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United States Nuclear Regulatory Commission
Document Control Desk
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Perry Nuclear Power Plant
Docket No. 50-440
License Amendment Request Pursuant to 10CFR50.90:
Various Minor Changes to the Technical Specifications

Ladies and Gentlemen:

Nuclear Regulatory Commission review and approval of a license amendment for the Perry Nuclear Power Plant is requested. The proposed amendment involves various minor changes to the Technical Specifications.

Attachment 1 provides the Summary, Description of the Proposed Technical Specification Changes, Safety Analysis, and Environmental Consideration. Attachment 2 provides the Significant Hazards Consideration. Attachment 3 provides the annotated Technical Specification pages reflecting the proposed changes. Attachment 4 provides the annotated Bases pages, for information, since the Bases are not a formal part of the Technical Specifications.

There are no regulatory commitments contained in this letter. If you have questions or require additional information, please contact Mr. Henry L. Hegrat, Manager - Regulatory Affairs, at (440) 280-5606.

Very truly yours,

for John K. Wood
Attachments

cc: NRC Project Manager
NRC Resident Inspector
NRC Region III
State of Ohio

A001

I, Howard W. Bergendahl, hereby affirm that (1) I am Director, Perry Nuclear Services Department of the FirstEnergy Nuclear Operating Company, (2) I am duly authorized to execute and file this certification on behalf of The Cleveland Electric Illuminating Company and Toledo Edison Company, and as the duly authorized agent for Duquesne Light Company, Ohio Edison Company, and Pennsylvania Power Company, and (3) the statements set forth herein are true and correct to the best of my knowledge, information and belief.

Howard W. Bergendahl

Subscribed to and affirmed before me, this 9th day of September, 1999

JANE E. MOTT
Notary Public, State of Ohio
My Commission Expires Feb. 20, 2000
(Recorded in Lake County)

SUMMARY

The proposed license amendment request involves revision of the Perry Nuclear Power Plant (PNPP) Technical Specifications. The proposed changes are individually minor in both content and safety significance. The proposed changes are being submitted in one change request for ease in review and approval.

DESCRIPTION OF THE PROPOSED TECHNICAL SPECIFICATION CHANGES

1. (Condensate Storage Tank (CST) Level-Low) The Allowable Values for the CST low water level limits (Technical Specification (TS) Table 3.3.5.1-1 Function 3.d and TS Table 3.3.5.2-1 Function 3) are being revised from ≥ 59,700 gallons to ≥ 90,300 gallons based on recent revisions to calculations taking into account potential vortex issues. This change also results in raising the TS Surveillance Requirement (SR) 3.5.2.2.b value for the normal CST level limit to ≥ 249,700 gallons.

2. (Emergency Core Cooling System Pump Differential Pressure) TS SRs 3.5.1.4 and SR 3.5.2.5 are being revised to better describe what the differential pressures listed in the SRs represent at PNPP, in lieu of the phrase "pump differential pressure".

3. (RCIC/RHR Steam Line Flow-High) TS Table 3.3.6.1-1 Function 3.i is being revised from "RCIC/RHR Steam Line Flow-High" to "RCIC Steam Line Flow-High" due to a recent design modification eliminating the steam condensing mode of the Residual Heat Removal (RHR) system.

4. (Containment Average Temperature-To-Relative Humidity) TS 3.6.1.12 Conditions A and B are being revised to clarify the proper actions to take if the containment average temperature-to-relative humidity is not maintained within limits during recently irradiated fuel movements or during operations with a potential for draining the reactor vessel (OPDRVs). Condition A is being revised to eliminate the words "in MODE 1, 2 or 3". Condition B is being revised to eliminate the word "or".

5. (Containment Vacuum Breakers) TS 3.6.1.11 Required Action A.2 is being revised to clarify the proper actions to take if the required number of vacuum breakers is not operable. Required Action A.2 is being revised to add the word "required".

6. (Reporting Requirements) TS Administrative Controls Reporting Requirement 5.6.1 is being revised to clarify the definition of the time period of the report. "Calendar" is being removed from the term "calendar year" to clarify the time period that the Occupational Radiation Exposure Report is required to cover, to be consistent with the wording in 10 CFR 20.1003.

7. (High Radiation Area) TS Administrative Control 5.7 is being revised to update the titles of individuals responsible for radiation protection. The term "health physics" is being revised to "radiation protection" to be consistent with plant terminology.

8. (ECCS Instrumentation) TS 3.3.5.1 Required Action E.1 Note 1 is being revised for consistency with other Specifications. The word "in" is being added.

9. (Electrical Power Systems) In TS 3.8.3, the word "continued" is being added to the bottom of the page for consistency with other Specifications.

[Note: The annotated Bases pages are contained in Attachment 4 "for information only". The Bases are not part of the Technical Specifications, and are not a formal part of this license amendment package. The Bases are revised under the PNPP Bases Control Program (Technical Specification 5.5.11).]

SAFETY ANALYSIS

The proposed changes listed above will each be discussed individually.

1. (Condensate Storage Tank Level-Low) The existing Technical Specification Allowable Value requirement for the Condensate Storage Tank (CST) low water level for both the High Pressure Core Spray (HPCS) System and the Reactor Core Isolation Cooling (RCIC) System is ≥ 59,700 gallons. The function of these CST low level instruments is to provide for automatic realignment of both the HPCS and RCIC systems from the CST to the suppression pool when a low level in the CST exists. During an NRC inspection the basis for this level was questioned. The concern dealt with whether sufficient margin was included in the calculations that determine the proper level necessary to assure that a vortex is not formed in the CST during either HPCS or RCIC operation. Engineering review of this concern indicated that the vortex concern had been addressed in the calculations, and had actually been tested during startup testing to determine at what CST level the vortex formation began. Nevertheless, calculations were revised to add additional margin. This resulted in the new Allowable Value of ≥ 90,300 gallons. To ensure a minimum of 150,000 gallons is maintained, the normal CST water level limit, SR 3.5.2.2 b was raised to ≥ 249,700 gallons. This increase maintains the required volume of water above the upper Leave-As-Is-Zone for the CST low level value. Since this is a conservative change, administrative controls have been put in place to ensure compliance to this new value. **NOTE:** Not all CST setpoints were raised equally. Some variance was required to minimize overlap for setpoints and Leave-As-Is-Zones (LAIZ).

2. (Emergency Core Cooling System (ECCS) Pump Differential Pressure) The present wording for SR 3.5.1.4 and SR 3.5.2.5 states that each ECCS pump must develop a specified flow rate with the specified "pump differential pressure". The surveillances are being revised to more accurately describe what the values listed therein represent. The differential pressure listed is actually the differential pressure between the reactor vessel and the containment wetwell area at the time that the ECCS systems are assumed to begin injecting, as obtained from the General Electric Process Diagrams. The differential pressure values themselves are not being revised, as they have been unchanged from the time of initial licensing of PNPP.

   As noted in the Standard Technical Specifications (NUREG-1434), this wording is bracketed, and should be phrased to best reflect the plant specific design basis for the listed values. As a result of recent engineering reviews, it was determined that the proposed wording would better reflect the PNPP values listed in these SRs.

   As discussed in the attached Bases (see Attachment 4), which have been recently revised per the PNPP Bases Control Program to more accurately reflect the PNPP design, the pumps also need to overcome the elevation head losses between the pump suction and the vessel discharge, and the piping friction losses. These values are determined by calculation and are enforced by the Inservice Testing Program procedures. The IST procedures ensure that the pumps deliver sufficient total head to overcome both the specified differential pressure and the system losses.

   There is no change in present or past practice for implementation of this surveillance requirement. No surveillance instructions at PNPP will be revised as a result of this change. This proposed revision is being made merely to add clarity and understanding of how the surveillance has always been implemented. As such there is no safety significance to the proposed change.

3. (RCIC/RHR Steam Line Flow-High) As part of the original design of the Perry Nuclear Power Plant, the steam supply line for the Reactor Core Isolation Cooling (RCIC) system also was the supply for the steam condensing mode of the Residual Heat Removal (RHR) system. The appropriate nomenclature for the leak detection instruments monitoring for high flow in this steam line was "RCIC/RHR Steam Line Flow. However, the steam-condensing mode of the RHR system has been removed. Therefore the leak detection monitors for this steam line are no longer connected to the RHR system. Therefore the name of the instruments have been changed and the Technical Specification Function listed in Table 3.3.6.1-1 Function 3.i is being changed to "RCIC Steam Line Flow-High. This is a change in nomenclature only and therefore does not involve any safety issue.

4. (Containment Average Temperature-To-Relative Humidity) Limiting Condition for Operation (LCO) 3.6.1.12, "Containment Humidity Control" lists the requirements

for maintaining the containment average temperature-to- relative humidity within limits. This Specification is unique to the Perry Nuclear Power Plant among the Boiling Water Reactor (BWR6) line. The Applicability for this Specification is Modes 1, 2 and 3 and during movement of recently irradiated fuel, and during operations with a potential for draining the reactor vessel (OPDRVs). As presently written Condition A appears to apply only when operating in Modes 1, 2, or 3. However, Condition C states that it applies if the Required Actions and associated Completion Times of Condition A are not met during movement of recently irradiated fuel or during OPDRVs. Therefore, Condition C implies that Condition A must also apply during movement of recently irradiated fuel and during OPDRVs.

To clarify this situation, Condition A is being revised to eliminate the phrase "in MODES 1, 2 or 3". Thus Condition A will apply to all of the Applicable Modes and other specified conditions of the Applicability. Then Condition B and C will work together to state the requirements when the Required Actions and Completion Times of Condition A are not met, i.e., Condition B will provide the actions while in Mode 1, 2 or 3, and Condition C will provide the actions during movement of recently irradiated fuel or during OPDRVs. One additional change is to eliminate the word "or" in Condition B since the word is not needed to convey the proper meaning of the Condition. Since this revision is a clarification to prevent misinterpretation, there is no safety significance to the change.

5. (Containment Vacuum Breakers) Technical Specification 3.6.1.11 Required Action A.2 is being revised to clarify the proper actions to take if the required number of vacuum breakers are not operable. Required Action A.2 is being revised to add the word "required". The addition of the word "required" makes it clear that Required Action A.2 only applies to the three containment vacuum breakers that are required to be operable by the LCO. As discussed in the Bases discussion for this Required Action A.2, there is no intent in this required action to require all four vacuum breakers to be restored to an Operable Status (all four vacuum breakers are required to remain closed, but only three of the breakers are required to be operable.) Since this revision is a clarification to prevent misinterpretation, there is no safety significance to the change.

6. (Reporting Requirements) Administrative Controls Reporting Requirement 5.6.1 is being revised to clarify the definition of the time period of the report. "Calendar" is being removed from the term "calendar year" to clarify the time period that the Occupational Radiation Exposure Report is required to in order to be consistent with the new definition in 10 CFR 20.1003. "Calendar year"could be interpreted to require that at midnight on December 31 of each year that the dosimeters for all employees must be switched in order to determine the recorded dose. This could be delayed due to holidays, off-hours, etc. Removing "calendar" will allow use of the 10 CFR 20.1003 definition of year, which states: "Year means the period of time beginning in

January used to determine compliance with the provisions of this part. The licensee may change the starting date of the year used to determine compliance by the licensee provided that the change is made at the beginning of the year and that no day is omitted or duplicated in consecutive years." This revised definition was included in the Part 20 revision and allows the desired flexibility. Changing the way a year is recorded for occupational radiation exposure reporting will have no substantive effect on the report, and has no effect on safety.

7. (High Radiation Area) Administrative Controls, High Radiation Area 5.7 is being revised to update the titles of individuals responsible for radiation protection. The term "health physics" is being revised to "radiation protection" to be consistent with plant terminology. Changing individual titles has no effect on safety.

8. (ECCS Instrumentation) Technical Specification 3.3.5.1 Required Action E.1 Note 1 is being revised for consistency with other Specifications. The word "in" is being added for clarity. Adding the word "in" does not change the intent of the Note and has no effect on safety.

9. (Electrical Power Systems) On page 3.8-21 the word continued is being added to the bottom of the page to indicate that additional information is on the next page. This word was omitted previously. This minor revision will have no effect on safety.

ENVIRONMENTAL CONSIDERATION

The proposed Technical Specification change request was evaluated against the criteria of 10 CFR 51.22 for environmental considerations. The proposed change does not significantly increase individual or cumulative occupational radiation exposures, does not significantly change the types or significantly increase the amounts of effluents that may be released off-site and, as discussed in Attachment 2, does not involve a significant hazards consideration. Based on the foregoing, it has been concluded that the proposed Technical Specification change meets the criteria given in 10 CFR 51.22(c)(9) for categorical exclusion from the requirement for an Environmental Impact Statement.

SIGNIFICANT HAZARDS CONSIDERATION

The standards used to arrive at a determination that a request for amendment does not involve a significant hazard are included in Commission regulation 10CFR50.92, which states that operation of the facility in accordance with the proposed changes would 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 any accident previously evaluated; or
3) involve a significant reduction in a margin of safety.

The proposed amendment has been reviewed with respect to these three factors and it has been determined that the proposed changes do not involve a significant hazard because:

1. The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

   A summary of the proposed changes is:

   1. (Condensate Storage Tank (CST) Level-Low) The Allowable Values for the CST low water level limits (Technical Specification (TS) Table 3.3.5.1-1 Function 3.d and Table 3.3.5.2-1 Function 3) are being revised from ≥ 59,700 gallons to ≥ 90,300 gallons based on recent revisions to calculations taking into account potential vortex issues. This change also results in raising the TS Surveillance Requirement (SR) 3.5.2.2.b value for the normal CST level limit to ≥ 249,700 gallons.

   2. (Emergency Core Cooling System Pump Differential Pressure) TS SRs 3.5.1.4 and SR 3.5.2.5 are being revised to better describe what the differential pressures listed in the SRs represent at PNPP, in lieu of the phrase "pump differential pressure".

   3. (RCIC/RHR Steam Line Flow-High) The proposed change revises the nomenclature on a table to match the plant-specific instrument nomenclature.

   4. (Containment Average Temperature-To-Relative Humidity) This revision is a clarification to prevent misinterpretation of the Required Actions.

   5. (Containment Vacuum Breakers) TS 3.6.1.11 Required Action A.2 is being revised to clarify the proper actions to take if the required number of vacuum

breakers is not operable. Required Action A.2 is being revised to add the word "required".

6. (Reporting Requirements) TS Administrative Controls Reporting Requirement 5.6.1 is being revised to clarify the definition of the time period of the report. "Calendar" is being removed from the term "calendar year" to clarify the time period that the Occupational Radiation Exposure Report is required to cover, to be consistent with the revised wording in 10 CFR 20.1003.

7. (High Radiation Area) TS Administrative Control 5.7 is being revised to update the titles of individuals responsible for radiation protection. The term "health physics" is being revised to "radiation protection" to be consistent with plant terminology.

8. (ECCS Instrumentation) Required Action E.1 Note 1 is being revised for consistency with other Specifications. The word "in" is being added.

9. (Electrical Power Systems) In TS 3.8.3, the word "continued" is being added to the bottom of the page for consistency with other Specifications.

The CST level change is adjusted in a conservative direction, as recommended by NRC inspectors during a Safety System Functional Inspection (SSFI) that was conducted in the spring of 1997. The current setpoints were reviewed and determined to be adequate, however it was suggested that some additional margin should be added. The "low level" limits are being raised to move the setpoint further away from the level at which vortexing would begin, and the normal water level limit is also being raised to ensure that at least 150,000 gallons of water would be available for HPCS and RCIC. Since the existing limits are already considered adequate, and the proposed changes are in the conservative direction, the proposed change does not involve a significant increase in the probability or radiological consequences of an accident previously evaluated.

The other eight proposed changes are administrative only, and can have no effect on any previously evaluated accident scenario. These eight changes have no effect on plant hardware, plant design, safety limit settings, or system operation and therefore do not modify or add any initiating parameters that would significantly increase the probability of an accident previously evaluated, or the radiological consequences of an event.

2. The proposed changes would not create the possibility of a new or different kind of accident from any accident previously evaluated.

   The proposed changes will raise the Condensate Storage Tank level, which is conservative, and also includes some administrative changes to improve clarity, update titles or terminology. None of these changes can create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed changes will not involve a significant reduction in the margin of safety.

   The Condensate Storage Tank level change increases the margin of safety by providing more margin between the setpoint that causes the HPCS and RCIC suctions to shift from the CST to the Suppression Pool and the beginning of the formation of a vortex at their pump suctions. The other administrative changes have no effect on the margin of safety. Therefore the proposed change will not involve a significant reduction in the margin of safety.

Based on the above considerations, it is concluded that a significant hazard would not be introduced as a result of this proposed change. Also, since NRC approval of this change must be obtained prior to implementation, no unreviewed safety question can exist.