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A Duke Energy Company

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March 30, 2000

U. S. Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555-0001

SUBJECT: Duke Energy Corporation
Catawba Nuclear Station Units 1 & 2
Docket No. 50-413, 50-414
Licensee Event Report 414/00-001 Revision 0

Attached please find Licensee Event Report 414/00-001 Revision 0, entitled "Failure of Diesel Generator Output Breaker Renders 2B Diesel Generator Inoperable for Longer than Technical Specifications Allow".

Questions regarding this Licensee Event Report should be directed to R. D. Hart at (803) 831-3622.

The only commitments in this Licensee Event Report are those described in the "Planned Corrective Actions" section.

Sincerely,

G. R. Peterson

Attachment

IE22

xc:

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NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION
(6-1998)

LICENSEE EVENT REPORT (LER)

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

APPROVED BY OMB NO. 3150-0104 EXPIRES 06/30/2001

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TITLE (4)

Failure of Diesel Generator Output Breaker Renders 2B Diesel Generator Inoperable for Longer than Technical Specifications Allow

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
									Catawba Unit 1	05000413
02	29	2000	2000	001	00	03	30	2000	FACILITY NAME NA	DOCKET NUMBER

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)					
POWER LEVEL (10)	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)	
		20.2203(a)(2)(iv)	X	50.36(c)(2)		50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
R. D. Hart, Regulatory Compliance	(803) 831-3622

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
X	EB	CL	B455	Y						

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED	MONTH	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO	N/A			

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

On February 29, 2000 during the performance of the Operability Performance Test (PT/2/A/4350/002B) on diesel generator (DG) 2B, Operations was unable to close the DG Output Breaker (2ETB-18) when attempting to parallel the DG to the bus. DG 2B was secured by Operations and declared inoperable. Troubleshooting revealed that the most probable root cause was loose contact parts inside the control device that prevented closure of one of the contacts in the breaker close coil circuit. Examination of the failure mode determined that the breaker was most likely in this condition since the last time it had been operated during testing on 2/7/00. Therefore, DG 2B had been inoperable since 2/7/00. During this period routine maintenance activities resulted in equipment on both units being taken out of service. DG 2B and other required features supported by DG 2B being inoperable resulted in noncompliance with TS which is reportable as a condition prohibited by TS, 10 CFR 50.73(a)(2)(i)(B), and TS LCO not met, 10 CFR 50.36(c)(2). The failed control device was replaced and breaker 2ETB-18 successfully tested. The vendor of the failed breaker is being requested to provide recommendations on further corrective actions. Since no event occurred during this time that required the use of DG 2B, the health and safety of the public were not affected by this event.

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

Background

Catawba Nuclear Station Unit 2 is a four loop Westinghouse Pressurized Water Reactor. Unit 2 has two emergency diesel generators (DGs) 2A and 2B [EIIS: EK]. Each DG is utilized as the standby emergency power source for each 4160-volt emergency bus. DGs 2A and 2B are dedicated to busses 2ETA and 2ETB [EIIS: EB], respectively. The DGs will start automatically on a safety injection signal or on a bus loss of voltage or degraded voltage signal. Loads will be automatically connected to the bus as required by the respective load sequencer [EIIS: EK]. Monthly tests are required by Technical Specifications (TS) to verify that each DG will start and operate at full load for greater than 1 hour. To perform this test, the DG must be synchronized with the offsite power source and the DG output breaker is closed in order to add load.

The Nuclear Service Water System (RN) [EIIS: BI] provides a heat sink for the removal of process and operating heat from safety related components during a design basis accident. During normal operation and during normal plant shutdowns, the RN also provides this function for various safety related and non-safety related components.

The RN consists of two independent loops (designated A and B) of essential equipment, each of which is shared between the two units. Each loop contains two RN pumps [EIIS: P], each of which is provided backup emergency power from a separate emergency diesel generator (EDG) [EIIS: DG]. Each set of two pumps supplies two trains (1A and 2A, or 1B and 2B) of essential equipment through common discharge piping. While the pumps are unit designated (i.e., 1A, 1B, 2A, 2B), all pumps receive automatic start signals from a safety injection or blackout signal from either unit. Therefore, a pump designated to one unit will supply post-accident cooling to equipment in that loop on both units, provided its associated EDG is available.

The pressurizer [EIIS: AB] provides a point in the reactor coolant system (NC) [EIIS: AB] where liquid and vapor are maintained in equilibrium under saturated conditions for pressure control purposes to prevent bulk boiling in the remainder of the NC system. Key functions include maintaining required primary system pressure during steady state operation, and limiting the pressure changes caused by reactor coolant thermal expansion and contraction during normal load transients. Pressure control components include the required heaters, and their controls and emergency power supplies.

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

Electrical immersion heaters, located in the lower section of the pressurizer vessel, keep the water in the pressurizer at saturation temperature and maintain a constant operating pressure. A minimum required available capacity of pressurizer heaters ensures that the NC pressure can be maintained.

TS Limiting Condition for Operation (LCO) 3.8.1 governs AC Sources - Operating for Modes 1, 2, 3, and 4. LCO 3.8.1 requires in part that two DGs be operable. Condition B, Required Action B.4 for this LCO states that with one DG inoperable, the DG must be restored to operable status within 72 hours. It also states in Required Action B.2 that the required feature(s) supported by the inoperable DG must be declared inoperable when the opposite train required feature(s) are inoperable. This action must be completed within 4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s). Condition G states that with the Required Action and associated completion time of Condition B not met, the unit must be in Mode 3 within 6 hours and in Mode 5 within 36 hours.

The inoperability of a DG results in the inoperability of its associated RN Pump. LCO 3.7.8 requires that in Modes 1, 2, 3, and 4 two RN trains be operable. Condition A for this LCO states that with one RN train inoperable, the RN train must be restored to operable status within 72 hours. Condition B states that with the Required Action and associated Completion Time of Condition A not met, the unit must be in Mode 3 within 6 hours and in Mode 5 within 36 hours. Because of the shared nature of the RN, Required Action A.1 is required to be entered independently for each unit in the event of an inoperable RN train on either unit. In addition, the Bases for TS 3.7.8 states that if a shared RN component becomes inoperable, or normal or emergency power to shared components becomes inoperable, then the required actions of LCO 3.7.8 must be entered independently for each unit that is in the modes of applicability, unless certain RN flow restrictions are made as described in the Bases.

The inoperability of a DG results in the inoperability of its associated pressurizer emergency heaters. LCO 3.4.9 requires two groups of pressurizer heaters operable with the capacity of each group $\geq$ 150 KW and capable of being powered from an emergency power supply. Condition B states that with one required group of pressurizer heaters inoperable, the pressurizer heaters must be restored to operable status within 72 hours. Condition C states that with the Required Action and associated Completion Time of Condition B not met, the unit must be in Mode 3 within 6 hours and in Mode 5 within 36 hours.

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

On February 29, 2000 during performance test (PT) PT/2/A/4350/002B, Diesel Generator 2B Operability Test, Operations was unable to close the DG Output Breaker (2ETB-18) when attempting to parallel the DG to the bus. DG 2B was secured by Operations and declared inoperable. Operations documented this event in Problem Investigation Process (PIP) C-00-00891. Subsequent troubleshooting revealed that the most probable root cause was loose contact parts inside the control device that prevented closure of one of the contacts in the breaker close coil circuit. Examination of the failure mode led to the conclusion that the breaker was most likely in this condition, where the close coil circuit could not close the breaker, since the last time it had been operated. Prior to this event, 2ETB-18 had last been closed and tripped on 2/7/00 during an Operability PT performed on that date. Therefore, DG 2B had been inoperable since 2/7/00. This time frame exceeded the required action time of TS 3.8.1.

There was no indication that the DG 2B output breaker 2ETB-18 had failed after the operability PT performed on February 7, 2000. The breaker performed satisfactorily during testing and the breaker open indication was normal.

During this time period routine maintenance activities on both units resulted in several pieces of equipment being taken out of service during the time period that DG 2B was unknowingly inoperable. This resulted in additional incidents of non-compliance with TS.

The breaker is an Asea Brown Boveri (ABB) model 5HK 250, 1200 amp breaker. The breaker has a 5 year preventive maintenance (PM) and a 10 year refurbishment schedule. This work is done onsite under inspection procedure (IP) IP/0/A/4974/003, Inspection & Maintenance of 5 HK air circuit breakers. This breaker was refurbished at Catawba in March 1999 and put into service in its current application in June 1999. During the breaker refurbishment the preventative maintenance task was also completed. This consisted of disassembly, visual inspection, cleaning of contacts, and linkage gap adjustment. The control device does not require field lubrication. The required preventative maintenance activities were up to date per the vendor's recommendations.

Unit 2 and Unit 1 operated in Mode 1, "Power Operation" during this event. The event is being reported as any operation or condition prohibited by TS, 10CFR50.73(a)(2)(i)(B), and TS LCO not met, 10CFR50.36(c)(2).

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

Event Description

2/07/00 ~0430 DG 2B is taken out of service for fuel injector replacement and routine maintenance.

2/07/00 ~1335 2ETB-18 is closed during PT/2/A/4350/002B for DG 2B following scheduled maintenance.

2/07/00 ~1752 2ETB-18 opened following successful completion of PT/2/A/4350/002B.

2/29/00 ~0956 DG 2B is started for monthly Operability PT.

2/29/00 ~1010 Operations attempted to close 2ETB-18 with no success.

2/29/00 ~1025 Engineering contacted to observe problem being encountered.

2/29/00 ~1030 Operations attempts to close 2ETB-18 electrically with Engineering personnel present. The attempt is unsuccessful. Engineering verifies panel indications and operator actions are correct.

2/29/00 ~1040 Operations declares DG 2B inoperable. Operations initiates work request (W/R) 98119015 to investigate and repair reason for 2ETB-18 not closing.

2/29/00 ~1130 Maintenance and Engineering personnel begin troubleshooting problem.

2/29/00 ~1430 Breaker close circuit from the pushbutton on the Diesel Generator Control Panel (2DGCPB) to the breaker cubicle is verified to be operating properly.

2/29/00 ~1515 Operations racked out 2ETB-18 for maintenance inspection.

2/29/00 ~1547 Maintenance opened the control device for the 52Y (anti-pump relay) coil and discovered a limit switch contact had become disconnected from its mounting. It was determined that this could have prevented the breaker from closing.

2/29/00 ~1800 Maintenance replaced the control device for the 52Y coil and successfully tested the breaker.

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2/29/00 ~2000 Operations racked in 2ETB-18.

2/29/00 ~2236 DG 2B is started for the Operability PT.

2/29/00 ~2243 2ETB-18 is successfully closed.

3/01/00 ~0333 2ETB-18 is opened.

3/01/00 ~0338 DG 2B is secured following successful completion of the Operability PT.

3/01/00 ~0500 DG 2B is declared operable.

When DG 2B was taken out of service on 2/7/00, Operations declared RN 2B pump and the pressurizer 2B emergency heaters inoperable due to loss of their emergency power supply. Because RN is a shared system between both units, this placed Unit 1 in a TS Required Action time limit of 72 hours. At that time, Operations performed Enclosure 4.12B of OP/0/A/6400/006C, Nuclear Service Water System, which aligns for single pump flow balance due to one train of RN and/or its associated DG inoperable. This Enclosure isolates non-essential loads on the unit with the inoperable RN pump and allows the opposite unit to exit the RN TS. When the testing of DG 2B was complete, the RN system was returned to normal alignment and Operations exited the applicable TS.

There was no indication that breaker 2ETB-18 had failed after the operability PT was performed on February 7, 2000. Therefore, when the RN system was realigned and DG 2B was unknowingly inoperable, both units should have reentered the TS for RN train 'B'. Unit 2 should have remained in the DG 2B and pressurizer 2B emergency heater TS.

During the next month routine maintenance activities resulted in several pieces of A train equipment being taken out of service on Unit 2 and other common equipment on Unit 1.

February 12, 2000 RN train A on both units was declared out of service at 0800. Operations performed Enclosure 4.12B of OP/0/A/6400/006C at 0801 and exited the dual unit RN train A inoperability and entered single unit train inoperability for Unit 1. Unit 1 returned RN train A to service at 1001. This resulted in both trains of RN being inoperable for both units. In this condition Unit 1 & Unit 2 were in TS 3.0.3 for TS 3.7.8 (RN).

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On February 15, 2000 the 2A RN pump, 2A containment spray (NS) [EIIS: BE] pump, & 2A auxiliary feedwater (CA) train [EIIS: BA] were taken out of service and returned to service the same day. This resulted in entry into TS 3.8.1, Required Action B.2, with 4 hours to take action. Since the status of DG 2B was unknown to Operations, no action was taken. In this condition Unit 2 was in TS 3.0.3 for TS 3.7.8 (RN), 3.6.6 (NS) and was in TS 3.7.5 Condition C for CA. Because RN is shared between both units, Unit 1 was also in TS 3.0.3 for TS 3.7.8 (RN).

On February 16, 2000 the 2A component cooling water (KC) train [EIIS: CC] was taken out of service at 1316 and returned to service on February 17, 2000 at 0310. This resulted in entry into TS 3.8.1, Required Action B.2, with 4 hours to take action. Since the status of DG 2B was unknown to Operations, no action was taken. In this condition Unit 2 was in TS 3.0.3 for TS 3.7.7 (KC).

February 17, 2000 RN train A on both units was declared out of service at 0510. Operations performed Enclosure 4.12B of OP/0/A/6400/006C at 0605 and exited the dual unit RN train A inoperability and entered single unit train inoperability for Unit 1. Unit 1 returned RN train A to service at 1750. This resulted in both trains of RN being inoperable for both units. In this condition Unit 1 & Unit 2 were in TS 3.0.3 for TS 3.7.8 (RN).

On February 18, 2000 2NI9A, the Chemical and Volume Control System (NV) to NC cold leg injection [EIIS: BQ] flow path was taken out of service at 0800 and returned to service at 1043. This resulted in both trains of NV inoperable on Unit 2. Since the status of DG 2B was unknown to Operations, no action was taken. In this condition Unit 2 was in TS 3.0.3 for TS 3.5.2 (ECCS).

February 19, 2000 RN train A on both units was declared out of service at 0937 and returned to service at 1530. This resulted in both trains of RN being inoperable for both units. In this condition Unit 1 & Unit 2 were in TS 3.0.3 for TS 3.7.8 (RN).

On February 20, 2000 the safety injection (NI) train 2A pump was declared out of service during the filling of the 2A safety injection accumulator. This resulted in both trains of NI inoperable on Unit 2. Since the status of DG 2B was unknown to Operations, no action was taken. In this condition Unit 2 was in TS 3.0.3 for TS 3.5.2 (NI).

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

On February 20, 2000 2A CA train was declared out of service at 2136 and returned to service on February 21, 2000 at 2216. This resulted in two trains of CA being inoperable. Since the status of DG 2B was unknown to Operations, no action was taken. In this condition Unit 2 entered TS 3.7.5 (CA) Condition C. During this time period, the turbine driven CA pump was operable and capable of performing its intended function.

On February 22, 2000 RN train A on both units was declared out of service at 1045 and returned to service at 1305. This resulted in both trains of RN being inoperable for both units. In this condition Unit 1 & Unit 2 were in TS 3.0.3 for TS 3.7.8 (RN).

On February 22, 2000 the 2A residual heat removal (ND) system [EIIS: BP] was declared out of service at 0400 and returned to service at 2009. This resulted in two trains of ND being inoperable. Since the status of DG 2B was unknown to Operations, no action was taken. In this condition Unit 2 was in TS 3.0.3 for TS 3.5.2 (ND).

On February 24, 2000 the 2A NS train was declared out of service at 1358 and returned to service at 1702. This resulted in two trains of NS being inoperable. Since the status of DG 2B was unknown to Operations, no action was taken. In this condition Unit 2 was in TS 3.0.3 for TS 3.6.6 (NS).

During the time that DG 2B was inoperable, DG 2A was taken out of service several times. This resulted in both DGs being inoperable, but each time DG 2A was returned to operable status within the required action time frame of 2 hours per TS 3.8.1, Required Action E.

In addition, equipment in A train was taken out of service during the time that DG 2B was inoperable. In this condition the units entered TS 3.8.1 Required Action B.2. which provides a completion time of 4 hours. The Completion Time for Required Action B.2 is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." A review of these cases determined that the A train equipment was returned to service within the 4 hours allowed by Required Action B.2 of TS 3.8.1.

During the time frame that the above equipment was taken out of service, Operations complied with the TS for that equipment without the knowledge of the status of DG 2B. The condition of DG 2B being inoperable along with taking out of service the other equipment resulted in noncompliance with the TS associated with the DGs and the other equipment taken out of service. This placed Unit 1 and Unit 2 into TS 3.0.3 on several occasions.

Causal Factors

The most probable root cause of 2ETB-18 failure to close was limit switch contact LS/3 being dislocated from its mounting position. In addition, other parts including the spring, spacer, and spring retention protrusion were loose inside the control device. One or more of these loose parts may have interfered with the control device mechanism and prevented the breaker close coil from being energized.

Initial trouble shooting looked at several possible causes for 2ETB-18 failing to close. These included failure of the breaker close pushbutton, failure of the synch check relay, operator error, failure of permissive contacts to be closed, and failure of breaker 2ETB-18. Each of these failure modes was eliminated as a possible failure mode except a failure of breaker 2ETB-18.

Operations racked-out 2ETB-18 for maintenance to inspect and test. When the breaker was tested outside of its cubicle, it closed as required, but the anti-pump mechanism was not functioning properly. The control device containing the anti-pump relay and spring charging limit switches was disassembled and inspected. Upon opening the casing of the control device, it was immediately noticed that the moving portion of limit switch contact LS/3 was out of its normal mounting position. The spring retainer, the spring and the spacer were also found loose. It is most probable that one of these parts had become positioned inside the control device in such a manner that prevented one of the contacts from being closed as required to energize the 52X close coil. That would have prevented 2ETB-18 from closing.

Examination of the failure mode led to the conclusion that the breaker was most likely in this condition, where it could not be closed, since the last time it had been operated. An event recorder search was performed to see if the breaker closed and then failed open on 2/29/00. No indication of the breaker positioning was found. Additional searches were done to determine if the breaker had been tagged out on a clearance.

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

This search found that the only time the breaker had been tagged out in 2000 was on 2/29/00. Based on this information, it was concluded that the contact LS/3 failure most likely occurred the last time that the breaker was cycled on 2/7/00. Therefore, DG 2B had been inoperable from 2/7/00 until 3/1/00.

The vendor was contacted to determine whether this type of failure had been seen before. The vendor indicated no instance of a loose limit switch contact had been noted during any refurbishment work. However, the vendor did indicate that another utility had reported a similar failure of a breaker to trip.

Operating Experience Data Base (OEDB) searches identified three cases reported on failures of breaker control devices. Only one of these involved the same type ABB control device. In that case the contact guide (black molded plastic part that holds contacts) was broken and caused a failure to close. This was a different failure mode than involved with 2ETB-18. No reports on OEDB identified any failure similar to the 2ETB-18 failure. Knowledgeable station personnel for this equipment do not recall any other instances of this type of failure at Catawba or any other Duke facilities. A Corrective Action Program (PIP) search was performed and no other failures that involved contacts being disconnected internal to breakers were found. No findings from this assessment indicate any common mode failure issue.

This event is EPIX reportable. A review of licensee event reports for the past twenty-four months indicates no similar events that were reported as LERs. Based on the above, at this time the event is considered not recurring.

Corrective Actions

Immediate

1. After the failure of the DG 2B breaker to close, Operations initiated work request (W/R) 98119015 and PIP C-00-00891.

Subsequent

1. The control device for the 52Y coil was replaced and breaker 2ETB-18 was racked onto the bus. The operability PT for DG 2B was performed satisfactorily and DG 2B was declared operable on March 1, 2000.

Planned

1. Engineering will continue to analyze the failure of the control device to determine the failure mechanism. Additional corrective action will be identified, as necessary, upon completion of the failure analysis.

2. The vendor will be requested to provide a position and any recommended actions. Additional corrective actions will be identified, as necessary, following receipt of any recommendations from the vendor.

Safety Analysis

This event was analyzed using the Catawba Nuclear Station (CNS) Probabilistic Risk Analysis (PRA) model. The following assumptions were used in the analysis: (1) The analysis includes only internal events, (2) flooding events are excluded from the analysis, and (3) the 2B EDG event is recoverable. It is expected the 2B EDG could have been recovered in two hours.

The breaker has a manual close lever at the bottom of the breaker. When this lever is pulled, the closing springs are manually discharged and the breaker is closed. The failure of the control device affected the electrical closing circuit and did not affect the ability to manually close the breaker using the close lever on the breaker. Instructions to perform the manual closure are located in emergency procedure EP/2/A/5000/ECA-0.0, Loss of All AC Power and abnormal procedure AP/2/A/5500/07, Loss of Normal Power. With these procedures in place, if an event had occurred where DG 2B was required, the operators would have been able to locally close 2ETB-18 and utilize DG 2B to supply emergency power.

To account for this action, a recovery failure probability of 0.1 was added to cut sets containing a Loss Of Offsite Power (LOOP) and a run failure (opposite train EDG fails to run, turbine driven CA pump fails to run, etc.). Cut sets containing a LOOP and start failures (opposite train EDG fails to start, turbine driven CA pump fails to start) did not receive the recovery. Run failures are assumed to occur several hours into the event. Consequently, there would be sufficient time to recover DG 2B. Other equipment that was declared inoperable but could be readily recovered was not considered unavailable in the analysis.

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An "expected" risk profile was determined using the zero maintenance PRA model. Basic events representing the equipment unavailable (periods involving the CA Pump 2A) during the period of interest were set to 1.0. The Core Damage Probability (CDP) was determined for the 2B EDG unavailability period. An "actual" risk profile was determined by setting the 2B EDG basis event to 1.0 for each configuration in the "expected" risk profile. The 2B EDG recovery value was added to cut sets containing a LOOP and a run failure. The CDP was determined for the 2B EDG unavailability period. The Incremental Conditional Core Damage Probability (ICCDP) for this time period is 8.0E-07 with recovery of the 2B EDG. This value is below the precursor threshold.

This event does not have an impact on Large Early Release Frequency (LERF). At CNS LERF is dominated by inter-facing system Loss of Coolant Accident (ISLOCA) events. Cut sets involving EDG do not contribute to the ISLOCA CDF. Therefore, the 2B EDG unavailability has no significant impact on LERF.

Since no event occurred during the time that DG 2B was inoperable that would require the use of DG 2B, the health and safety of the public were not affected by this event.