UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 140 TO FACILITY OPERATING LICENSE NO. DPR-19,

AMENDMENT NO. 134 TO FACILITY OPERATING LICENSE NO. DPR-25,

AMENDMENT NO. 162 TO FACILITY OPERATING LICENSE NO. DPR-29,

AND AMENDMENT NO. 158 TO FACILITY OPERATING LICENSE NO. DPR-30

COMMONWEALTH EDISON COMPANY

AND

MIDAMERICAN ENERGY COMPANY

DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2

DOCKET NOS. 50-237, 50-249, 50-254 AND 50-265

1.0 INTRODUCTION

By letter dated September 17, 1993, as supplemented by letter dated June 30, 1995, Commonwealth Edison Company (ComEd, the licensee) submitted an amendment requesting to upgrade sections of the Dresden Nuclear Power Station, Units 2 and 3, and the Quad Cities Nuclear Power Station, Units 1 and 2, Technical Specifications (TS). The changes have been requested as part of their Technical Specification Upgrade Program (TSUP).

As a result of findings by a Diagnostic Evaluation Team inspection performed by the NRC staff at the Dresden Nuclear Power Station in 1987, ComEd made a decision that both the Dresden Nuclear Power Station and sister site Quad Cities Nuclear Power Station, needed attention focused on the existing custom TS used at the sites.

The licensee made the decision to initiate a TSUP for both Dresden and Quad Cities. The licensee evaluated the current TS for both stations against the Standard Technical Specifications (STS), contained in NUREG-0123, "Standard Technical Specifications General Electric Plants BWR/4." Both Dresden and Quad Cities are BWR-3 designs and are nearly identical plants. The licensee's evaluation identified numerous potential improvements such as clarifying requirements, changing the TS to make them more understandable and to eliminate the need for interpretation, and deleting requirements that are no longer considered current with industry practice. As a result of the evaluation, ComEd elected to upgrade both the Dresden and Quad Cities TS to the STS contained in NUREG-0123.

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The TSUP for Dresden and Quad Cities is not a complete adoption of the STS. The TSUP focuses on (1) integrating additional information such as equipment operability requirements during shutdown conditions, (2) clarifying requirements such as limiting conditions for operations and action statements utilizing STS terminology, (3) deleting superseded requirements and modifications to the TS based on the licensee's responses to Generic Letters (GL), and (4) relocating specific items to more appropriate TS locations or to licensee controlled documents.

The application dated September 17, 1993, as supplemented June 30, 1995, proposed to upgrade only those sections of the TS to be included in TSUP Section 3/4.6 (Primary System Boundary) of the Dresden and Quad Cities TS.

The staff reviewed the proposed changes and evaluated all deviations and changes between the proposed TS, the STS, and the current TS. In no case did the licensee propose a change in the TS that would result in the relaxation of the current design requirements as stated in the Updated Final Safety Analysis Reports (UFSAR) for Dresden or Quad Cities.

In response to the staff's recommendations, the licensee submitted identical TS for Quad Cities and Dresden except for plant-specific equipment and design differences. Technical differences between the units are identified as appropriate in the proposed amendment.

2.0 EVALUATION

Review Guidelines - The licensees' purpose for the TSUP was to reformat the existing Dresden and Quad Cities TS into the easier to use STS format. Plant specific data, values, parameters, and equipment specific operational requirements contained in the current TS for Dresden and Quad Cities were retained by the licensee in the TSUP.

The STS contained in NUREG-0123 were developed by the NRC and industry because of the shortcomings associated with the custom TS which were issued to plants licensed in early 1970's (i.e., Dresden (1971) and Quad Cities (1972)). The STS developed by the NRC and industry provided an adequate level of protection for plant operation by assuring required systems are operable and have been proven to be able to perform their intended functions. The limiting conditions for operation (LCO), the allowed out-of-service times, and the required surveillance frequencies were developed based on industry operating experience, equipment performance, and probabilistic risk assessment analysis during the 1970's. The STS were used as the licensing basis for plants licensed starting in the late 1970's.

For the most part, ComEd's adoption of the STS resulted in more restrictive LCOs and surveillance requirements (SR). In some cases, however, the STS provides relief from the Dresden and Quad Cities current TS requirements. In all these cases, the adoption of the STS requirements for LCOs or SRs do not change the current design requirements of either plant as described in the each plant's UFSAR. In addition, the success criteria for the availability

and operability of all required systems contained in the current TS are maintained by the adoption of the STS requirements in the proposed TSUP TS.

In addition to adopting the STS guidelines and requirements in the TSUP, ComEd has also evaluated GLs concerning line item improvements for TS. These GLs were factored into TSUP to make the proposed TS in the TSUP reflect industry lessons learned in the 1980's and early 1990's.

Deviations between the proposed specifications, the STS, and the current TS were reviewed by the staff to determine if they were due to plant specific features or if they posed a technical deviation from the STS guidelines. Plant specific data, values, parameters, and equipment specific operational requirements contained in the current TS for Dresden and Quad Cities were retained by the licensee in the upgraded TS.

Administrative Changes - Non-technical, administrative changes were intended to incorporate human factor principles into the form and structure of the STS so that they would be easier for plant operation's personnel to use. These changes are editorial in nature or involve the reorganization or reformatting of requirements without affecting technical content of the current TS or operational requirements. Every section of the proposed TS reflects this type of change.

More Restrictive Requirements - The proposed TSUP TS include certain more restrictive requirements than are contained in the existing TS. Examples of more restrictive requirements include the following: placing an LCO on plant equipment which is not required by the present TS to be operable; adding more restrictive requirements to restore inoperable equipment; and adding more restrictive SR.

Less Restrictive Requirements - The licensee provided a justification for less restrictive requirements on a case-by-case basis as discussed in this Safety Evaluation (SE). When requirements have been shown to provide little or no safety benefit, their removal from the TS may be appropriate. In most cases, these relaxations had previously been granted to individual plants on a plant-specific basis as the result of (a) generic NRC actions, and (b) new NRC staff positions that have evolved from technological advancements and operating experience.

The Dresden and Quad Cities plant designs were reviewed to determine if the specific design basis was consistent with the STS contained in NUREG-0123. All changes to the current TS and deviations between the licensees' proposed TS and the STS were reviewed by the staff for acceptability to determine if adequate justification was provided (i.e., plant specific features, retention of existing operating values, etc.).

Deviations the staff finds acceptable include: (1) adding clarifying statements, (2) incorporating changes based on GLs, (3) reformatting multiple steps included under STS action statements into single steps with unique identifiers, (4) retaining plant specific steps, parameters, or values,

(5) moving action statements within a TS, (6) moving action statements from an existing TS to form a new TS section, and (7) omitting the inclusion of STS steps that are not in existing TS.

Relocation of Technical Specifications - The proposed TS may include the relocation of some requirements from the TS to licensee-controlled documents. Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to state TS to be included as part of the license. The Commission's regulatory requirements related to the content of TS are set forth in 10 CFR 50.36. That regulation requires that the TS include items in five specific categories, including (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements; (4) design features; and (5) administrative controls. However, the regulation does not specify the particular requirements to be included in a plant's TS.

The Commission has provided guidance for the contents of TS in its "Final Policy Statement on Technical Specification Improvements for Nuclear Power Reactors," 58 Federal Register 39132 (July 22, 1993), in which the Commission indicated that compliance with the Final Policy Statement satisfies Section 182a of the Energy Reorganization Act. The Final Policy Statement identified four criteria to be used in determining whether a particular matter is required to be included in the TS, as follows: (1) installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary; (2) a process variable, design feature, or operating restriction that is an initial condition of a Design Basis Accident or Transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; (3) a structure, system, or component that is part of a primary success path and which functions or actuates to mitigate a Design Basis Accident of Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; (4) a structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety. As a result, existing TS requirements which fall within or satisfy any of the criteria in the Final Policy Statement must be retained in the TS, while those TS requirements which do not fall within or satisfy these criteria may be relocated to other, licensee-controlled documents. The Commission recently amended 10 CFR 50.36 to codify and incorporate these four criteria (60 FR 36953). The change to 10 CFR 50.36 is effective as of August 18, 1995.

The following sections provide the staff's evaluations of the specific proposed TS changes.

3.0 EVALUATION OF TSUP PROPOSED TS SECTION 3/4.6, PRIMARY SYSTEM BOUNDARY

The following sections provide the staff's evaluation of the TS changes reflected in proposed TSUP TS Section 3/4.6. Proposed TS Section 3/4.6 results from the reordering of current TS Section 3/4.6 based on STS format

and nomenclature. All deviations between the current and proposed TS, and between the proposed TS and STS guidelines, are discussed below.

3.1 Section 3/4.6.A, Recirculation Loops

Proposed TS 3/4.6.A, "Recirculation Loops" incorporates the guidance of the STS Section 3/4.4.1.1 and requirements from Section 3/4.6.H of the current TS for both stations. The proposed TS has been reformatted adopting the STS guidelines. Plant specific values for the listed parameters are included to be consistent with each station's UFSAR.

3.1.1 Actions

Current TS 3.6.H.3 discusses the requirements when only one recirculation loop is in operation. The current TS require a specific percentage reduction for the minimum critical power ratio (MCPR), average power range monitor (APRM), and average planar linear heat generation rate (APLHGR) safety limits under this circumstance. Proposed action 1.c deviates from the current TS by referring to Section 3.2 of the proposed TS for details regarding the required reduction in these limits. This is an administrative change to relocate requirements to a separate section of the TS and is acceptable.

Current Dresden TS 3.6.H.3.g discusses the requirements for one Automatic Pressure Relief Subsystem relief valve out-of-service. This requirement will be relocated to the proposed TS Section 3/4.5. This change is administrative and is acceptable.

Proposed TS 3.6.A action 1.d specifies that the minimum average planar linear heat generation rate (MAPLHGR) limits shall be reduced by the appropriate factors as specified in the core operating limits report. This is a new requirement for Quad Cities not included in the current TS. Therefore, the proposed TS is more conservative and is acceptable. This requirement is in the current Dresden TS and therefore, there is no change for Dresden.

3.1.2 Surveillance Requirements

Proposed TS 4.6.A is a new requirement to demonstrate operability of the pump motor generator set overspeed setpoints. The proposed TS is an enhancement of current TS and is acceptable.

3.1.3 Conclusion

The staff finds that the proposed TS Section 3/4.6.A, "Recirculation Loops" has been reformatted adopting the STS guidelines. The staff has reviewed the proposed TS against the STS and current TS requirements and finds that there are no significant deviations from STS and the proposed TS do not relax any existing TS requirements. Therefore, the staff finds proposed TS Section 3/4.6.A acceptable.

3.2 Section 3/4.6.B, Jet Pumps

Proposed TS 3/4.6.B, "Jet Pumps" incorporates the guidance of the STS Section 3/4.4.1.2 and requirements from Section 3/4.6.G of the current TS for both stations. The proposed TS has been reformatted adopting the STS guidelines. Plant specific values for the listed parameters are included to be consistent with each station's UFSAR.

3.2.1 Actions

Proposed action 1 requires that, with one or more jet pumps inoperable for other than inoperable flow indication, the unit must be in hot shutdown within 12 hours. The current TS deviate from the proposed by not specifying the exception for inoperable flow indication. The current TS do not indicate whether inoperable flow indication renders the jet pump inoperable. Current operating practice has been to not enter the action statement (cold shutdown within 24 hours) if flow indication is inoperable. The proposed TS clarify the definition of an operable jet pump. Therefore, the proposed TS is a clarification of current TS and is therefore acceptable.

The proposed TS also deviates from the current TS in that the proposed requirement to be in hot shutdown within 12 hours is a change from the current requirement to be in cold shutdown within 24 hours. Because the proposed applicability is only modes 1 and 2, going to hot shutdown brings the plant to a condition in which jet pumps are not required to be operable. In addition, the proposed requirement ensures that the reactor is placed in a safe condition in a more expeditious time frame (12 hours versus 24 hours). There is no improvement in safety gained by placing the reactor in cold shutdown and doing so may result in unnecessary transients. Therefore, this change is acceptable.

Current Dresden TS 3.6.G.2 requires verification of flow indication from each of the jet pumps prior to initiation of reactor startup. However, current Dresden TS 3.6.G.4 allows continued operation with one inoperable flow indication for the jet pumps. Current Quad Cities TS 3.6.G.2 requires verification of flow indication from all but one jet pump prior to startup. Current Quad Cities TS 3.6.G.3 allows continued operation with two inoperable flow indicators. The action proposed in the September 17, 1993, submittal would allow an indefinite period of operation with two inoperable jet pump flow indicators. This proposed action is consistent with current Quad Cities TS but would be a relaxation of the current Dresden TS which allow a 12 hour allowed outage time (AOT) to restore one inoperable jet pump flow indicator. This is an open item for Dresden Station, contingent upon its review and approval in the clean-up amendment.

Current TS 3.6.G.3 provides the definition of indicated core flow. Current Dresden TS refers to station procedures for adjusting the indicated flow during single loop operation (SLO). Current Quad Cities TS provide corrective actions for jet pumps with inoperable flow indication. Current TS 3.6.G.3 is not retained in the proposed TS. The current TS contains details related to

system design which are inappropriate for inclusion within the TS and are more appropriately controlled by plant procedures. The staff has determined that these details are not required to be in the TS under 10 CFR 50.36 or Section 182a of the Atomic Energy Act. Further, they do not fall within any of the four criteria discussed in Section 2.3 above. Therefore, the deletion of this TS is acceptable.

3.2.2 Surveillance Requirements

Proposed TS 4.6.B.1 deviates from the current TS by specifying that the surveillances must be performed at greater than 25% rated thermal power. The current TS require that the surveillances be performed whenever there is recirculation flow with the reactor in the startup/hot standby or run modes. The proposed TS delays performance of the surveillances until reactor power has reached 25% because during low flow conditions, jet pump flow measurement is unachievable. The proposed SR is adequate to detect significant degradation in jet pump performance that precedes a jet pump failure and is acceptable. The proposed requirements are based on STS guidelines but deviate from the STS guidelines by requiring that the jet pump surveillances be performed after exceeding 25 percent power while the STS require the surveillance prior to exceeding 25 percent of rated thermal power. This deviation from STS requirements is acceptable based on the inability to accurately measure jet pump flow during low flow conditions.

Proposed TS 4.6.B.2 is a modification of current TS 4.6.G.2. The current TS requires that the differential pressure of any jet pump in the idle loop shall not vary by more than 10 percent from estimated patterns. The proposed TS require that the recirculation pump flow, total core flow, and indicated flow of any individual jet pump doesn't differ by more than 10 percent from estimated patterns. The proposed TS is more restrictive than the current requirements and is acceptable.

Proposed TS 4.6.B.1.d and 4.6.B.2.d are new TS which state that the provisions of proposed TS 4.0.D are not applicable if the SR is performed within 24 hours after exceeding 25 percent of rated thermal power. Proposed TS 4.0.D requires that entry into an operational mode may not be made unless the associated LCOs have been performed. Because the proposed TS doesn't require that the surveillances be performed until after reaching 25% of rated thermal power, the allowance for a minimum period of time (24 hours) is necessary in order to satisfy the SR. Therefore, this change is acceptable.

Proposed TS 4.6.B.1.c is a new requirement for Dresden and is consistent with current Quad Cities TS 4.6.G.1.c. The proposed TS is an enhancement of current Dresden TS and is acceptable.

Current TS 3.6.G.2 was not retained in the proposed TS. This current TS requires verification of flow indication from each of the jet pumps prior to initiation of startup. The intention of this TS is to ensure jet pump flow indication upon startup of the reactor. The requirement to verify flow indication is unnecessary as this is verified during the surveillances to

determine jet pump flow. Proposed TS 4.6.B.1 and 4.6.B.2 require measurement of jet pump flow within 24 hours of exceeding 25 percent of rated thermal power. Although the current TS require this verification prior to initiation of startup and proposed TS 4.6.B.1 and 4.6.B.2 require measurement after achieving 25% power, as discussed above, during cold shutdown or low flow conditions, flow indication is unachievable. The proposed surveillances provide an equivalent level of jet pump indication during startup when the conditions are appropriate for performing the surveillance. Therefore, the deletion of current TS 3.6.G.2 is acceptable.

Current TS 4.6.G.3 discusses how the baseline test data is acquired and has been deleted in the proposed TS. Current TS 4.6.G.3 contains details related to the methods for performing surveillances which are inappropriate for inclusion within the TS and are more appropriately controlled by plant procedures. The staff has determined that these details are not required to be in the TS under 10 CFR 50.36 or Section 182a of the Atomic Energy Act. Further, they do not fall within any of the four criteria discussed in Section 2.0 above. Therefore, the deletion of this TS is acceptable.

3.2.3 Conclusion

The staff finds that the proposed TS Section 3/4.6.B has been reformatted adopting the STS guidelines. The staff has reviewed the proposed TS against the STS and current TS requirements and finds that the relaxation of current TS requirements maintains the design requirements. Therefore, the staff finds proposed TS Section 3/4.6.B acceptable.

3.3 Section 3/4.6.C, Recirculation Pumps

Proposed TS 3/4.6.C, "Recirculation Pumps" incorporates the guidance of the STS Section 3/4.4.1.3 and requirements from Section 3/4.6.H of the current TS for both stations. The proposed TS has been reformatted adopting the STS guidelines. Plant specific values for the listed parameters are included to be consistent with each station's UFSAR.

The proposed action deviates from current requirements by allowing a 2 hour AOT prior to tripping one recirculation pump if the recirculation pump flow limits can not be maintained. These limits require that at >80% power the pump speeds shall be within 10% of each other and at <80% power they shall be within 15% of each other. The purpose of requiring recirculation pump mismatch limits is to comply with the ECCS LOCA analysis. For some limited low probability events with the recirculation loops operating with large speed differences (>15% speed differential at >80% power and >20% speed differential at <80% power), it is possible for the LPCI loop selection logic to select the wrong loop for injection. Therefore, the proposed TS provide a margin of 5% before a problem could arise. Allowing 2 hours to evaluate the problem does not affect the level of safety. In addition, if the pump speeds can be restored within 2 hours, the plant is in a safer condition by avoiding the potential for transients when a pump is tripped and then later restarted.

Because the proposed TS provides more operator guidance and does not change existing safety margins, this change is acceptable.

The staff finds that the proposed TS Section 3/4.6.C, "Recirculation Pumps" has been reformatted adopting the STS guidelines. The staff has reviewed the proposed TS against the STS and current TS requirements and finds that there are no significant deviations from STS and the relaxation of current TS requirements maintains the design requirements. Therefore, the staff finds proposed TS Section 3/4.6.C acceptable.

3.4 Section 3/4.6.D, Idle Recirculation Loop Startup

Proposed TS 3/4.6.D, "Idle Recirculation Loop Startup" incorporates the guidance of the STS Section 3/4.4.1.4 and requirements from Section 3/4.6.H of the current TS for both stations. The proposed TS has been reformatted adopting the STS guidelines. Plant specific values for the listed parameters are included to be consistent with each station's UFSAR.

The staff finds that the proposed TS Section 3/4.6.D, "Idle Recirculation Loop Startup" has been reformatted adopting the STS guidelines. The proposed TS contains an action statement which requires suspension of idle recirculation loop startup if limits are exceeded. Because the current TS do not contain a specific required action, the proposed action is an enhancement of current requirements and is acceptable. The staff has reviewed the proposed TS against the STS and current TS requirements and finds that there are no significant deviations from STS and the proposed TS do not relax any existing TS requirements. Therefore, the staff finds proposed TS Section 3/4.6.D acceptable.

3.5 Section 3/4.6.E, Safety Valves

Proposed TS 3/4.6.E, "Safety Valves" incorporates the guidance of the STS Section 3/4.4.2.1 and requirements from Section 3/4.6.E of the current TS for both stations. Because Dresden and Quad Cities contain separate safety and relief valves as opposed to combination safety/relief valves, the proposed TS is divided into two sections, 3/4.6.E and 3/4.6.F to address the separate valves. The proposed TS has been reformatted adopting the STS guidelines. Plant specific values for the listed parameters are included to be consistent with each station's UFSAR.

The proposed TS adds a requirement that the safety valves be closed with operable position indication. This is an enhancement of current TS which do not provide requirements for position indication. Proposed TS 4.6.E.1 is a new requirement to demonstrate operability of the position indicators. Because the current TS do not contain requirements for position indication, the proposed TS is more conservative and is acceptable.

The proposed TS adds a footnote which clarifies the test conditions for satisfying the TS lift requirements. This footnote is based on STS guidelines

and is an enhancement to current TS by providing additional guidance to operators and is acceptable.

The staff finds that the proposed TS Section 3/4.6.E, "Safety Valves" has been reformatted adopting the STS guidelines. The staff has reviewed the proposed TS against the STS and current TS requirements and finds that there are no significant deviations from STS and the proposed TS do not relax any existing TS requirements. Therefore, the staff finds proposed TS Section 3/4.6.E acceptable.

3.6 Section 3/4.6.F, Relief Valves

Proposed TS 3/4.6.F, "Relief Valves" incorporates the guidance of the STS Section 3/4.4.2.2 and requirements from Sections 3/4.6.E and 3/4.5.D of the current TS for both stations. The proposed TS has been reformatted adopting the STS guidelines. Plant specific values for the listed parameters are included to be consistent with each station's UFSAR.

The current Dresden TS specify a range of acceptable relief valve settings in the LCO. The proposed TS deviates from the current requirement by specifying a maximum setpoint only. The proposed maximum value is equivalent to the current maximum value and is therefore acceptable. The use of a maximum value as opposed to a range of values is consistent with current Quad Cities TS.

The proposed action statements are based on STS guidelines. Action 1 requires that with one or more relief valves open with water temperature less than 110 degrees F, action must be taken to close the valves. If suppression pool temperature is greater than 110 degrees F, the mode switch must be placed in shutdown. The second action is consistent with the requirements of TSUP 3.7.K which specifies 110 degrees as the maximum pool water temperature and requires a shutdown if it is exceeded. Therefore, the proposed action is acceptable.

Current TS 3.5.D.2 allows one relief valve to be out-of-service indefinitely provided that the minimum average planar linear heat generation rate (MAPLHGR) reduction factors are applied to the MAPLHGR limits. The proposed TS do not require that the MAPLHGR reduction factors be applied. However, the proposed TS action 2 is more conservative than the current because it will only allow operation for 14 days before a shutdown is required when one relief valve is out of service rather than indefinite operation. With two relief valves out-of-service, the current TS allow a 7 day AOT. The proposed TS require hot shutdown within 12 hours and cold shutdown within 24 hours. Therefore, the proposed TS is more conservative than the current requirements and is acceptable.

Proposed TS 4.6.F.1.a requires a channel functional test of the relief valve function. In its September 17, 1993, submittal the licensee originally proposed a periodicity of 92 days for functional tests of the relief valves which is more restrictive than the current frequency of every refueling outage. In the June 30, 1995, supplement, the licensee proposed to retain the existing frequency of approximately 18 months based on the guidance of GL

93-05. This will be left as an open item contingent upon review and approval in the clean up amendment.

The proposed TS adds a requirement that the safety valves be closed with operable position indication. This is an enhancement of current TS which do not provide requirements for position indication. Proposed TS 4.6.E.1 is a new requirement to demonstrate operability of the position indicators. Because the current TS do not contain requirements for position indication, the proposed TS is more conservative and is acceptable.

The staff finds that the proposed TS Section 3/4.6.F, "Relief Valves" has been reformatted adopting the STS guidelines. The staff has reviewed the proposed TS against the STS and current TS requirements and finds that the proposed TS do not relax any existing TS requirements. Therefore, the staff finds proposed TS Section 3/4.6.F, with the exception of the open item in TS 4.6.F.1.a, acceptable.

3.7 Section 3/4.6.G, Leakage Detection Systems

Proposed TS 3/4.6.G, "Leakage Detection System" incorporates the guidance of the STS Section 3/4.4.3.1 and requirements from Section 3/4.6.D of the current TS for both stations. The proposed TS has been reformatted adopting the STS guidelines. Plant specific values for the listed parameters are included to be consistent with each station's UFSAR.

The proposed action statements are an enhancement of the current TS by decreasing the AOT from 7 days to 24 hours when the primary containment atmosphere particulate radioactivity sampling system or the drywell floor drain sump system is inoperable. The proposed action is more conservative than the current TS and is acceptable.

The proposed TS SRs are an enhancement of the current TS which only require that the leakage detection systems be observed. The proposed TS require a demonstration of operability. The proposed TS also adds a new requirement for a channel calibration of the drywell floor drain sump pump discharge flow integrator once per 18 months. The proposed TS is more conservative and is, therefore, acceptable.

The staff finds that the proposed TS Section 3/4.6.G, "Leakage Detection System" has been reformatted adopting the STS guidelines. The staff has reviewed the proposed TS against the STS and current TS requirements and finds that there are no significant deviations from STS and the proposed TS enhance the existing TS requirements. Therefore, the staff finds proposed TS Section 3/4.6.G acceptable.

3.8 Section 3/4.6.H, Operational Leakage

Proposed TS 3/4.6.H, "Operational Leakage" incorporates the guidance of the STS Section 3/4.4.3.2 and requirements from Section 3/4.6.D of the current TS for both stations. The proposed TS has been reformatted adopting the STS

guidelines. Plant specific values for the listed parameters are included to be consistent with each station's UFSAR.

3.8.1 LCO

Proposed TS 3.6.H.1 is a new requirement which states that no pressure boundary leakage is acceptable. This new requirement is an enhancement of current TS and is acceptable.

Proposed TS 3.6.H.2 deviates from current TS by specifying that the total allowed leakage be averaged over a 24 hour period. The current TS do not include an allowance for averaging. However, the proposed TS include additional restrictions that limit additional increases in unidentified leakage of greater than or equal to 2 gpm when averaged over a 24 hour period. Unidentified leakage is new leakage above and beyond normal unidentified leakage currently identified as baseline for the plant. This additional restriction ensures new leaks to the reactor coolant system are discovered and appropriate corrective action is initiated. Therefore, the proposed TS provide adequate assurance that increases in leakage are monitored and corrected and provide an equivalent level of safety as the current TS. This change is acceptable.

The proposed requirement which limits the increase in unidentified leakage deviates from STS guidelines by limiting the applicability to Mode 1 only. This limit provides needed flexibility during Mode 2 when leakage rates are increasing to normal baseline levels experienced in Mode 1. Without the revised applicability, reactor operation could not reach Mode 1.

The STS guidance on leakage limits from any reactor coolant system pressure isolation valve, which is based on the guidance of GL 87-06, is not adopted in the proposed TS. In response to the GL, Dresden and Quad Cities outlined the methods currently implemented for assuring the leak tight integrity of all the pressure isolation valves as independent barriers of the reactor coolant system. Neither the Dresden nor Quad Cities design includes high pressure to low pressure interface valve leakage pressure monitors and both plants utilize other existing instrumentation for determination of leakage through a pressure boundary isolation valve. As a result of the design limitations, the STS requirement for reactor coolant system pressure isolation valve leakage limits is not adopted. This deviation is acceptable.

3.8.2 Actions

Proposed ACTION 2 requires that if leakage is greater than the TS limits, the leakage must be restored to within limits in 4 hours or be in hot shutdown in the next 12 hours and cold shutdown in the following 24 hours. This is a relaxation of current TS which do not include an AOT and require cold shutdown in 24 hours. The proposed AOT of 4 hours is consistent with industry practice for restoring leakage rates to within limits and has been shown to provide an adequate level of protection for monitoring leakage to within acceptable levels. The staff has determined that the relaxation of current TS

requirements maintains the design requirements and the proposed action statement is, therefore, acceptable.

Proposed ACTION 3 is a new requirement to determine if the source of unidentified leakage is intergranular stress corrosion cracking. This action is consistent with the guidance in GL 88-01 and is more conservative than current requirements. The LCO limits and associated action statement are applicable regardless of whether unidentified leakage is due to intergranular stress corrosion cracking. Proposed action 3 is an additional requirement which is more restrictive and is acceptable.

3.8.3 Surveillance Requirements

The proposed TS requires sampling of the primary containment atmospheric particulate radioactivity once per 12 hours. This is an enhancement of the current TS which require this sampling once per day.

The proposed TS relax the periodicity of the sump flow monitoring and recording for Dresden Unit 2 from every 4 hours to every 8 hours. The proposed periodicity has been shown, based on industry experience, to provide an adequate level of protection for ensuring plant leakage rates are appropriately monitored and is consistent with the guidance in GL 88-01. An 8 hour surveillance frequency is also consistent with the current TS for Dresden, Unit 3. Therefore, the relaxation in frequency of the sump surveillance has a negligible impact on plant safety margins and is acceptable.

Current Dresden Unit 2 TS 4.6.D.2 has been deleted in the proposed TS. The current TS states that additional leakage limits must be met until the recirculation piping indications have been resolved. The licensee has determined that the recirculation piping indication problems associated with Dresden Unit 2 have been resolved and additional leakage limits requirements are obsolete. The TS requirements associated with GL 88-01 are sufficient for control of leakage from the reactor coolant pressure boundary. Therefore, the deletion of the additional leakage limits is acceptable.

The proposed TS do not include the STS guidelines for leak testing reactor coolant system pressure isolation valves because the associated LCO was not adopted. The proposed TS also do not include the STS guidelines for a channel functional test and calibration of the valve leakage pressure monitors because these requirements are not in current TS and the Dresden and Quad Cities system design is not applicable to the STS requirements. These deviations are acceptable.

3.8.4 Conclusion

The staff finds that the proposed TS Section 3/4.6.H, "Operational Leakage" has been reformatted adopting the STS guidelines. The staff has reviewed the proposed TS against the STS and current TS requirements and finds that all deviations from STS are acceptable and that the relaxation of the current TS

maintains the design requirements for each station. Therefore, the staff finds proposed TS Section 3/4.6.H acceptable.

3.9 Section 3/4.6.I, Chemistry

Proposed TS 3/4.6.I, "Chemistry" incorporates the guidance of the STS Section 3/4.4.4 and requirements from Section 3/4.6.C of the current TS for both stations. The proposed TS has been reformatted adopting the STS guidelines. Plant specific values for the listed parameters are included to be consistent with each station's UFSAR.

3.9.1 LCO

The applicability of proposed TS 3/4.6.I deviates from STS guidelines. STS applicability specifies "At all times" whereas the proposed applicability is Modes 1, 2, and 3. The proposed applicability is based on the current TS which specify chemistry limits during power operation which is Modes 1 and 2. The current TS for Dresden also specify surveillances to be performed until the reactor is in a cold shutdown condition; encompassing Modes 1,2, and 3. Therefore, the proposed applicability is consistent with current TS. To maintain consistency, the proposed TS have also not adopted the STS action statements which are applicable at all times except for Modes 1, 2, and 3.

3.9.2 Actions

Proposed ACTION 1.b is a new requirement adopted from STS guidelines. It requires that if certain levels of conductivity, chloride concentration, or pH are exceeded in Mode 1 for more than 72 hours in one continuous time interval or for more than 336 hours in one year, the plant must be in startup within 8 hours. These requirements are consistent with industry practice and have been shown to provide an adequate level of protection for monitoring residual chemistry effects on the reactor coolant system. Proposed ACTION 1.a allows these levels to be exceeded for less than 72 hours during one continuous interval or less than 336 hours per year without a requirement to report to the Commission. This allows minor deviations in plant chemistry if the excursions are controlled within appropriate levels. In addition, this requirement is an enhancement of current TS in that the current TS do not contain limits for pH. The proposed TS place additional restrictions on the current TS and are acceptable.

Proposed ACTION 1.c is a revision of current Dresden requirements. The current Dresden TS limit for conductivity at steaming rates greater than 100,000 pounds per hour is 5 μmhos/cm. The proposed TS limit is 10 μmhos/cm in Mode 1. The current limit for Quad Cities is 10 μmho/cm and, therefore, there is no change. The proposed TS contain the additional requirement in action 1.b that if conductivity exceeds 1.0 μmhos/cm for more than 72 hours, the plant is required to be in startup in 8 hours. The additional limit of 1.0 μmho/cm is much more restrictive than the current Dresden TS limit of 5 μmhos/cm and will provide adequate indication when minor deviations in plant chemistry occur. This additional requirement will assurance that minor

deviations in plant chemistry are controlled and provides a sound technical basis for the revision of the Dresden TS limit. Therefore, this change is acceptable.

The proposed TS deviate from the current requirements for conductivity in Modes 2 and 3. The current TS state that the conductivity limit during the first 24 hours of a reactor startup is 10 μmho/cm. The proposed TS applicability is based on operational modes. The proposed TS limit during modes 2 and 3 (startup) is 2.0 μmho/cm with the allowance that no action needs to be taken until this limit is exceeded for greater than 48 hours. Although the 48 hour allowance is less conservative than the current TS time allowance, the more conservative TS limit (2.0 μmho/cm versus the current 10 μmho/cm) compensates for this and ensures that the plant is operating in a safer condition. Therefore, the proposed TS is acceptable.

The current limit for chloride concentration during the first 24 hours following a reactor startup is 0.1 ppm. This limit is more restrictive than the limit during power operation to avoid exceeding the adverse chloride-oxygen combinations which result from the higher content of dissolved oxygen in the reactor coolant during startups. The proposed TS also limit the chloride concentration to 0.1 ppm in Modes 2 and 3. In accordance with STS guidance, the proposed TS allow this limit to be exceeded for up to 48 hours. The proposed 48 hour allowance is a reasonable period of time to monitor chloride levels and determine the cause of the deviation prior to taking action. Therefore, this change is acceptable.

3.9.3 Surveillance Requirements

The proposed TS enhance the current SR for Mode 1. The current TS require measurement every 96 hours while the proposed TS require measurement of chemistry and chloride levels every 72 hours. The proposed TS are more conservative and are, therefore, acceptable.

The proposed TS decreases the frequency of analyzing reactor coolant in Modes 2 and 3. The current TS require analysis of conductivity and chloride concentration every 4 hours in these modes. The proposed TS require an analysis every 72 hours. However, the proposed TS also require continuous recording of the conductivity of the reactor coolant. In the event the continuous monitor is inoperable, the proposed TS require in-line measurements every 4 hours. Also, if conductivity levels are greater than those specified in proposed Table 3.6.I-1 (which are more restrictive than the limits in the current TS), an analysis must be made every 8 hours. The proposed frequencies provide adequate assurance that concentrations in excess of the limits will be detected in sufficient time to take corrective action. The proposed frequency has been demonstrated based on industry experience to adequately monitor plant chemistry limits and does not significantly reduce existing plant safety margins. Therefore, the proposed TS is acceptable.

The proposed TS increase the required frequency of conductivity measurements when the continuous monitor is inoperable. The current TS require measurement

once per day, while the proposed TS require a conductivity measurement once per 4 hours. This is an enhancement of the current TS and is acceptable.

The proposed TS eliminate the current requirement for chloride ion content measurements once per day whenever the continuous conductivity monitor is inoperable. This is a relaxation of current requirements but does not significantly impact plant safety because the proposed TS contain other more restrictive requirements which compensate for the relaxation this requirement. As discussed in the paragraph above, if the monitor is inoperable then conductivity must be measured once per 4 hours. If the measurement for conductivity determines that the level exceeds the allowable, then proposed TS 4.6.I.2.2 requires that a sample be analyzed for chloride every 8 hours. The proposed TS provides adequate assurance that the conductivity and chloride levels are within limits and is acceptable.

The proposed TS include a new requirement to measure pH every 8 hours whenever conductivity is greater than the TS limits. This requirement is not in the current TS, but is consistent with the proposed LCO which requires pH to be within specified limits. This requirement deviates from the STS guideline to analyze pH every 72 hours. The STS requirement was not adopted in the proposed TS because when the conductivity is within limits, the pH, chlorides and other impurities affecting conductivity must also be within their acceptable limits. The proposed TS is more conservative than the current TS and is, therefore, acceptable.

The proposed TS include a new requirement to measure chemistry limits prior to pressurizing the reactor during each startup. This is an enhancement of the current TS and is acceptable.

3.9.4 Conclusion

The staff finds that the proposed TS Section 3/4.6.I, "Chemistry" has been reformatted adopting the STS guidelines. The staff has reviewed the proposed TS against the STS and current TS requirements and finds that all deviations from STS are acceptable and that any relaxations of the current TS non-radioactive chemistry requirements are sufficiently compensated by more restrictive proposed TS requirements or will not significantly change the design requirements for each station. Therefore, the staff finds proposed TS Section 3/4.6.I acceptable.

3.10 Section 3/4.6.J, Specific Activity

Proposed TS 3/4.6.J, "Specific Activity" incorporates the guidance of the STS Section 3/4.4.5 and requirements from Section 3/4.6.C of the current TS for both stations. The proposed TS has been reformatted adopting the STS guidelines. Plant specific values for the listed parameters are included to be consistent with each station's UFSAR.

3.10.1 LCO

The current Quad Cities TS specify a limit for radioiodine concentration of 5 μCi/gm of I-131. The proposed TS contain a more restrictive limit of 0.2 μCi/gm. Therefore, the proposed TS are more conservative and are acceptable. The current Dresden TS specify a limit of 0.2 μCi/gm and is unchanged in the proposed TS.

The proposed TS did not adopt the STS guidance to maintain the average disintegration energy below a certain limit. The proposed TS also eliminate the associated SR. On-line monitoring capability at Dresden and Quad Cities Station eliminates the need for this requirement. In addition, the current TS do not contain these requirements. The proposed TS does not relax any current TS requirements and is, therefore, acceptable.

3.10.2 Actions

Proposed action 1 deviates from current TS when the specific activity exceeds the TS limits. The current Dresden TS require immediate initiation of a shutdown and the reactor to be in cold shutdown within 24 hours. The current Quad Cities TS require that an orderly shutdown be initiated. The proposed TS require that the plant be brought to hot shutdown with the main steam isolation valves (MSIVs) closed within 12 hours. The proposed TS place the plant in the appropriate mode for which reactor coolant activity concerns are negligible in a shorter time period than the current TS. Closing the MSIVs is a new requirement which prevents the release of activity to the environs should a steamline rupture occur outside containment. The requirement to go to hot shutdown as opposed to cold shutdown provides an adequate level of protection and is acceptable.

The proposed TS enhance the current Dresden TS by el[illegible]ing the allowance to perform a second sample within 8 hours when the activity is greater than 4.0 μCi/gm (the current Quad Cities TS do not contain this allowance). The proposed TS require immediate action to be taken when a measurement of greater than 4.0 uCi/gm is taken rather than waiting 8 hours to perform a second sample. The proposed TS are more conservative and are, therefore, acceptable.

The current Dresden TS contain a requirement to analyze reactor coolant samples every 8 hours during plant shutdown when activity is greater than 4.0 μCi/gm. This requirement has been deleted in the proposed TS consistent with the proposed action. The proposed action in this circumstance is to take the plant to hot shutdown in 12 hours and not to cold shutdown. When the activity is greater than 4.0 μCi/gm the proposed TS require sampling in accordance with proposed Table 4.6.J-1, Item 3.a: sampling every 4 hours. Therefore, the proposed TS are more restrictive and the additional requirement to sample every 8 hours is unnecessary. The proposed action provides an adequate level of protection without the additional sampling requirements and is acceptable.

The proposed TS enhance the current requirements for additional sampling if the TS limit is exceeded. The current Dresden TS require that, when specific activity is greater than 0.2 μCi/gm, an analysis must be performed three times every 24 hours. The current Quad Cities TS are discussed below. The proposed TS require a surveillance every 4 hours until the limit is restored. The proposed TS are more conservative than the current TS and are acceptable.

Current Quad Cities TS 4.6.C.1.c requires sampling 24 hours prior to reactor startups when steady-state iodine concentrations are greater than 1 percent, but less than 10 percent of the TS limits (0.05 μCi/gm, but less than 0.5 μCi/gm). The proposed TS requires sampling and analysis when specific activity is greater than 0.2 μCi/gm dose equivalent I-131. The current TS is unclear as it places a limit on specific activity prior to reactor startup that is based on previous levels of activity. The current requirement to ensure the affected limits are within acceptance levels prior to reactor startups is based on the fact that radioiodine concentration can change rapidly in the reactor coolant during transient reactor operations, such as startups, if failed fuel is present. Although reactor coolant sampling is ineffective as a means to rapidly detect gross fuel element failures, some capability to detect gross fuel element failures is inherent in the radiation monitors in the off-gas system. The current TS provides a method to detect changes in radioiodine concentration which may have occurred during previous periods of power and/or shutdown operations. These sampling requirements provide escalating sampling criteria during a reactor startup based upon previous operational radioiodine concentration. The need for these sampling criteria are based on early BWR fuel failure experience. Since that time, fuel performance at Quad Cities, and throughout the industry, has improved to the point that a pre-operational check of reactor coolant radioiodine concentration is no longer necessary. As such, the proposed and STS sampling requirements are based on changes in power level and/or offgas radiation levels. The proposed TS provides clearer guidance to operators. The requirement to ensure that levels are acceptable prior to performing a mode change is encompassed within 4.0.D which does not allow a mode change unless the SRs for that mode have been performed. Based on the above discussion, the proposed TS is acceptable.

Proposed ACTION 3 requires that additional sampling should be performed when there is a rapid power change or offgas change. These are new requirements for Dresden and are similar to current Quad Cities TS. The proposed TS is more conservative than the current Dresden TS and is an enhancement of the current Quad Cities TS because it provides more explicit guidance to operators.

3.10.3 Surveillance Requirements

The current Dresden TS require an analysis of total activity (beta and gamma) content every 96 hours. The current Quad Cities TS do not contain a requirement to measure activity. The proposed TS increase the frequency of beta and gamma activity measurement to every 72 hours. This is an enhancement of the current requirements for Dresden and adds new requirements for Quad

Cities. The proposed TS is more conservative than current TS and is acceptable.

The current TS require an analysis of dose equivalent I-131 every 96 hours. The proposed TS decrease the frequency of dose equivalent I-131 measurement from 96 hours to every 31 days. This decrease in frequency is acceptable based on the fact that the frequency of gross beta/gamma activity measurement is increased. Gross increases in beta/gamma activity should act as precursor to any potential dose equivalent I-131 excursions. Therefore, the decrease in frequency of dose equivalent I-131 measurement has an insignificant impact on safety and is acceptable.

The proposed TS contain a requirement to perform an isotopic analysis of an off-gas sample every 31 days. This is a new requirement for Dresden and incorporates the requirements of the current Quad Cities TS. The proposed TS is an enhancement of current requirements and is acceptable.

3.10.4 Conclusion

The staff finds that the proposed TS Section 3/4 6.J, "Specific Activity" has been reformatted adopting the STS guidelines. The staff has reviewed the proposed TS against the STS and current TS requirements and finds that there are no significant deviations from STS and that the relaxation of the current TS maintains the design requirements for each station. Therefore, the staff finds proposed TS Section 3/4.6.J acceptable.

3.11 Section 3/4.6.K, Pressure/Temperature Limits

Proposed TS 3/4.6.K, "Pressure/Temperature Limits" incorporates the requirements of the STS Section 3/4.4.6.1 and requirements from Section 3/4.6.A and 3/4.6.B of the current TS for both stations. The proposed TS has been reformatted adopting the STS guidelines. Plant specific values for the listed parameters are included to be consistent with each station's UFSAR.

3.11.1 LCO

The current TS requirement which allows a step reduction of 240 degrees Fahrenheit has been deleted in the proposed TS. This uncontrolled cool down rate is based on the maximum expected transient over the lifetime of the reactor and was considered in the design of the pressure vessel. This requirement is a design detail which is not appropriate for control within the TS. This detail is controlled in an administrative program for tracking vessel thermal transients. The staff has determined that the requirements for a step reduction in reactor coolant system temperature are not required to be in the TS under 10 CFR 50.36 or Section 182a of the Atomic Energy Act. Further, they do not fall within any of the four criteria discussed in Section 2.0, above. Therefore, the deletion of this TS is acceptable.

The current TS requirement that the shell flange to shell temperature differential must be less than 140 degrees Fahrenheit has been deleted in the

proposed TS. The analyses considered in the design of the pressure vessel used a heating and cooling rate of 100 degrees Fahrenheit/hour which is controlled by proposed TS 3.6.K.1 and 3.6.K.2. The flange metal temperature differential of 140 degrees Fahrenheit was determined as a result of these analyses. Therefore, a heatup/cooldown rate of 100 degrees Fahrenheit/hour should ensure that the temperature differential of 140 degrees Fahrenheit will not be challenged. Maintaining the heatup/cooldown rates will provide an adequate level of safety without the need for additional restrictions on the differential temperature. Therefore, this TS is a design requirement more appropriately controlled within the plants' UFSARs. The staff has determined that the requirements for shell flange to shell temperature differential are not required to be in the TS under 10 CFR 50.36 or Section 182a of the Atomic Energy Act. Further, they do not fall within any of the four criteria discussed in Section 2.0, above. In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 to assure continued protection of public health and safety.

Proposed TS 3.6.K.3 is a new requirement which includes specific limitations on the maximum reactor coolant temperature change during hydrostatic and leak testing operations. The proposed TS is an enhancement of current requirements and is acceptable.

Current TS 3.6.B.2 for Dresden, Unit 2, requires that the temperature of the vessel shell be greater than or equal to 80 degrees Fahrenheit for the reactor vessel head bolting studs to be under tension. The current TS contain a discrepancy between the value in TS 3.6.B.2 (80 degrees Fahrenheit) and the value in TS Figure 3.6.1 (100 degrees Fahrenheit). The 80 degrees Fahrenheit minimum boltup temperature within the Unit 2 current TS was consistent with an earlier version of current TS Figure 3.6.1. However, the licensee's review of GL 92-01 required a revision to Figure 3.6.1 and the associated LCO. The revised curves reflecting 100 degrees Fahrenheit were approved in Amendment No. 123; however, the corresponding revision to TS 3.6.B.2 was inadvertently omitted. The licensee has identified this issue and controls the requirement under administrative measure. Proposed TS 3.6.K.4 uses the correct value of 100 degrees Fahrenheit. The current Quad Cities TS uses the value of 100 degrees, and therefore, there is no change in the proposed TS.

3.11.2 Actions

The proposed actions are adopted from STS guidelines since the current TS do not specify explicit actions. The proposed action requirements include time limitations for evaluating potentially degraded conditions and for performing appropriate actions. These actions are an enhancement of current TS and are acceptable.

3.11.3 Surveillance Requirements

The proposed TS relax the current requirement to permanently record temperatures and pressure at 15 minute intervals. The proposed TS requires temperatures to be measured every 30 minutes. The proposed TS provides an

adequate frequency to monitor heatups and cooldowns. The proposed reduction in the periodicity has a negligible effect on existing plant safety margins and is acceptable. The requirement to permanently record the temperatures and pressures has not been retained in proposed TS section 3.6.K, but is encompassed within proposed TS Section 6.0 which will require that the licensee retain the records of all TS surveillance actions for five years and the records of transient and operational cycles for the duration of the unit operating license. Proposed TS 6.0 will be reviewed separately. This issue will be an open item pending staff approval of TSUP Section 6.0.

The current TS include details regarding the location at which temperatures must be recorded and the requirement that these be recorded until three consecutive readings are within 5 degrees of each other. The details for the methods of performing SRs are inappropriate for inclusion within the TS and have been deleted. The details are controlled by procedures. This change does not change the surveillances to be performed and does not relax any current TS requirements. The staff has determined that these details are not required to be in the TS under 10 CFR 50.36 or Section 182a of the Atomic Energy Act. Further, they do not fall within any of the four criteria discussed in Section 2.0 above. Therefore, the deletion of this TS is acceptable.

The current TS contain details regarding the installation, removal, and testing of neutron flux monitors and samples. These specific details related to the methods for performing surveillances are inappropriate for inclusion in the TS and are adequately controlled by procedures. The proposed TS also delete the current TS table which provides the schedule for removing samples. This is a deviation from the STS guidelines, but is consistent with the guidance given in GL 91-01, "Removal of the Schedule for the Removal of Reactor Vessel Material Specimens From the Technical Specifications." The schedule is contained in plant procedures. The current TS state that the testing of samples will be used to determine nil ductility transition temperature (NDTT). This requirement is encompassed by the 10 CFR Part 50, Appendix H, requirements to periodically generate the curves of TSUP Figure 3.6.K-1. Therefore, retention of a separate requirement to determine the NDTT would be redundant and has been deleted. The staff has determined that these requirements are not required to be in the TS under 10 CFR 50.36 or Section 182a of the Atomic Energy Act. Further, they do not fall within any of the four criteria discussed in Section 2.0 above. These changes are acceptable.

3.11.4 Conclusion

The staff finds that the proposed TS Section 3/4.6.K, "Pressure/Temperature Limits" has been reformatted adopting the STS guidelines. The staff has reviewed the proposed TS against the STS and current TS requirements and finds that there are no significant deviations from STS and that the relaxation of the current TS maintains the design requirements for each station. Therefore, the staff finds proposed TS Section 3/4.6.K acceptable.

3.12 Section 3/4.6.L, Reactor Steam Dome

Proposed TS 3/4.6.L, "Reactor Steam Dome" is a new TS which incorporates the guidance of STS Section 3/4.6. Plant specific values for the listed parameters are included to be consistent with each station's UFSAR. The proposed requirements are applicable to the Dresden and Quad Cities plant design and are an enhancement of the current TS. The proposed TS is, therefore, acceptable.

3.13 Section 3/4.6.M, Main Steamline Isolation Valves

Proposed TS 3/4.6.M, "Main Steamline Isolation Valves" is a new TS which incorporates the guidance of the STS Section 3/4.4.7. Plant specific values for the listed parameters are included to be consistent with each station's UFSAR. The proposed requirements are applicable to the Dresden and Quad Cities plant design and are an enhancement of the current TS. The proposed TS is, therefore, acceptable.

3.14 Section 3/4.6.N, Structural Integrity

Proposed TS 3/4.6.N, "Structural Integrity" incorporates the guidance of the STS Section 3/4.4.8 and requirements from Section 3/4.6.F of the current TS for both stations. The proposed TS has been reformatted adopting the STS guidelines. Plant specific values for the listed parameters are included to be consistent with each station's UFSAR.

The current TS contain detailed information from Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) which has been deleted in the proposed TS. The proposed TS requires that structural integrity be maintained in accordance with TSUP Section 4.0.E which defines the applicability of the ASME Code, Section XI. Therefore, the details from the ASME Code are not necessary for inclusion in the TS and may be deleted.

The current TS do not include specific actions to take if the primary system boundary has indications in excess of the allowables. Therefore, the proposed actions are new requirements, adopted from STS guidelines, which are an enhancement of the current TS and are acceptable.

The staff finds that the proposed TS Section 3/4.6.N, "Structural Integrity" has been reformatted adopting the STS guidelines. The staff has reviewed the proposed TS against the STS and current TS requirements and finds that there are no significant deviations from STS and no relaxations of the current TS. Therefore, the staff finds proposed TS Section 3/4.6.N acceptable.

3.15 Section 3/4.6.O, Shutdown Cooling - Hot Shutdown (Dresden)
Section 3/4.6.O, Residual Heat Removal - Hot Shutdown (Quad Cities)
Section 3/4.6.P, Shutdown Cooling- Cold Shutdown (Dresden)
Section 3/4.6.P, Residual Heat Removal - Cold Shutdown (Quad Cities)

Proposed TS 3/4.6.O and 3/4.6.P incorporate the guidance of the STS Sections 3/4.4.9.1 and 3/4.4.9.2. These are new TS sections not contained in current TS. Plant specific values for the listed parameters are included to be consistent with each station's UFSAR. The proposed TS for Dresden and Quad Cities are slightly different due to the different systems used for shutdown cooling purposes. Dresden has a separate shutdown cooling system and Quad Cities uses the residual heat removal (RHR) system.

The proposed TS for Quad Cities deviate from the STS guidelines and from the proposed Dresden TS due to the design of the RHR system at Quad Cities. Quad Cities' RHR system configuration does not allow either the shutdown cooling flow or the service water cooling flow to be throttled sufficiently to maintain constant temperature. Therefore, the proposed Quad Cities TS require that one subsystem be operable, as opposed to the proposed Dresden TS requirement and STS guidance to be in operation. This deviation is consistent with plant design and is acceptable.

The proposed TS are applicable to the Dresden and Quad Cities plant designs and provide enhanced guidance to operations personnel. Therefore, the proposed TS are acceptable.

3.16 Current TS Section 3/4.6.I, Snubbers

Current TS 3/4.6.I, "Snubbers" has been relocated to proposed TS 3/4.8.F. The changes to this section are based on STS guidelines and the guidelines of GL 90-09, "Alternative Requirements for Snubber Visual Inspection Intervals and Corrective Actions." Proposed TS 3/4.8.F will be reviewed separately and this issue will remain an open item pending NRC staff approval of proposed TS 3/4.8.

3.17 Bases

The staff has reviewed the proposed Bases for TSUP TS Section 3/4.6. The proposed Bases have been prepared using the guidelines of the STS. The staff finds the proposed Bases acceptable with the following comment. The last paragraph on page B 3/4.6-7 discusses evaluating reactor vessel material specimens. The correct standard which should be referenced is ASTM E 185-73. This will be an open item pending its correction in the clean-up amendment.

3.18 Open Items

The following items should be left as open items contingent upon their disposition in the cleanup amendment.

1. The number of jet pumps in 3.6.B Action 2 will be revised.

2. The periodicity of TS 4.6.F.1.a (relief valve testing) will be revised.

3. Bases page B 3/4.6-7 will be corrected to reference the ASTM standard.

4. Current TS 3/4.6.I will be relocated to proposed TS 3/4.8.F.

5. Current TS 4.6.A and 4.6.B regarding permanent recording of reactor vessel temperatures and reactor coolant pressures will be located in proposed TS section 6.0.

4.0 SUMMARY

The proposed TS for Section 3/4.6 will be clearer and easier to use as a result of the adoption of the STS format. The changes result in additional limitations, restrictions, or changes based on generic guidance. It is the staff's assessment that the changes proposed in this amendment do not pose any decrease in safety, or an increase in the probability of an analyzed or unanalyzed accident. The revised TS changes do not reduce the existing margin of safety set forth by the current TS. Therefore, the staff finds the proposed TS changes acceptable.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Illinois State official was notified of the proposed issuance of the amendments. The State official had no comments.

6.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluent that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (60 FR 37087). Accordingly, the amendments meet 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 the issuance of the amendments.

7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: D. Skay

Date: September 21, 1995

The application dated September 17, 1993, as supplemented June 30, 1995, contains the proposed upgrade of Section 3/4.6 (Primary System Boundary) of the Dresden and Quad Cities TS.

The review guidance to be used by the NRC staff in the review of the TSUP is described in Section 2.0 of the enclosed Safety Evaluation (SE). The staff reviewed the proposed changes and evaluated all deviations and changes between the proposed TS, the STS, and the current TS.

Based on discussions between ComEd and the staff, it has been mutually agreed upon that the NRC will review the sections of TSUP as they are submitted and provide ComEd an amendment for each submittal. Once all of the TSUP sections have been reviewed and the amendments issued, it is our understanding that ComEd will make one final submittal addressing any changes that may be required as a result of problems uncovered during the course of this effort. Upon receipt and review of this final submittal, the staff will issue a final amendment which addresses any remaining open items and any changes or corrections to the previous amendments. The applicable TSUP TS will be issued with each amendment and will become effective no later than December 31, 1995, for Dresden and June 30, 1996, for Quad Cities.

The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Original signed by:

John F. Stang, Senior Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket Nos. 50-237, 50-249, 50-254, 50-265

Enclosures:
1. Amendment No. 140 to DPR-19
2. Amendment No. 134 to DPR-25
3. Amendment No. 162 to DPR-29
4. Amendment No. 158 to DPR-30
5. Safety Evaluation

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