NRC FORM 366 (6-1998) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

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

APPROVED BY OMB NO. 3150-0104 EXPIRES 06/30/2001

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If 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.

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TITLE (4)

Generic Letter 96-01 Test Requirements Not Met In Surveillance Tests

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 NAME	DOCKET NUMBER
									Cook Nuclear Plant Unit 2	05000-316
07	28	1999	1999	021	00	08	27	1999	FACILITY NAME	DOCKET NUMBER

OPERATING	5
POWER	0%

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

	20.2201(b)		20.2203(a)(2)(v)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)
	20.2203(a)(1)		20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)
	20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71
	20.2203(a)(2)(ii)		20.2203(a)(4)		50.73(a)(2)(iv)		OTHER
	20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A
	20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Mary Beth Depuydt, Regulatory Compliance	(616) 465-5901 X 1589

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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

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

On July 28, 1999, Unit 1 was in cold shutdown and Unit 2 was shut down in a defueled condition. A review performed of Technical Specification (T/S) surveillance tests for the systems requiring conformance to Generic Letter (GL) 96-01 identified that not all requirements were being met. The surveillance tests for the Solid State Protection System, Engineered Safeguards System and the Emergency Diesel Generator load shed and sequencing circuits did not meet the GL 96-01 test requirements. Failure to test these systems per the requirements of GL 96-01 was determined to be a violation of T/S and reportable per 10CFR50.73(a)(2)(i)(B) as a condition prohibited by T/S. The Control Room Ventilation System is required to meet the requirements of GL 96-01 but there is no T/S requirement to test system response to a high radiation signal.

The apparent cause of this event was a failure to understand the full extent of the GL 96-01 requirements when the surveillance tests were initially evaluated, as the initial review was restricted to T/S required surveillances only. A third party review, performed as part of the restart effort, identified these discrepancies and led to an in depth independent review of the GL 96-01 implementation. The independent review has not identified to date any additional discrepancies other than those found during the third party review. Surveillance procedures are being revised or developed to test the nonconforming systems per GL 96-01 test requirements prior to Mode 4 entry for each unit.

Surveillance testing is performed on the nonconforming systems. Even though these tests do not meet the complete requirements of GL 96-01, the successful completion of these tests provides confidence that the systems would perform their safety function if called upon to do so. Therefore, the identified conditions had minimal safety implications to the health and safety of the public

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

Conditions Prior To Event
Unit 1 was in Mode 5, Cold Shutdown
Unit 2 was Defueled

Description Of The Event
Generic Letter 96-01 required that surveillance procedures that test logic circuits that are required to perform a safety function or whose failure could affect a safety function be reviewed to assure that adequate overlap testing is being performed to meet T/S requirements. The Reactor Protection System (RPS), Engineered Safety Feature Actuation System (ESF) and Emergency Diesel Generator (EDG) load shed and sequencing circuits are systems specifically addressed in GL 96-01. Surveillance testing of automatic actuation logic circuits of system functions credited in the accident analysis with surveillance requirements in the T/S is also addressed in GL 96-01.

Though D. C. Cook documented completion of its implementation of GL 96-01 test requirements to the Nuclear Regulatory Commission (NRC) in October 1997, a third party review of this GL 96-01 implementation was performed as part of the restart effort. The third party review identified several discrepancies and led to an in depth independent review of the GL 96-01 implementation. The independent review did not identify to date any additional discrepancies other than those found during the third party review.

On July 28, 1999, surveillance tests for the Solid State Protection System (SSPS) [EIIS: JG] permissive input relays [EIIS: JG / RLY], Engineered Safeguards System (ESS) [EIIS: EA] voltage available relays [EIIS: EA / RLY] and the Emergency Diesel Generator (EDG) [EIIS: EK] breaker trip and blocking relays [EIIS: EK / RLY] were identified as failing to meet all GL 96-01 test requirements.

The Control Room Ventilation System (CRVS) [EIIS: VI] is designed to go into recirculation mode on a high radiation signal [EIIS: VI / RA] from the control room radiation monitor to maintain radiological conditions during normal and design basis accident conditions. There is not a T/S requirement to test the CRVS on a control room high radiation signal. However, the CRVS was identified as being required to meet the requirements of GL 96-01. The independent GL 96-01 review identified that the CRVS does not have a surveillance procedure to test the system on a control room high radiation signal.

Cause Of The Event
The apparent cause of this event was a failure to understand the full extent of the GL 96-01 requirements when the surveillance tests were initially evaluated. The initial review only addressed those test requirements specifically identified in the D.C Cook T/S.

Analysis Of The Event
On July 28, 1999, it was determined that not testing these systems per the requirements of GL 96-01 was a violation of T/S and is reportable per 10CFR50.73(a)(2)(i)(B) as a condition prohibited by the plant's T/S. Applicable T/S for the GL 96-01 nonconforming systems are T/S Table 3.3-1 for SSPS permissive conditions and setpoints, and T/S 3/4.8 for ESS surveillance requirements and EDG surveillance requirements.

The SSPS permissive P-6 permits a manual block of source range high flux level reactor trip when 1 of 2 intermediate range channels is greater than or equal to the setpoint. Permissive P-11 permits a manual block of a safety injection signal when 2 of 3 pressurizer channels are less than or equal to the low pressure setpoint. The permissive reset prevents a manual block of a safety injection when 2 of 3 pressurizer channels are greater than or equal to the low pressure setpoint. Permissive P-12 permits a manual block of the safety injection signal on low steam line pressure and causes steam line isolation on high steam flow. The permissive reset prevents a manual block of safety injection signal on low steam pressure and steam line isolation on high steam flow. Existing surveillance tests do not test the SSPS input relays associated with the P-6, P-11 and P-12 permissive signals as required by GL 96-01.

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

Analysis Of The Event (cont'd)

Each ESS load that is required to operate under accident conditions contains three parallel voltage available relays in its logic circuit. Only one of the three parallel voltage available relays is required to actuate to complete the logic circuit and start the ESS load. The present surveillance testing does not individually test the relays as required by GL 96-01.

Various loads that are fed from busses T11A, T11D, T21A, T21D, 11B, 11C, 21B, and 21C have blocking relays to prevent operator intervention during EDG load shed and sequencing. Present surveillance procedures do not provide specific steps to test the blocking relays as required by GL 96-01.

The EDG logic circuits contain relays to trip and prevent closure of the EDG output breakers for 2 seconds following a loss of offsite power and/or safety injection signal. Present surveillance procedures do not provide specific steps to test the function of these relays as required by GL 96-01.

The CRVS maintains radiological levels within the Control Room which allows for continuous personnel occupancy during normal and Design Basis Accident conditions. In the event of a radiological release, the outside air intake damper automatically closes and the CRVS air conditioning system continues to operate.

Surveillance testing is performed on the nonconforming systems, including the CRVS. Even though these tests do not meet the complete requirements of GL 96-01, the successful completion of these tests provides confidence that the systems would perform their safety function if they were called upon to do so. Therefore, the identified conditions had minimal safety implications to the health and safety of the public.

Corrective Actions

- Surveillance procedures to test the SSPS permissive signals for all applicable plant conditions will be developed. These procedures will be implemented and testing complete prior to Mode 4 entry for each unit.
- The appropriate surveillance procedures will be revised to test each of the three ESS voltage available paths. These procedures will be implemented and testing complete prior to Mode 4 entry for each unit.
- The appropriate surveillance procedures will be revised to test the EDG load shed and sequencing tripping and block relays. These procedures will be implemented and testing complete prior to Mode 4 entry for each unit.
- Surveillance procedures to perform testing of the CRVS on a high radiation signal will be developed. These procedures will be implemented and testing complete prior to Mode 4 entry for each unit.
- Review of the implementation of GL 96-01 at D. C. Cook will be completed by September 30, 1999.

As part of Restart Action Plan # 0001 for the Programmatic Breakdown in Surveillance Testing, the adequacy of the T/S surveillance program will be evaluated. This evaluation includes verification that T/S surveillance requirements for all modes of plant operation are incorporated into T/S surveillance test procedures. Also as part of the Restart effort, system and programmatic assessments in the Expanded System Readiness Reviews and Licensing Basis Reviews are reestablishing and documenting the plant's design and licensing basis.

Similar Events

315/99-010-00
315/99-015-00
315/99-016-00