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ACCESSION NBR:8909220106 DOC.DATE: 89/09/14 NOTARIZED: NO DOCKET #
 FACIL:50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315
 AUTH.NAME AUTHOR AFFILIATION
 DROSTE,J.B. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
 SMITH,W.G. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-009-01:on 890620,required post-maint testing not
 performed due to personnel error prior to entry into mode.
 W/8 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 7
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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Power Company
Cook Nuclear Plant
One Cook Place
Bridgman, MI 49106
616 465 5901



September 14, 1989

United States Nuclear Regulatory Commission
Document Control Desk
Rockville, Maryland 20852

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 Reporting System, the following report
is being submitted:

89-009-01

Sincerely,

A handwritten signature in cursive script, appearing to read 'W.G. Smith, Jr.'.

W.G. Smith, Jr.
Plant Manager

Attachment

c: D.H. Williams, Jr.
A.B. Davis, Region III
M.P. Alexich
P.A. Barrett
J.E. Borggren
R.F. Kroeger
NRC Resident Inspector
J.G. Gitter, NRC]
R.C. Callen
G. Charnoff, Esq.
Dottie Sherman, ANI Library
D. Hahn
INPO
PNSRC
A.A. Blind
S.J. Brewer/B.P. Lauzau

8909220106 890914
PDR ADOCK 05000315
S PDC

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) D. C. Cook Nuclear Plant - Unit 1										DOCKET NUMBER (2) 0 5 0 0 0 3 1 5					PAGE (3) 1 OF 0 4	
TITLE (4) Required Post Maintenance Testing not performed due to personnel error prior to entry into a mode for which the equipment was required to be operable.																
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 6	2	0 8	9 8	9	0 0	9	0 1	0 9	1 4	8	9	0 5 0 0 0				
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)														
1		20.402(b)				20.405(c)				50.73(a)(2)(iv)				73.71(b)		
POWER LEVEL (10)		20.405(a)(1)(i)				50.38(c)(1)				50.73(a)(2)(v)				73.71(c)		
0 3 2		20.405(a)(1)(ii)				50.38(c)(2)				50.73(a)(2)(vii)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)		
		20.405(a)(1)(iii)				50.73(a)(2)(i)				50.73(a)(2)(viii)(A)						
		20.405(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(viii)(B)						
		20.405(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(ix)						
LICENSEE CONTACT FOR THIS LER (12)																
NAME J. B. Droste - Maintenance Superintendent										TELEPHONE NUMBER						
										AREA CODE 6 1 6 4 6 4 - 5 9 0 1						
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS						
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)												<input checked="" type="checkbox"/> NO				

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

On 5-2-89, with the reactor core unloaded, maintenance was completed on 1-CS-442-2 (the reactor coolant pump seal water injection containment isolation check valve). The associated job order was submitted for closeout with the understanding that the post maintenance testing, (Appendix J, Type C), required following repairs for valve operability in modes 4 through 1 (Hot Shutdown through Power Operation), would be completed under a separate testing job order. The unit entered power operation on 6-20-89. On 7-5-89 with the unit operating at 32 percent power a job order review revealed that no documentation for the Type C leakage rate test existed. The unit was shut down, the tests were performed with satisfactory results and the unit was returned to service on July 8, 1989. A document search of approximately 4000 job orders was conducted during the unit shutdown. It revealed one other untested valve on which leakage rate testing (non-Appendix J) was required as result of repair work (1-CTS-131W, west containment spray to upper compartment ring header containment isolation check valve). This valve also tested satisfactorily. This event was caused by personnel error in that testing was not verified complete prior to declaring the valves operable. A significant contributing factor was that the testing job orders, in general, were not keyed to mode changes or other major events, therefore, there was no independent means of detecting or preventing such oversights.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
D. C. Cook - Unit 1	0 5 0 0 0 3 1 5	8 9	- 0 0 9	- 0 1 0	2	OF	0 4

TEXT (If more space is required, use additional NRC Form 366A's) (17)

CONDITIONS PRIOR TO OCCURANCE

Unit One - 32 Percent Thermal Power
Unit Two - 100 Percent Thermal Power

DESCRIPTION OF EVENT

On May 2, 1989, following a maintenance inspection and bonnet gasket replacement on the Unit 1 loop 2 reactor coolant pump seal water injection containment isolation check valve (EIIS/ISV-CB) (1-CS-442-2, a Conval 2 inch 1500 pound piston check valve), the job order and its associated paperwork were submitted for closeout with the understanding that the required post maintenance testing (Type C leakage rate testing) would be completed under a separate testing job order prior to entry into a mode for which the equipment was required to be operable. Unit 1 entered Mode 4 Hot Shutdown on June 20, 1989 at 0330 hours.

On July 5, with Unit 1 operating at 32 percent power a review of the job order package which contained the testing documentation for 1-CS-442-2 was conducted. It was discovered that the testing document for 1-CS-442-2 had not been signed off. A record search was conducted and no evidence could be found to indicate that the post maintenance testing had been performed. This placed the unit in a condition where compliance with the operability requirements of Technical Specification 3.6.1.2 Containment Leakage Limiting Condition for Operation could not be verified and a shutdown was initiated, per the requirements of T/S 3.0.3, at 1545 hours on July 5, 1989. An unusual event was declared at 1605 and the NRC was notified via the ENS at 1613 hours. The RCS was placed in hot standby at 2132 hours, entered hot shutdown at 0305 on July 6, 1989 and cold shutdown at 0909 hours the same day.

A search of approximately 4000 plant job orders that had been completed during the refueling outage was conducted to determine if other post maintenance testing had not been completed. One other valve (1-CTS-131 W, west containment spray to upper compartment ring header containment isolation check valve) (EIIS/ISV-BE) was found that had not had the required testing performed.

The Type C leakage rate test on check valve 1-CS-442-2 resulted in zero leakage thus it had no impact on the combined as left leakage rate being less than 0.6 La for all penetrations and valves subject to Type B and C tests. Check valve 1-CTS-131W is not an Appendix J containment isolation valve therefore any leakage through this valve does not impact on 0.6 La. The leakage rate of this valve was within the allowable leakage criteria specified in the FSAR.

Additionally, as a result of the job order review, two valves were identified with no readily available records showing that the technical specification required ISI stroke time testing had been performed. As a precautionary measure, the testing was performed. Upon retrieval of the ISI testing documentation it was determined that all valves had in fact been tested as required.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
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TEXT (If more space is required, use additional NRC Form 368A's) (17)

DESCRIPTION OF EVENT (CONTINUED)

Also, one valve (1-MS-325, 1 inch globe drain valve) was found to have been repair-welded on the backseat without proper welding control and documentation. Although the post-maintenance testing had been properly prescribed and performed, this valve was repaired correctly during the shut down.

CAUSE OF EVENT

The cause of this event was personnel error due to the fact that the required testing was not verified complete prior to declaring the valves operable. A contributing factor to this error was a lack of formal interdepartmental system for requesting and tracking outstanding test requirements. The present informal (verbal) system works well for testing which can be performed immediately following maintenance. The system has worked well even for testing which must be delayed due to plant conditions. However, the system worked not because the system was fool proof but because the people working within the system have been extremely diligent in following through to ensure required testing was completed, satisfactory, and documented. What further contributed to the current event is that the individual responsible for tracking the completion of testing had terminated his employment. His relief had been left with the impression that testing on the subject valves had been completed.

Much of the post maintenance testing required to be performed prior to the final closeout of a given job order must be performed by a department other than the maintenance department. The required post maintenance testing in this instance was to be performed by the performance engineering department. The process for requesting the testing was often verbal. Generally, initial confirmation of completed testing was also verbal with formal signoffs being completed at a later date. It was just such a request for formal signoff that led to the discovery that required testing had not been completed.

Another contributing factor in this event was the fact that when work was completed the job order was closed and testing was transferred to the testing job order. Whereas the maintenance job order referenced the mode constraint, the testing job order failed to reference the mode constraint. Therefore, the testing, in this case, was not recognized as being mode constraining. The intent of the testing job order was to capture documentation for all testing performed as a result of work so that the job order by which the work was performed could be closed.

ANALYSIS OF EVENT

This event is considered reportable per the requirements of 10 CFR 50.73 (a) (2) (i) (B) as Unit 1 entered hot shutdown from cold shutdown with two containment isolation valves not proven operable.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
D. C. Cook - Unit 1	0 5 0 0 0 3 1 5	8 9	0 0 9	0 1	0 4	OF	0 4

TEXT (If more space is required, use additional NRC Form 368A's) (17)

ANALYSIS OF EVENT (CONTINUED)

Upon discovery of this condition the unit was placed in cold shutdown and the valves were tested. The tests indicated that the valves were functioning satisfactorily; therefore, containment integrity had not been compromised and no other safety concerns were noted.

CORRECTIVE ACTIONS

Immediate corrective action was to place the unit in cold shutdown, conduct a search by all departments of approximately 4000 plant job orders completed since the start of the refueling outage to determine the extent of the problem and perform the necessary testing. Out of the approximately 4000 job orders reviewed, only the 2 job orders, involving the valves described above, were found to not have had the required testing completed.

Also, as a result of the job order review, one job order was discovered on which a steam cut in the backseat of a drain valve (1-MS-325, 1 inch globe valve, ASME code class 2) had been weld repaired but no welding documentation existed. The weld was removed and redone with the proper documentation.

By letter dated July 6, 1989 (copy attached), NRC RIII was apprised of the corrective measures which would be completed prior to returning Unit One to service. In telephone conversation at 0120 hours on 7/7/89 (EDT) (W. Axelson & B. Burgess, RIII; W. Smith, Plant) NRC was apprised of the status of our job order review, the findings to date, and concurrence was obtained that Unit One startup could commence when the plant was satisfied with the review and corrective measures taken. The job order review and corrective measures were completed at 0515 hours 7/7/89.

Following completion of these review activities on Unit One job orders, an extensive review of Unit Two job orders was performed. No similar findings were noted.

ACTIONS TAKEN TO PREVENT RECCURANCE

The method of post maintenance testing during outages has been changed to specifically assign the applicable mode constraint to documentation generated for those tests. This change provides informational and trackable data to plant departments involved in maintenance activities and related testing. While the mechanics of this process may continue to evolve, as we move towards a computerized Maintenance Management System this feature will be retained and will prevent recurrence.

Indiana Michigan
Power Company
Cook Nuclear Plant
P.O. Box 458
Bridgman, MI 49106
616 465 5901



July 6, 1989

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

Attn: A. B. Davis

Dear Mr. Davis:

Confirming my conversation with members of your staff this date, we will perform the following actions with regard to return to service of D. C. Cook Unit One:

- 1) All Unit 1 Safety-Related and Technical Specification equipment Job Orders, performed during the 1989 refueling outage, will be reviewed to confirm that:
 - a) documentation exists that the required post-work testing (or other, required performance measure verification) has been satisfactorily completed, or,
 - b) if required post-work testing (or other, required performance measure verification) is not complete at this time, the testing or performance measure verification is scheduled and identified as an applicable Mode change constraint in the return-to-service sequence, or
 - c) ASME Section XI VT-2 Examinations, which are not required to be complete prior to power operations, are identified and scheduled for performance.

The above reviews will be completed prior to changing from the current Mode 5 to Mode 4 on D. C. Cook Unit One.

- 2) NRC RIII will be notified of the completion of the above reviews, including identification of any additional instances found where the required post-work testing (or other, required performance measure verification) was not properly completed, prior to changing from the current Mode 5 to Mode 4 on D. C. Cook Unit One.
- 3) We will, within thirty (30) days, provide you with a full, written report on this matter. It is our understanding that this report may be in the form of a License Event Report (LER).


W. G. Smith, Jr.

U.S. Nuclear Regulatory Commission
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Wash., D.C. 20555
Page 2

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