



**Commonwealth Edison**

Quad Cities Nuclear Power Station  
22710 206 Avenue North  
Cordova, Illinois 61242-9740  
Telephone 309/654-2241

DGD

RLB-91-14

January 14, 1991

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

Reference: Quad Cities Nuclear Power Station  
Docket Number 50-265, DPR-30, Unit Two

Enclosed is Licensee Event Report (LER) 90-013, Revision 00, for Quad Cities Nuclear Power Station.

This report is submitted in accordance with the requirements of the Code of Federal Regulations, Title 10, Part 50.73(a)(2)(1)(B): The licensee shall report any operation or condition prohibited by the plant's Technical Specifications.

Respectfully,

COMMONWEALTH EDISON COMPANY  
QUAD CITIES NUCLEAR POWER STATION

*R. L. Bax*  
R. L. Bax  
Station Manager

RLB/MJB/kas

Enclosure

cc: R. Stols  
T. Taylor  
INPO Records Center  
NRC Region III

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Quad Cities Unit Two Title (4)  
 Docket Number (2) 0 | 5 | 0 | 0 | 0 | 2 | 6 | 5 | 1 | of | 0 | 4  
 Page (3)

Torus Level Below Technical Specification Limit Due to Procedure Deficiency

Event Date (5)			LER Number (6)			Report Date (7)			Other Facilities Involved (8)	
Month	Day	Year	Year	Sequential Number	Revision Number	Month	Day	Year	Facility Names	Docket Number(s)
11	2	1990	1990	0113	00	01	14	1991		0   5   0   0   0   1

OPERATING MODE (9) 4

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)

POWER LEVEL (10) 0   9   8	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(1v)	<input type="checkbox"/> 73.71(b)
	<input type="checkbox"/> 20.405(a)(1)(1)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
	<input type="checkbox"/> 20.405(a)(1)(11)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 73(a)(2)(v11)	<input type="checkbox"/> Other (specify in Abstract below and in Text)
	<input type="checkbox"/> 20.405(a)(1)(111)	<input checked="" type="checkbox"/> 50.73(a)(2)(1)	<input type="checkbox"/> 73(a)(2)(v111)(A)	
	<input type="checkbox"/> 20.405(a)(1)(1v)	<input type="checkbox"/> 50.73(a)(2)(11)	<input type="checkbox"/> 50.73(a)(2)(v111)(B)	
	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(111)	<input type="checkbox"/> 50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

Name: M. Brown, Regulatory Assurance Ext. 3102  
 TELEPHONE NUMBER: AREA CODE 5 | 0 | 9 | 6 | 5 | 4 | - | 2 | 2 | 4 | 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS

SUPPLEMENTAL REPORT EXPECTED (14)

Expected Submission Date (15) \_\_\_\_\_

[Yes (If yes, complete EXPECTED SUBMISSION DATE)] X | NO

ABSTRACT (Limit to 1400 spaces, i.e. approximately fifteen single-space typewritten lines) (16)

ABSTRACT:

On December 14, 1990, at 2015 hours, Unit Two was in the RUN mode at 98 percent of rated core thermal power. At this time, the Shift Engineer (SE) noticed that suppression pool (torus) level was low. Procedure JQS 2300-1, HPCI Monthly And Quarterly Test, was in progress and required the suppression pool level be reduced as a prerequisite. After referring to the graph of suppression pool level versus drywell to suppression chamber differential pressure graph, it was discovered that level was below the Technical Specification required level. A level increase was immediately initiated and at 2045 hours was within the acceptable limits. Due to the suppression pool low level, Technical Specification 3.0 was entered.

The cause of this event was determined to be due to a procedure deficiency. The procedure stated to maintain suppression pool level within Technical Specification limits; however, it did not refer the operator to the graph that was to be utilized to ensure compliance with the requirement. A contributing cause was personnel error. The Nuclear Station Operator (NSO), was aware of the Technical Specification limit, however, he did not consider the effect that the differential pressure would have on level.

Corrective actions will include training, and procedures enhancement.

This report is being submitted in accordance with 10 CFR 50.73(a)(2)(1)(B).



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Quad Cities Unit Two	0   5   0   0   0   2   6   5	9   0	-   0   1   3	-	0   0	0   3	OF	0   4			
TEXT Energy Industry Identification System (EII5) codes are identified in the text as [XX]											

At 2015 hours, the SE entered the control room [NA] and noticed torus level was lower than expected. QAP 300-T6, Suppression Chamber Level Operating Range, was consulted and it was concluded that level was outside of Tech. Specs. The station entered a limiting condition for operation (LCO) under Tech. Spec. 3.0.A. which requires at least HOT SHUTDOWN within 12 hours and be in COLD SHUTDOWN within the following 24 hours unless corrective measures are completed. A torus level increase was immediately commenced. At 2045 hours, level was within the acceptable limit and Tech. Spec. 3.0.A. was exited.

#### C. APPARENT CAUSE OF EVENT:

This event is being reported in accordance with 10 CFR 50.73(a)(2)(1)(B), which requires that the licensee report any operation or condition prohibited by the plant's Technical Specifications.

The cause of this event was determined to be the result of a procedure deficiency. QOP 1000-18 did not specify that the QAP 300-T6 graph should be utilized to ensure compliance with the torus Tech. Spec. level limit when a differential pressure is established between the torus and drywell [NH].

A contributing cause was personnel error. The NSO recalled that during operation with no differential pressure established he had seen level at approximately -1". He knew that about 1" of water would be added to the torus level during the HPCI operability surveillance and, therefore, determined that a -1" level was appropriate. He did not consider the effect that a differential pressure would have on level.

#### D. SAFETY ANALYSIS OF EVENT:

Tech. Spec. 3.7.A.1.b. requires a minimum water volume of 112,200 cubic feet. This requirement ensures that during a loss-of-coolant accident (LOCA) the torus has the capability to absorb the associated decay and structural sensible heat released during a LOCA.

In this event, the torus volume was only below the minimum for approximately 21 minutes but was still sufficient to have provided the required heat sink. This determination was based on utilizing torus temperature (approximately 77°F), reactor pressure (1005 psig), and torus level (approximately 13.8 feet) at the time of the event. Based on the emergency operating procedures (QGAs) heat capacity level limit (HCLL) curve, the torus would have had sufficient heat capacity to accept a full reactor blowdown without reaching a point of incomplete steam condensation.

#### E. CORRECTIVE ACTIONS:

Immediate corrective action was to restore the torus level to within Tech. Spec. limits. The SE counselled the NSO on this event. The personnel involved in this event completed and presented a Personnel Error Evaluation Presentation (PEEP) to station management on January 8, 1991.

Procedure QOP 1000-18 is being revised as QCOP 1000-18, Torus Water Transfer to the Floor Drain Collection Tank. The limitation and action section was revised to include that torus level be maintained within the limits specified in QAP 300-T6. This procedure will be tracked until approval. (NTS 2652009007401)



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TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]

Procedure graph QAP 300-T6, will be reviewed and enhanced so that it is easier to read. (NTS 2652009007402)

A review of QOS 2300-1 was performed. It was determined that the prerequisites for reducing torus level need to be enhanced to better explain the operating band required to perform the HPCI operability test. QOS 2300-1 and 5, Monthly and Quarterly HPCI Operability Tests, are the new procedures being written. They will be revised to include this enhancement. (NTS 2652009007403)

The RCIC procedures and other station procedures will be reviewed and, if necessary, revised in light of this event. (NTS 2652009007405)

This event and QAP 300-T6 will be included in the operator initial license and license requalification training programs. (NTS 2652009007406)

Although not a contributing cause to this event, it was determined that the instrumentation involved with this event need to be reviewed for human factors concerns for both units. (NTS 2652009007407)

The Tech. Specs. associated with this event were reviewed and found to be ambiguous. The station is presently in a Tech. Spec. improvement program which will review and clarify these Tech. Specs.

F. PREVIOUS EVENTS:

There were no previous events found where the torus level was below Tech. Spec. limits.

G. COMPONENT FAILURE DATA:

There was no component failure associated with this event.