



AUG 03 2005

Serial: HNP-05-075  
10CFR50.73

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

SHEARON HARRIS NUCLEAR POWER PLANT UNIT 1  
DOCKET NO. 50-400/LICENSE NO. NPF-63  
LICENSEE EVENT REPORT 2005-003-00

Ladies and Gentlemen:

The enclosed Licensee Event Report 2005-003-00 is submitted in accordance with 10 CFR 50.73. This report describes an equipment drain system isolation valve that was inoperable longer than its allowed outage time.

This document contains no new Regulatory Commitment.

Please refer any questions regarding this submittal to Mr. Dave Corlett, Supervisor - Licensing/Regulatory Programs, at (919) 362-3137.

Sincerely,

A handwritten signature in black ink, appearing to read 'Eric McCartney'.

Eric McCartney  
Plant General Manager  
Harris Nuclear Plant

EAM/jpy

Enclosure

c: Mr. R. A. Musser (HNP Senior NRC Resident)  
Mr. C. P. Patel (NRC-NRR Project Manager)  
Dr. W. D. Travers (NRC Regional Administrator, Region II)

Progress Energy Carolinas, Inc.  
Harris Nuclear Plant  
P.O. Box 165  
New Hill, NC 27562

IE22

**LICENSEE EVENT REPORT (LER)**

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

Estimated burden per response to comply with this mandatory 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 and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [infocollect@nrc.gov](mailto:infocollect@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 an 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.

|  |                                     |                          |
|--|-------------------------------------|--------------------------|
| <b>1. FACILITY NAME</b><br>Harris Nuclear Plant - Unit 1 | <b>2. DOCKET NUMBER</b><br>05000400 | <b>3. PAGE</b><br>1 OF 3 |
|--|-------------------------------------|--------------------------|

**4. TITLE**  
Equipment Drain System Isolation Valve Inoperable Longer Than Its Allowed Outage Time

| 5. EVENT DATE |     |      | 6. LER NUMBER |                   |         | 7. REPORT DATE |     |      | 8. OTHER FACILITIES INVOLVED |               |
|---------------|-----|------|---------------|-------------------|---------|----------------|-----|------|------------------------------|---------------|
| MONTH         | DAY | YEAR | YEAR          | SEQUENTIAL NUMBER | REV NO. | MONTH          | DAY | YEAR | FACILITY NAME                | DOCKET NUMBER |
| 06            | 05  | 2005 | 2005          | - 003 -           | 00      | 08             | 03  | 2005 | N/A                          | 05000         |
|               |     |      |               |                   |         |                |     |      | FACILITY NAME                | DOCKET NUMBER |
|               |     |      |               |                   |         |                |     |      | N/A                          | 05000         |

|  |   |   |   |   |  |  |  |  |  |  |
|--|---|---|---|---|--|--|--|--|--|--|
| <b>9. OPERATING MODE</b><br>1              | <b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)</b> |   |   |   |  |  |  |  |  |  |
| <b>10. POWER LEVEL</b><br>100              | <input type="checkbox"/> 20.2201(b)   | <input type="checkbox"/> 20.2203(a)(3)(i)   | <input type="checkbox"/> 50.73(a)(2)(i)(C)    | <input type="checkbox"/> 50.73(a)(2)(vii)     |  |  |  |  |  |  |
|  | <input type="checkbox"/> 20.2201(d)   | <input type="checkbox"/> 20.2203(a)(3)(ii)  | <input type="checkbox"/> 50.73(a)(2)(ii)(A)   | <input type="checkbox"/> 50.73(a)(2)(viii)(A) |  |  |  |  |  |  |
|  | <input type="checkbox"/> 20.2203(a)(1)  | <input type="checkbox"/> 20.2203(a)(4)      | <input type="checkbox"/> 50.73(a)(2)(ii)(B)   | <input type="checkbox"/> 50.73(a)(2)(vii)(B)  |  |  |  |  |  |  |
|  | <input type="checkbox"/> 20.2203(a)(2)(i)   | <input type="checkbox"/> 50.36(c)(1)(i)(A)  | <input type="checkbox"/> 50.73(a)(2)(iii)     | <input type="checkbox"/> 50.73(a)(2)(ix)(A)   |  |  |  |  |  |  |
|  | <input type="checkbox"/> 20.2203(a)(2)(ii)  | <input type="checkbox"/> 50.36(c)(1)(ii)(A) | <input type="checkbox"/> 50.73(a)(2)(iv)(A)   | <input type="checkbox"/> 50.73(a)(2)(x)       |  |  |  |  |  |  |
|  | <input type="checkbox"/> 20.2203(a)(2)(iii)   | <input type="checkbox"/> 50.36(c)(2)        | <input type="checkbox"/> 50.73(a)(2)(v)(A)    | <input type="checkbox"/> 73.71(a)(4)          |  |  |  |  |  |  |
|  | <input type="checkbox"/> 20.2203(a)(2)(iv)  | <input type="checkbox"/> 50.46(a)(3)(ii)    | <input type="checkbox"/> 50.73(a)(2)(v)(B)    | <input type="checkbox"/> 73.71(a)(5)          |  |  |  |  |  |  |
| <input type="checkbox"/> 20.2203(a)(2)(v)  | <input type="checkbox"/> 50.73(a)(2)(i)(A)  | <input type="checkbox"/> 50.73(a)(2)(v)(C)  | <input type="checkbox"/> OTHER                |   |  |  |  |  |  |  |
| <input type="checkbox"/> 20.2203(a)(2)(vi) | <input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)   | <input type="checkbox"/> 50.73(a)(2)(v)(D)  | Specify in Abstract below or in NRC Form 366A |   |  |  |  |  |  |  |

**12. LICENSEE CONTACT FOR THIS LER**

|  |  |
|--|--|
| FACILITY NAME<br>John P. Yadusky – Lead Engineer | TELEPHONE NUMBER (include Area Code)<br>919-362-2020 |
|--|--|

**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 |
|-------|--------|-----------|--------------|--------------------|-------|--------|-----------|--------------|--------------------|
| X     | WK     | ISV       | ITT Grinnell | Y                  |       |        |           |              |                    |

|  |  |       |     |      |
|--|--|-------|-----|------|
| <b>14. SUPPLEMENTAL REPORT EXPECTED</b>                                      | <b>15. EXPECTED SUBMISSION DATE</b>    | MONTH | DAY | YEAR |
| <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) | <input checked="" type="checkbox"/> NO |       |     |      |

**ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)**

On June 8, 2005, upon review of troubleshooting data for an equipment drain system isolation valve, the Harris Nuclear Plant (HNP) identified that the valve had sufficient leakage past its seat to result in declaring the valve inoperable. Operations was notified immediately, and the valve was declared inoperable per Technical Specifications (TS) 3.6.3. Upon review, it was determined that this condition had existed since June 5, 2005. Thus, the approximately three-day delay before completing the review of the troubleshooting data and declaring the valve inoperable resulted in exceeding the allowed outage time for this condition (i.e., the 4-hour action statement per TS 3.6.3). The condition was rectified immediately upon discovery.

The root cause of this event is that the troubleshooting procedure did not provide guidance specific to troubleshooting this operable equipment. This lack of guidance allowed troubleshooting to be performed on this equipment without fully understanding the limits for operability.

The valve was repaired, tested satisfactorily, and returned to operation. The corrective action to prevent recurrence is to revise the troubleshooting procedure to provide specific guidance requiring acceptance criteria to be established for troubleshooting on operable components.

**LICENSEE EVENT REPORT (LER)**

| 1. FACILITY NAME              | 2. DOCKET | 6. LER NUMBER |                   |                 | 3. PAGE |
|-------------------------------|-----------|---------------|-------------------|-----------------|---------|
|                               |           | YEAR          | SEQUENTIAL NUMBER | REVISION NUMBER |         |
| Harris Nuclear Plant – Unit 1 | 05000400  | 2005          | - 003             | - 00            | 2 OF 3  |

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

I. DESCRIPTION OF EVENT

On June 8, 2005 at 1:15 p.m., with the reactor at approximately 100% power and upon review of troubleshooting data for an equipment drain system isolation valve [WK-ISV] (1ED-125, Reactor Coolant Drain Tank Pump Discharge Isolation Valve), the Harris Nuclear Plant (HNP) identified that the valve had sufficient leakage past its seat to result in declaring the valve inoperable. Operations was notified immediately, and the valve was declared inoperable per Technical Specifications (TS) 3.6.3 (Containment Isolation Valves [NH-ISV]). Upon review, it was determined that this condition had existed since June 5, 2005. Thus, the approximately three-day delay before completing the review of the troubleshooting data and declaring the valve inoperable resulted in exceeding the allowed outage time for this condition (i.e., the 4-hour action statement per TS 3.6.3). The condition was rectified immediately upon discovery.

On June 1, 2005, preliminary troubleshooting data had been collected and reviewed for the equipment drain system penetration. The troubleshooting data indicated a liquid leak rate of approximately 0.014 gpm through both closed valves (1ED-125 and 1ED-121, Reactor Coolant Drain Tank Pump Discharge Level Control Valve [LCV]) for this penetration. The leakage was not measured individually. When converted from a liquid leak rate to an estimated air leak rate, this leak rate was approximately 1500 sccm at normal operating pressures, which, when compared to values associated with local leak rate testing (LLRT), were minor and well within limits specified in the Containment Leakage Rate Testing Program of 101,200 sccm, which is 60% of the maximum containment leakage rate ( $L_a$ ) at peak containment pressure ( $P_a$ ). This condition was documented in the corrective action program at HNP. Thus, this preliminary troubleshooting data had indicated that the estimated leak rate would not have impacted the operability of the valves.

On June 5, 2005, to support a revised troubleshooting plan to better quantify the suspected leakage associated with each valve in the containment penetration for the equipment drain system, additional liquid data was collected by operations. The review of this troubleshooting data was not completed until June 8, 2005. This review revealed that the estimated leak rate for the outboard containment isolation valve for this penetration (1ED-125) would have been sufficient to declare the valve inoperable (i.e., approximately 1.63 gpm, which when converted is approximately 171,400 sccm at normal operating pressures). Operations was immediately notified, and the valve was declared inoperable on June 8, 2005 per TS 3.6.3.

Since there was firm evidence that this condition had existed since June 5, 2005, this condition is reportable as a condition prohibited by TS pursuant to 10 CFR 50.73(a)(2)(i)(B) since the condition existed for a time longer than the allowed outage time. This condition was neither recognized nor discovered until after the allowed outage time for this condition had elapsed, and the condition was rectified immediately upon discovery.

The equipment drain system collects liquids from the various plant operational systems and transfers them to appropriate collection tanks. The portion of the equipment drain system piping and associated valves that penetrate the containment building are designed to Seismic Category I and Safety Class 2 requirements for containment isolation. The equipment drain system isolation valves for this penetration (1ED-121 and 1ED-125) are containment isolation valves specified in the Technical Specification Equipment List Program. These valves are air-operated valves that have a safety function in the closed position for containment isolation. They are capable of automatic closure. The valves are installed in series and are provided power from separate emergency power sources to satisfy single failure criteria. Both valves fail to the closed position upon loss of actuating air.

Energy Industry Identification System (EIIIS) codes are identified in the text within brackets [ ].

**LICENSEE EVENT REPORT (LER)**

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|                               |           | 2005          | - 003             | - 00            |         |

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

**II. CAUSE OF EVENT**

The root cause of this event is that the troubleshooting procedure did not provide guidance specific to troubleshooting this operable equipment. This lack of guidance allowed troubleshooting to be performed on this equipment without fully understanding the limits for operability.

**III. SAFETY SIGNIFICANCE**

There were no actual significant safety consequences as a result of this condition. The redundant inboard containment isolation valve (1ED-121) for the same penetration remained operable during this time, so any postulated leakage through this penetration was bounded by the values assumed in the Final Safety Analysis Report (FSAR) at peak containment pressure during a Design Basis Accident (DBA).

The potential safety consequences under other alternate conditions, such as a DBA coincident with a postulated failure of the redundant inboard containment isolation valve, may have increased the severity of this condition. The potential safety consequences under this postulated alternate condition may have resulted in containment leakage through this penetration above the amounts assumed in the FSAR and may have resulted in increased dose rates.

This condition is reportable as a condition prohibited by Technical Specifications pursuant to 10 CFR 50.73(a)(2)(i)(B) since the condition existed for a time longer than its allowed outage time. This condition was neither recognized nor discovered until after the allowed outage time for this condition had elapsed, and the condition was rectified immediately upon discovery.

**IV. CORRECTIVE ACTIONS**

As immediate corrective action, the valve was repaired, tested satisfactorily, and returned to operation. The corrective action to prevent recurrence is to revise the troubleshooting procedure to provide specific guidance requiring acceptance criteria to be established for troubleshooting on operable components.

**V. PREVIOUS SIMILAR EVENTS**

No previous HNP events or conditions are known within the last ten years related to a containment isolation valve that exceeded its allowed outage time due to leakage past its seat.