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Nuclear Business Unit

OCT 26 1995

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

Attn: Document Control Desk

HOPE CREEK GENERATING STATION
DOCKET NO. 90-354
LICENSEE EVENT REPORT NO. 95-022-00

This Licensee Event Report entitled "Failure to Enter Technical Specification 4.0.3 when Conditions Dictated That All Emergency Diesel Generators Should Be Declared Inoperable" is being submitted pursuant to the requirements of the Code of Federal Regulations 10CFR50.73 (a)(2)(i).

Sincerely,

Mark E. Reddemann
General Manager -
Hope Creek Operations

SORC Mtg. 95-099

DVH

C Distribution
LER File

9510310239 951026
PDR ADDCK 05000354
S PDR

The power is in your hands

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11

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

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TITLE (4)

FAILURE TO ENTER TECHNICAL SPECIFICATION 4.0.3 WHEN CONDITIONS DICTATED THAT ALL EMERGENCY DIESEL GENERATORS SHOULD HAVE BEEN DECLARED INOPERABLE

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
07	20	95	95	022	00	10	26	95		05000
										05000

OPERATING MODE (9)	POWER LEVEL (10)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
1	100	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

Mr. J. Clancy, Technical Manager - Hope Creek

TELEPHONE NUMBER (include Area Code)

609-339-3144

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)

YES (If yes, complete EXPECTED SUBMISSION DATE).

X NO

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

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

On July 12, 1995 Hope Creek Generating Station was provided information that the Salem Generating Station (operated by PSE&G) had declared all six of their EDGs inoperable the previous day due to incomplete documentation of the EDG up-to-rated frequency start time (Ref LER 272/95-015-00). Following this date, several opportunities were missed for plant personnel to determine that the Hope Creek Emergency Diesel Generators (EDG) also did not have documentation that met Technical Specifications (TS) SURVEILLANCE REQUIREMENT (SR) 4.8.1.1.2.a.4 and therefore should have been declared inoperable. Because this lack of surveillance test results was not recognized, the appropriate actions of TS 4.0.3 were not taken, i.e. perform an acceptable surveillance test on each EDG within 24 hours. The apparent cause of this event was inadequate analysis by the Operating Experience Feedback (OEF) program. Corrective actions include a more stringent OEF program, counseling of involved personnel, and a License Change Request to revise the TS SR.

This event is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B), any condition prohibited by the plant's Technical Specifications.

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

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor (BWR/4)
Emergency Diesel Generators {EK/DG}

* Energy Industry Identification System (EIIS) codes and component function identifier codes appear in the text as {ss/ccc}.

IDENTIFICATION OF OCCURRENCE

Event Date: July 20, 1995
Date Determined to be Reportable: September 26, 1995

CONDITIONS PRIOR TO OCCURRENCE

Plant in OPERATIONAL CONDITION 1 (Power Operation)
Reactor Power 100% of rated power, 1109 MWe

There were no structures, components, or systems that were inoperable at the start of the event that contributed to the event.

DESCRIPTION OF OCCURRENCE

On July 12, 1995 Hope Creek Generating Station was provided information that the Salem Generating Station had declared all six of their EDGs inoperable the previous day due to incomplete documentation of the EDG up-to-rated frequency start time (Ref LER 272/95-015-00). On July 20, 1995 the Salem EDG issue was discussed in a Hope Creek Operating Experience Feedback (OEF) meeting. The Salem Station event, miscommunicated through use of the Nuclear Network Plant Status report number PS 4107, was reviewed during this meeting. The plant status report had somewhat misleading information in that it described the monthly EDG start and simulated safety injection signal test (18 month test) as the same test.

The Hope Creek OEF review of the Salem event was neither well communicated nor understood due to lack of detail and questioning attitude. During the OEF meeting, it was thought that the problem was related to initial overshoot of the frequency acceptance band and that the overshoot was not permitted. It was mistakenly stated in the OEF meeting that Hope Creek does not have the overshoot problem but if it should occur, the Hope Creek procedures might not detect the problem if it existed at Hope Creek. However, the Salem problem was not overshoot, but rather demonstrating and documenting attainment of a steady state frequency, 60 Hz plus/minus 1.2 Hz, within 13 seconds (for Hope Creek the limit is ten seconds). This misunderstanding of the problem started a process that was not addressing the actual problem. In the OEF meeting the Hope Creek Operations

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DESCRIPTION OF OCCURRENCE (cont'd)

Department was tasked to review their procedures to detect an overshoot occurrence at Hope Creek.

The OEF followup action was assigned to an Operations Staff Supervisor (licensed Senior Reactor Operator) who prepared a procedure revision. The supervisor understood the issue as being an overshoot concern by exceeding the upper acceptance value of 61.2 Hz and did not understand that attaining a steady frequency and voltage, 60 Hz plus/minus 1.2 Hz and 4160 volts plus/minus 420 volts, within ten seconds was the issue. However, the literal meaning, based on the Salem plant's experience, of the TS SR was that the EDG was to settle into the acceptance band following overshoot (and undershoot) within ten seconds. The initial draft of the procedure revision did not address the ten second timing (i. e. stabilization) During review of the procedure revision, the ten second timing issue was eventually understood and appropriate wording was incorporated in the procedure. During the procedure revision process the procedure writers and reviewers did not recognize that by making acceptance criteria for EDGs more restrictive, the EDGs needed to be evaluated for operability against the revised acceptance criteria.

After the revised meaning of the ten second requirement was understood, it was not communicated to the System Manager who was not involved with the procedure revision. Independently, the System Manager initiated four action requests (one for each of the four EDGs) to instrument the EDGs for frequency and voltage during subsequent monthly runs to gather data for assessment of actual frequency and voltage response.

The procedure for the "B" EDG was approved on September 22, 1995. The first test implementing the revised ten second requirement with the instrumentation to record the frequency and voltage was run on that same day, September 22, 1995. The initial EDG test on September 22, 1995 failed due to the newly revised ten second timing requirement using a stop watch. The "B" EDG was successfully retested later using a recorder with a start signal trace. The shift crew, as well as the team assembled to support the EDG testing, did not recognize the TS 4.0.3 implications but were instead highly focused on compliance with TS 3.8.1.1 Action b which requires the remaining EDGs to be tested within 16 hours. The TS 3.8.1.1 Action b action time of 16 hours is more restrictive than the TS 4.0.3 action time of 24 hours. The actions taken for 3.8.1.1 Action b met the requirements and intent of TS 4.0.3, had TS 4.0.3 been entered. The remaining EDG tests did successfully meet the revised ten second requirement. Discussions on September 26, 1995 regarding the September 22, 1995 "B" EDG tests led to the conclusion that documentation did not previously exist to demonstrate the TS surveillance was fully met and that TS 4.0.3 should have been entered as early as July 12, 1995.

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ANALYSIS OF OCCURRENCE (cont'd)

Hope Creek TS 4.1.1.2.a.4 requires: "The generator voltage and frequency shall be 4160 volts plus/minus 420 volts and 60 Hz plus/minus 1.2 HZ within ten seconds after receipt of the start signal." While the concern was attaining the frequency in the acceptance band within ten seconds, the same concern did not exist for voltage because voltage stabilizes more rapidly than frequency. The previous testing method terminated the stop-watch timed start evolution when the EDG frequency and voltage first exceeded the acceptable minimum values, i.e. 58.8 Hz and 3740 volts. EDGs exhibit a common phenomenon referred to as frequency overshoot. Overshoot is the time that the frequency is above the upper acceptance value (61.2Hz) of the acceptance band to the time that it re-enters the acceptance band. As the governor and speed control react, the frequency returns to the setpoint value (60 plus/minus 1.2 Hz), within a very short time span.

The revised literal meaning of the TS SR was that the EDG was to settle into the acceptance band following overshoot (and undershoot) within ten seconds. While preparing the procedure revision, there was confusion as to what the ten second issue entailed and what effect it had on performance of the surveillance procedure. After the ten second requirement was understood, no analysis was performed to determine how the Hope Creek EDGs had met this ten second requirement in the past.

In response to subsequent failures (Ref Special Report 354/95-002-00 and LER 354/95-023-00) to meet the ten second requirement, the intent of the ten second requirement was reviewed. As a result of this review, a License Change Request (LCR) was prepared which revised the acceptance requirement for the frequency response. In response to the LCR it was communicated by the NRC that the meaning of the Hope Creek TS SR, that the ten second requirement was for the EDG to settle into the acceptance band following overshoot (and undershoot), was not consistent with the intent of the TS SR.

APPARENT CAUSE OF OCCURRENCE

The failure to invoke TS 4.0.3 was a result of inadequate data analysis of the OEF from the Salem Station EDG event, failure to review Salem LER 272/95-015-00, lack of clear bases for the timing test in the TS and a procedure which failed to adequately demonstrate the timing criteria. The human errors involved included misjudgment (e.g. wrong assumptions, lack of information validation and verification), inattention to detail (on the job distraction and misinterpretation of information) and underestimating complexity of task.

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PRIOR SIMILAR OCCURRENCE

No other previous similar events associated with the method of timing the EDG up-to-rated frequency start acceptance criterion have occurred at Hope Creek.

LER 354/95-017-00 identified an event where testing of the EDGs to verify TS SR 4.8.1.1.2.h.4a and 6a was incomplete. As a result, the required TS SR was determined to have been missed and the four EDGs were declared inoperable and TS 4.0.3 was entered.

Two LERs, 354/95-016-01 and 354/95-017-00, identified inadequate OEF as a contributing factor to the cause of the events. However, these LERs were issued after the OEF meeting described in this LER.

SAFETY SIGNIFICANCE

The safety significance was minimal since all four EDGs demonstrate operability IAW IEEE Standard 387-1977 and Regulatory Guide 1.108. The data shows that all four EDGs were functional and would have, at appropriate frequency and voltage, supported output breaker closure permissive within ten seconds.

CORRECTIVE ACTIONS

Procedure NC.NA-AP.ZZ-0054, Operating Experience Feedback (OEF) Program, will be revised to require Action Requests be generated for OEF items designated as requiring action. This will require operability and reportability determinations to be completed. Appropriate causal analysis for these Action Requests will be performed prior to implementing corrective action to prevent recurrence for items presented. The procedure revision will be completed by January 1, 1996.

In addition, the OEF process is under review for changes such as including assurance that important knowledge and experience gets transferred in a timely fashion. The review and corresponding actions will be completed by January 1, 1996.

Operations and System Engineering personnel directly involved in the procedure revision and diesel testing that should have recognized the problem will be appropriately counseled by November 10, 1995.

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CORRECTIVE ACTIONS (cont'd)

As previously described in Violation 50-354/95-10-02 response and LER 354/95-003-01, a Technical Specification Surveillance Improvement Program (TSSIP) has been initiated to, along with other items, discover similar misapplication of TS information in surveillance procedures. This TSSIP will be completed by December 31, 1996.

A License Change Request (LCR) to make the wording in the TS consistent with the design basis testing documents was submitted on October 7, 1995.

The lessons learned from this event will be incorporated in the 1996 appropriate continuing training for Operations, selected plant supervisors, System Engineers and System Engineering Supervisors. Specifically, the actions associated with TS 3.0 and 4.0 will be emphasized. SORC members will also attend sessions to refresh their training on the same subject.