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ComEd

September 30, 1997

JSPLTR: 97-0170

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

SUBJECT: Dresden Nuclear Power Station Units 2 and 3
Quad Cities Nuclear Power Station Units 1 and 2
Request for Amendment to Facility Operating Licenses DPR-19, DPR-25, DPR-29 and DPR-30, Appendix A, Technical Specifications
Inservice Leak and Hydrostatic Testing Operation
NRC Docket Nos. 50-237/249 and 50-254/265

Pursuant to 10 CFR 50.90, ComEd proposes to amend Appendix A, Technical Specifications Section 3/4.12 of Facility Operating Licenses DPR-19, DPR-25, DPR-29 and DPR-30. The purpose of this amendment request is to add to Technical Specification 3/4.12 a new Special Test Exception LCO (proposed Technical Specification 3/4.12.C, Inservice Leak and Hydrostatic Testing Operation) to allow certain reactor coolant pressure tests to be performed in MODE 4 when the metallurgical characteristics of the reactor pressure vessel (RPV) require the pressure testing at or approaching temperatures $\geq$ 212°F, which normally corresponds to MODE 3. The proposed amendment request is based upon the requirements of Section 3.10.1 of the Improved Standard Technical Specifications (NUREG-1433)

The proposed Technical Specification Amendment is subdivided as follows:

1. Attachment A gives a description and safety analysis of the proposed changes.
2. Attachment B includes the proposed changes to the Technical specifications pages.
3. Attachment C describes ComEd's evaluation performed in accordance with 10 CFR 50.92 (c), which confirms that no significant hazards consideration is involved. In addition, ComEd's Environmental Assessment Applicability Review is included.

This proposed Technical Specification amendment has been reviewed and approved by ComEd On-Site and Off-Site Review in accordance with ComEd procedures.

In order to support upcoming refueling outages at both stations, ComEd requests NRC approval of this request for Dresden and Quad Cities by February 20, 1998.

To the best of my knowledge and belief, the statements contained above are true and correct. In some respect these statements are not based on my personal knowledge, but obtained information furnished by other Commonwealth Edison employees, contractor employees, and consultants. Such information has been reviewed in accordance with company practice, and I believe it to be reliable.

ComEd is notifying the State of Illinois of this application for amendment by transmitting a copy of this letter and its attachments to the designated state official.

Please direct any questions you may have concerning this submittal to this office.

Sincerely,

D. L. Hesser for
J. S. Perry
Site Vice President
Dresden Station

Subscribed and Sworn to before me
on this 30 day of
September, 1997.
Sandra L Miller
Notary Public

OFFICIAL SEAL
SANDRA L MILLER
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES:09/02/01

Attachments:

A. Description and Safety Analysis of the Proposed Changes
B. Marked-Up Technical Specification Pages
C. Evaluation of Significant Hazards Considerations and Environmental Assessment Applicability Review

cc: A. Bill Beach - Regional Administrator - RIII
Senior Resident Inspector - Quad Cities
Senior Resident Inspector - Dresden
R. M. Pulsifer, Project Manager - NRR
J. F. Stang, Project Manager - NRR
Office of Nuclear Facility Safety - IDNS

ATTACHMENT A
DESCRIPTION AND SAFETY ANALYSIS OF THE PROPOSED CHANGES

Description of the Proposed Change

The proposed license amendment request includes the following changes to the Technical Specifications (TS) for Dresden and Quad Cities Nuclear Power Stations:

The purpose of this amendment request is to add to Technical Specification 3/4.12 a new Special Test Exception LCO (proposed Technical Specification 3/4.12.C, Inservice Leak and Hydrostatic Testing Operation) to allow *Pressure Tests* to be performed in OPERATIONAL MODE 4 (MODE 4) when the metallurgical characteristics of the reactor pressure vessel (RPV) require the pressure testing at or approaching temperatures > 212°F, which normally corresponds to MODE 3. The proposed amendment request is based upon the requirements of Section 3.10.1 of the Improved Standard Technical Specifications (NUREG-1433).

The proposed amendment adds TS LCO 3.12.C which specifies that:

The average reactor coolant temperature specified in Table 1-2 for MODE 4 may be changed to "NA," and operation considered not to be in OPERATIONAL MODE 3; and the requirements of LCO 3.6.P, "Residual Heat Removal (RHR) Shutdown Cooling System - COLD SHUTDOWN," [for Dresden, LCO 3.6.P is "Shutdown Cooling - COLD SHUTDOWN"] may be suspended, to allow performance of pressure testing provided the following OPERATIONAL MODE 3 LCOs are met:

1. LCO 3.2.A, Isolation Actuation Instrumentation, Table 3.2.A-1, Item 2, SECONDARY CONTAINMENT ISOLATION;

2. LCO 3.7.N, SECONDARY CONTAINMENT INTEGRITY;

3. LCO 3.7.O, Secondary Containment Automatic Isolation Dampers; and

4. LCO 3.7.P, Standby Gas Treatment System.

The Applicability of the proposed LCO is OPERATIONAL MODE 4 with average reactor coolant temperature > 212 °F. In addition, existing footnote (d) on Table 1-2, OPERATIONAL MODES, will be expanded to include the proposed Special Test Exception 3.12.C. Footnote (d) will be added to Table 1-2, MODE 3, HOT SHUTDOWN to clarify that MODE 3 requirements are modified in accordance with the Special Test Exception requirements.

The proposed ACTION requirements are consistent with those specified in the aforementioned LCOs (i.e., Table 3.2.A-1, 3.7.N, 3.7.O and 3.7.P) - if one of these LCOs cannot be met, then the Action is to immediately enter the applicable LCO or immediately suspend activities that could increase the average reactor coolant temperature or pressure and within 24 hours, reduce the average reactor coolant temperature to ≤ 212 °F.

The proposed Surveillance Requirements (SR) are to perform the applicable SRs according to the applicable SRs from LCOs 4.2.A, 4.7.N, 4.7.O and 4.7.P.

ATTACHMENT A
DESCRIPTION AND SAFETY ANALYSIS OF THE PROPOSED CHANGES

Description of the Current Operating License/Technical Specification Requirement

There are no current Special Test Exception TS requirements which encompass the proposed changes.. The proposed amendment request adds new requirements to the Dresden and Quad Cities Technical Specifications that allow certain reactor coolant pressure tests to be performed in MODE 4 when the metallurgical characteristics of the reactor pressure vessel (RPV) require the pressure testing at temperatures > 212°F, which normally corresponds to MODE 3.

Bases for the Current Requirements

The proposed amendment allows that the average reactor coolant temperature specified in Table 1-2 for MODE 4 may be changed to "NA," and operation considered not to be in MODE 3; and the requirements of LCO 3.6.P, "Residual Heat Removal - COLD SHUTDOWN," [for Dresden, LCO 3.6.P is "Shutdown Cooling - COLD SHUTDOWN"] may be suspended, to allow performance of a pressure test provided the following MODE 3 LCOs are met: LCO 3:2.A, Isolation Actuation Instrumentation, Table 3.2.A-1, Item 2, SECONDARY CONTAINMENT ISOLATION; LCO 3.7.N, "SECONDARY CONTAINMENT INTEGRITY"; LCO 3.7.O, "Secondary Containment Automatic Isolation Dampers"; and LCO 3.7.P, "Standby Gas Treatment System."

The Bases for TS 3/4.6.P specifies that irradiated fuel in the reactor pressure vessel generates decay heat during normal and abnormal shutdown conditions, potentially resulting in an increase in the temperature of the reactor coolant. This decay heat is required to be removed such that the reactor coolant temperature can be reduced in preparation for performing refueling, maintenance operations or for maintaining the reactor in cold shutdown conditions. Systems capable of removing decay heat are therefore required to perform these functions. TS 3/4.6.P ensures the equipment is available to fulfill this function.

The Bases for TS 3/4.2.A specifies the isolation actuation instrumentation automatically initiates closure of appropriate isolation valves and/or dampers, which are necessary to prevent or limit the release of fission products from the reactor coolant system, the primary containment and the secondary containment in the event of a loss-of-coolant accident or other reactor coolant pressure boundary (RCPB) leak. The parameters which result in isolation of the secondary containment also actuate the standby gas treatment system. The isolation instrumentation includes the sensors, relays, and switches that are necessary to cause initiation of primary and secondary containment and RCPB system isolation. Functional diversity is provided by monitoring a wide range of dependent and independent parameters. Redundant sensor input signals for each parameter are provided for initiation of isolation.

The Bases for 3/4.7.N specifies that the function of the secondary containment is to isolate and contain fission products that escape from primary containment following a Design Basis Accident (DBA), to confine the postulated release of radioactive material within the requirements of 10CFR Part 100, and to isolate and contain fission products that are released during certain operations that take place inside primary containment, when primary containment is not required to be OPERABLE, or that take place outside of primary containment.

The Bases for 3/4.7.O specifies that the function of the secondary containment ventilation system automatic isolation dampers, in combination with other accident-mitigation systems, is to limit fission-product release during and following postulated Design Basis Accidents (DBA) such that offsite radiation exposures are maintained within the requirements of 10CFR Part 100. Secondary containment isolation ensures that fission products that escape from primary containment following a DBA, or which are released during certain operations when primary containment is not required, or take place outside primary containment, are maintained within applicable limits. The OPERABILITY requirements for the secondary containment ventilation system isolation dampers help ensure that adequate secondary containment integrity is maintained during and after an accident by minimizing potential paths to the environment.

The Bases for 3/4.7.P specifies that the standby gas treatment system (SBGT) is required to ensure that radioactive materials that leak from the primary containment into the secondary containment following a Design Basis Accident (DBA) are filtered and adsorbed prior to exhausting to the environment. This system reduces the potential releases of radioactive material, principally iodine, to within values specified in 10CFR Part 100.

Description of the Need for Amending the Technical Specification

Technical Specification changes to the Dresden and Quad Cities Limiting Conditions for Operations and Surveillance Requirements allow certain reactor coolant pressure tests to be performed in MODE 4 when the metallurgical characteristics of the reactor pressure vessel (RPV) require the pressure testing at temperatures approaching > 212°F (normally corresponding to MODE 3). The proposed amendment allows Dresden and Quad Cities the opportunity to perform pressure testing during the upcoming and all future refueling outages at temperatures >212 °F to provide ample margin to meet the Pressure/Temperature limitations.

Bases for the Amended Technical Specification Request

Pressure Testing required by Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code and is typically performed prior to startup after a refueling outage. The minimum temperatures (at the required pressures) allowed for these tests are determined from the RPV pressure and temperature (P/T) limits required by LCO 3.6.K, "Pressure/Temperature (P/T) Limits." These limits are conservatively based on the fracture toughness of the reactor vessel, taking into account anticipated vessel neutron fluence. With increased reactor vessel fluence over time, the minimum allowable vessel temperature increases at a given pressure. Pressure testing will eventually be required with minimum reactor coolant temperatures > 212°F.

Allowing the reactor to be considered in MODE 4 during pressure testing, when the reactor coolant temperature is > 212°F, effectively provides an exception to MODE 3 requirements, including OPERABILITY of primary containment and the full complement of redundant Emergency Core Cooling Systems. Since the pressure tests are performed at low decay heat values, and near MODE 4 conditions, the stored energy in the reactor core will be very low. Under these conditions, the potential for failed fuel and a subsequent increase in coolant activity above the LCO 3.6.J, "Specific Activity," limits are minimized. In addition, the secondary containment will be OPERABLE, in accordance with this Special Test Exception LCO, and will be capable of handling any airborne radioactivity or steam leaks that could occur during the performance of pressure testing. The required

pressure testing conditions provide adequate assurance that the consequences of a steam leak will be conservatively bounded by the consequences of the postulated main steam line break outside of primary containment described in the UFSAR. Therefore, these requirements will conservatively limit radiation releases to the environment.

In the event of a large primary system leak, the reactor vessel would rapidly depressurize, allowing the low pressure core cooling systems to operate. The capability of the low pressure coolant injection and core spray subsystems, as required in MODE 4 by LCO 3.5.B, "ECCS Shutdown," would be more than adequate to keep the core flooded under this low decay heat load condition. Minor system leaks would be detected by leakage inspections before significant inventory loss occurred.

For the purposes of this Special Test Exception, the protection provided by normally required MODE 4 applicable LCOs, in addition to the secondary containment requirements required to be met by this Special Test Exception LCO, will ensure acceptable consequences during normal pressure test conditions and during postulated accident conditions.

Special Test Exception LCOs provide flexibility to perform certain operations by appropriately modifying requirements of other LCOs. A discussion of the criteria satisfied for the other LCOs is provided in their respective Bases. Compliance with this Special Test Exception LCO is optional. Operation at reactor coolant temperatures > 212°F can be in accordance with Table 1-2 for MODE 3 operation without meeting this Special Test Exception LCO or its ACTIONS.

If it is desired to perform these tests while complying with this Special Test Exception LCO, then the MODE 4 applicable LCOs and specified MODE 3 LCOs must be met. This Special Test Exceptions LCO allows changing Table 1-2 temperature limits for MODE 4 to "NA" and suspending the requirements of LCO 3.6.P, "Residual Heat Removal - COLD SHUTDOWN" [for Dresden LCO 3.6.P is "Shutdown Cooling - COLD SHUTDOWN"]. The additional requirements for secondary containment LCOs to be met will provide sufficient protection for operations at reactor coolant temperatures > 212°F for the purpose of performing pressure testing.

This LCO allows primary containment to be open for frequent unobstructed access to perform inspections, and for outage activities on various systems to continue consistent with the MODE 4 applicable requirements that are in effect immediately prior to and immediately after this operation.

The MODE 4 requirements may only be modified for the performance of inservice pressure tests so that these operations can be considered as in MODE 4, even though the reactor coolant temperature is > 212°F. The additional requirement for secondary containment OPERABILITY according to the imposed MODE 3 requirements provides conservatism in the response of the unit to any event that may occur. Operations in all other MODES are unaffected by this LCO.

Footnote (a) has been provided to modify the ACTIONS related to pressure testing operation. Footnote (a) allows a separate condition entry for each requirement of the applicable LCO.

If an LCO specified in LCO 3.12.C is not met, the ACTIONS applicable to the stated requirements are entered immediately and complied with. Action 1 has been modified by Footnote (b) that clarifies the intent of another LCO's Action to be in MODE 4 includes reducing the average reactor coolant temperature to ≤ 212°F.

Action 2 is an alternate action that can be taken instead of Action 1 to restore compliance with the normal MODE 4 requirements, and thereby exit this Special Test Exception LCO's Applicability. Activities that could further increase reactor coolant temperature or pressure are suspended immediately, in accordance with Action 2, and the reactor coolant temperature is reduced to establish normal MODE 4 requirements. The allowed completion time of 24 hours for Action 2 provides sufficient time to reduce the average reactor coolant temperature from the highest expected value to ≤ 212°F with normal cooldown procedures. The completion time is also consistent with the time provided in LCO 3.0.C to reach MODE 4 from MODE 3.

The applicable LCOs are required to have their Surveillances met to establish that this LCO is being met. A discussion of the applicable SRs is provided in their respective Bases.

ATTACHMENT B
PROPOSED AMENDMENTS TO THE
TECHNICAL SPECIFICATIONS