

LICENSEE EVENT REPORT (LER)

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND 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

FACILITY NAME (1) Cook Nuclear Plant Unit 1		DOCKET NUMBER (2) 05000-315	PAGE (3) 1 of 4
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TITLE (4)
Improper Use of Clarifications Results in Violation of Two Technical Specifications

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	
10	13	1999	1999	-- 030 --	00	01	12	2000	FACILITY NAME	DOCKET NUMBER	
OPERATING MODE (9) - THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)											
POWER LEVEL (10)		0		20.2201 (b)		20.2203(a)(2)(v)	<input checked="" type="checkbox"/>		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 n NRC Form 366A	
				20.2203(a)(2)(iv)		50.36(c)(2)			50.73(a)(2)(vii)		

LICENSEE CONTACT FOR THIS LER (12)

NAME M. B. Depuydt, Regulatory Compliance	TELEPHONE NUMBER (Include Area Code) 616/465-5901, x1589
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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 SUBMISSION DATE (15)			MONTH	DAY	YEAR
YES (If Yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>						

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

As a corrective action to LER 315/99-004-01, a review of all Technical Specifications (TS) clarifications was performed to determine if any contained guidance deviating from the letter of the TS. As a result of that review, 2 clarifications were identified. These clarifications dealt with Low Temperature Overpressure (LTOP) requirements when the reactor vessel head is on but not fastened, and operability of the 4KV bus undervoltage relays when the associated Emergency Diesel Generator is inoperable. As there is evidence that these clarifications were used in the past, it was determined that their use constituted a condition reportable under 10 CFR 50.73(a)(2)(i)(B), for any operation or condition prohibited by the plant's Technical Specifications.

The root cause of this condition was determined to be the continued use of the past industry practice of TS interpretation and compliance with the intent of the TS. The remaining TS clarifications will be cancelled and dispositioned by TS amendment, TS Bases change or other means, as appropriate. To prevent recurrence, the TS clarification program will be eliminated. A policy memo has been issued by Regulatory Affairs to all department managers and Regulatory Affairs personnel describing the need to comply with both the letter and the intent of TS.

The safety significance of the instances where the TS clarifications were used was evaluated. The TS clarification involving LTOP was found to meet the intent of the TS requirement although not the word. Both events involving the undervoltage relay clarification were of extremely short duration and redundant equipment was available. Therefore, it has been concluded that the use of these clarifications had minimal safety significance.

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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 defueled at the time of discovery.

Description of Event

LER 315/99-004-01, "Failure to Perform Technical Specification Surveillance Analyses of Reactor Coolant Chemistry with Fuel Removed" was submitted to document noncompliance with the Technical Specification (TS) 4.4.7 requirement to sample and analyze the Reactor Coolant System (RCS) (EIS:AB) for fluorides and chlorides "at all times". Due to an inadequate interpretation of the TS, the samples were not being properly taken during refueling when the core was offloaded and RCS flow was suspended. Therefore, the TS requirement was not being met. As a corrective action for that LER, a review of all TS Clarifications (TSCs) was performed to determine if any contained guidance deviating from the letter of the TS. To date, use of two clarifications has been determined to constitute TS violations. The two clarifications are detailed below.

TSC 42 was applicable to the requirements of TS 3.1.2.3, Action b, for Modes 5 and 6. This TS states that "with more than one charging pump operable or with a safety injection pump operable when the temperature of any RCS cold leg is less than or equal to 152 degrees Fahrenheit, unless the reactor vessel head is removed, remove the additional charging pump(s) and the safety injection pumps(s) motor circuit breakers from the electrical power circuit within one hour."

The clarification states that the vessel head being removed is equivalent to the head remaining in place without the studs installed. As the intent of the TS requirement is to provide Low Temperature Overpressure Protection (LTOP), the head sitting on the flange without the studs installed was thought to be equivalent to the head being removed, as the intent is to ensure that the head is not a pressure boundary. Although supported by a technical justification which determined that the unsecured head would lift at approximately 17.5 psig if vessel injection were to occur, the position taken confers a different meaning on the word "removed" and improperly modifies the TS requirement.

The Control Room logs were reviewed from the period of July 1, 1988 to June 30, 1989. This period was chosen since it encompassed the original issuance of the TS clarification on December 27, 1988 and correspondence issued on May 22, 1989 which was associated with Revision 1 to the clarification. The review found entries for Unit 1 when the clarification was used. The March 30, 1989 log entry states, "On 3-29-89 at 0600 hours all studs were removed from the Rx vessel head. Cold Overpressurization is not a concern. See TS Clarification #42." The log entries for April 1, 1989 then indicate a period between 0439 hours and 0525 hours when both charging pumps were operable, and were run at the same time for a period of 31 minutes. On April 4, 1989 at 1830 hours the reactor head was lifted. Use of the clarification to allow both pumps to be operable and running without the vessel head being removed constitutes a violation of TS. No evidence was found that the clarification had been used for Unit 2.

TSC 58 involves TS 3.3.2.1, Table 3.3-3, Item 8a and the 4KV Bus (EIS:EB) undervoltage relays. The TS requires a minimum of 2 of 3 channels of the loss of voltage instrumentation to be operable in Modes 1, 2 3, and 4. In 1991 during a Unit 1AB Emergency Diesel Generator (EDG) (EIS:EK) outage, the control power bus was removed from service at the same time as the EDG, de-energizing all of the undervoltage relays. When the bus was de-energized, unexpected alarms were received in the Control Room. Operations questioned the receipt of the alarms and re-energized the control bus, and thus the undervoltage relays, within 15 minutes. During the investigation of the event, it was concluded that the undervoltage relays had no function if the associated EDG was inoperable, therefore their de-energization did not constitute a TS violation. A nearly identical event occurred in 1993, with Operations again questioning receipt of the alarms and promptly restoring power to the relays within 15 minutes. The evaluation of the second event used the same logic regarding TS compliance. After the 1993 occurrence a request for a formal clarification was made.

The clarification states that "de-energized 4kV undervoltage relays associated with an inoperable diesel generator need not be declared inoperable." The clarification improperly concluded that the relays had no function when the associated EDG

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is inoperable, and that the actions required by the TS when more than one channel is inoperable were not required. Although the clarification itself was not written until after the 1993 event, the 1991 and 1993 use of the justification later embodied in the clarification constitutes a violation of TS. No evidence was found that the clarification had been used for Unit 2.

Cause of Event

The cause of the event is that in the past, station management and the Nuclear Licensing department subscribed to a standard of TS compliance in which compliance with the intent, rather than verbatim compliance with the TS wording, was deemed to be acceptable. This can be seen in TS interpretation letters and TS clarifications from as early as 1975, continuing until 1996.

Analysis of Event

The failure to comply with the requirements of the TS described here was determined to be a violation of 10 CFR 50.73(a)(2)(i)(B), as a condition prohibited by TS.

This reportable condition was originally identified on October 13, 1999. At the time of its identification, it was erroneously concluded that since the investigation was part of the extent of condition from LER 315/99-004-01, that a supplement would be submitted when all departments reviewing existing clarifications for TS non-compliance completed their reviews. This conclusion was called into question during the NRC Programmatic Readiness Inspection conducted the week of December 13, 1999, at DC Cook. On December 17, 1999, the NRC determined that the TS violations identified here should have been reported within 30 days of identification, and failure to do so represented a violation of 10CFR50.73. As such, this LER is submitted outside the 30 days allowed by 10CFR50.73. The failure to submit the LER in a timely manner will be resolved within the guidelines of the DC Cook Corrective Action Program.

With regard to TSC 42, the inappropriate conclusion that the vessel head could be considered to be removed when it is sitting unsecured on the vessel flange had minimal safety significance because the head would not have acted as a pressure boundary and cause the vessel to be overpressurized. For the time period in 1989 when the clarification was used, there is no indication in the Control Room logs that an overpressurization event occurred. Additionally, there are no records that indicate that an overpressurization event occurred during any other refueling outage when this clarification may have been used.

Regarding TSC 58, each set of three undervoltage relays is associated with a specific set of busses and one EDG. The removal of the relays from service did not impact the ability of the associated EDG to perform its function, as the associated EDG was already inoperable. Removal of the relays from service did impact the relay function of opening the feeder breaker to the 4kV bus. However, for this to have negatively impacted the equipment powered from that bus, the unit would have had to experience a reactor trip, transfer to offsite power and have a sustained degraded grid condition, all within the 15 minutes that the relays were without power. This is considered to be a highly unlikely scenario. Additionally, during the time when the relays were out of service, the redundant EDG was operable and capable of powering its associated busses. The failure to appropriately recognize that the relays were inoperable, therefore, had minimal safety significance.

Corrective Actions

The thirteen TS clarifications that are still active will be cancelled. They will be dispositioned by incorporation into TS amendments, TS Bases changes or other means, as appropriate. All clarifications will be cancelled by February 25, 2000. Any resultant TS amendment requests will be submitted on a schedule commensurate with their significance.

Upon resolution of the thirteen active clarifications, action will be taken to eliminate the clarification program and cancel the governing procedure. This will be completed by March 25, 2000.

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A memo was issued by the Director of Regulatory Affairs to all Department Heads for dissemination to their personnel, and to Regulatory Affairs personnel regarding the need to comply with both the actual wording and intent of TS. The memo defined Regulatory Licensing as the point of contact for all questions regarding verbatim compliance with the TS. As an informational tool, an article was also published in the plant newsletter, for all personnel to read, that reinforced the need for compliance with both the letter and intent of TS.

Previous Similar Events

- 315/99-004-01
- 315/99-009-01
- 315/99-024-00
- 315/99-025-00
- 315/99-029-00