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Nuclear

10 CFR 50.90

RS-01-028

February 22, 2001

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

Dresden Nuclear Power Station, Units 2 and 3
Facility Operating License Nos. DPR-19 and DPR-25
NRC Docket Nos. 50-237 and 50-249

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 License Amendment for Reactor Vessel Low Water Level Setpoint

Reference: Letter from R.M. Krich (Commonwealth Edison Company) to U.S. NRC, "Request for License Amendment for Power Uprate Operation," dated December 27, 2000

In the referenced letter, Commonwealth Edison (ComEd) Company, now the Exelon Generation Company (EGC), LLC, requested changes to Facility Operating License Nos. DPR-19, DPR-25, DPR-29, and DPR-30 and Appendix A to the Operating Licenses, the Technical Specifications (TS), for Dresden Nuclear Power Station (DNPS), Units 2 and 3, and Quad Cities Nuclear Power Station (QCNPS), Units 1 and 2. The changes were requested to support operation at uprated thermal power. One of the requested changes in the letter was a reduction in the reactor vessel water level – low scram and isolation setpoint. The purpose of this letter is to request that this setpoint reduction be approved separately from the requested changes for power uprate operation.

The revision to the reactor vessel water level – low scram and isloation setpoint was requested as a part of the power uprate license amendment request in order to minimize unnecessary reactor scrams that might result from events involving a temporary reduction in feedwater flow. The requested setpoint reduction will provide a similar benefit when operating at the current rated thermal power. Thus, EGC is seeking to implement the requested change prior to power uprate approval as part of efforts to improve our summer reliability.

The attachments contain information to support the requested changes. This information has been excerpted from the information in the referenced letter for ease of

A001

NRC review. The attachments are provided in separate enclosures for DNPS and QCNPS and are subdivided as follows.

1. Attachment A contains a detailed description of the specific proposed changes and the technical bases for these changes.
2. Attachment B provides the proposed markups to the TS.
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.

Should you have any questions related to this information, please contact Mr. Allan R. Haeger at (630) 663-6645.

Respectfully,

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

Attachments: Affidavit
Enclosure 1: Requested Changes for Dresden Nuclear Power Station
Attachment A: Description and Summary Safety Analysis for Proposed Changes
Attachment B: Marked-Up TS Pages for Proposed Changes
Attachment C: Information Supporting a Finding of No Significant Hazards Consideration
Attachment D: Information Supporting An Environmental Assessment

Enclosure 2: Requested Changes for Quad Cities Nuclear Power Station
Attachment A: Description and Summary Safety Analysis for Proposed Changes
Attachment B: Marked-Up TS Pages 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 – Dresden Nuclear Power Station
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 GENERATION COMPANY LLC	)	**Docket Numbers**
	)	
DRESDEN NUCLEAR POWER STATION Units 2 and 3	)	**50-237 AND 50-249**
	)	
QUAD CITIES NUCLEAR POWER STATION Units 1 and 2	)	**50-254 AND 50-265**

SUBJECT: Request for License Amendment for Reactor Vessel Low Water Level Setpoint

AFFIDAVIT

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 22nd day of

February, 2001.

Notary Public

* OFFICIAL SEAL *
Timothy A. Byam
Notary Public, State of Illinois
My Commission Expires 11/24/2001

ENCLOSURE 1

Request for License Amendment for Reactor Vessel Low Water Level Setpoint
for Dresden Nuclear Power Station, Units 2 and 3

ATTACHMENTS A - D

ATTACHMENT A
Request for License Amendment for Reactor Vessel Low Water Level Setpoint for Dresden Nuclear Power Station, Units 2 and 3

DESCRIPTION AND SUMMARY 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) is requesting changes to various Technical Specifications (TS) for Dresden Nuclear Power Station (DNPS), Units 1 and 2. The proposed changes lower the allowable value for the reactor vessel water level – low scram and isolation functions by approximately eight inches.

DNPS has submitted an extended power uprate (EPU) TS amendment request (Reference I.1) to increase the rated thermal power of the DNPS units. The EPU TS amendment request includes the proposed changes described herein. EGC requests that these changes be approved separately from the proposed changes for EPU.

DNPS has submitted a TS amendment request (Reference I.2) for conversion from the Current TS (CTS) to the Improved Technical Specifications (ITS). In anticipation of approval of that request, this request for amendment is based on the format of the ITS. In addition, the affected sections of the CTS are noted.

The proposed TS changes are similar to those approved for other power reactor licensees, as noted in Reference I.3.

B. DESCRIPTION OF THE CURRENT REQUIREMENTS

B.1. TS Section 3.3.1.1, "Reactor Protection System Instrumentation"

TS Table 3.3.1.1-1 Function 4

ITS Table 3.3.1.1-1, Function 4 identifies the allowable value for the Reactor Vessel Water Level – Low Function. The allowable value is ≥ 10.24 inches. A similar requirement is specified in CTS Table 2.2.A-1.

B.2 TS Section 3.3.6.1, "Primary Containment Isolation Instrumentation"

TS Table 3.3.6.1-1 Function 2.a

ITS Table 3.3.6.1-1 provides a listing of the required Primary Containment Isolation Instrumentation. Item 2.a describes the requirements and allowable values for the primary containment isolation function on Reactor Vessel Water Level – Low. The allowable value is ≥ 10.24 inches. A similar requirement is specified in CTS Table 3.2.A-1.

TS Table 3.3.6.1-1 Function 5.b

ITS Table 3.3.6.1-1 provides a listing of the required Primary Containment Isolation Instrumentation. Item 5.b describes the requirements and allowable values for the Reactor Water Cleanup (RWCU) System isolation function on

Reactor Vessel Water Level – Low. The allowable value is ≥ 10.24 inches. A similar requirement is specified in CTS Table 3.2.A-1.

TS Table 3.3.6.1-1 Function 6.b

ITS Table 3.3.6.1-1 provides a listing of the required Primary Containment Isolation Instrumentation. Item 6.b describes the requirements and allowable values for Reactor Vessel Water Level – Low function for shutdown cooling isolation system isolation. The allowable value is ≥ 10.24 inches. A similar requirement is specified in CTS Table 3.2.A-1.

C. BASES FOR THE CURRENT REQUIREMENTS

C.1. TS Section 3.3.1.1, "Reactor Protection System Instrumentation"

TS Table 3.3.1.1-1 Function 4

TS Table 3.3.1.1-1 Function 4 identifies the instrumentation requirements for the Reactor Vessel Water Level – Low Function including the allowable value. A low Reactor Pressure Vessel (RPV) water level indicates that the capability to cool the fuel may be threatened. Should the RPV water level decrease too far, fuel damage could result. Therefore, a reactor scram is initiated at a low water level to substantially reduce the heat generated in the fuel from fission. The Reactor Vessel Water Level – Low allowable value is also selected to ensure that during normal operation, the steam separator skirts are not uncovered to protect available recirculation pump net positive suction head (NPSH) from significant steam ingestion.

C.2. TS Section 3.3.6.1, "Primary Containment Isolation Instrumentation"

TS Table 3.3.6.1-1 Function 2.a

Primary containment isolation on Reactor Vessel Water Level – Low is provided to isolate the valves whose penetrations communicate with the primary containment to limit the release of fission products when low RPV water level indicates the potential to reduce the capability to maintain the fuel within thermal limits. The isolation of the primary containment on low RPV level supports actions to ensure that the offsite dose limits of 10 CFR 100 are not exceeded. This isolation function is implicitly assumed in the updated final safety analysis report (UFSAR) analysis as these leakage paths are assumed to be isolated after a Loss of Coolant Accident (LOCA). The allowable value associated with this function was chosen to be the same as the reactor protection system (RPS) Reactor Vessel Water Level – Low scram allowable value.

TS Table 3.3.6.1-1 Function 5.b

Low RPV water level indicates that the capability to cool the fuel may be threatened. Should RPV water level decrease too far, fuel damage could result. Therefore, isolation of some interfaces with the RPV occurs to isolate the potential

sources of a break. The isolation of the RWCU system on low RPV water level supports actions to ensure that the fuel peak cladding temperature remains below the limits of 10 CFR 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors." The RWCU isolation function is not directly assumed in the UFSAR safety analyses because the RWCU system line break is bounded by breaks of larger systems.

TS Table 3.3.6.1-1 Function 6.b

Low RPV water level indicates the potential to reduce the capability to maintain the fuel within thermal limits. Should RPV water level decrease too far, fuel damage could result. Therefore, isolation of some interfaces with the RPV occurs to isolate the potential sources of a break. The isolation of the shutdown cooling system is not directly assumed in the UFSAR safety analyses because a break of the shutdown cooling system is bounded by breaks of the recirculation and main steam lines.

D. NEED FOR REVISION OF THE REQUIREMENTS

D.1. TS Section 3.3.1.1, "Reactor Protection System Instrumentation"

TS Table 3.3.1.1-1 Function 4

The primary purpose of these proposed TS changes is to reduce the likelihood of unnecessary reactor scrams and the resultant engineered safeguards feature actuations by increasing the operating range between the normal reactor vessel water level and the trip function. The increased range will provide additional time for operators or automatic features to respond to recoverable transients and thus avert unnecessary reactor scrams.

Industry studies have identified low water level scrams as being initiators of a significant number of plant trips. The Boiling Water Reactor Owner's Group Scram Frequency Reduction Committee identified some of these scrams as unnecessary, since the reactor water level would have stabilized above the top of the active fuel and recovered to normal level without the scram.

D.8. TS Section 3.3.6.1, "Primary Containment Isolation Instrumentation"

TS Table 3.3.6.1-1 Function 2.a

This proposed change is associated with the allowable value of the Reactor Vessel Water Level – Low RPS scram function. To maintain the isolation function at the same level, the allowable value for TS Table 3.3.6.1-1 Function 2.a must also be revised.

TS Table 3.3.6.1-1 Function 5.b

This proposed change is associated with the allowable value of the Reactor Vessel Water Level – Low RPS scram function. This item lowers the allowable value of the Reactor Vessel Water Level – Low RPS scram function. To maintain the

isolation function at the same level, the allowable value for TS Table 3.3.6.1-1 Function 2.a must also be revised.

TS Table 3.3.6.1-1 Function 6.b

This proposed change is associated with the allowable value of the Reactor Vessel Water Level – Low RPS scram function. To maintain the isolation function at the same level, the allowable value for TS Table 3.3.6.1-1 Function 2.a must also be revised.

E. DESCRIPTION OF THE PROPOSED CHANGES

Unless otherwise stated, the affected TS sections are the same for Unit 1 and Unit 2.

E.1. TS Section 3.3.1.1, "Reactor Protection System Instrumentation"

TS Table 3.3.1.1-1 Function 4

The allowable value for the Reactor Vessel Water Level – Low function is reduced by approximately 8 inches from ≥ 10.24 inches to ≥ 2.65 inches.

E.2. TS Section 3.3.6.1, "Primary Containment Isolation Instrumentation"

TS Table 3.3.6.1-1 Function 2.a

The allowable value for the Reactor Vessel Water Level – Low function is reduced by approximately 8 inches from ≥ 10.24 inches to ≥ 2.65 inches.

TS Table 3.3.6.1-1 Function 5.b

The allowable value for the Reactor Vessel Water Level – Low function is reduced by approximately 8 inches from ≥ 10.24 inches to ≥ 2.65 inches.

TS Table 3.3.6.1-1 Function 6.b

The allowable value for the Reactor Vessel Water Level – Low function is reduced by approximately 8 inches from ≥ 10.24 inches to ≥ 2.65 inches.

F. SAFETY ANALYSIS OF THE PROPOSED CHANGES

F.1. TS Section 3.3.1.1, "Reactor Protection System Instrumentation"

TS Table 3.3.1.1-1 Function 4

The proposed change lowers the allowable value for the Reactor Vessel Water Level – Low Function by 8 inches. The allowable value for the low water level signal is specified so that during normal operation, the seal skirts of the separators and dryers are covered. This is a requirement for plant operation and does not affect the licensing or safety basis of the plant. The allowable value is also

specified so that the quantity of coolant following a low water level scram is sufficient for transients involving loss of all normal feedwater flow. Thus, the only transient affected by lowering the scram level setpoint is the Loss of Feedwater (LOFW) transient. This transient was evaluated to demonstrate that the setpoint change has no adverse effect on the reactor response. Since the LOFW is not a limiting event in terms of effect on the fuel thermal limits, the evaluation was performed primarily to demonstrate that there was no impact on the vessel inventory. In the LOFW event, the reactor water level decreases quickly causing a reactor scram on low water level. Following the scram, the reactor level continues to drop until it reaches the low-low level where the High Pressure Coolant Injection (HPCI) system to maintain the reactor water level and the Isolation Condenser (IC) system will provide core cooling. In addition, the reactor vessel low-low water level signal actuates closure of the Main Steam Isolation Valves (MSIVs) to limit the amount of inventory leaving the vessel. Lowering the low water level scram setpoint by 8 inches would delay the reactor scram for this event by a few seconds. However, since the setpoint for initiating HPCI at the low-low water level setpoint remains unchanged, there is no adverse impact on the ability of either of these systems to maintain vessel inventory, and there is no impact on thermal margins.

For accidents, postulated LOCAs inside the containment are the most limiting in terms of peak cladding temperature (PCT). This is because the postulated line break outside the containment is isolated before the reactor inventory loss out of the break can result in uncovering the core. Both large and small break LOCAs were reviewed to determine the impact of lowering the analytical limit of the low water level scram by 8 inches. It was concluded that ECCS initiation and containment isolation will not be impacted because the time of scram will not change, since for these breaks, the high drywell pressure signal will occur before the low water level scram signal. Therefore, lowering the scram water level will not change the time of scram for any breaks inside containment and thus will not have a significant impact on Emergency Core Cooling System (ECCS) initiation time or PCT.

The setpoint calculations for the proposed change were performed in accordance with the Exelon Nuclear Group Mid-West Regional Operating Group setpoint methodology procedure NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy."

F.2. TS Section 3.3.6.1, "Primary Containment Isolation Instrumentation"

TS Table 3.3.6.1-1 Function 2.a

This function is associated with the primary containment isolation on Reactor Vessel Water Level – Low. The purpose of containment isolation is to minimize the potential inventory loss across the containment boundary and to prevent offsite radiation doses from exceeding 10 CFR 100, "Reactor Site Criteria," limits during a postulated LOCA. For LOCAs inside primary containment, the high drywell pressure signal will be the first signal to initiate primary containment isolation. The radiological source term is a function of the power level and the resulting fission product noble gases and iodines in the core are conservatively assumed to be

immediately released following a LOCA. Thus, neither the amount of fission products released to the containment nor the time at which the containment isolates are dependent on the low water level containment isolation. For LOCAs outside containment, the main steam line break is the limiting event. This event is mitigated by the containment isolation that occurs on high steam flow or low steam line pressure. Therefore, this change does not affect the limiting event. However, small steam breaks outside containment that do not cause the isolation on high steam flow or low steamline pressure would rely on the low RPV water level isolation. Lowering of the low water level by 8 inches would not cause the mass release from the small steam break to become greater than the mass release from the large steamline break. Therefore, the delay of this isolation signal for a few seconds will not affect the ability of the containment isolation valves to perform their intended functions.

TS Table 3.3.6.1-1 Function 5.b

This function is associated with the isolation of the RWCU system on Reactor Vessel Water Level – Low. The RWCU isolation is not directly assumed in the UFSAR safety analyses because the RWCU system line break is bounded by breaks of larger systems. Therefore, the delay of this isolation signal for a few seconds will not affect the ability of the containment isolation valves to perform their intended functions.

TS Table 3.3.6.1-1 Function 6.b

This function is associated with the isolation of the shutdown cooling system and is only required to be operable in operational modes 3, 4 and 5. Should RPV water level decrease too far, fuel damage could result. Therefore, isolation of some reactor vessel interfaces occurs to isolate the potential sources of a break. This function is not directly assumed in the safety analyses because a break in the shutdown cooling system is bounded by a break in the recirculation and main steam lines.

G. IMPACT ON PREVIOUS SUBMITTALS

All submittals currently under review by the NRC were evaluated to determine the impact of this submittal. By letter dated December 27, 2000, DNPS has submitted an extended power uprate (EPU) TS amendment request (Reference I.1) to increase the rated thermal power of the DNPS units. The EPU TS amendment request includes the same proposed changes described herein. EGC requests that these changes be approved separately from the proposed changes for EPU.

By letter dated March 3, 2000, DNPS has submitted a TS Amendment request for conversion to the ITS (Reference I.5). In anticipation of approval, this request for amendment is based on the format of the ITS.

No other submittals currently under review by the NRC are affected by the information presented in this license amendment request.

H. SCHEDULE REQUIREMENTS

EGC is seeking to implement the requested change prior to power uprate approval as part of efforts to improve our summer reliability.

I. REFERENCES

1. Letter from R.M. Krich (ComEd) to U.S. NRC, "Request for License Amendment for Power Uprate Operation," dated December 27, 2000

2. Letter from R. M. Krich (ComEd) to U.S. NRC, "Request for Technical Specifications Changes for Dresden Nuclear Power Station, Units 2 and 3, LaSalle County Station, Units 1 and 2, and Quad Cities Nuclear Power Station, Units 1 and 2, to Implement Improved Standard Technical Specifications," dated March 3, 2000

3. Letter from U.S. NRC to A.J. Scalice, "Browns Ferry Nuclear Plant, Units 2 and 3 – Issuance of Amendments Regarding Allowable Value for Reactor Vessel Water Level," dated August 16, 1999

ATTACHMENT B

Request for License Amendment for Reactor Vessel Low Water Level Setpoint for Dresden Nuclear Power Station, Units 2 and 3

MARKED-UP TS PAGES FOR PROPOSED CHANGES

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

REVISED PAGES

3.3.1.1-9
3.3.6.1-5
3.3.6.1-7

Table 3.3.1.1-1 (page 2 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	
2. Average Power Range Monitors (continued)						
c. Fixed Neutron Flux – High	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.5 SR 3.3.1.1.9 SR 3.3.1.1.11 SR 3.3.1.1.15 SR 3.3.1.1.18 SR 3.3.1.1.19	≤ 120% RTP	A D
d. Inop	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.9 SR 3.3.1.1.11 SR 3.3.1.1.18	NA	
3. Reactor Vessel Steam Dome Pressure – High	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.8 SR 3.3.1.1.13 SR 3.3.1.1.18 SR 3.3.1.1.19	≤ 1058 psig	A D
4. Reactor Vessel Water Level – Low	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.11 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18 SR 3.3.1.1.19	≥ ~~10.24~~ 2.65 inches	A
5. Main Steam Isolation Valve – Closure	1, 2(c)	8	F	SR 3.3.1.1.5 SR 3.3.1.1.11 SR 3.3.1.1.17 SR 3.3.1.1.18 SR 3.3.1.1.19	≤ 9.5% closed	B
6. Drywell Pressure – High	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.11 SR 3.3.1.1.13 SR 3.3.1.1.18 SR 3.3.1.1.19	≤ 1.94 psig	A

(continued)

(c) With reactor pressure ≥ 600 psig.

Table 3.3.6.1-1 (page 1 of 3)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	
1. Main Steam Line Isolation						
a. Reactor Vessel Water Level – Low Low	1,2,3	2	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.7	≥ -56.77 inches	A C
b. Main Steam Line Pressure – Low	1	2	E	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.7	≥ 831 psig	A C
c. Main Steam Line Pressure – Timer	1	2	E	SR 3.3.6.1.2 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ 0.280 seconds (Unit 2) ≤ 0.236 seconds (Unit 3)	C B
d. Main Steam Line Flow – High	1,2,3	2 per MSL	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.7	≤ 160.5 psid (Unit 2) ≤ 117.1 psid (Unit 3)	A C
e. Main Steam Line Tunnel Temperature – High	1,2,3	2 per trip string	D	SR 3.3.6.1.5 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ 200°F	B C
2. Primary Containment Isolation						
a. Reactor Vessel Water Level – Low	1,2,3	2	G	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.7	≥ ~~10.24~~ 2.65 inches	A C
b. Drywell Pressure – High	1,2,3	2	G	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.7	≤ 1.81 psig	A C
c. Drywell Radiation – High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ 77 R/hr	A C

(continued)

Table 3.3.6.1-1 (page 3 of 3)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	
5. Reactor Water Cleanup System Isolation						
a. SLC System Initiation	1,2	1	H	SR 3.3.6.1.7	NA	C
b. Reactor Vessel Water Level – Low	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.7	≥ ~~10.24~~ 2.65 inches	A C
6. Shutdown Cooling System Isolation						
a. Recirculation Line Water Temperature – High	1,2,3	2	F	SR 3.3.6.1.2 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ 346°F	A C
b. Reactor Vessel Water Level – Low	3,4,5	2(b)	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.7	≥ ~~10.24~~ 2.65 inches	A C

(b) In MODES 4 and 5, provided Shutdown Cooling System integrity is maintained, only one channel per trip system with an isolation signal available to one shutdown cooling pump suction isolation valve is required.

ATTACHMENT C

Request for License Amendment for Reactor Vessel Low Water Level Setpoint for Dresden Nuclear Power Station, Units 2 and 3

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 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.

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

The vessel water level – low scram and isolation functions are not involved in the initiation of accidents or transients. Therefore, reducing the allowable value for these functions does not affect the probability of than accident previously evaluated.

Reducing the allowable value for the vessel water level – low scram and isolation functions does not affect the consequences of the previously evaluated transients and accidents, since other reactor protection and engineered safeguards functions are designed to be the primary functions that initiate to mitigate these events. These functions include the ECCS initiation signals that occur on low-low water level and high drywell pressure and the containment isolation signals that occur on high steam line flow and low steam line pressure. Therefore the consequences of previously evaluated transients and accidents are not affected by the proposed changes.

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

The proposed change to reduce the allowable value for the vessel water level – low scram and isolation functions does not involve a plant equipment change or affect the purpose of the scram and isolation functions. Therefore the proposed change does not result in the possibility of a new or different kind of accident.

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

Reducing the allowable value for the vessel water level – low scram and isolation functions does not affect the consequences of the previously evaluated transients and accidents, since other reactor protection and engineered safeguards functions are designed to be the primary functions that initiate to mitigate these events. These functions include the ECCS initiation signals that occur on low-low water level and high drywell pressure and the containment isolation signals that occur on high steam line flow

and low steam line pressure. All of the results of these analyses remain within the required acceptance criteria. Therefore the margin of safety is not reduced for any event evaluated.

Therefore, the proposed change does not involve a significant hazards consideration.

ATTACHMENT D
Request for License Amendment for Reactor Vessel Low Water Level Setpoint for Dresden Nuclear Power Station, Units 2 and 3

INFORMATION SUPPORTING AN ENVIRONMENTAL ASSESSMENT

EGC 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 and identification of licensing and regulatory actions requiring environmental assessments." EGC has determined that this proposed change meets the criteria for 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 changes do not involve any significant hazards considerations.

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

The proposed change is limited to reducing the allowable value for the reactor vessel water level – low scram and isolation functions. The 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 changes will not result in changes in the operation or configuration of the facility. There will be no change in the level of controls or methodology used for processing radioactive effluents or handling of solid radioactive waste. The proposed changes 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.

ENCLOSURE 2

Request for License Amendment for Reactor Vessel Low Water Level Setpoint
for Quad Cities Nuclear Power Station, Units 1 and 2

ATTACHMENTS A - D

ATTACHMENT A
Request for License Amendment for Reactor Vessel Low Water Level Setpoint for
Quad Cities Nuclear Power Station, Units 1 and 2

DESCRIPTION AND SUMMARY 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) is requesting changes to various Technical Specifications (TS) for Quad Cities Nuclear Power Station (QCNPS), Units 1 and 2. The proposed changes lower the allowable value for the reactor vessel water level – low scram and isolation functions by eight inches.

QCNPS has submitted an extended power uprate (EPU) TS amendment request (Reference I.1) to increase the rated thermal power of the QCNPS units. The EPU TS amendment request includes the proposed changes described herein. EGC requests that these changes be approved separately from the proposed changes for EPU.

QCNPS has submitted a TS amendment request (Reference I.2) for conversion from the Current TS (CTS) to the Improved Technical Specifications (ITS). In anticipation of approval of that request, this request for amendment is based on the format of the ITS. In addition, the affected sections of the CTS are noted.

The proposed TS changes are similar to those approved for other power reactor licensees, as noted in Reference I.3.

B. DESCRIPTION OF THE CURRENT REQUIREMENTS

B.1. TS Section 3.3.1.1, "Reactor Protection System Instrumentation"

TS Table 3.3.1.1-1 Function 4

ITS Table 3.3.1.1-1, Function 4 identifies the allowable value for the Reactor Vessel Water Level – Low Function. The allowable value is ≥ 11.8 inches. A similar requirement is specified in CTS Table 2.2.A-1.

B.2 TS Section 3.3.6.1, "Primary Containment Isolation Instrumentation"

TS Table 3.3.6.1-1 Function 2.a

ITS Table 3.3.6.1-1 provides a listing of the required Primary Containment Isolation Instrumentation. Item 2.a describes the requirements and allowable values for the primary containment isolation function on Reactor Vessel Water Level – Low. The allowable value is ≥ 11.8 inches. A similar requirement is specified in CTS Table 3.2.A-1.

TS Table 3.3.6.1-1 Function 5.b

ITS Table 3.3.6.1-1 provides a listing of the required Primary Containment Isolation Instrumentation. Item 5.b describes the requirements and allowable values for the Reactor Water Cleanup (RWCU) System isolation function on

Reactor Vessel Water Level – Low. The allowable value is ≥ 11.8 inches. A similar requirement is specified in CTS Table 3.2.A-1.

TS Table 3.3.6.1-1 Function 6.b

ITS Table 3.3.6.1-1 provides a listing of the required Primary Containment Isolation Instrumentation. Item 6.b describes the requirements and allowable values for Reactor Vessel Water Level – Low function for shutdown cooling isolation system isolation. The allowable value is ≥ 11.8 inches. A similar requirement is specified in CTS Table 3.2.A-1.

C. BASES FOR THE CURRENT REQUIREMENTS

C.1. TS Section 3.3.1.1, "Reactor Protection System Instrumentation"

TS Table 3.3.1.1-1 Function 4

TS Table 3.3.1.1-1 Function 4 identifies the instrumentation requirements for the Reactor Vessel Water Level – Low Function including the allowable value. A low Reactor Pressure Vessel (RPV) water level indicates that the capability to cool the fuel may be threatened. Should the RPV water level decrease too far, fuel damage could result. Therefore, a reactor scram is initiated at a low water level to substantially reduce the heat generated in the fuel from fission. The Reactor Vessel Water Level – Low allowable value is also selected to ensure that during normal operation, the steam separator skirts are not uncovered to protect available recirculation pump net positive suction head (NPSH) from significant steam ingestion.

C.2. TS Section 3.3.6.1, "Primary Containment Isolation Instrumentation"

TS Table 3.3.6.1-1 Function 2.a

Primary containment isolation on Reactor Vessel Water Level – Low is provided to isolate the valves whose penetrations communicate with the primary containment to limit the release of fission products when low RPV water level indicates the potential to reduce the capability to maintain the fuel within thermal limits. The isolation of the primary containment on low RPV level supports actions to ensure that the offsite dose limits of 10 CFR 100 are not exceeded. This isolation function is implicitly assumed in the updated final safety analysis report (UFSAR) analysis as these leakage paths are assumed to be isolated after a Loss of Coolant Accident (LOCA). The allowable value associated with this function was chosen to be the same as the reactor protection system (RPS) Reactor Vessel Water Level – Low scram allowable value.

TS Table 3.3.6.1-1 Function 5.b

Low RPV water level indicates that the capability to cool the fuel may be threatened. Should RPV water level decrease too far, fuel damage could result. Therefore, isolation of some interfaces with the RPV occurs to isolate the potential

sources of a break. The isolation of the RWCU system on low RPV water level supports actions to ensure that the fuel peak cladding temperature remains below the limits of 10 CFR 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors." The RWCU isolation function is not directly assumed in the UFSAR safety analyses because the RWCU system line break is bounded by breaks of larger systems.

TS Table 3.3.6.1-1 Function 6.b

Low RPV water level indicates the potential to reduce the capability to maintain the fuel within thermal limits. Should RPV water level decrease too far, fuel damage could result. Therefore, isolation of some interfaces with the RPV occurs to isolate the potential sources of a break. The isolation of the RHR shutdown cooling system is not directly assumed in the UFSAR safety analyses because a break of the RHR Shutdown Cooling System is bounded by breaks of the recirculation and main steam lines.

D. NEED FOR REVISION OF THE REQUIREMENTS

D.1. TS Section 3.3.1.1, "Reactor Protection System Instrumentation"

TS Table 3.3.1.1-1 Function 4

The primary purpose of these proposed TS changes is to reduce the likelihood of unnecessary reactor scrams and the resultant engineered safeguards feature actuations by increasing the operating range between the normal reactor vessel water level and the trip function. The increased range will provide additional time for operators or automatic features to respond to recoverable transients and thus avert unnecessary reactor scrams.

Industry studies have identified low water level scrams as being initiators of a significant number of plant trips. The Boiling Water Reactor Owner's Group Scram Frequency Reduction Committee identified some of these scrams as unnecessary, since the reactor water level would have stabilized above the top of the active fuel and recovered to normal level without the scram.

D.8. TS Section 3.3.6.1, "Primary Containment Isolation Instrumentation"

TS Table 3.3.6.1-1 Function 2.a

This proposed change is associated with the allowable value of the Reactor Vessel Water Level – Low RPS scram function. To maintain the isolation function at the same level, the allowable value for TS Table 3.3.6.1-1 Function 2.a must also be revised.

TS Table 3.3.6.1-1 Function 5.b

This proposed change is associated with the allowable value of the Reactor Vessel Water Level – Low RPS scram function. This item lowers the allowable value of the Reactor Vessel Water Level – Low RPS scram function. To maintain the

isolation function at the same level, the allowable value for TS Table 3.3.6.1-1 Function 2.a must also be revised.

TS Table 3.3.6.1-1 Function 6.b

This proposed change is associated with the allowable value of the Reactor Vessel Water Level – Low RPS scram function. To maintain the isolation function at the same level, the allowable value for TS Table 3.3.6.1-1 Function 2.a must also be revised.

E. DESCRIPTION OF THE PROPOSED CHANGES

Unless otherwise stated, the affected TS sections are the same for Unit 1 and Unit 2.

E.1. TS Section 3.3.1.1, "Reactor Protection System Instrumentation"

TS Table 3.3.1.1-1 Function 4

The allowable value for the Reactor Vessel Water Level – Low function is reduced by 8.0 inches from ≥ 11.8 inches to ≥ 3.8 inches.

E.2. TS Section 3.3.6.1, "Primary Containment Isolation Instrumentation"

TS Table 3.3.6.1-1 Function 2.a

The allowable value for the Reactor Vessel Water Level – Low function is reduced by 8.0 inches from ≥ 11.8 inches to ≥ 3.8 inches.

TS Table 3.3.6.1-1 Function 5.b

The allowable value for the Reactor Vessel Water Level – Low function is reduced by 8.0 inches from ≥ 11.8 inches to ≥ 3.8 inches.

TS Table 3.3.6.1-1 Function 6.b

The allowable value for the Reactor Vessel Water Level – Low function is reduced by 8.0 inches from ≥ 11.8 inches to ≥ 3.8 inches.

F. SAFETY ANALYSIS OF THE PROPOSED CHANGES

F.1. TS Section 3.3.1.1, "Reactor Protection System Instrumentation"

TS Table 3.3.1.1-1 Function 4

The proposed change lowers the allowable value for the Reactor Vessel Water Level – Low Function by 8 inches. The allowable value for the low water level signal is specified so that during normal operation, the seal skirts of the separators and dryers are covered. This is a requirement for plant operation and does not affect the licensing or safety basis of the plant. The allowable value is also

specified so that the quantity of coolant following a low water level scram is sufficient for transients involving loss of all normal feedwater flow. Thus, the only transient affected by lowering the scram level setpoint is the Loss of Feedwater (LOFW) transient. This transient was evaluated to demonstrate that the setpoint change has no adverse effect on the reactor response. Since the LOFW is not a limiting event in terms of effect on the fuel thermal limits, the evaluation was performed primarily to demonstrate that there was no impact on the vessel inventory. In the LOFW event, the reactor water level decreases quickly causing a reactor scram on low water level. Following the scram, the reactor level continues to drop until it reaches the low-low level where the High Pressure Coolant Injection (HPCI) system and the Reactor Core Isolation Cooling (RCIC) system will initiate to maintain the reactor water level. In addition, the reactor vessel low-low water level signal actuates closure of the Main Steam Isolation Valves (MSIVs) to limit the amount of inventory leaving the vessel. Lowering the low water level scram setpoint by 8 inches would delay the reactor scram for this event by a few seconds. However, since the setpoint for initiating HPCI and RCIC at the low-low water level setpoint remains unchanged, there is no adverse impact on the ability of either of these systems to maintain vessel inventory, and there is no impact on thermal margins.

For accidents, postulated LOCAs inside the containment are the most limiting in terms of peak cladding temperature (PCT). This is because the postulated line break outside the containment is isolated before the reactor inventory loss out of the break can result in uncovering the core. Both large and small break LOCAs were reviewed to determine the impact of lowering the analytical limit of the low water level scram by 8 inches. It was concluded that ECCS initiation and containment isolation will not be impacted because the time of scram will not change, since for these breaks, the high drywell pressure signal will occur before the low water level scram signal. Therefore, lowering the scram water level will not change the time of scram for any breaks inside containment and thus will not have a significant impact on Emergency Core Cooling System (ECCS) initiation time or PCT.

The setpoint calculations for the proposed change were performed in accordance with the Exelon Nuclear Group Mid-West Regional Operating Group setpoint methodology procedure NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy."

F.2. TS Section 3.3.6.1, "Primary Containment Isolation Instrumentation"

TS Table 3.3.6.1-1 Function 2.a

This function is associated with the primary containment isolation on Reactor Vessel Water Level – Low. The purpose of containment isolation is to minimize the potential inventory loss across the containment boundary and to prevent offsite radiation doses from exceeding 10 CFR 100, "Reactor Site Criteria," limits during a postulated LOCA. For LOCAs inside primary containment, the high drywell pressure signal will be the first signal to initiate primary containment isolation. The radiological source term is a function of the power level and the resulting fission product noble gases and iodines in the core are conservatively assumed to be

immediately released following a LOCA. Thus, neither the amount of fission products released to the containment nor the time at which the containment isolates are dependent on the low water level containment isolation. For LOCAs outside containment, the main steam line break is the limiting event. This event is mitigated by the containment isolation that occurs on high steam flow or low steam line pressure. Therefore, this change does not affect the limiting event. However, small steam breaks outside containment that do not cause the isolation on high steam flow or low steamline pressure would rely on the low RPV water level isolation. Lowering of the low water level by 8 inches would not cause the mass release from the small steam break to become greater than the mass release from the large steamline break. Therefore, the delay of this isolation signal for a few seconds will not affect the ability of the containment isolation valves to perform their intended functions.

TS Table 3.3.6.1-1 Function 5.b

This function is associated with the isolation of the RWCU system on Reactor Vessel Water Level – Low. The RWCU isolation is not directly assumed in the UFSAR safety analyses because the RWCU system line break is bounded by breaks of larger systems. Therefore, the delay of this isolation signal for a few seconds will not affect the ability of the containment isolation valves to perform their intended functions.

TS Table 3.3.6.1-1 Function 6.b

This function is associated with the isolation of the shutdown cooling system and is only required to be operable in operational modes 3, 4 and 5. Should RPV water level decrease too far, fuel damage could result. Therefore, isolation of some reactor vessel interfaces occurs to isolate the potential sources of a break. This function is not directly assumed in the safety analyses because a break in the shutdown cooling system is bounded by a break in the recirculation and main steam lines.

G. IMPACT ON PREVIOUS SUBMITTALS

All submittals currently under review by the NRC were evaluated to determine the impact of this submittal. By letter dated December 27, 2000, QCNPS has submitted an extended power uprate (EPU) TS amendment request (Reference I.1) to increase the rated thermal power of the QCNPS units. The EPU TS amendment request includes the same proposed changes described herein. EGC requests that these changes be approved separately from the proposed changes for EPU.

By letter dated March 3, 2000, QCNPS has submitted a TS Amendment request for conversion to the ITS (Reference I.5). In anticipation of approval, this request for amendment is based on the format of the ITS.

No other submittals currently under review by the NRC are affected by the information presented in this license amendment request.

H. SCHEDULE REQUIREMENTS

EGC is seeking to implement the requested change prior to power uprate approval as part of efforts to improve our summer reliability.

I. REFERENCES

1. Letter from R.M. Krich (ComEd) to U.S. NRC, "Request for License Amendment for Power Uprate Operation," dated December 27, 2000

2. Letter from R. M. Krich (ComEd) to U.S. NRC, "Request for Technical Specifications Changes for Dresden Nuclear Power Station, Units 2 and 3, LaSalle County Station, Units 1 and 2, and Quad Cities Nuclear Power Station, Units 1 and 2, to Implement Improved Standard Technical Specifications," dated March 3, 2000

3. Letter from U.S. NRC to A.J. Scalice, "Browns Ferry Nuclear Plant, Units 2 and 3 – Issuance of Amendments Regarding Allowable Value for Reactor Vessel Water Level," dated August 16, 1999

ATTACHMENT B

Request for License Amendment for Reactor Vessel Low Water Level Setpoint for Quad Cities Nuclear Power Station, Units 1 and 2

MARKED-UP TS PAGES FOR PROPOSED CHANGES

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

REVISED PAGES

3.3.1.1-8
3.3.6.1-5
3.3.6.1-7

Table 3.3.1.1-1 (page 2 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	
2. Average Power Range Monitors (continued)						A, D
c. Fixed Neutron Flux – High	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.5 SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.14 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 120% RTP	
d. Inop	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.17	NA	
3. Reactor Vessel Steam Dome Pressure – High	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.11 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 1050 psig	A
4. Reactor Vessel Water Level – Low	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.11 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ ~~11~~ 3.8 inches	A
5. Main Steam Isolation Valve – Closure	1	8	F	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 9.8% closed	B
6. Drywell Pressure – High	1,2	2	G	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	≤ 2.43 psig	A

(continued)

Table 3.3.6.1-1 (page 1 of 3)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	
1. Main Steam Line Isolation						
a. Reactor Vessel Water Level – Low Low	1,2,3	2	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.7	≥ -55.2 inches	A C
b. Main Steam Line Pressure – Low	1	2	E	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.7	≥ 831 psig	A C
c. Main Steam Line Pressure – Timer	1	2	E	SR 3.3.6.1.2 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ 0.331 seconds	B C
d. Main Steam Line Flow – High	1,2,3	2 per MSL	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ 138% rated steam flow	A C
e. Main Steam Line Tunnel Temperature – High	1,2,3	2 per trip string	D	SR 3.3.6.1.5 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ 198°F	A C
2. Primary Containment Isolation					3.8	
a. Reactor Vessel Water Level – Low	1,2,3	2	G	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.7	≥ 11.8 inches	A C
b. Drywell Pressure – High	1,2,3	2	G	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.7	≤ 2.43 psig	A C
c. Drywell Radiation – High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ 70 R/hr	A C

(continued)

Table 3.3.6.1-1 (page 3 of 3)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	
5. Reactor Water Cleanup System Isolation						
a. SLC System Initiation	1,2	1	H	SR 3.3.6.1.7	NA 3.8	C
b. Reactor Vessel Water Level – Low	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.7	≥ 11.8 inches	A C
6. RHR Shutdown Cooling System Isolation						
a. Reactor Vessel Pressure – High	1,2,3	2	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.7	≤ 130 psig	A C
b. Reactor Vessel Water Level – Low	3,4,5	2(b)	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.7	≥ 11.8 inches 3.8	A C

(b) In MODES 4 and 5, provided RHR Shutdown Cooling System integrity is maintained, only one channel per trip system with an isolation signal available to one shutdown cooling pump suction isolation valve is required.

ATTACHMENT C
Request for License Amendment for Reactor Vessel Low Water Level Setpoint for 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 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.

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

The vessel water level – low scram and isolation functions are not involved in the initiation of accidents or transients. Therefore, reducing the allowable value for these functions does not affect the probability of than accident previously evaluated.

Reducing the allowable value for the vessel water level – low scram and isolation functions does not affect the consequences of the previously evaluated transients and accidents, since other reactor protection and engineered safeguards functions are designed to be the primary functions that initiate to mitigate these events. These functions include the ECCS initiation signals that occur on low-low water level and high drywell pressure and the containment isolation signals that occur on high steam line flow and low steam line pressure. Therefore the consequences of previously evaluated transients and accidents are not affected by the proposed changes.

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

The proposed change to reduce the allowable value for the vessel water level – low scram and isolation functions does not involve a plant equipment change or affect the purpose of the scram and isolation functions. Therefore the proposed change does not result in the possibility of a new or different kind of accident.

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

Reducing the allowable value for the vessel water level – low scram and isolation functions does not affect the consequences of the previously evaluated transients and accidents, since other reactor protection and engineered safeguards functions are designed to be the primary functions that initiate to mitigate these events. These functions include the ECCS initiation signals that occur on low-low water level and high drywell pressure and the containment isolation signals that occur on high steam line flow

and low steam line pressure. All of the results of these analyses remain within the required acceptance criteria. Therefore the margin of safety is not reduced for any event evaluated.

Therefore, the proposed change does not involve a significant hazards consideration.

ATTACHMENT D
Request for License Amendment for Reactor Vessel Low Water Level Setpoint for Quad Cities Nuclear Power Station, Units 1 and 2

INFORMATION SUPPORTING AN ENVIRONMENTAL ASSESSMENT

EGC 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 and identification of licensing and regulatory actions requiring environmental assessments." EGC has determined that this proposed change meets the criteria for 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 changes do not involve any significant hazards considerations.

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

The proposed change is limited to reducing the allowable value for the reactor vessel water level – low scram and isolation functions. The 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 changes will not result in changes in the operation or configuration of the facility. There will be no change in the level of controls or methodology used for processing radioactive effluents or handling of solid radioactive waste. The proposed changes 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.