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DUKE POWER

April 19, 1990

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

Subject: Catawba Nuclear Station
Docket No. 50-413
LER 413/90-21

Gentlemen:

Attached is Licensee Event Report 413/90-21 concerning VIOLATION OF TECHNICAL SPECIFICATION 3.7.11 DUE TO FIRE WATCH INTERVAL EXCEEDING SIXTY MINUTES.

This event was considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

Tony B. Owen
Station Manager

keb\LER-NRC.TBO

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1/1

NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Catawba Nuclear Station, Unit 1	0 5 0 0 0 4 1 3	1 OF 0 5

TITLE (4) Violation of Technical Specification 3.7.11 Due to Fire Watch Interval Exceeding Sixty Minutes

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 2	1 2	9 0	9 0	0 2 1	0 0	0 4	1 9	9 0	CNS, Unit 2	0 5 0 0 0 4 1 4
										0 5 0 0 0

OPERATING MODE (9)	6	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	X 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)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
R.M. Glover, Compliance Manager	8 0 3 — 8 3 1 1 - 3 2 3 6

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)

		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

On February 12, 1990, Unit 1 was in Mode 6, Refueling, with Unit 2 in Mode 1, Power Operation. Fire doors were declared inoperable to permit the routing of a hose required for draining the Unit 1 Component Cooling System equipment. An hourly fire watch patrol was in progress as required by Technical Specification 3.7.11. An Auditor reviewing fire watch verification forms attached to two committed fire doors noted that the recorded surveillance time (1430 hours) was not the actual time (1415 hours). Subsequent review of fire watch verification forms revealed that not recording the actual time is a common practice for personnel performing the hourly fire watch. Surveillance intervals exceeding 60 minutes were also discovered. This event is attributed to a Management Deficiency in that implementation of the fire watch program allowed incorrect interpretations of policy to occur; not recording actual times when performing fire watch patrols and application of grace periods without proper justification. This event is also attributed to insufficient supervision which resulted in the recording of surveillance times that were not the actual times. Station Directive 2.12.7, Fire Detection and Protection, will be revised and training for plant personnel will be provided.

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

BACKGROUND

Technical Specification (T/S) 3.7.11, Fire Barrier Penetrations, states that all fire boundary doors, hatches, penetrations [EIIS:PEN], and sealing devices will be operable at all times. The action required for one or more of the above fire barriers being inoperable is that within one hour establish a continuous fire watch on at least one side of the affected boundary, or verify the operability of fire detectors [EIIS:XT] on at least one side of the inoperable boundary and establish an hourly fire watch patrol.

Station Directive 2.12.7, Fire Detection and Protection, gives guidance to designate requirements and responsibilities to ensure that fire detection and protection standards are met in accordance with T/Ss. Station Directive 2.12.7 requires that hourly fire watch responsibilities be assigned by the Fire Protection Console Operator (FPCO). The FPCO has been trained on the T/Ss and Fire Detection Standards to verify conditions are acceptable for establishing an hourly fire watch. The individual assigned the fire watch responsibility is to complete the hourly Fire Watch Verification Form and return it to the FPCO when the fire boundary penetration is reestablished. A continuous fire watch can be initiated by plant personnel when the work being performed results in a degraded fire boundary penetration. This prevents any delay in having the FPCO evaluate the conditions of the fire boundary before an hourly fire watch can be established. A Fire Watch Sign-Out Sheet must be completed and placed in the FPCO drop box identifying that a continuous fire watch has been established. A Continuous Fire Watch Verification Form must be initiated and returned to the FPCO once the fire boundary penetration has been reestablished.

T/S 4.0.2, Surveillance Requirements allows extensions beyond the specified surveillance time interval. The allowable extension is not to exceed 25% of the surveillance time interval. It has been determined that T/S 4.0.2 is not applicable to T/S 3.7.11 action items.

The Component Cooling [EIIS:CC] (KC) System Heat Exchanger [EIIS:HX] (Hx) was being drained to the Unit 2 Turbine Building [EIIS:NM] Sump during the refueling outage for cleaning and inspection.

The Service Building [EIIS:MF] fire doors removed from service were; S-201B (Elevation (El.) 574 Column (col. P-34) and S-301E (El. 574, Col. P-35). The Auxiliary Building [EIIS:NF] fire doors removed from service were; S-304A (El. 574, Col. AA-60), AX-517 (El. 574, Col. EE-57), and AX-517D (El. 574, Col. DD-57). S-304A, AX-517, and AX-517D are committed fire doors. S-201B and S-301E are noncommitted fire doors.

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

EVENT DESCRIPTION

On February 12, 1990, at 1400 hours, Unit 1 was in Mode 6, Refueling, and Unit 2 was in Mode 1, Power Operation. Mechanical Maintenance (M/M) personnel were in the process of draining the Unit 1 KC Hx 1A. Fire doors S-201B, S-301E, S-304A, AX-517, and AX-517D were propped open and removed from service to allow the drain line to reach the Unit 2 Turbine Building Sump. The Duke Power Audit Division yearly QA Fire Protection Audit, NP 90-05(CN), was in progress. At 1415 hours, Fire Protection Auditor A was reviewing the Fire Watch Verification Forms (Enclosure 7.4) attached to doors AX-517 and AX-517D when it was discovered that the surveillance time recorded was 1430 hours. Auditor A notified Auditor B who was directing the audit. At 1500 hours, the Auditors notified the M/M Section Manager and explained their findings. At 1617 hours, Auditor A returned to doors AX-517 and AX-517D and found that surveillance times of 1630 hours were recorded, creating uncertainty as to what the time interval was between the verifications. Subsequent interviews with M/M personnel conducted by the M/M Section Manager revealed that personnel were recording the surveillance times in this fashion to facilitate record keeping. Exceeding the sixty minute interval was not a concern since M/M personnel believed that a grace period existed for fire watch surveillance intervals.

On March 5, as a result of interviews with station personnel who perform fire watches, Auditor B initiated Problem Investigation Report 0-C90-0076. It appeared that a variety of methods were being used when recording the surveillance time during hourly fire watch verifications. Station Services routed a proposed change to Station Directive 2.12.7, adding a note to Enclosure 7.4 instructing that the "time recorded shall be the actual time" and "there is no grace period allowed". On March 6, the M/M Section Manager instructed the M/M Supervisors that actual times are to be recorded on Enclosure 7.4, and that inspection intervals shall be performed at least every 60 minutes or less.

On March 15, Fire Watch Verification Forms were reviewed by the Catawba Safety Review Group while preparing this report to determine if problems existed with the recording of surveillance times. Verification forms from the KC Hx 1A drain period were reviewed with the closest scrutiny. Out of 638 watch entries reviewed from the KC Hx 1A job, February 8 through March 3, 56 entries were found where the 60 minute interval was exceeded; none by more than 6 minutes. An unquantified number of verification forms from other work activities were reviewed with only 2 intervals exceeding 60 minutes. It was determined from this review that a T/S violation had occurred requiring generation of this LER.

CONCLUSION

This incident is attributed to a Management Deficiency in that implementation of the fire watch program allowed incorrect interpretations of policy to occur; not recording actual times when performing fire watch patrols and application of grace periods without proper justification. Insufficient supervision of personnel conducting the fire watch patrols contributed to recording surveillance times that were not the actual time.

The fire watch patrol for the KC Hx job was implemented with the intent to maintain the required one hour interval using a grace period when needed to satisfy T/S 3.7.11. No recorded fire watch patrol surveillance interval exceeded sixty-six (66) minutes during the KC Hx 1A draining activities. By the records reviewed, the intervals did not exceed sixty minutes until M/M personnel were instructed to record the actual time when performing the hourly fire watch surveillance. At this point exceeding the sixty minutes was not a concern due to the belief that a "grace period" existed for the fire watch patrol. It has been determined that T/S 4.0.2 is not applicable to T/S 3.7.11 action items.

Subsequent corrective actions include M/M Supervisors instructing personnel that actual times are to be recorded, and that the time interval between watches shall not exceed sixty minutes, and an interim measure employed by the Station Manager requiring that fire watches be handled through the Shift Manager. Planned corrective action is Safety Training on fire watches. Missed fire watches are a recurring problem at Catawba. A review of previous incidents shows that there have been two previous Technical Specification violations due to missed fire watched during the previous 27 months (see LER 413/88-001 and 414/89-008). LER 413/88-001 documented cases in which hourly fire watches were started late because Construction and Maintenance Department (CMD) Supervisors did not remember to assign personnel to the tasks. Corrective actions were to discuss the incident with appropriate personnel, and to provide training to CMD Supervisors/work crews, as needed, stressing the importance of maintaining fire watches and the Technical Specification significance of not performing required fire watches. These corrective actions did not prevent the current incident, since they applied to CMD personnel. LER 414/89-008 describes a case in which CMD personnel removed a hydro hose from a firestop penetration [EIIS:PEN], without a procedure, and did not reseal the penetration. As a result, CMD Management emphasized, to appropriate personnel, the need to contact the proper individuals and/or use approved procedures when work involves removing or disturbing fire barriers. This corrective action could not have prevented the current incident. However, after review, these reports appear unrelated to this event since those events were caused by missed fire watches or the fire watch patrol not being established.

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

CORRECTIVE ACTION

SUBSEQUENT

1) A notice was issued to M/M Supervisors on the requirement of properly recording fire watch surveillance intervals.

PLANNED

1) Training on fire watches will be provided to Station personnel in periodic safety meetings.

2) Safety will periodically audit implementation of the fire watch program to ensure its effectiveness.

3) It will be emphasized that the Technical Specification Interpretation Manual is to be used in resolving questions of Technical Specification applicability with additional follow-up with Compliance as needed.

SAFETY ANALYSIS

During this incident, no fires were observed or detected in any of the areas requiring the hourly fire watch. Since the hourly fire watch intervals did not exceed 66 minutes, any fire that may have occurred would not have gone undetected for an extended period of time. Personnel active in the draining of KC Hx 1A were in the immediate area (20 ft.) of fire doors AX-517 and AX-517D. If a fire had occurred during the extended surveillance periods, operable fire detectors would have detected the fire and alerted the Control Room.

The health and safety of the public were unaffected by this incident.