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July 22, 2002

U. S. Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555-0001

SUBJECT: Duke Energy Corporation
Catawba Nuclear Station, Unit 1
Docket Nos. 50-413
Licensee Event Report 413/2002-003 Revision 0

Attached please find Licensee Event Report 413/2002-003 Revision 0, entitled "Emergency Personnel Hatch Unlatched."

This report does not contain any corrective actions required for regulatory compliance with any licensing documents, NRC rules, or regulations. Therefore, this report does not contain any commitments.

Questions regarding this Licensee Event Report should be directed to G. K. Strickland at 803-831-3585.

Sincerely,

G. R. Peterson

Attachment

IE22

xc:

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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
Catawba Nuclear Station, Unit 1	05000 413	1 OF 6

4. TITLE
Emergency Personnel Hatch Unlatched.

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
05	26	2002	2002	- 003 -	00	07	22	2002	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)
G. K. Strickland, Regulatory Compliance	803-831-3585

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

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED			15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE).	N NO				

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

On May 26, 2002 at 0835 hours, the Unit 1 Emergency Personnel Hatch between upper and lower containment was discovered unlatched. Approximately 10 minutes after discovery of this condition, the hatch was latched, sealed, and returned to operable status.

Technical Specification (TS) 3.6.14 requires the hatch to be operable and closed in Modes 1-4. The Limiting Condition for Operation requires the inoperable hatch to be restored to operable status and closed within one hour. The exact time the hatch became unlatched could not be determined but the condition most likely existed longer than the one hour allowed by the Limiting Condition for Operation. This event is being reported as a condition prohibited by Technical Specifications 10CFR50.73(a)(2)(i)(B).

The root cause for the hatch becoming unlatched could not be conclusively determined. The most likely cause for the event is attributed to a hatch design that is prone to inadvertent unlatching due to passing traffic.

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

Background:

The Emergency Personnel Hatch, also known as the submarine hatch, is used as an emergency egress for personnel between the lower and upper containment compartments.

The hatch also functions as part of the Divider Barrier between lower and upper containment [EIIS:NH]. The divider barrier consists of the operating deck and associated seals, personnel access door, and equipment hatches. Divider barrier integrity is necessary to minimize bypassing of the ice condenser [EIIS:BC] by the hot steam and air mixture released into the lower compartment during a Design Basis Accident (DBA). This ensures that most of the gases pass through the ice bed, which condenses the steam and limits pressure and temperature during the accident transient. Limiting the pressure and temperature reduces the release of fission product radioactivity from containment to the environment in the event of a DBA.

The hatch is operated by a handwheel that activates four latching arms. When the handwheel is aligned with the latching arms disengaged, the hatch cover may be forced open during a DBA due to the pressure increase in lower containment. The hatch is therefore considered inoperable when unlatched. A tamper seal is installed on the handwheel for configuration control. This seal is selected to be easily broken to allow emergency personnel egress.

The hatch is required to be operable and closed in Modes 1-4 for TS 3.6.14. With the hatch inoperable or open, the TS requires the hatch to be restored to operable status and closed within one hour.

On May 26, 2002, Unit 1 was in Mode 1 at 100 percent power at the time of the discovery of this event. Unit 1 had recently completed a refueling outage and entered Mode 4 on May 15. The latest date that the hatch was verified in the latched position was May 19. From May 19 to May 26, no additional systems, structures, or components were out of service that had any effect on the divider barrier seal integrity.

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

Event Description (dates and approximate times)

May 14 1900	Maintenance technician verified the hatch was latched and sealed in accordance with the outage schedule and prior to Mode 4.
May 15 0030	Containment cleanliness inspection completed prior to Mode 4. The inspection team noted that the tamper seal was not installed. The tamper seal was not immediately re-installed.
May 15	Operations personnel completed Mode 4 checklist.
May 15 1437	Unit 1 entered Mode 4.
May 17 2151	Unit 1 entered Mode 1.
May 19 0400	Operations personnel completed the weekly plant rounds and noted that the hatch was latched with the tamper seal missing. Operations verified that the hatch was operable for TS 3.6.14 with the tamper seal missing.
May 26 0300	Operations personnel completed the weekly plant rounds and noted that the tamper seal was missing. Operations assumed the hatch was operable because the hatch was in the closed position.
May 26 0500	Operations initiated a work request for maintenance to install the tamper seal.
May 26 0835	Maintenance technician assigned to install the tamper seal discovered that the hatch was unlatched.
May 26 0845	Maintenance personnel returned the hatch to operable status, latched, and sealed.

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

Causal Factors

The root cause for the hatch becoming unlatched could not be conclusively determined. The most likely cause for the event is attributed to a hatch design that is prone to inadvertent unlatching due to passing traffic

Corrective Actions

Immediate

1. Maintenance restored the hatch to operable status, latched, and sealed.

2. Appropriate NRC and site management were notified of the event.

3. Unit 2 hatch was verified latched and sealed.

4. The event was entered into the plant corrective action program.

Subsequent

1. Operating procedure for Mode 4 startup checklist was placed on technical hold status.

2. A communications package was sent to operations personnel describing this event.

3. Operations weekly rounds sheet was revised to require the operator to notify the Work Control Center or Control Room Senior Reactor Operator if the tamper seal is missing.

Planned

1. Engineering will evaluate modifying or replacing the current hatch such that the hatch is not prone to inadvertent opening due to passing traffic. Engineering will also consider the possibility of adding an alarm circuit such that there is timely warning that the hatch has become unlatched.

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

2. Engineering will evaluate installing a battery powered local alarming device that will alarm if the tamper seal is inadvertently broken.

3. Work Control will add an activity to the outage schedule to start containment access controls. Work control will also schedule the hatch inspection and tamper seal installation after containment access controls are in place.

4. Operations will revise the Mode 4 startup checklist to verify the hatch is latched with the tamper seal installed.

5. Operations will revise the procedure for the access to containment during Modes 1-4 to require personnel to verify the tamper seal installation following traffic near the hatch. This administrative control may be revised based upon the plant modifications or operating experience.

This report does not contain any commitments required for regulatory compliance.

Safety Analysis

There was no safety significance associated with this event.

The primary safety concern with having the hatch open during plant operations is the additional open area presented for steam bypass flow. Should a high-energy line break or loss of coolant accident occur, some volume of steam which would normally pass through the ice condenser would proceed through the hatch area and increase pressure in upper containment. Calculations demonstrated that the increase in peak containment pressure would remain well below the design pressure and the divider barrier could have performed its intended safety function. Divider barrier bypass leakage has no effect on other design basis accidents.

This event was not a Safety System Functional Failure. The health and safety of the public were not affected by this event. There were no radiological events or consequences associated with this event.

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Additional Information

Within the past three years, there were no similar events of the hatch being unlatched. Therefore, this event is considered to be non-recurring in nature.

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