

10 CFR 50.90

July 6, 2001

RS-01-137

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Quad Cities Nuclear Power Station, Units 1 and 2
Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

Subject: Request for Technical Specifications Change
Reactor Protection System Instrumentation
Scram Discharge Volume Water Level - High

Pursuant to 10 CFR 50.90, "Application for amendment of license or construction permit," Exelon Generation Company (EGC), LLC, requests changes to the Technical Specifications (TS) of Facility Operating License Nos. DPR-29 and DPR-30 for the Quad Cities Nuclear Power Station (QCNPS), Units 1 and 2. The proposed change is to TS Section 3.3.1.1, "Reactor Protection System Instrumentation." The proposed change modifies the description for Reactor Protection System (RPS) Function 7.a, "Scram Discharge Volume Water Level - High."

This proposed change supports a planned upgrade to the scram discharge volume level instrumentation from Fluid Components International thermal switches to Magnetrol float switches. These float switches are more reliable than the existing thermal switches, which are highly sensitive to a steam environment, since they respond to actual water level increases within the scram discharge volume. These type of Magnetrol float switches are used successfully in various applications at QCNPS. The plant design changes are scheduled for implementation during the next refueling outage on Unit 2 in February 2002. Therefore, EGC requests approval of this amendment by February 2, 2002. A similar design change will be implemented on Unit 1 during the 17th refueling outage scheduled to begin in October 2002.

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July 6, 2001
U.S. Nuclear Regulatory Commission
Page 2

This request is subdivided as follows.

1. Attachment A contains a description and safety analysis of the proposed changes,
2. Attachment B provides the marked-up TS page with the requested changes indicated,
3. Attachment C provides the information supporting a finding of no significant hazards consideration in accordance with 10 CFR 50.92(c), "Issuance of amendment,"
4. Attachment D provides information supporting an environmental assessment.

These proposed changes have been reviewed by the Plant Operations Review Committee and the Nuclear Safety Review Board in accordance with the Quality Assurance Topical Report.

EGC is notifying the State of Illinois of this request for changes to the TS by transmitting a copy of this letter and its attachments to the designated State Official.

Should you have any questions concerning this letter, please contact Mr. W. J. Beck at (309) 654-2800.

Respectfully,



R.M. Krich
Director - Licensing
Mid-West Regional Operating Group

Attachments: Affidavit
Attachment A: Description and Safety Analysis for Proposed Changes
Attachment B: Marked-Up TS Page for Proposed Changes
Attachment C: Information Supporting a Finding of No Significant Hazards
Consideration
Attachment D: Information Supporting an Environmental Assessment

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station
Office of Nuclear Facility Safety – Illinois Department of Nuclear Safety

STATE OF ILLINOIS)
COUNTY OF DUPAGE)
IN THE MATTER OF)
EXELON GENERATING COMPANY, LLC) Docket Numbers
QUAD CITIES NUCLEAR POWER STATION, UNITS 1 and 2) 50-254 and 50-265
SUBJECT: Request for Technical Specifications Change
Reactor Protection System Instrumentation
Scram Discharge Volume Water Level - High

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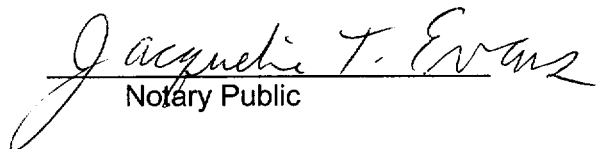
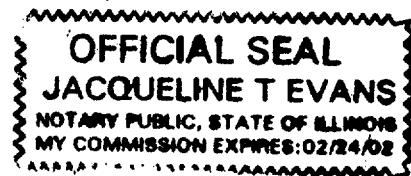
I affirm that the content of this transmittal is true and correct to the best of my knowledge, information and belief.



R. M. Krich
Director – Licensing
Mid-West Regional Operating Group

Subscribed and sworn to before me, a Notary Public in and
for the State above named, this 6th day of

July, 2001.



Notary Public

ATTACHMENT A
Proposed Change to Technical Specifications
Quad Cities Nuclear Power Station, Units 1 and 2

**DESCRIPTION AND SAFETY ANALYSIS
FOR PROPOSED CHANGES**

A. SUMMARY OF PROPOSED CHANGES

Pursuant to 10 CFR 50.90, "Application for amendment of license or construction permit," Exelon Generation company (EGC), LLC, is requesting a change to the Technical Specifications (TS) of Facility License Nos. DPR-29 and DPR-30 for the Quad Cities Nuclear Power Station (QCNPS), Units 1 and 2. The proposed change is to TS Section 3.3.1.1, "Reactor Protection System Instrumentation." The proposed change modifies Reactor Protection System (RPS) Function 7a, "Scram Discharge Volume Water Level - High."

This proposed change supports a planned upgrade to the scram discharge volume (SDV) instrumentation from Fluid Components International (FCI) thermal switches to Magnetrol float switches. These float switches are a proven technology and are more reliable in the detection of water level changes than the existing FCI thermal switches, which are highly sensitive to steam/moisture changes. These type of float switches are being used successfully in various applications at QCNPS. The plant design changes are scheduled for implementation during the next refueling outage on Unit 2 in February 2002; therefore, EGC requests approval of this amendment by February 2, 2002. A similar design change will be implemented on Unit 1 during the 17th refueling outage scheduled to begin in October 2002.

The proposed change is described in detail in Section E of this Attachment. The marked-up TS page is shown in Attachment B.

B. DESCRIPTION OF THE CURRENT REQUIREMENTS

TS Section 3.3.1.1, "Reactor Protection System Instrumentation," and TS Table 3.3.1.1-1, "Reactor Protection System Instrumentation," provide the operability requirements applicable to the protection and monitoring functions of the RPS, including Sub-Function 7.a, "Scram Discharge Volume Water Level – High," Thermal Switch.

C. BASES FOR THE CURRENT REQUIREMENTS

The protection and monitoring functions of the RPS have been designed to ensure safe operation of the reactor. The RPS initiates a reactor scram when one or more monitored parameters exceed their specified limits, to preserve the integrity of the fuel cladding and the Reactor Coolant System (RCS) and minimize the energy that must be absorbed following a Loss of Coolant Accident (LOCA).

The current instrumentation for Sub-Function 7.a utilizes FCI thermal switches to monitor increasing water level in the SDV instrument volume to initiate a reactor scram when the monitored parameter exceeds its specified limit.

ATTACHMENT A
Proposed Change to Technical Specifications
Quad Cities Nuclear Power Station Units, 1 and 2

D. NEED FOR REVISION OF THE REQUIREMENTS

The current Scram Discharge Volume Water Level – High trip function instrumentation employs FCI thermal switches, which are extremely sensitive to steam/moisture changes. Since the thermal switches provide the signal inputs for the RPS trip actuation logic, any false signal may initiate a spurious half or full scram.

The existing thermal switches for SDV Water Level - High scram will be replaced with Magnetrol float switches to interface with the existing RPS logic. The replacement float switches will curtail the sensitivity to a steam/moisture environment and thus reduce the potential for initiation of spurious half or full scram signals to occur. These float switches provide increased accuracy of detecting actual water level within the SDV. There are no setpoint changes required due to the SDV instrumentation change. The float switches will be installed external to the SDV.

The overall effect of this activity is to provide an identical function as the previous SDV Water Level- High trip signal. The design will maintain conformance with the commitments identified in response to Inspection and Enforcement Bulletin (IEB) No. 80-17, "Failure of 76 of 185 Control Rods to Fully Insert During a Scram at a BWR" for QCNPS in the Reference letter. The proposed change will provide increased reliability and better overall performance of the SDV level trip function.

In order to accommodate the design change, a TS change is required to identify the float switch.

E. DESCRIPTION OF THE PROPOSED CHANGES

The following TS changes are proposed:

Current Requirement:

Function

- 7. Scram Discharge Volume
Water Level – High

- a. Thermal Switch

Proposed Requirement:

- 7. Scram Discharge Volume
Water Level – High

- a. ***Thermal Switch (for Unit 1 only through cycle 17)***

Float Switch

ATTACHMENT A
Proposed Change to Technical Specifications
Quad Cities Nuclear Power Station Units, 1 and 2

F. SAFETY ANALYSIS OF THE PROPOSED CHANGES

The RPS monitors reactor operation and initiates protective action in the event of an unsafe condition. Should the SDV fill to a point where there is insufficient volume to accept the water from the control rod drives that is displaced during a scram, control rod insertion would be hindered. This scram is required to be functional in Modes 1, "Power Operation," 2, "Startup," and 5, "Refueling" with any control rod withdrawn from a reactor core cell containing one or more fuel assemblies.

Currently, four internally mounted, non-indicating thermal switches monitor SDV water level. The switches are arranged in pairs on each of two SDVs so each switch pair provides an input to RPS trip systems A and B. The existing SDV Water Level – High scram thermal switches will be replaced with Magnetrol float switches to interface with the existing RPS logic. The float switches are a proven technology, highly reliable, and are being used successfully in a number of applications at QCNPS (e.g., Table 3.3.5.1-1, "ECCS Instrumentation," Sub-Function 3.d, "CCST Level – Low" and Sub-Function 3.e, "Suppression Pool Water Level – High"). The modification has been successfully evaluated under EGC's design change process and does not introduce any new failure modes. The proposed change also maintains the redundancy and diversity of the system as described in response to IEB 80-17, "Failure of 76 of 185 Control Rods to Fully Insert During a Scram at a BWR," for QCNPS.

Credit is not taken for a scram initiated by this function for any of the design basis accidents or transients analyzed in the Updated Final Safety Analysis Report.

For these reasons, the proposed change is acceptable and does not involve a reduction in plant safety.

G. IMPACT ON PREVIOUS SUBMITTALS

EGC has reviewed the proposed change for impact on any previous submittals, and has determined that there is no impact on any outstanding previous submittals.

H. SCHEDULE REQUIREMENTS

We request approval of this amendment prior to February 2, 2002, to support activities in the Unit 2 cycle 16 refueling outage scheduled for February 2002.

I. REFERENCE

Letter from R. F. Janeczek (Commonwealth Edison Company) to U.S. NRC, "Dresden Station Units 2 and 3, Quad Cities Station Units 1 and 2, Supplementary Response to Request for Information Concerning Scram Systems," dated January 15, 1981

ATTACHMENT B
Proposed Change to Technical Specifications
Quad Cities Nuclear Power Station Units, 1 and 2

MARKED-UP TS PAGE FOR PROPOSED CHANGES

The marked-up Technical Specifications are provided in the following page.

REVISED PAGE

3.3.1.1-9

Table 3.3.1.1-1 (page 3 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
7. Scram Discharge Volume Water Level - High					
a. Thermal Switch (for Unit 1 only through cycle 17) Float Switch	1.2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ 38.9 gallons
	5(a)	2	H	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ 38.9 gallons
b. Differential Pressure Switch	1.2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ 32.3 gallons
	5(a)	2	H	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ 32.3 gallons
8. Turbine Stop Valve - Closure	≥ 45% RTP	4	E	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.13 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 9.7% closed
9. Turbine Control Valve Fast Closure, Trip Oil Pressure - Low	≥ 45% RTP	2	E	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.13 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 475 psig
10. Turbine Condenser Vacuum - Low	1	2	F	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 21.8 inches Hg vacuum
11. Reactor Mode Switch - Shutdown Position	1.2	1	G	SR 3.3.1.1.15 SR 3.3.1.1.17	NA
	5(a)	1	H	SR 3.3.1.1.15 SR 3.3.1.1.17	NA
12. Manual Scram	1.2	1	G	SR 3.3.1.1.8 SR 3.3.1.1.17	NA
	5(a)	1	H	SR 3.3.1.1.8 SR 3.3.1.1.17	NA

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

ATTACHMENT C
Proposed Change to Technical Specifications
Quad Cities Nuclear Power Station Units, 1 and 2

**INFORMATION SUPPORTING A FINDING OF NO
SIGNIFICANT HAZARDS CONSIDERATION**

According to 10 CFR 50.92(c), "Issuance of amendment," a proposed amendment to an operating license involves a no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not:

Involve a significant increase in the probability or consequences of an accident previously evaluated; or

Create the possibility of a new or different kind of accident from any accident previously evaluated; or

Involve a significant reduction in a margin of safety.

In support of this determination, an evaluation of each of the three criteria set forth in 10 CFR 50.92 is provided below regarding the proposed license amendment.

Exelon Generation Company (EGC), LLC is proposing a change to the Technical Specifications (TS), for the Quad Cities Nuclear Power Station (QCNPS), Units 1 and 2. The proposed change modifies the description for Reactor Protection System (RPS) Function 7.a, "Scram Discharge Volume Water Level – High." This change replaces the existing thermal switches with Magnetrol float switches to support a planned upgrade to the Scram Discharge Volume (SDV) Water Level – High instrumentation.

Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

During the upcoming refueling outages at Quad Cities Nuclear Power Station (QCNPS), a design change will be implemented that upgrades the existing Scram Discharge Water Level - High instrumentation from thermal switches to float switches. Float switches are a proven technology that provide a more reliable measurement than existing equipment. Float switches are used in various applications at QCNPS, including the Emergency Core Cooling Systems instrumentation for Suppression Pool Water Level High function.

TS requirements that govern operability or routine testing of plant instruments are not initiators of any analyzed event because these instruments are intended to prevent, detect, or mitigate accidents. Therefore, this proposed change will not involve an increase in the probability of occurrence of an accident previously evaluated. Additionally, the proposed change will not increase the consequences of an accident previously evaluated because the proposed change does not adversely impact structures, systems, or components (SSCs). The planned instrument upgrade results in a more reliable design than existing equipment. The proposed change maintains existing requirements that ensure components are operable when necessary for the prevention or mitigation of accidents or transients. Furthermore, there will be no change in the types or significant increase in the amounts of any effluents released offsite. For these reasons, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

ATTACHMENT C
Proposed Change to Technical Specifications
Quad Cities Nuclear Power Station Units, 1 and 2

Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

The proposed change supports a planned instrumentation upgrade and does not alter surveillance requirements required to ensure operability. The proposed change does not adversely impact the manner in which the SDV will operate under normal, abnormal, and accident conditions. There is no change being made to the parameters within which QCNPS is operated. There are no setpoints at which protective or mitigative actions are initiated that are affected by the proposed change. This proposed change will not alter the manner in which equipment operation is initiated nor will the function demands on credited equipment be changed. No alteration in the procedures, which ensure QCNPS remains within analyzed limits, is proposed, and no change is being made to procedures relied upon to respond to an off-normal event. Therefore, this proposed change provides an equivalent level of safety. The proposed change in methods governing normal plant operation are consistent with the current safety analysis assumptions. Therefore, this proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

Does the proposed change involve a significant reduction in a margin of safety?

Margins of safety are established in the design of components, the configuration of components to meet certain performance parameters, and in the establishment of setpoints to initiate alarms or actions. The proposed change supports a planned instrumentation upgrade. The proposed change does not affect the probability of failure or availability of the affected instrumentation. The change to float switches for the Scram Discharge Volume Water Level – High RPS Sub-Function 7.a provides for increased reliability that aligns with that of similar instrumentation. Therefore, it is concluded that the proposed changes will not result in a significant reduction in the margin of safety.

Therefore, based upon the above evaluation, EGC has concluded that these changes involve no significant hazards consideration.

ATTACHMENT D
Information Supporting an Environmental Assessment
Quad Cities Nuclear Power Station, Units 1 and 2

INFORMATION SUPPORTING AN ENVIRONMENTAL ASSESSMENT

Exelon Generating Company (EGC), LLC, has evaluated this proposed change against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21, "Criteria for identification of licensing and regulatory actions requiring environmental assessments." EGC has determined that this proposed change meets the criteria for a categorical exclusion set forth in 10 CFR 51.22(c)(9), "Criterion for categorical exclusion; identification of licensing and regulatory actions eligible for categorical exclusion or otherwise not requiring environmental review," and as such, has determined that no irreversible consequences exist in accordance with 10 CFR 50.92(b), "Issuance of amendment." This determination is based on the fact that this change is being proposed as an amendment to a license issued pursuant to 10 CFR 50, "Domestic Licensing of Production and Utilization Facilities," which changes a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, "Standards for Protection Against Radiation," or that changes an inspection or a surveillance requirement, and the amendment meets the following specific criteria.

- (i) The amendment involves no significant hazards consideration.

As demonstrated in Attachment C, the proposed change does not involve a significant hazards consideration.

- (ii) There is no significant change in the types or significant increase in the amounts of any effluent that may be released offsite.

The proposed change does not allow for an increase in the unit power level, does not increase the production, nor alter the flow path or method of disposal of radioactive waste or byproducts. Therefore, the proposed change does not affect actual unit effluents

- (iii) There is no significant increase in individual or cumulative occupational radiation exposure.

The proposed change will not result in changes in the operation of the facility. There will be no change in the level of controls or methodology used for processing of radioactive effluents or handling of solid radioactive waste. The proposed change will not result in any change in the normal radiation levels within the plant. Therefore, there will be no increase in individual or cumulative occupational radiation exposure resulting from this change.