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REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9203190175 DOC. DATE: 92/03/11 NOTARIZED: NO DOCKET #
 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana M 05000315
 AUTH. NAME AUTHOR AFFILIATION
 WEBER, G.A. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
 BLIND, A.A. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 92-002-00: on 920210, inoperable emergency diesel generator. Caused by low governor oil temp. Operations Dept have been advised of condition & need to maintain diesel room temp at normal ambient levels. W/920311 ltr.

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 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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AO-4

Indiana Michigan
Power Company
Cook Nuclear Plant
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Bridgman, MI 49106
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March 11, 1992

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

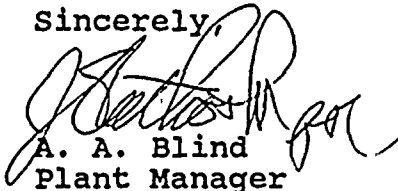
Operating Licenses DPR-58
Docket No. 50-315

Document Control Manager:

In accordance with the criteria established by
10 CFR 50.59 entitled Licensee Event Report System, the
following report is being submitted:

92-002-00

Sincerely,



A. A. Blind
Plant Manager

/sb

Attachment

c: D. H. Williams, Jr.
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ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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

The AB-EDG could have been inoperable for up to 96 hours and 5 minutes. This exceeded the 72 hour inoperable EDG limit allowed by Technical Specification 3.8.1.1.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

D. C. COOK NUCLEAR PLANT - UNIT 1

0 5 0 0 0 3 1 5 9 2 - 0 0 2 - 0 0 0 2 OF 0 4

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

Conditions Prior to Occurrence

Unit-1 in Mode 1 (Power Operation), at 100 percent power.

Description of Event

On February 10, 1992, at 0039 hours, the AB-Emergency Diesel Generator (EDG), (EIIS:EK/65) was started for routine operability testing in accordance with Technical Specification 3.8.1.1. The EDG reached 514 RPM (normal operating speed) in 8.59 seconds and continued to increase to 540 RPM when the EDG tripped on overspeed. The overspeed trip functioned per design. The EDG was declared inoperable. In troubleshooting the event, another attempt to start the EDG was made at 0335 hours and resulted in another overspeed trip. During the second attempt, the response of the fuel injection linkage indicated that the governor was slow to respond to the speed increase.

Investigation revealed that the Jacket Water warming line to the governor (EIIS:EK/DG) was cold and the ventilation supply was blowing across the warming line. The Ventilation System was in an abnormal line-up since February 6, 1992 when EDG Room ventilation supply damper problems were encountered. Upon discovery of this condition on February 6, 1992 the supply damper was opened and the fuses for the damper operator were pulled to keep the damper in the open position. Between February 6 and 10, 1992, the outdoor temperatures ranged between 15 and 36 Degrees-F.

The ventilation supply damper repairs were completed and the damper was closed. After warming the EDG room and governor, the EDG started and functioned properly. The EDG was declared operable and returned to service on February 10, 1992 at 1753 hours.

Cause of Event

The cause of the event is low governor oil temperature. The low governor oil temperature resulted from the combination of insufficient governor oil warming line flow, opened supply fan damper, and low outside temperatures.

Analysis of Event:

The actual time the EDG became inoperable cannot be determined. For reportability purposes we are assuming the EDG was inoperable from 1748 hours on February 6, 1992, when the ventilation supply damper was opened, until February 10, 1992 at 1753 hours, when the EDG was returned to service. This spans a time of 96 hours and 5 minutes. This would be in violation of Technical Specification 3.8.1.1 requirements as the 72 hour limit for an inoperable EDG was exceeded. There was no significant impact on public health and safety.

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FACILITY NAME (1) D. C. COOK NUCLEAR PLANT - UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 3 1 5 9 2 — 0 0 2 — 0 0 0 3 OF 0 4	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

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Analysis of Event Continued:

This is based on the following:

1. The preferred offsite power source (reserve power) was available for the duration of the event. If normal power was lost, Unit 2 auxiliaries would have automatically transferred to reserve power.
2. The Unit 1 CD EDG was available for the duration of the event. If normal and reserve power were both lost, the LCD EDG would have automatically started to supply power to one train of safeguards equipment. Each EDG is capable of supplying sufficient power to operate the engineered safety features (ESF) and protection systems required to avoid undue risk to public health and safety. EDG capacity is established on the basis of the operation of ESF during a maximum hypothetical incident concurrent with a loss of offsite power and is adequate for safe and orderly shutdown of the unit.
3. In the event normal and reserve power was lost, and the Unit 1 CD EDG failed, the 69KV alternate offsite power source would have been lined up to supply power to the safeguard buses. The 69/4.16KV transformer is sized to provide necessary capacity to operate the engineered safeguards equipment in one unit while supplying safe shutdown power in the other.

The Cook Plant is designed to cope with a station blackout for four hours. This allows sufficient time to take the manual actions required to align the 69KV supply to the safeguard buses.

4. The EDG was probably not inoperable for the entire period between February 6 and 10, 1992. The environment the governor was subjected to was affected by wind direction and outside temperatures. The EDG, most likely, became inoperable late in the period. In any case, there were probably periods of EDG operability and inoperability. The allowable outage times for inoperable equipment provided in the Technical Specifications were determined by the Atomic Energy Commission (AEC) based, in large part, on a qualitative assessment of the safety significance of the specified inoperability determination. As such, the allowance of an inoperable diesel for 72 hours has already been considered by the AEC from a risk perspective (and determined to be acceptable). This event could have exceeded the analyzed time of 72 hours, by 24 hours and 5 minutes.

Corrective Actions:

The cause of the event was a combination of three factors: Insufficient governor oil warming line flow, an open supply fan inlet damper, and low outside temperature. These factors were required to exist simultaneously to cause the diesel generator governor oil to become too cold for the governor to perform its controlling function. Removal of any one of these factors would have resulted in the governor oil temperature being in its normal operating range. On the day of the event the open inlet supply damper was closed. After damper closure and diesel room temperature was allowed to recover to normal the diesel surveillance test was performed successfully.

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0 5 0 0 0 3 1 5 9 2 - 0 0 2 - 0 0 0 4 OF 0 4

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Corrective Actions Continued:

To avoid the establishment of a similar set of conditions which would result in a low governor oil temperature, Operations Department personnel have been advised of the condition and the need to maintain the diesel room temperature at normal ambient levels.

Root cause investigation is underway to determine cause of the insufficient warming line flow. The completion of the investigation/corrective action may require removing the diesel from service. These activities have been scheduled to be completed during the Unit 1 Refueling Outage.

Although no such similar events have occurred with the other EDGs, the corrective actions from this investigation will include all EDGs as applicable.

Failed Component Identification:

Component I.D.: 1-DGAB-HYDACT

Manufacturer: Woodward Governor Co.

Model: 9903-190

Previous Similar Events:

There were no previous similar events.

