



**Commonwealth Edison**

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RLB-90-005

January 15, 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) 89-025, 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 20.405(a)(1)(iv), which requires the licensee to make a report in writing within 30 days of the occurrence of any incident for which notification is required by 10CFR20.403.

Respectfully,

COMMONWEALTH EDISON COMPANY  
QUAD CITIES NUCLEAR POWER STATION

  
R. L. Bax  
Station Manager

RLB/MJB/eb

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) <b>Quad Cities Unit One</b>						Docket Number (2) <b>0   5   0   0   0   2   5   4</b>			Page (3) <b>1   of   0   5</b>														
Title (4) <b>Potential Damage to New Fuel Bundle LYU 325 From Impact of Rx Bldg Crane Aux Hook When Hoist Inadvertently Lowered Due to Personnel Error.</b>																							
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	22	08	89	025	00	01	15	90		0   5   0   0   0													
OPERATING MODE (9) <b>4</b>			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)																				
POWER LEVEL (10) <b>0   8   9</b>			<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(a)(1)(1)	<input type="checkbox"/> 20.405(a)(1)(11)	<input type="checkbox"/> 20.405(a)(1)(111)	<input checked="" type="checkbox"/> 20.405(a)(1)(1v)	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(1)	<input type="checkbox"/> 50.73(a)(2)(11)	<input type="checkbox"/> 50.73(a)(2)(111)	<input type="checkbox"/> 50.73(a)(2)(1v)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(v11)	<input type="checkbox"/> 50.73(a)(2)(v111)(A)	<input type="checkbox"/> 50.73(a)(2)(v111)(B)	<input type="checkbox"/> 50.73(a)(2)(x)	<input type="checkbox"/> 73.71(b)	<input type="checkbox"/> 73.71(c)	<input type="checkbox"/> Other (Specify in Abstract below and in Text)
LICENSEE CONTACT FOR THIS LER (12)																							
Name <b>John Lechmaier, Technical Staff Engineer, Extension 2174</b>						TELEPHONE NUMBER AREA CODE <b>3   0   9   6   5   4   -   2   2   4   1</b>																	
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)	Month	Day	Year											
Yes (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO <input type="checkbox"/>																							
ABSTRACT (Limit to 1400 spaces, i.e. approximately fifteen single-space typewritten lines) (16)																							

ABSTRACT:

At 1230 hours, on December 20, 1989, Unit One was in the RUN mode at 89 percent of rated core thermal power.

A determination was made at this time that new fuel bundle LYU325 may have been damaged in excess of \$2,000.00. The Reactor Building Overhead Crane Auxiliary Hoist hook had contacted the side of the bundle during fuel receiving activities on December 14, 1989.

The cause of this event was personnel error involving an inadvertent action due to inattention. The fuel handler operating the overhead crane lowered the hoist without a signal man and inadvertently continued to lower the hoist until the hook had contacted the fuel bundle.

Corrective action included temporarily removing the fuel handler from operating the crane. The fuel bundle will be shipped back to General Electric for inspection and replacement of any possibly damaged parts.

This report is submitted to comply with the requirements of 10CFR20.405(a)(1)(iv).

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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: Potential Damage to New Fuel Bundle LYU325 From Impact of Rx. Bldg. Crane Aux. Hook When Hoist Inadvertently Lowered Due to Personnel Error.

A. CONDITIONS PRIOR TO EVENT:

Unit: One                                      Event Date: December 20, 1989      Event Time: 1230  
 Reactor Mode: 4                                Mode Name: RUN                              Power Level: 89%

This report was initiated by Deviation Report D-4-01-89-124.

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:

At 0945 hours, on December 14, 1989, Unit One was in the RUN mode at 91 percent of rated core thermal power. Operations were in progress to place the new Unit Two reload fuel into the new fuel storage vault (NFSV)[RK]. The metal shipping containers (MSC's) were laid out side by side on the refuel floor in a row east to west. These MSC's were in the horizontal position with their lids and end caps removed. The fuel handlers (FH's) on the floor were installing the retention bars on the MSC's and completing preparations for loading the MSC's into the new fuel transfer basket (NFTB)[BSKT]. As this work was proceeding, another FH operating the Reactor Building Overhead Crane [CRN] positioned the crane over the area of the MSC's. He then lowered the 9-ton hoist [HOI] hook to aid in aligning the hoist over a MSC. This was done without the awareness of the FH's on the floor who were installing retention bars on the MSC's. The crane operator continued to lower the hoist until the hook contacted and then partially laid over onto a new fuel bundle (LYU325). A FH on the floor noticed this and directed the crane operator to take the hook off the bundle. The crane operator raised the hoist to remove the hook from the top of the fuel bundle. The fuel handling foreman (FHF) then arrived on the floor and was informed of what had happened. The FHF notified a Qualified Nuclear Engineer (QNE) who went to the refuel floor and examined the fuel bundle. The QNE found a few scratches on two rods [ROD] in the area where the hook had contacted the fuel bundle. However, the scratches were only approximately one mil in depth, and no denting, bowing, or other type of damage could be seen. The QNE indicated that the fuel bundle could be put into the NFSV. A different FH was assigned to operate the overhead crane. The fuel bundle was put into the NFTB and then transferred into the NFSV. The QNE left the refuel floor and informed an Operating Engineer (OE) of the situation. The OE ordered the job stopped at 1050 hours, so the event could be evaluated. The job was later permitted to resume at 1410 hours.

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From the initial visual inspection, fuel bundle LYU325 appeared to be undamaged, therefore, no notifications were made at this time. Discussions were held with General Electric and CECO Nuclear Fuel Services (NFS) Department to determine if any damage may have occurred to the fuel bundle which could not be visually detected without taking it apart. General Electric was given all information pertinent to how the hook contacted the fuel bundle; hook weight, cable [cb] weight, hoist speed, location of contact, etc.

After further consideration, General Electric determined that the fuel bundle would require disassembly to determine any damage. The decision was then made that the fuel bundle would be shipped back to General Electric for inspection and replacement of any possibly damaged parts.

Since the potential for damage in excess of \$2,000.00 existed, the incident was determined to be reportable. This determination was made at 1230 hours, on December 20, 1989. Unit One was in the run mode at 89 percent of rated core thermal power. At 1035 hours, on December 21, 1989, a 24-hour Emergency Notification System (ENS) phone notification was made to the NRC per 10CFR20.403 - greater than \$2,000.00 damage to licensed material. A 24-hour notification to Illinois Department of Nuclear Safety (IDNS) was made on December 21, 1989. IDNS indicated a follow-up telegram would not be necessary.

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

C. APPARENT CAUSE OF EVENT:

This event is being reported in accordance with 10CFR20.405(a)(1)(iv), which requires the licensee to make a report in writing within 30 days of the occurrence of any incident for which notification is required by 10CFR20.403.

The cause of this event was personnel error involving an inadvertent action due to inattention. The FH operating the overhead crane lowered the hoist and inadvertently continued to lower the hoist until the hook had contacted the fuel bundle. The FH's on the floor were installing retention bars to the MSC's and did not see the hook being lowered. Standard practice has the crane operator lower the hook down to just above the level of the head of a standing man. The hook is then lowered to the required height under the direction of a signalman. QAP 500-10, Heavy Load Handling Personnel Job Duties, specifies that a signalman shall give hand signal directions to the crane operator for the safe pick-up, movement and set down of the load. However, no restrictions are specified for the movement of the 9-ton hook when it is unloaded. At no time was there any intent to lift or move any loads.

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D. SAFETY ANALYSIS OF EVENT:

The safety consequences of this event are minimal. The fuel bundle contacted by the lowered hook was new and, therefore, had not been irradiated. Therefore, there was no potential for release of radioactivity due to the fuel bundle being damaged by the hook. The fuel bundle is being shipped back to General Electric for inspection and replacement of any possibly damaged parts. Of potential concern is whether this event could happen with irradiated fuel. The irradiated fuel is stored in the fuel pool storage racks [RK] and the movement of this fuel is performed with the refuel bridge [DF][FMB] and not the overhead crane. For loads over 750 lbs., use of the overhead crane is permitted only in the Restricted Mode, which prevents operation over the irradiated fuel in the fuel racks. Loads of 750 lbs. or less do not require operating in the Restricted Mode and, therefore, the potential exists that a hoist from the overhead crane could be lowered onto irradiated fuel in the fuel racks. However, this weight is within the designed limits for the racks, therefore, the subcriticality of the fuel arrays would not be modified and the structural integrity of the fuel racks would be maintained in the event that a hook was lowered onto the fuel. In addition, any irradiated fuel rod damage would be bounded by the refueling accident as described in the FSAR.

E. CORRECTIVE ACTIONS:

The immediate corrective action taken was to visually examine the fuel bundle for possible damage. Only minor scratches were found during the initial examination. A different FH was assigned to operate the overhead crane. The OE had the job halted to evaluate the event. The job was later permitted to continue; however, the FH at error was not allowed to move fuel at this time.

Training was given to FH personnel on proper crane operation and on this event.

A discussion between the Department Head and the FH that caused this event was completed. The importance of job awareness was stressed. The FH was then permitted to operate the crane.

The fuel bundle will be shipped back to General Electric for inspection and replacement of any possibly damaged parts. If necessary, a new fuel bundle will be provided by General Electric for use during the upcoming cycle. The procedures involving crane operation, heavy load movement and lifting and rigging were reviewed and found adequate.

F. PREVIOUS EVENTS:

A review of past Licensee Event Reports (LER's) and Deviation Reports (DVR's) revealed two related documented events in the last five years:

DVR 4-1-87-081 Damaged Spacer on Fuel Bundle Due to Faulty Rack Location  
 LER 254/89-16 New Fuel Assembly Dropped in Fuel Pool When Refuel Grapple Released Due to Personnel Error and Lack of Procedural Guidance

Based upon the corrective actions taken, no further corrective actions are deemed necessary at this time.

LICENSING EVENT REPORT (LER) TEXT CONTINUATION

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G. COMPONENT FAILURE DATA:

There was no component failure identified in this event.