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CON'T

0	1
7	8

REPORT SOURCE

L	6	0	5	0	0	0	3	1	6	7	0	6	1	5	7	8	8	0	6	2	9	7	8	9	
60	61									68	69						74	75						80	
DOCKET NUMBER											EVENT DATE											REPORT DATE			

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

08 | _____ 8

SYSTEM CODE 0 9		CAUSE CODE Z Z		CAUSE SUBCODE A B		COMPONENT CODE Z Z Z Z Z Z						COMP. SUBCODE Z		VALVE SUBCODE Z			
7	8	9	10	11	12	13	14	15	16	17	18	19	20				
LER/RO REPORT NUMBER 17		EVENT YEAR 7 8		SEQUENTIAL REPORT NO. 0 3 7		OCCURRENCE CODE 0 1		REPORT TYPE T		REVISION NO. 1							
21	22	23	24	25	26	27	28	29	30	31	32						
ACTION TAKEN H		FUTURE ACTION H		EFFECT ON PLANT Z		SHUTDOWN METHOD Z		HOURS 0 0 0 0		ATTACHMENT SUBMITTED Y		NPRD-4 FORM SUB. N		PRIME COMP. SUPPLIER Z		COMPONENT MANUFACTURER Z 9 9 9	
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47			

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 THE AUXILIARY EQUIPMENT OPERATOR CLOSED AND TAGGED OUT THE STARTING AIR

1 1 PILOT VALVES ON THE AB EMER DIESEL GEN INSTEAD OF CD EMER DIESEL GEN BY

1 2 MISTAKE. DOORS TO ALL 4 EMER DIESEL GEN ROOMS WERE LABELED. AUXILIARY

1 3 EQUIPMENT OPERATOR WAS REPRIMANDED. EVENT WAS DISCUSSED WITH ALL SENIOR

1 4 SHIFT OPERATING PERSONNEL BY OPERATIONS SUPERINTENDENT. SEE SUPPLEMENT.

FACILITY STATUS (1) 5 (2) B (28) % POWER (3) 0 (4) 6 (5) 3 (29) OTHER STATUS (30) NA METHOD OF DISCOVERY (31) A (32) RELEASING DISCOVERY DESCRIPTION CLEARANCE PERMIT

ACTIVITY CONTENT
RELEASED OF RELEASE

1 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

AMOUNT OF ACTIVITY (35)

NA

LOCATION OF RELEASE (36)

NA

PERSONNEL EXPOSURES		TYPE		DESCRIPTION
NUMBER				
1	7	0	0	0
		37	Z	38 NA

PERSONNEL INJURIES		DESCRIPTION	
NUMBER			
1	0101	40	NA

1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		50		51		52		53		54		55		56		57		58		59		60		61		62		63		64		65		66		67		68		69		70		71		72		73		74		75		76		77		78		79		80	
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10
PUBLICITY
ISSUED DESCRIPTION (45)
20 N (44) NA
NRC USE ONLY

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PDR ADOCK 05000316
S PDR

NRC USE ONLY

(A) Description of the Event:

In Mode 1 the Emergency Diesel Generators are normally lined up for automatic start and loading if required.

At 1109 hours on June 15, 1978 the CD Emergency Diesel Generator (EDG) was started manually and paralleled with the system because it had been reported there was a fuel oil leak on an injector. The CD Emergency Diesel Generator was stopped at 1153 hours after locating the fuel leak. The "AB" Emergency Diesel Generator was started manually at 1213 hours to verify its operability as required by Technical Specification 3.8.1.1 Action a. The "AB" Emergency Diesel Generator was stopped at 1322 hours after being proven operable.

Clearance Permit 9350 was prepared by the Shift Operating Engineer (SOE) at 1345 on June 15, 1978 to place the CD-EDG out of service to repair the leaking injector. The SOE gave the Clearance Permit to the Unit Supervisor (US) for performance. The US instructed the Auxiliary Equipment Operator (AEO) to hang the Clearance Tags. The CD-EDG output breaker control switches located in the Unit 2 Control Room were placed in the "Pull to Lockout" position by the US and the AEO placed the tags on the control switches. Placing the circuit breaker control switches in the "Pull to Lockout" position prevents any automatic signal from starting the engine. The AEO then proceeded to the EDG rooms to close and place tags on the Starting Air Pilot Valves for

the engine. The Starting Air Pilot Valves were being closed to prevent being able to start the engine manually. The AEO entered the wrong EDG room and closed and tagged the Starting Air Pilot Valves for the AB-EDG. The four tags for Clearance Permit 9350 were recorded as being in place at 1351 hours on June 15, 1978. The Maintenance Man who was to repair the leaking fuel injector recorded he checked and accepted the Clearance Permit at 1410 hours on June 15, 1978. The Maintenance Man made the repairs and released his Clearance Permit at 1620 hours on June 15, 1978. By this time, the Operating Shift had changed and a new shift was in charge of the plant. The SOE directed the US to have the Clearance Permit Tags picked up and the circuit breaker control switches and Starting Air Pilot Valves returned to their normal position. The US directed the AEO to remove the tags from the CD-EDG Starting Air Pilot Valves and to open the valves. The AEO entered the CD-EDG room and found the Starting Air Pilot Valves open and no tag on them. He immediately reported this to the US. The US directed the AEO to check the AB-EDG to see if the tags were incorrectly placed. The AEO found that the AB-EDG Starting Air Pilot Valves had been closed and tagged. The AB-EDG valves were recorded as open at 1645 hours.

Placing the CD-EDG control switches in the "Pull to Lockout" position prevented the CD-EDG from automatically starting and loading on a demand signal. Shutting the

Starting Air Pilot Valves on the AB-EDG prevented air from starting the AB-EDG on any signal, manual or automatic. Therefore both the AB-EDG and CD-EDG were inoperable in violation of Technical Specification 3.8.1.1 for a period of three hours.

(B) Cause of the Event

The primary cause of this event was operator error by the AEO. The AEO mistakenly entered the wrong EDG room and closed and tagged the wrong Starting Air Pilot Valves.

Secondary causes of this event were (1) the signs to identify the EDG rooms had not been made and installed. Most of the rooms in the two Units are mirror image from the center line of the plant. This is not true of the EDG rooms. In both Units the AB-EDG room is to the right of the center line and CD-EDG is to the left of the center line. Also the first door off the hallway a person comes to on Unit 1 is the AB-EDG room and on Unit 2 the first door off of the hallway is the CD-EDG room. The Maintenance Man involved in making the repairs verified the tags correctly placed in the Control Room but did not verify the tags correctly placed on the Starting Air Pilot Valves. This would not have prevented the event but would have reduced the amount of time that both EDG were inoperable.

(C) Corrective Action Taken At Time Event Was Discovered

The US directed the AEC to check the A3-EDG to see if the wrong Starting Air Pilot Valve had been shut. The AB-EDG Starting Air Pilot Valves were immediately opened and the tags were removed. The CD-EDG was started at 1655 hours and paralleled with the system. There were no more fuel oil leaks and the CD-EDG was declared operable at 1807 hours. Opening the Starting Air Pilot Valves had restored the AB-EDG to an operable condition.

(D) Safety Evaluation of the Event

The Emergency Diesel Generators provide a backup to the two Technical Specification required independent off-site transmission networks. Throughout this event both of these off-site transmission networks were operable and the circuit breaker lineup as required by Technical Specification 4.8.1.1.1a had been performed within the required time frame when the CD-EDG was removed from service.

One of the independent off-site sources is available on automatic and instantaneous transfer when normal auxiliary power is lost. The second source is a 69KV transmission line which experience has shown can be manually connected to our plant busses in less than two minutes.

Further than this, we recently added another source of auxiliary power supply over that required by our operating

license. This power supply was also available during the time of this incident.

In the event the off-site transmission sources had been lost the US would have immediately known the AB-EDG did not start. The AB-EDG could have been checked out and the Starting Air Pilot Valves opened and the engine started in an estimated 5 minutes.

This is the first instance at the Cook Nuclear Plant where both diesel generators have been inadvertently made inoperable. Action Item D in Technical Specification 3.8.1.1 requires that with two diesel generators inoperable at least one of the inoperable diesel generators must be restored to operable status within two hours or be in at least hot standby within the next six hours and in cold shutdown within the following 30 hours. During this incident both diesel generators were inoperable for three hours which is within the 8 hour time period specified by the Technical Specifications necessary to protect the health and safety of the public.

(E) Corrective Action Taken to Prevent Recurrence

- (1) The entranceways to the EDG rooms have been painted orange for U-1 and blue for U-2. On this blue or orange background, a large AB or CD has been painted in white. This painting scheme makes it very obvious which EDG room is being entered.
- (2) The entrances to all rooms containing safety-related equipment have been marked by placing a sign designating the Unit and equipment in the room. This was completed October, 1978.
- (3) The components within the EDG rooms have been clearly labeled.
- (4) PMI-2110 Equipment Control-Clearance Permit System has been revised to require independent verification of the tagging process by the Operations Department for all Technical Specification required equipment.
- (5) The AEO who closed and tagged the wrong Starting Air Pilot valves was reprimanded in writing for his error.
- (6) The Operations Superintendent met with the SOE and Operating Engineers for all four shifts to discuss this event and the severity of other recent events which have occurred at the plant. He also pointed out that more severe disciplinary actions would be taken in the future for careless operator errors.

- (7) A key lock system has been installed on the CO₂ isolation switch for each EDG room. Except in unusual circumstances concurred in by the Operations Shift Supervisor, entry into such areas for the purpose of tagout and maintenance activities requires the presence of at least two independent entities [worker(s) and either a security guard or a member of the dedicated fire watch crew], thereby lessening the probability of entering the wrong equipment room.