after a load change greater than 10 percent of rated power or after > 24 steps of control rod motion. The monitors shall be set to alarm at 2% tilt ratio.

alarm setpoint represents a minimum practical value consistent with instrumentation errors and operating procedures. This symmetry level is sufficient to detect significant misalignment of control rods. Misalignment of control rods is considered to be the most likely cause of radial power asymmetry. The requirement for verifying rod position once each shift is imposed to preclude rod misalignment which would cause a tilt condition less than the 2% alarm level. This monitoring is required by Technical Specifications, Section 4.1.

The two hour time interval in specification 3.10.c is considered ample to identify a dropped or misaligned rod. If the tilt condition cannot be eliminated within the two hour time allowance, additional time would be needed to investigate the cause of the tilt condition. The measurements would include a full core physics map using the movable detector system. For a tilt ratio greater than 1.02 but less than or equal to 1.09, an additional 22 hours time interval is authorized to accomplish these measurements. However, to assure that the peak core power is maintained below limiting values, a reduction of reactor power of two percent for each one percent of indicated tilt is required. Physics measurements have indicated that the core radial power peaking would not exceed a two-to-one relationship with the indicated tilt from the excore nuclear detector system for the worst rod misalignment. If a tilt ratio of greater than 1.02 but less than or equal to 1.09 cannot be eliminated after 24 hours, the reactor power level will be reduced to less than or equal to 50%.

If a misaligned rod has caused a tilt ratio greater than 1.09, the core power shall be reduced by 2% of rated value for every 1% of indicated power tilt ratio exceeding 1.0. If after eight hours the rod has not been realigned, the rod shall be declared inoperable in accordance with TS 3.10.e, and action shall be taken in accordance with TS 3.10.g. If the tilt condition cannot be eliminated after 12 hours, the reactor shall be brought to a minimum load condition; i.e., electric power less than or equal to 30 MW. If the cause of the tilt condition has been identified and is in the process of being corrected, the generator may remain connected to the grid.

If the tilt ratio is greater than 1.09, and it is not due to a misaligned rod, the reactor shall be brought to a no load condition; i.e., reactor power less than or equal to 5%, for investigation by flux mapping. Although the reactor may be maintained critical for flux mapping, the generator must be disconnected from the grid since the cause of the tilt condition is not known, or it cannot be readily corrected.

ROD MISALIGNMENT LIMITATIONS

During normal power operation it is desirable to maintain the rods in alignment with their respective banks to provide consistency with the assumption of the safety analyses, to maintain symmetric neutron flux and power distribution profiles, to provide assurance that peaking factors are within acceptable limits and to assure adequate shutdown margin.

Analyses have been performed which indicate that the above objectives will be met if the rods are aligned within the limits of Specification 3.10.e. A relaxation in those limits for power levels below 85% is allowable because of the increased margin in peaking factors and available shutdown margin obtained while operating at lower power levels. This increased flexibility is desirable to account for the non-linearity inherent in the rod position indication system and for the effects of temperature and power as seen on the rod position indication system.

Rod position measurement is performed through the effects of the rod drive shaft metal on the output voltage of a series of vertically stacked coils located above the head of the reactor pressure vessel. The rod position can be determined by the analog individual rod position indicators, the plant process computer which receives a voltage input from the conditioning module, or through the conditioning module output voltage via a correlation of rod position vs. voltage.

INOPERABLE ROD POSITION INDICATOR CHANNELS

The rod position indicator channel is sufficiently accurate to detect a rod ± 12 steps away from its demand position. If the rod position indicator channel is not operable, the operator will be fully aware of the inoperability of the channel, and special surveillance of core power tilt indications, using established procedures and relying on excore nuclear detectors, and/or movable incore detectors, will be used to verify power distribution symmetry.

INOPERABLE ROD LIMITATIONS

One inoperable control rod is acceptable provided the potential consequences of accidents are not worse than the cases analyzed in the safety analysis report. A 30 day period is provided for the re-analysis of all accidents sensitive to the changed initial condition.

ROD DROP TIME

The required drop time to dashpot entry is consistent with safety analysis.

DNB PARAMETERS

The DNB related accident analysis assumed as initial conditions that the T_{inlet} was 4°F above nominal design or T_{avg} was 4°F above nominal design. The Reactor Coolant System pressure was assumed to be 30 psi below nominal design.

REFERENCES

- (1) FSAR Section 4.3
- (2) FSAR Section 4.4
- (3) FSAR Section 14
- (4) "Rod Misalignment Analysis," July 27, 1981, submitted to NRC with proposed Technical Specification Amendment 46 by letter from E.R. Mathews (WPSC) to D.G. Eisenhut (NRC) dated August 7, 1981.

2. Containment Vessel Internal Spray System

- A. System tests shall be performed once every operating cycle or once every 18 months, whichever occurs first. The test shall be performed with the isolation valves in the supply lines at the containment blocked closed.
- B. The spray nozzles shall be checked for proper functioning at least every five years using either air with telltales or smoke tests to determine that all nozzles are clear.
- C. The test will be considered satisfactory if control board indications or visual observations indicate all components have operated satisfactorily.

3. Containment Fan-Coil Units

Each fan-coil unit shall be tested once every operating cycle or once every 18 months, whichever occurs first, to verify proper operation of the motor-operated service water outlet valves and the fan coil emergency discharge and associated backdraft dampers (RBV034-001 through RBV034-004).

b. Component Tests

1. Pumps

- A. The safety injection pumps, residual heat removal pumps, and containment spray pumps shall be started and operated on recirculation flow quarterly during power operation and within one week after the plant is returned to power operation, if the test was not performed during plant shutdown.
- B. Acceptable levels of performance shall be that the pumps start, reach their required developed head at miniflow, and operate for at least fifteen minutes on the miniflow line.