

March 21, 2001

Mr. Oliver D. Kingsley, President  
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1400 Opus Place, Suite 500  
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SUBJECT: QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 -  
ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT  
IMPACT (TAC NOS. MA8378 AND MA8379)

Dear Mr. Kingsley:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for amendment dated March 3, 2000, as supplemented by letters dated March 24, June 5 (two letters), July 18, July 31, September 1, September 22, October 5, October 9, November 20, and December 18, 2000; and February 15 and February 28, 2001. The original application was submitted by Commonwealth Edison Company (ComEd), which merged to form Exelon Generation Company, LLC (EGC). By letter dated February 7, 2001, EGC assumed responsibility for all pending actions that were requested by ComEd.

The proposed amendment would convert the current Technical Specifications for Quad Cities Nuclear Power Station, Units 1 and 2, to a set of improved Technical Specifications based on NUREG-1433, Revision 1, "Standard Technical Specifications, General Electric Plants BWR/4," dated April 1995, and on guidance provided in the Commission's "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors," published on July 22, 1993 (58 FR 39132).

The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

*/RA/*

Stewart N. Bailey, Project Manager, Section 2  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-254, 50-265

Enclosure: Environmental Assessment

cc w/encl: See next page

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Quad Cities Nuclear Power Station  
Units 1 and 2

cc: w/enclosures

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UNITED STATES NUCLEAR REGULATORY COMMISSION

EXELON GENERATION COMPANY, LLC

DOCKET NOS. 50-254 AND 50-265

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an amendment to Facility Operating License No. DPR-29 and DPR-30, issued to Exelon Generation Company, LLC, (EGC, or the licensee), for operation of Quad Cities Nuclear Power Station, Units 1 and 2 (Quad Cities), respectively, located in Rock Island County, Illinois. The original application was submitted by Commonwealth Edison Company (ComEd), which merged to form EGC. By letter dated February 7, 2001, EGC assumed responsibility for all pending NRC actions that were requested by ComEd.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed amendment would be a full conversion from the current Technical Specifications (CTS) to a set of improved Technical Specifications (ITS) based on NUREG-1433, "Standard Technical Specifications - General Electric Plants, BWR/4," Revision 1, dated April 1995. The proposed action is in accordance with the licensee's application dated March 3, 2000, as supplemented by letters dated March 24, June 5 (two letters), July 18, July 31, September 1, September 22, October 5, October 9, November 20, and December 18, 2000; and February 15 and February 28, 2001.

The Need for the Proposed Action:

It has been recognized that nuclear safety in all plants would benefit from improvement and standardization of Technical Specifications (TSs). The "NRC Interim Policy Statement on Technical Specification Improvements for Nuclear Power Reactors" (52 FR 3788) contained proposed criteria for defining the scope of TSs. Later, the "NRC Final Policy Statement on TS Improvement for Nuclear Power Reactors" (58 FR 39132) incorporated lessons learned since publication of the interim policy statement and formed the basis for a revision to 10 CFR 50.36. The "Final Rule" (60 FR 36953) codified criteria for determining the content of TSs. To facilitate the development of ITS, each reactor vendor owners group and the NRC staff developed standard TSs (STS). The NRC Committee to Review Generic Requirements reviewed the STS, made note of their safety merits, and indicated its support of conversion by operating plants to the STS. For Quad Cities, the STS are NUREG-1433, Revision 1, "Standard Technical Specifications, General Electric Plants BWR/4," dated April 1995. This document formed the basis for the Quad Cities ITS conversion.

Description of the Proposed Change:

The proposed changes to the CTS are based on NUREG-1433, and on guidance provided in the Final Policy Statement. Its objective is to completely rewrite, reformat, and streamline the CTS (i.e., to convert the CTS to the ITS). Emphasis is placed on human factors principles to improve clarity and understanding. The Bases section has been significantly expanded to clarify and better explain the purpose and foundation of each specification. In addition to NUREG-1433, portions of the CTS were also used as the basis for the development of the Quad Cities ITS. Plant-specific issues (unique design features, requirements, and operating practices) were discussed at length with the licensee.

The proposed changes from the CTS can be grouped into four general categories. These groupings are characterized as administrative changes, technical changes - relocations,

technical changes - more restrictive, and technical changes - less restrictive. They are described as follows:

1. Administrative changes are those that involve restructuring, renumbering, rewording, interpretation, and complex rearranging of requirements and other changes not affecting technical content or substantially revising an operating requirement. The reformatting, renumbering, and rewording process reflects the attributes of NUREG-1433 and does not involve technical changes to the existing TSs. The proposed changes include: (a) identifying plant-specific wording for system names, etc., (b) changing the wording of specification titles in the CTS to conform to STS, (c) splitting up requirements that are currently grouped, or combining requirements that are currently in separate specifications, (d) deleting specifications whose applicability has expired, and (e) wording changes that are consistent with the CTS but that more clearly or explicitly state existing requirements. Such changes are administrative in nature and do not impact initiators of analyzed events or assumed mitigation of accident or transient events.

2. Relocation changes are those involving relocation of requirements and surveillances for structures, systems, components, or variables that do not meet the criteria for inclusion in TSs. Relocated changes are those CTS requirements that do not satisfy or fall within any of the four criteria specified in the NRC's policy statement and may be relocated to appropriate licensee-controlled documents.

The licensee's application of the screening criteria to Quad Cities is described in Volume 1 of Enclosure C to the March 3, 2000, submittal. The affected structures, systems, components, or variables are not assumed to be initiators of analyzed events and are not assumed to mitigate accident or transient events. The requirements and surveillances for these affected structures, systems, components, or variables will be relocated from the TSs to administratively controlled documents such as the Updated Final Safety Analysis Report



(UFSAR), the ITS Bases, or other licensee-controlled documents. Once these items have been relocated to other licensee-controlled documents, the licensee may revise them under the provisions of 10 CFR 50.59 or other NRC-approved control mechanisms, which provide appropriate procedural means to control changes by the licensee.

3. More restrictive changes are those involving more stringent requirements compared to the CTS for operation of the facility. These more stringent requirements do not result in operation that will alter assumptions relative to the mitigation of an accident or transient event. The more restrictive requirements will not alter the operation of process variables, structures, systems, and components described in the safety analyses.

4. Less restrictive changes are those where CTS requirements are relaxed, relocated or eliminated, or new plant operational flexibility is provided. The more significant "less restrictive" requirements are justified on a case-by-case basis. When requirements have been shown to provide little or no safety benefit, their removal from the TSs may be appropriate. In most cases, relaxations previously granted to individual plants on a plant-specific basis were the result of (a) generic NRC actions, (b) new NRC staff positions that have evolved from technological advancements and operating experience, or (c) resolution of the Owners Groups' comments on the Improved Standard Technical Specifications. Generic relaxations contained in NUREG-1433 were reviewed by the staff and found to be acceptable because they are consistent with current licensing practices and NRC regulations. Each less restrictive change in the Quad Cities conversion was justified by the licensee in a Discussion of Change and reviewed by the NRC staff.

In addition, there are 11 changes that are different from the requirements in both the CTS and NUREG-1433, or that are beyond the changes that are needed to meet the overall purpose of the conversion. These changes are as follows:

1. The test interval of certain surveillance requirements is changed from 18 months to 24 months to permit a longer fuel cycle. Justification for the proposed change follows the guidance of Generic Letter 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," and includes a revision to the instrument setpoint methodology.
2. The requirements in CTS 4.2.F are changed to allow 6 hours to perform surveillance testing of the post-accident monitoring instrumentation channels prior to entering action statements.
3. The requirements (CTS 3.9.G) for the reactor protection system electric power monitoring system assemblies to be operable in Modes 1, 2, 3, and also Modes 4 and 5 with any control rod withdrawn, are changed to only include Modes 1 and 2, and also Mode 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies, to coincide with the conditions where the safety function is required.
4. The requirement (CTS 3.6.C Action 2) to trip one of the recirculation pumps when the speed mismatch is not within limits is replaced with a requirement to declare the loop with the low flow "not in operation" and take the required actions for that condition (e.g., use the more restrictive core power limits that are required for single-loop operation).
5. The frequency for monitoring primary containment sump flow rate (CTS 4.6.H.2) is changed from 8 to 12 hours, which is consistent with the Generic Letter 88-01, Supplement 1, guidance to perform the surveillance once every shift, not to exceed 12 hours.
6. The requirements in CTS 4.6.G are changed to allow a channel of leakage detection system to be inoperable for up to 6 hours for performance of required surveillances, provided the other leakage detection system instrumentation is operable.

7. The CTS 3.5.A requirement to shut down within 7 days when both low-pressure coolant injection (LPCI) subsystems are inoperable is being changed to require a shutdown in 72 hours.
8. The required number of operable automatic depressurization system valves (CTS 3.5.A.4) is reduced from five to four, consistent with the safety analysis assumptions.
9. The CTS 4.7.D.4 requirement that the excess flow check valves must “check flow” is changed to require that the valves “actuate to their isolation position.”
10. The required spent fuel storage pool water level (CTS 3.10.H) is increased approximately 9 inches.
11. The required voltage during the diesel generator surveillance tests (CTS 4.9.A.2.c, 4.9.A.7, 4.9.A.8.b.2, 4.9.A.8.d.2, 4.9.A.8.e, 4.9.A.8.f.2, and 4.9.A.8.h) is changed from 4160 plus or minus 420 volts to 4160 plus or minus 208 volts.

Environmental Impacts of the Proposed Action:

The NRC has completed its evaluation of the proposed revision to the CTS. Changes which are administrative in nature have been found to have no effect on the technical content of the TSs and are acceptable. The increased clarity and understanding these changes bring to the TSs are expected to improve the operators' control of the plant in normal and accident conditions. Relocation of requirements to other licensee-controlled documents does not change the requirements themselves nor does 10 CFR 50.36(c)(2)(ii) mandate that the TSs include these requirements. Further changes to these requirements may be made by the licensee under 10 CFR 50.59 or other NRC-approved control mechanisms that ensure continued maintenance of adequate requirements. All such relocations have been found to be in conformance with the guidelines of NUREG-1433 and the Final Policy Statement and are, therefore, acceptable.

Changes involving more restrictive requirements have been found to enhance plant safety and to be acceptable.

Changes involving less restrictive requirements have been reviewed individually. When requirements have been shown to provide little or no safety benefit or to place unnecessary burden on the licensee, their removal from the TSs was justified. In most cases, relaxations previously granted to individual plants on a plant-specific basis were the result of a generic action, or of agreements reached during discussions with the Owners Groups, and have been found to be acceptable for Quad Cities. Generic relaxations contained in NUREG-1433 have also been reviewed by the NRC staff and have been found to be acceptable.

In summary, the proposed revisions to the CTS were found to provide control of plant operations such that reasonable assurance will be provided that the health and safety of the public will be adequately protected.

These changes to the TSs will not significantly increase the probability or consequences of accidents, no changes are being made in the types of any effluents that may be released offsite, and there is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed amendment.

With regard to potential nonradiological impacts, the proposed amendment involves features located entirely within the restricted area as defined in 10 CFR Part 20 and does not involve any historical sites. It does not affect nonradiological plant effluents and has no other environmental impact. Therefore, there are no significant nonradiological environmental impacts associated with the proposed amendment.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action.

Alternatives to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the “no-action” alternative). Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources:

This action does not involve the use of any resources not previously considered in the Final Environmental Statement for Quad Cities, dated September 1972.

Agencies and Persons Consulted:

In accordance with its stated policy, on February 20, 2001, the NRC consulted with the Illinois State official, Mr. F. Niziolek, regarding the environmental impacts of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of this environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's application dated March 3, 2000, as supplemented by letters dated March 24, June 5 (two letters), July 18, July 31, September 1, September 22, October 5, October 9, November 20, and December 18, 2000; and February 15 and February 28, 2001. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the ADAMS Public Library component on the NRC Web site, <http://www.nrc.gov> (the Electronic Reading Room).

Dated at Rockville, Maryland, this 21st day of March 2001.

FOR THE NUCLEAR REGULATORY COMMISSION

***/RA/***

Stewart N. Bailey, Project Manager, Section 2  
Project Directorate III  
Division of Licensing Project Management  
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