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January 11, 2002

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Operating License DPR-58
Docket No. 50-315

Document Control Manager:

In accordance with the criteria established by 10 CFR 50.73 entitled Licensee Event Report System, the following report is being submitted:

LER 315/2001-005-01: "RCCA Tool Over Spent Fuel Pool Racks Technical Specification Violation"

No commitments are identified in this submittal.

Should you have any questions regarding this correspondence, please contact Mr. Gordon P. Arent, Manager, Regulatory Affairs, at 616/697-5020.

Sincerely,

for
Joseph E. Pollock
Plant Manager

JM/pae

IE22

Attachment

c: J. E. Dyer, Region III
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NRC Form 366 (7-2001) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 7-31-2004

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

# LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

| 1. FACILITY NAME | 2. DOCKET NUMBER | 3. PAGE |
|---|---|---|
| Donald C. Cook Nuclear Plant Unit 1 | 05000-315 | 1 of 3 |

**4. TITLE**

RCCA Tool Over Spent Fuel Pool Racks Technical Specification Violation

| 5. EVENT DATE | | | 6. LER NUMBER | | | | 7. REPORT DATE | | | 8. OTHER FACILITIES INVOLVED | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MONTH | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | | REVISION NUMBER | MONTH | DAY | YEAR | FACILITY NAME | DOCKET NUMBER |
| 11 | 19 | 2001 | 2001 | -- | 005 | -- 00 | 01 | 11 | 2002 | Cook Unit 2 | 05000-316 |
| | | | | | | | | | | FACILITY NAME | DOCKET NUMBER |

| 9. OPERATING MODE | 1 |
|---|---|
| 10. POWER LEVEL | 100 |

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)

| | | | |
|---|---|---|---|
| 20.2201(b) | 20.2203(a)(3)(ii) | 50.73(a)(2)(ii)(B) | 50.73(a)(2)(ix)(A) |
| 20.2201(d) | 20.2203(a)(4) | 50.73(a)(2)(iii) | 50.73(a)(2)(x) |
| 20.2203(a)(1) | 50.36(c)(1)(i)(A) | 50.73(a)(2)(iv)(A) | 73.71(a)(4) |
| 20.2203(a)(2)(i) | 50.36(c)(1)(ii)(A) | 50.73(a)(2)(v)(A) | 73.71(a)(5) |
| 20.2203(a)(2)(ii) | 50.36(c)(2) | 50.73(a)(2)(v)(B) | OTHER Specify in Abstract below or in NRC Form 366A |
| 20.2203(a)(2)(iii) | 50.46(a)(3)(ii) | 50.73(a)(2)(v)(C) | |
| 20.2203(a)(2)(iv) | 50.73(a)(2)(i)(A) | 50.73(a)(2)(v)(D) | |
| 20.2203(a)(2)(v) X | 50.73(a)(2)(i)(B) | 50.73(a)(2)(vii) | |
| 20.2203(a)(2)(vi) | 50.73(a)(2)(i)(C) | 50.73(a)(2)(viii)(A) | |
| 20.2203(a)(3)(i) | 50.73(a)(2)(ii)(A) | 50.73(a)(2)(viii)(B) | |

**12. LICENSEE CONTACT FOR THIS LER**

| NAME | TELEPHONE NUMBER (Include Area Code) |
|---|---|
| Johnny Mathis, Regulatory Affairs | (616) 465-5901 Ext. 1578 |

**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| | | | | | | | | | |

| 14. SUPPLEMENTAL REPORT EXPECTED | | | 15. EXPECTED SUBMISSION DATE | MONTH | DAY | YEAR |
|---|---|---|---|---|---|---|
| | YES (If Yes, complete EXPECTED SUBMISSION DATE). | X NO | | | | |

On November 19, 2001, at approximately 1146 hours, Technical Specification (TS) 3.9.7 "Crane Travel-Spent Fuel Storage Pool Building" was violated when the Rod Control Cluster Assembly (RCCA) tool was mistakenly moved over the fuel racks in the spent fuel pool. The potential impact energy of the RCCA tool during this event was in excess of the 24,240 in-lbs. limit specified in TS 3.9.7. Surveillance Requirement (SR) 4.9.7.2, to determine potential impact energy less than or equal to 24, 240 in-lbs. prior to moving each load over racks containing fuel, was also not performed. Prior to each outage, Operations Refueling modifies the bottom of the shared portable RCCA tool to accommodate either 15 X 15 (Unit 1) or 17 X 17 (Unit 2) fuel assemblies. In order to remove the RCCA tool from the water, the RCCA tool must be raised above the hoist travel interlock in an area not over racks containing fuel.

In this event, the interlock was engaged and the tool moved into the transfer area to change the RCCA bottom piece. The hoist height interlock was then disengaged to perform work on the RCCA tool. After completion of the tool modification but prior to reinstating the hoist height interlock, the Spent Fuel Crane Operator mistakenly moved the load over the spent fuel pool racks containing fuel. The operator had successfully performed this maneuver on several occasions, however he failed to reinstate the interlock prior to moving the crane.

The Spent Fuel Pool Area Supervisor (SFPAS) immediately alerted the spent fuel crane operator to stop, and directed the load back into the weir gate area of the transfer canal. The load was lowered to below the hoist travel interlock and the interlock was reinstated. Movement of loads with impact energies in excess of TS 3.9.7 limits and the failure to perform surveillance testing (TS 4.9.7.2) prior to moving the load over fuel racks containing fuel are violations of Technical Specifications. This LER is being submitted in accordance with 10CFR50.73(a)(2)(i)(B), for a condition prohibited by TS.

| 1. FACILITY NAME | 2. DOCKET NUMBER | 6. LER NUMBER | | | | | 3. PAGE |
|---|---|---|---|---|---|---|---|
| | | YEAR | SEQUENTIAL NUMBER | | | REVISION NUMBER | |
| Donald C. Cook Nuclear Plant Unit 1 | 0500-315 | 2001 | -- | 005 | -- | 00 | 2 of 3 |

17. TEXT *(If more space is required, use additional copies of NRC Form (366A)*

## Conditions Prior to Event

Unit 1 was in Mode 1, at 100 percent rated thermal power.
Unit 2 was in Mode 1, at 100 percent rated thermal power.

## Description of Event

On November 19, 2001, at approximately 1146 hours, Technical Specification (TS) 3.9.7 "Crane Travel-Spent Fuel Storage Pool Building" was violated when the Rod Control Cluster Assembly (RCCA) tool was mistakenly moved over the fuel racks in the spent fuel pool. The potential impact energy of the RCCA tool during this event was in excess of the 24,240 in-lbs. limit specified in TS 3.9.7. Surveillance Requirement (SR) 4.9.7.2, to determine potential impact energy less than or equal to 24, 240 in-lbs. prior to moving each load over racks containing fuel, was also not performed. Prior to each outage, Operations Refueling modifies the bottom of the shared portable RCCA tool to accommodate either 15 X 15 (Unit 1) or 17 X 17 (Unit 2) fuel assemblies. In order to remove the RCCA tool from the water, the RCCA tool must be raised above the hoist travel interlock in an area not over racks containing fuel.

In this event, the interlock was engaged and the tool moved into the transfer area to change the RCCA bottom piece. The hoist height interlock was then disengaged to perform work on the RCCA tool. After completion of the tool modification but prior to reinstating the hoist height interlock, the Spent Fuel Crane Operator mistakenly moved the load over the spent fuel pool racks containing fuel. The operator had successfully performed this maneuver on several occasions, however he failed to reinstate the interlock prior to moving the crane.

The Spent Fuel Pool Area Supervisor (SFPAS) immediately alerted the spent fuel crane operator to stop, and directed the load back into the weir gate area of the transfer canal. The load was lowered to below the hoist travel interlock and the interlock was reinstated. Movement of loads with impact energies in excess of TS 3.9.7 limits and the failure to perform surveillance testing (TS 4.9.7.2) prior to moving the load over fuel racks containing fuel are violations of Technical Specifications. This LER is being submitted in accordance with 10CFR50.73(a)(2)(i)(B), for a condition prohibited by TS.

## Cause of Event

The apparent cause of this event was personnel error on the part of the spent fuel pool crane operator and the failure to perform a peer check with the SFPAS prior to moving the RCCA tool over racks containing fuel when the spent fuel crane hoist travel interlock was bypassed. The crane operator moved the crane east over the spent fuel racks approximately 3 feet without checking with the SFPAS. Upon realizing the error, the SFPAS notified the crane operator to return the crane to the weir gate area, lower the tool, and reinstate the normal height interlock. While a thorough briefing was performed on the evolution, the procedure did not contain specific steps for reinstating the interlocks.

## Analysis of Event

The fuel handling manipulator cranes, trolleys, bridges, and associated equipment interlocks are designed to prevent this equipment from generating missiles and damaging the fuel. Additionally as required by procedure, the auxiliary safety chain was used to secure the RCCA tool to the crane hoist. The purpose of the auxiliary safety chain is to ensure that the handling tools will not drop. The RCCA tool, at all times during the event was prevented from dropping by the spent fuel crane west hoist auxiliary safety chain. Therefore, the overall safety significance for this event is considered to be minimal.

| 1. FACILITY NAME | 2. DOCKET NUMBER | 6. LER NUMBER | | | | | 3. PAGE |
|---|---|---|---|---|---|---|---|
| | | YEAR | SEQUENTIAL NUMBER | | | REVISION NUMBER | |
| Donald C. Cook Nuclear Plant Unit 1 | 0500-315 | 2001 | -- | 005 | -- | 00 | 3 of 3 |

17. TEXT *(If more space is required, use additional copies of NRC Form (366A)*

## Corrective Actions

The Spent Fuel Pool Area Supervisor immediately alerted the spent fuel crane operator to stop, and directed the load back into the weir gate area of the transfer canal. Once the load was not over racks containing fuel, the load was lowered to below the hoist travel interlock and the interlock was reinstated. The RCCA tool was then stored on its rack, and the Shift Manager was notified. The Spent Fuel Crane Operator, along with his supervisor, were counseled on the expectation of the use of peer checks prior to Spent Fuel Crane moves.

A copy of the Condition Report was distributed to all SRO-CA's and SFPAS's as a "Lessons Learned" package.

Procedure 12-OHP-4050-FHP-010, Refueling Tool and Equipment Checkouts, was enhanced to include steps for and documentation of Spent Fuel Crane height interlock bypass. Limitations on crane movement while height interlocks are bypassed were included.

## Previous Similar Events

LER 315/99-006-01, "Fuel Crane Loads Lifted Over Spent Fuel Pool Could Impart Impact Energies Greater Than Technical Specification Limits."

On February 23, 1999, a review of fuel assembly and Rod Cluster Control Assembly (RCCA) weights identified that a combined fuel assembly and RCCA weight of 1619 lbs had been lifted over the spent fuel racks. Based on this weight, in the event the fuel crane dropped its load from a maximum height of 15 inches, a calculated impact energy of 24,285 in-lbs could have been imparted to the top of the spent fuel pool racks. This resultant impact energy is greater than the TS 3.9.7 limit of 24,240 in-lbs.

The above example represents a failure of surveillance test procedures to meet TS requirements. While the current procedure required recording of the weight of the fuel assembly plus RCCA, it did not require calculation of the potential impact energy. A contributing cause was inadequate design change process. Higher density spent fuel storage racks, which were installed in 1993, were analyzed to withstand impact energies of up to 55,800 in-lbs. However, the TS was not revised to reflect this new impact energy limit.

The corrective and preventive actions implemented from LER 315/99-006-01 would not have prevented the current reportable condition from occuring since the cause was a result of a personnel error.