

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1) Indian Point, Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 2 8 6	LER NUMBER (6)			PAGE (3) 8 4 — 0 1 5 — 0 1 0 2 OF 0 3		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

TEXT (If more space is required, use additional NRC Form 365A's) (17)

On November 16, 1984, the reactor was at cold shutdown for a scheduled maintenance and inspection outage. Reactor Coolant System (RCS) temperature was approximately 115 degrees with No. 32 Residual Heat Removal (RHR) pump providing core cooling. All plant electrical loads were being supplied from offsite 138KV sources through the Station Auxiliary Transformer (ST). 6.9KV buses 5 and 6 were energized from the ST via breakers ST-5 and ST-6. All other inservice 6.9KV buses were energized via tie breakers to buses 5 and 6. No. 31 Emergency Diesel Generator (DG) was out of service for scheduled maintenance. Nos. 31 through 36 Service Water Pumps (SWP) were out of service to provide protection for divers cleaning the suction to the pumps on the intake structure. Nos 38 and 39 SWP and Nos. 31 and 32 Component Cooling Water (CCW) Pumps were operating.

At 1242 hours on November 16, breakers ST-5 and ST-6 were tripped open via fault detection circuitry. A phase to phase fault had occurred as a piece of metal was blown onto the 138KV primary side A and B phase ST buswork from an adjacent building roof. As breakers ST-5 and ST-6 opened, normal offsite power to the plant was lost. Nos. 32 DG and 33 DG started automatically due to the undervoltage condition on their respective 480V buses (6A and 5A), and achieved normal operating voltage. 33 DG successfully re-energized bus 5A, automatically starting 31 CCW pump. The output breaker, 52-EG2, for 32 DG did not close, leaving bus 6A de-energized.

The control room operators closed breakers GT-35 and GT-36 at 1256 hours to re-energize 6.9KV buses 5 and 6 from the 13.8KV offsite sources. 480V buses 2A and 3A were then manually energized via normal supply and tie breakers. 31 RHR pump was started manually to re-establish core cooling. Attempts to energize 480V bus 6A by closing the Station Service Transformer (SST) supply breaker SST-6 were unsuccessful due to an apparent loss of DC control power to the breaker. The operators then attempted to energize bus 6A from bus 3A by closing tie breaker 3AT6A. This breaker also failed to close. No. 38 Service Water Pump was started manually to supply essential header cooling water. Both operating diesel generators were secured since offsite power had been successfully restored. After replacing failed control fuses, breaker SST-6 was closed, re-energizing 480V bus 6A. All equipment was then returned to original status with the exception that outside power was being supplied by the 13.8KV source instead of the normal 138KV source. RCS temperature increased approximately three degrees Fahrenheit during the time RHR was interrupted.

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The total time that power was unavailable to the RHR system was fourteen minutes. Since the reactor had been in the cold shutdown condition for over a month and Tav_g was significantly below the 200° limit for cold shutdown at the time of the event, the plant operators voluntarily chose to proceed cautiously and deliberately in restoring power. This was in light of the amount of equipment out of service at the time.

Investigation into the series of breaker failures associated with bus 6A has yielded the following results: 1) Breaker 52-EG2, the output breaker for No. 32 DG, operated in accordance with design even though it did not close. Logic circuitry for the plant's electrical distribution system prevents any 480V vital bus from being tied to two separate power supplies simultaneously. The bus 6A normal feed breaker, 52/6A, failed to open when offsite power was lost due to failed control power fuses (Fusetron Model FRN 3.2 Amp.) The logic circuitry therefore prevented breaker 52-EG2 from closing since two supply breakers to bus 6A would have been closed. 2) Breaker SST-6, the SST supply breaker for bus 6A, opened as required on the loss of offsite power. The control power fuses (Shawmut Model OT40, 40 Amp.) for this breaker are believed to have failed the previous time the breaker was closed. The operators were unable to close SST-6 until the fuses were replaced. 3) No cause for the failure of breaker 3AT6A (Westinghouse Model DS-532) was determined. The breaker worked properly the following day during testing.

On November 17, 1984 the events of the previous day were simulated to check the operation of all undervoltage associated equipment. As previously mentioned, new power supply fuses had been installed in breakers SST-6 and 52/6A. All equipment operated correctly. The roof from which the metal had fallen was inspected and all remaining loose material was removed.

This event is reportable under 10CFR 50.73(a)(2)(iv) due to the actuation of the Emergency Diesel Generator System, and under 10CFR 50.73(a)(2)(v) because No. 32 Emergency Diesel Generator did not automatically tie to the bus. It should be noted that redundant offsite power sources and the distribution of safety equipment power supplies among the remaining vital 480V buses (2A, 3A, and 5A) ensured that the required safety related equipment could be restarted with bus 6A de-energized.

No similar events have been reported to date.

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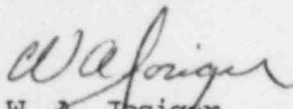
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Washington, D. C. 20555

Dear Sir:

The attached Licensee Event Report LER 84-015-01 is hereby submitted in accordance with the requirements of 10CFR50.73.

This event is of the type defined in Paragraphs 50.73(a)(2)(iv) and 50.73 (a)(2)(v). The major purpose of this revision is to clarify the distinction between loss of offsite power and station blackout as pertaining to the event. In revision zero the event was mistakenly identified as blackout. Consistent with accepted N.R.C. definitions, this event should be classified as a loss of normal offsite power.

Very truly yours,


W. A. Josiger
Resident Manager

FWG/jm
Attachment

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