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SUBJECT: Proposed amend 125 to license DPR-43,revising TS to incorporate operability & SRs for recently installed AFW pump low discharge pressure trip instrumentation.

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March 31, 1994 10 CFR 50.90

U.S. Nuclear Regulatory Commission
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Ladies/Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
Proposed Amendment 125 to the Kewaunee
Nuclear Power Plant Technical Specifications

Reference: 1) Letter dated February 26, 1993, from C. A. Schrock (WPSC) to Document Control Desk (NRC)

This proposed amendment (PA) to the Kewaunee Nuclear Power Plant (KNPP) Technical Specifications (TS) is being submitted to incorporate operability and surveillance requirements for the recently installed Auxiliary Feedwater Pump Low Discharge Pressure Trip instrumentation. This submittal satisfies our commitment stated in Reference 1 to propose TSs within 90 days of the equipment installation. Proposed surveillance requirements are being added to Table TS 4.1-1, "Minimum Frequencies for Checks, Calibrations and Test of Instrument Channels." TS 3.4 "Steam and Power Conversion System" is being revised to explicitly link operability of each Auxiliary Feedwater Pump Low Discharge Pressure Trip channel to operability of the associated auxiliary feedwater pump. Lastly, minor format inconsistencies are corrected.

Attachment 1 to this letter contains a description, a safety evaluation, a significant hazards determination and environmental considerations for the proposed changes. Attachment 2 contains the affected TS pages.

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In accordance with the requirements of 10 CFR 50.30(b), this submittal has been signed and notarized. A complete copy of this submittal has been transmitted to the State of Wisconsin as required by 10 CFR 50.91(b)(1).

Sincerely,

C. R. Steinhardt
Senior Vice President - Nuclear Power

DJK/cjt

Attach.

cc - US NRC - Region III
US NRC Senior Resident Inspector
Mr. Robert Cullen, PSCW

Subscribed and Sworn to
Before Me This 31st Day
of March 1994

Jeanne M. Ferris
Notary Public, State of Wisconsin

My Commission Expires:

June 18, 1995

lic\nrc\pa125.wp

ATTACHMENT 1

To

Letter from C. R. Steinhardt (WPSC)

to

Document Control Desk (NRC)

Dated

March 31, 1994

Proposed Amendment 125

Description of Proposed Changes

Safety Evaluation

Significant Hazards Determination

Environmental Considerations

Description of Proposed Changes to Technical Specification (TS) Table TS 4.1-1 "Minimum Frequencies for Checks, Calibrations and Test of Instrument Channels" and TS 3.4 "Steam and Power Conversion System"

1) Item No. 43, "AFW Pump Low Discharge Pressure Trip," is being proposed to Table TS 4.1-1 to provide surveillance testing requirements for the recently installed Auxiliary Feedwater Pump Low Discharge Pressure Trip channels. The surveillance requirements include a Channel Functional Test and a Channel Calibration of each trip channel to be completed each refueling cycle not to exceed 18 months.

2) TS 3.4, "Steam and Power Conversion System," is being revised to explicitly link operability of each Auxiliary Feedwater Pump Low Discharge Pressure Trip channel to operability of the associated auxiliary feedwater pump.

3) Minor format inconsistencies in TS 3.4.b.1.A and 3.4.b.1.B are corrected.

Safety Evaluation for Proposed Change to Technical Specifications Table TS 4.1-1

This proposed change defines the necessary surveillance requirements for the recently installed Auxiliary Feedwater Pump Low Discharge Pressure Trip channels. The Auxiliary Feedwater Pump Low Discharge Pressure Trip channels were installed in response to Recommendation GL-4 of "NRC Requirements for Auxiliary Feedwater Systems at Kewaunee Plant" dated September 21, 1979. Installation of this protection feature was further approved in a Safety Evaluation Report (SER) from Steven A. Varga (NRC) to C.W. Giesler (WPSC) dated August 10, 1983.

Installation of the Auxiliary Feedwater Pump Low Discharge Pressure Trip channels was completed in January, 1994. Proposed changes to Table TS 4.1-1 add TS surveillance requirements for each of the three (one associated with each Auxiliary Feedwater Pump) discharge pressure trip channels. Specifically, a channel functional test and a channel calibration of each trip channel will be completed each refueling cycle not to exceed 18 months. This surveillance testing is consistent with the requirements of Westinghouse Standard Technical Specifications, NUREG-1431, with the exception of the performance of a channel check every 12 hours and the testing frequency of the channel functional test. The basis for these differences is provided below.

NUREG-1431 recommends that a channel check be performed every 12 hours. Gauges, meters or other instrumentation, suitable for the performance of a channel check, are not part of the Kewaunee design for this trip protection. Therefore, a channel check is not applicable to this type of design as installed at Kewaunee.

NUREG-1431 also recommends that a Trip Actuating Device Operational Test (TADOT) be performed every 92 days, and a channel calibration be performed each refueling cycle. Note that a channel calibration coupled with a channel functional test as defined in the Kewaunee TS meet the requirements of a TADOT and a channel calibration as defined in NUREG-1431. Based on the past reliability and repeatability of the components chosen for this protective instrumentation and circuitry, it is being proposed to extend the channel functional testing frequency from every 92 days to each refueling cycle not to exceed 18 months. The basis for this is described below.

Both Motor-Driven Auxiliary Feedwater Pump Low Discharge Pressure Trip channels consist of a United Electric Controls pressure switch and a single Agastat ETR trip relay. The Turbine-Driven Auxiliary Feedwater Pump Low Discharge Pressure Trip channel consists of a United Electric Controls pressure switch and two Agastat ETR trip relays. Past performance of these pressure switches and relays in other applications at Kewaunee has been excellent. Pressure switches of this type presently installed in other systems are currently calibrated on an annual basis. An annual calibration record review of the past three years included 11 United Electric Controls 300 and 400 series pressure switches, the type used in this application. This review identified only two instances of setpoints drifting slightly outside the calibration band in the 33 tests conducted over the three year period. Two other switches were replaced due to microswitch drift. The microswitch drift occurred because the two pressure switches were installed in the Turbine EH system. In this application, the pressure switches are cycled repeatedly with a period of approximately once every three minutes. This fatigue-induced drift is not applicable to the Auxiliary Feedwater Pump Low Discharge Pressure Trip application since these switches will be cycled very infrequently.

The Agastat ETR trip relays used in the Auxiliary Feedwater Low Discharge Pressure Trip circuits have a setpoint of 5 $\pm$ 1 seconds for the Motor-Driven Auxiliary Feedwater Pumps and setpoints of 5 $\pm$ 1 seconds and 45 $\pm$ 2 seconds for the Turbine-Drive Auxiliary Feedwater Pump. The Agastat ETR trip relays used in this application are the same model as those used for the diesel generator load sequencer. The performance history of the relays in the diesel generator load sequencer from March 10, 1989 to December 16, 1992 was collected in response to the Electrical Distribution Safety System Functional Inspection (EDSFI). This historical search consisted of 993 individual data points. In each case, every 5 second setpoint was within $\pm$1 second and every 40 and 50 second setpoint was within $\pm$2 seconds. This confirms the ETR relay's reliability and repeatability, and its ability to meet the acceptance criteria in this application.

There are three separate and distinct low discharge pressure trip channels in the Kewaunee design, one associated with each Auxiliary Feedwater Pump. There is no two-out-of-three or similar logic. Thus, failure of a given Auxiliary Feedwater Pump Low Discharge Pressure Trip channel will have no effect on the remaining two Auxiliary Feedwater Pumps or trip channels. Finally, the quarterly In-Service Testing performed on the Auxiliary Feedwater Pumps will provide some limited information regarding the operability of the Auxiliary Feedwater Pump Low Discharge Pressure Trip channels by verifying that the trip channels allow each pump to start and continue running under controlled conditions.

Based on the above information, as well as the additional out of service time for the associated auxiliary feedwater train and the cost associated with performing a channel functional test on each trip channel every 92 days, a channel functional test frequency of once every refueling cycle not to exceed 18 months is justified.

This proposed revision is an additional requirement in the TS's to ensure the availability and reliability of the Auxiliary Feedwater Pump Low Discharge Pressure Trip channels; therefore, this change will not adversely affect the health and safety of the public.

Significant Hazards Determination for Proposed Changes to Technical Specification Table TS 4.1-1

The proposed changes were reviewed in accordance with the provisions of 10 CFR 50.92 to show no significant hazards exist. The proposed changes will not:

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

   The proposed change defines the necessary surveillance requirements for the recently installed Auxiliary Feedwater Pump Low Discharge Pressure Trip channels. The intent of adding surveillance requirements to the TS's is to ensure the availability and reliability of the components. The proposed change is an additional restriction not presently included in the TS's. Therefore, it will not increase the probability or consequences of an accident previously evaluated in the USAR.

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

   The proposed change adds surveillance requirements to the TS for the Auxiliary Feedwater Low Discharge Pressure Trip channels. It does not alter the plant configuration or overall plant performance. Therefore, it does not create the possibility of a new or different kind of accident.

3) Involve a significant reduction in the margin of safety.

   This proposed revision is an additional requirement in the TS's to ensure the availability and reliability of the Auxiliary Feedwater Pump Low Discharge Pressure Trip channels. It does not alter the input or assumptions of the safety analysis, and is an enhancement from an overall safety standpoint. Therefore it will not involve a reduction in the margin of safety.

Additionally, the proposed change is similar to example C.2.e(ii) in 51 FR 7751. Example C.2.e(ii) states that changes that constitute an additional limitation, restriction or control not presently included in the TS's are not likely to involve a significant hazard.

Safety Evaluation for Proposed Change to Technical Specifications Table TS 3.4

This proposed change defines the necessary operability requirements for the recently installed Auxiliary Feedwater Pump Low Discharge Pressure Trip channels. The Auxiliary Feedwater Pump Low Discharge Pressure Trip channels were installed in response to Recommendation GL-4 of "NRC Requirements for Auxiliary Feedwater Systems at Kewaunee Plant" dated September 21, 1979. Installation of this protection feature was further approved in a Safety Evaluation Report (SER) from Steven A. Varga (NRC) to C.W. Giesler (WPSC) dated August 10, 1983.

Installation of the Auxiliary Feedwater Pump Low Discharge Pressure Trip channels was completed in January, 1994. The proposed change to TS 3.4 requires that the reactor not be heated > 350°F unless both motor driven Auxiliary Feedwater Pumps and their associated low discharge pressure trip channels are operable. Also, the reactor shall not be heated > 350°F unless the turbine driven auxiliary feedwater pump and its associated low discharge pressure trip channel are operable, or if not demonstrated operable prior to >350°F, they shall be declared inoperable when 350°F is exceeded. Furthermore, when the reactor is > 350°F, an auxiliary feedwater pump low discharge pressure trip channel may be inoperable for a period not to exceed 4 hours. If this time is exceeded, the associated auxiliary feedwater pump shall be declared inoperable and the appropriate limiting condition for operation of TS 3.4.b.2 entered. The intent of adding these operability requirements to the TS's is to ensure the availability of the components.

This proposed revision is an additional requirement in the TS's to ensure the operability of the Auxiliary Feedwater Pump Low Discharge Pressure Trip channels; therefore, this change will not adversely affect the health and safety of the public.

Significant Hazards Determination for Proposed Changes to Technical Specification TS 3.4

The proposed changes were reviewed in accordance with the provisions of 10 CFR 50.92 to show no significant hazards exist. The proposed changes will not:

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

   The proposed change defines the necessary operability requirements for the recently installed Auxiliary Feedwater Pump Low Discharge Pressure Trip channels. Installation of this protection was recommended and approved by the NRC prior to their installation. The proposed change requires that the reactor not be heated > 350°F unless both motor

driven Auxiliary Feedwater Pumps and their associated low discharge pressure trip channels are operable. Also, the reactor shall not be heated > 350°F unless the turbine driven auxiliary feedwater pump and its associated low discharge pressure trip channel are operable, or if not demonstrated operable prior to > 350°F, they shall be declared inoperable when 350°F is exceeded. Furthermore, when the reactor is > 350°F, an auxiliary feedwater pump low discharge pressure trip channel may be inoperable for a period not to exceed 4 hours. If this time is exceeded, the associated auxiliary feedwater pump shall be declared inoperable and the appropriate limiting condition for operation of TS 3.4.b.2 entered. The intent of adding these operability requirements to the TS's is to ensure the availability of the components. The proposed change is an additional restriction not presently included in the TS's. Therefore, it will not increase the probability or consequences of an accident previously evaluated in the USAR.

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

The proposed change adds operability requirements to the TS for the Auxiliary Feedwater Pump Low Discharge Pressure Trip channels. It does not alter the plant configuration or overall plant performance. Therefore, it does not create the possibility of a new or different kind of accident.

3) Involve a significant reduction in the margin of safety.

This proposed revision is an additional requirement in the TS's to ensure the operability of the Auxiliary Feedwater Pump Low Discharge Pressure Trip channels. It does not alter the input or assumptions of the safety analysis, and is an enhancement from an overall safety standpoint. Therefore it will not involve a reduction in the margin of safety.

Additionally, the proposed change is similar to example C.2.e(ii) in 51 FR 7751. Example C.2.e(ii) states that changes that constitute an additional limitation, restriction or control not presently included in the TS's are not likely to involve a significant hazard.

Significant Hazards Determination for Proposed Administrative Changes to Section TS 3.4

Administrative changes are proposed to capitalize "operable" in TS 3.4.b.1.A and 3.4.b.1.B. As part of a general TS improvement program, WPSC is capitalizing the terms defined in TS 1.0 to be consistent with NUREG-1431. No change in intent or interpretation is intended.

The proposed change was reviewed in accordance with the provisions of 10 CFR 50.92 to show no significant hazards exist. The proposed change will not:

1) Involve a significant increase in the probability or consequences of an accident previously evaluated, or

2) Create the possibility of a new or different kind of accident from an accident previously evaluated, or

3) Involve a significant reduction in the margin of safety.

The proposed changes are administrative in nature and do not alter the intent or interpretation of the TS. Therefore, no significant hazards exist.

Additionally, the proposed change is similar to example C.2.e(i) in 51 FR 7751. Example C.2.e.(i) states that changes which are purely administrative in nature; i.e., to achieve consistency throughout the Technical Specifications, correct an error, or a change in nomenclature, are not likely to involve a significant hazard.

Environmental Considerations

This proposed amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or a change to a surveillance requirement. WPSC has determined that the proposed amendment involves no significant hazards considerations and no significant change in the types of any effluents that may be released offsite and that there is no significant increase in the individual or cumulative occupational radiation exposure. Accordingly, this proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with this proposed amendment.

ATTACHMENT 2

To

Letter from C.R. Steinhardt (WPSC)

to

Document Control Desk (NRC)

Dated

March 31, 1994

Proposed Amendment 125

Affected TS Pages

TS 3.4-2

Table TS 4.1-1 (Page 8 of 8)