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Quad Cities Nuclear Power Station
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RLB-90-102

April 11, 1990

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

Reference: Quad Cities Nuclear Power Station
Docket Number 50-254, DPR-29, Unit One

Enclosed is Licensee Event Report (LER) 90-006, 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)(iii): The licensee shall report any natural phenomenon or other external condition that posed an actual threat to the safety of the nuclear power plant or significantly hampered site personnel in the performance of duties necessary for the safe operation of the nuclear power plant.

Respectfully,

COMMONWEALTH EDISON COMPANY
QUAD CITIES NUCLEAR POWER STATION

R. L. Bax
Station Manager

RLB/MJB/djb

Enclosure

cc: R. Stols
R. Higgins
INPO Records Center
NRC Region III

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Quad Cities Unit One										Docket Number (2) 0 5 0 0 0 2 5 4					Page (3) 1 of 0 4		
Title (4) Tornado Touched Down On Site																	
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)				
0 3	1 3	9 0	9 0	0 0 6	0 0	0 4	1 1	9 0	Quad Cities 2				0 5 0 0 0 2 6 5				
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)														
POWER LEVEL (10)			<div style="display: flex; justify-content: space-between;"> <div> 20.402(b) 20.405(a)(1)(i) 20.405(a)(1)(ii) 20.405(a)(1)(iii) 20.405(a)(1)(iv) 20.405(a)(1)(v) </div> <div> 20.405(c) 50.36(c)(1) 50.36(c)(2) 50.73(a)(2)(i) 50.73(a)(2)(ii) 50.73(a)(2)(iii) </div> <div> 50.73(a)(2)(iv) 50.73(a)(2)(v) 50.73(a)(2)(vii) 50.73(a)(2)(viii)(A) 50.73(a)(2)(viii)(B) 50.73(a)(2)(x) </div> <div> 73.71(b) 73.71(c) Other (Specify in Abstract below and in Text) </div> </div>														
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LICENSEE CONTACT FOR THIS LER (12)																	
Name										TELEPHONE NUMBER							
M. Brown, Regulatory Assurance, Ext. 3102										AREA CODE 3 0 9 6 5 4 - 2 2 4 1							
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																	
CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS							
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 March 13, 1990, Unit 1 was operating in the RUN mode at 50 percent rated core thermal power and Unit 2 was SHUTDOWN. At 1625 hours, a tornado warning for Rock Island County was received on the weather radio. The station entered procedure QOA 010-10, TORNADO WARNING/SEVERE WINDS. At 1710 hours, a tornado touched down on-site. At 1711 hours, an Emergency Notification System (ENS) phone notification was completed in accordance with 10CFR50.72(b)(1)(iii). By 1713 hours, the tornado had passed through. Unit One operation was not affected. Some site external damage was sustained, and appropriate repairs have been completed. One person sustained minor injuries.

Corrective action will include evaluating notification of site personnel.

This report is being submitted in accordance with 10CFR50.73(a)(2)(iii).

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

PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2511 Mwt rated core thermal power.

EVENT IDENTIFICATION: Tornado Touched Down On Site.

A. CONDITIONS PRIOR TO EVENT:

Unit: One	Event Date: March 13, 1990	Event Time: 1704
Reactor Mode: 4	Mode Name: RUN	Power Level: 50%

This report was initiated by Deviation Report D-4-1-90-024

RUN Mode (4) - In this position the reactor system pressure is at or above 825 psig, and the reactor protection system is energized, with APRM protection and RBM interlocks in service (excluding the 15% high flux scram).

B. DESCRIPTION OF EVENT:

On March 13, 1990, Unit 1 was operating in the RUN mode at 50 percent of rated core thermal power and Unit 2 was Shutdown. At 1625 hours, a tornado warning for Rock Island County was received on the weather radio.

The station entered procedure QOA 010-10, TORNADO WARNING/SEVERE WINDS. Appropriate actions were taken which included operations and security notifying site personnel of the situation and to move to a safe location. At approximately 1704 hours, a tornado was sighted south of the plant. A load drop to less than 45 percent of rated core thermal power was initiated. At 1708 hours, a General Station Emergency Procedure (GSEP) Unusual Event was declared in accordance with QEP 200-1, Classification of GSEP Condition, and a Nuclear Accident Reporting System (NARS) phone notification was completed. At 1710 hours, a tornado touched down on-site. An Emergency Notification System (ENS) phone notification was completed at 1711 hours in accordance with 10 CFR 50.72(b)(1)(iii). By 1713 hours, the tornado had passed through the site.

The tornado struck a portion of the station's security fence [IA] at the south end of the protected area and proceeded west around the Turbine Building [NM]. At the north end of the protected area, it also damaged some of the security fence and alarm fields, lighting, trailers, and part of the Turbine Building and Radwaste [NE] ventilation system [VH]. One person sustained minor injuries.

The security damages sustained to the fence were discovered at 1713 hours and compensatory measures were implemented immediately. No breach of security occurred. After investigation, there was no apparent damage to the lighting and only one camera had been blown out of position, and was able to be readjusted.

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Surveys of the site for damage were initiated. A portion of the Radwaste Cement Silo Room roof had been blown onto a section of the Radwaste Max. Recycle Ventilation ducting and opened it to the atmosphere. The ducting was temporarily repaired. Also, the personnel access door of the Turbine Building Ventilation ducting had been blown open. The access door was closed and repaired. Samples and smears outside of both areas and around the plant showed no measurable activity had been released.

Only one personnel injury occurred. An ambulance was summoned and the person taken to a medical facility. Injuries involved abrasions, contusions, torn neck ligaments, and a twisted ankle. Just prior to the tornado's arrival, the station had attempted to contact all station personnel by utilizing the site paging system. To further ensure that site personnel were informed, Security Department personnel were dispatched within the protected area to warn personnel with bull horns. The person that was injured said he heard the site page and the bull horns, but could understand neither.

The site survey also revealed some damage or losses to the outside fire protection system. A fire hose cabinet (north of Lift Station), and two portable hose carts (south of Hydrogen Tank Farm) were found to need repair/replacing. Back-up fire protection was established.

At 1730 hours, the unit was holding load at 37 percent of rated core thermal power. At approximately 1736 hours, an ENS and NARS phone update was completed and the GSEP condition was changed to a tornado strike. The Operations Support Center (OSC) was activated and the Technical Support Center (TSC) was manned. Command and control was transferred to the TSC at approximately 1808 hours.

At 1843 hours, an assembly for personnel accountability was sounded and by 1905 hours, everyone was accounted for. Another set of operator rounds was completed to verify no effect on Unit One. The GSEP was terminated at 2236 hours.

There were no other structures, components or systems inoperable or degraded at the start of this event that could have contributed to the event.

C. APPARENT CAUSE OF EVENT:

This report is being submitted to comply with 10 CFR 50.73(a)(2)(iii): The licensee shall report any natural phenomenon or other external condition that posed an actual threat to the safety of the nuclear power plant or significantly hampered site personnel in the performance of duties necessary for the safe operation of the nuclear power plant.

The cause of this event is a tornado touching down on site with the potential for impacting plant safety equipment.

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D. SAFETY ANALYSIS OF EVENT:

The safety consequences of this event were minimal. Personnel were warned by Operations and Security ahead of time to find a safe location. There was only one personnel injury involved.

In addition to the regular operators rounds, Operations completed another set of rounds readings for Unit One after the tornado passed and verified no effect on the plant.

Due to the damage to the turbine building and radwaste ventilation ducting and the possibility for an unmonitored radiation release path, samples and smears around the damaged areas and the plant were completed. These showed no measurable activity had been released.

Security compensatory measures were established immediately and no breach of security occurred.

E. CORRECTIVE ACTIONS:

The immediate corrective action was to warn site personnel and have them move to a safe location.

After the tornado left, operations completed another set of operator rounds readings which verified that there was no effect on the plant. Backup fire protection was established for the fire equipment that had been lost or damaged outside by the lift station and hydrogen system tanks.

Security immediately set compensatory measures into effect. All security items that required compensatory measures have been repaired.

The damaged ventilation ducting was permanently repaired on March 23, 1990.

The injured person received proper medical treatment.

An evaluation of how site personnel are notified, especially in remote areas of the site, will be completed (NTS 2542009002401).

F. PREVIOUS EVENTS:

This is the first known event where a tornado touched down inside the protected area of an operational nuclear power plant.

No further corrective actions are deemed necessary.

G. COMPONENT FAILURE DATA:

This event was not the result of a component failure.