ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8910300228 DOC.DATE: 89/10/20 NOTARIZED: NO DOCKET #
FACIL:50-269 Oconee Nuclear Station, Unit 1, Duke Power Co. 05000269
AUTH.NAME AUTHOR AFFILIATION
LOWERY,H.R. Duke Power Co.
TUCKMAN,M.S. Duke Power Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-014-00:on 890921,overhead emergency power path rendered inoperable due to mgt deficiency.

W/8 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 12
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD2-3 LA	1	1	PD2-3 PD	1	1
	WIENS,L	1	1			
INTERNAL:	ACRS MICHELSON	1	1	ACRS MOELLER	2	2
	ACRS WYLIE	1	1	AEOD/DOA	1	1
	AEOD/DSP/TPAB	1	1	AEOD/ROAB/DSP	2	2
	DEDRO	1	1	NRR/DEST/ESB 8D	1	1
	NRR/DEST/ICSB 7	1	1	NRR/DEST/MEB 9H	1	1
	NRR/DEST/MTB 9H	1	1	NRR/DEST/PSB 8D	1	1
	NRR/DEST/RSB 8E	1	1	NRR/DEST/SGB 8D	1	1
	NRR/DLPQ/HFB 10	1	1	NRR/DLPQ/PEB 10	1	1
	NRR/DOEA/EAB 11	1	1	NRR/DREP/RPB 10	2	2
	NUDOCS-ABSTRACT	1	1	REG FILE 02	1	1
	RES/DSIR/EIB	1	1	RGN2 FILE 01	1	1
EXTERNAL:	EG&G WILLIAMS,S	4	4	L ST LOBBY WARD	1	1
	LPDR	1	1	NRC PDR	1	1
	NSIC MAYS,G	1	1	NSIC MURPHY,G.A	1	1
	NUDOCS FULL TXT	1	1			

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

FULL TEXT CONVERSION REQUIRED
TOTAL NUMBER OF COPIES REQUIRED: LTTR 38 ENCL 38

A04
cc

R I D S / A D D S

R I D S / A D D S

Duke Power Company
Oconee Nuclear Station
P.O. Box 1439
Seneca, S.C. 29679

(803) 882-5363

DUKE POWER

October 20, 1989

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

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
LER 269/89-14

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report (LER) 269/89-14 concerning the overhead emergency power path rendered inoperable due to management deficiency when certain PCBs were removed from service.

This report is being submitted in accordance with 10 CFR 50.73 (a)(2)(v)(D). This event is considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

M. S. Tuckman

M. S. Tuckman
Station Manager

SWB/ftr

Attachment

xc: Mr. S. B. Ebneter
Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta St., NW, Suite 2900
Atlanta, Georgia 30323

Mr. L. A. Weins
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Mr. P. H. Skinner
NRC Resident Inspector
Oconee Nuclear Station

American Nuclear Insurers
c/o Dottie Sherman, ANI Library
The Exchange, Suite 245
270 Farmington Avenue
Farmington, CT 06032

INPO Records Center
Suite 1500
1100 Circle 75 Parkway
Atlanta, Georgia 30339

M&M Nuclear Consultants
1221 Avenue of the Americas
New York, NY 10020

IE22
1/1

NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Oconee Nuclear Station, Unit 1	0 5 0 0 0 2 6 9	1 OF 1 1

TITLE (4) Overhead Emergency Power Path Rendered Inoperable Due to Management Deficiency When Certain PCBs Were Removed From Service

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 NAMES	DOCKET NUMBER(S)
									Oconee Unit 2	0 5 0 0 0 2 7 0
0 9	2 1	8 9	8 9	0 1 4	0 0	1 0	2 0	8 9	Oconee Unit 3	0 5 0 0 0 2 8 7

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 7 5	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	X 50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
Henry R. Lowery, Chairman Oconee Safety Review Group	8 0 3 — 8 8 5 - 3 0 3 4

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)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

On September 21, 1989, at 1030 hours, it was discovered that when certain 230 KV switchyard Power Circuit Breakers (PCBs) are removed from service, the "switchyard isolate complete" logic of the External Grid Trouble Protective System would not complete its circuitry. This prevented the Air Circuit Breakers (ACB 1 or 2) of the Keowee hydro unit connected to the overhead emergency power path from closing. There have been some instances in the past in which a Limiting Condition of Operation (LCO) in Technical Specification 3.7 was not entered due to lack of knowledge of how the External Grid Trouble Protective System affected the overhead emergency power path. This condition was discovered when licensee trainees questioned the operability of Keowee transformers while certain PCBs were removed from service. The root cause of this event is determined to be Management Deficiency. Immediate corrective actions included placing a statement on the shift turnover sheet addressing actions to be performed prior to allowing maintenance or inspection on certain 230 KV switchyard PCBs.

☆ U.S.GPO:1984-0-454-481/16750

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Oconee Nuclear Station, Unit 1	0 5 0 0 0 2 6 9	8 9	— 0 1 4	— 0 0	0 2 OF 1 1

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

BACKGROUND

The Oconee 230 KV switchyard [EIIS:FK] is an interface between the 230 KV Duke transmission line network and Oconee Units (reference attachment 1). Abnormal conditions in the 230 KV switchyard result in switching operations that are initiated by protective relaying. One of the protective relaying circuits is the External Grid Trouble Protective System [EIIS:EK]. This system is designed to monitor the voltage and frequency of both the red and yellow buses in the 230 KV switchyard. When this system detects abnormal conditions, it initiates a startup of the Keowee hydro units [EIIS:EK] and provides a path to provide emergency power from Keowee to the Oconee Startup transformers [EIIS:XFMR] CT-1, CT-2, and CT-3 by closing Power Circuit Breakers (PCBs) 9, 18, 27, and 30 and by tripping open PCBs 8, 12, 15, 17, 21, 24, 26, 28, and 33 to isolate the yellow bus from the grid.

The "switchyard isolate complete" circuitry functions following the external grid trouble protective relay actuation. This circuitry provides an automatic close permissive to either Keowee hydro Air Circuit Breaker, ACB 1 or 2, which connects Keowee Unit 1 or 2, respectively, to the dedicated overhead emergency power path. The "switchyard isolate complete" signal is generated when the logic indicates that the 230 KV switchyard has been separated from a faulted external grid and that the switchyard PCBs are aligned to supply power to the Oconee Startup transformers. The correct combination of closed and open PCBs is necessary to accomplish the switchyard isolation and alignment of the Keowee hydro unit to the Startup transformers. The correct response of a PCB to a switchyard isolation signal can be simulated by depressing the channel A and B pushbuttons in the Switchyard Isolation Test panels located in the 230 KV switchyard blockhouse.

Technical Specification (TS) 3.7.1 (b) states that two independent on-site emergency power paths shall be operable and shall consist of: (1) one Keowee hydro unit through the underground feeder path to transformer CT-4, (2) the second Keowee hydro unit through the overhead emergency power path to the 230 KV switchyard at Oconee to supply each unit's Startup transformer.

Technical Specification 3.7.2 (a) states "One of the two independent on-site emergency power paths, as defined in 3.7.1 (b), may be inoperable for periods not exceeding 72 hours for test or maintenance, provided the alternate power path is verified operable within one hour of the loss and every eight hours thereafter".

EVENT DESCRIPTION

In the past, switchyard Power Circuit Breakers (PCBs) have been removed from service (e.g., DC control power [EIIS:EJ] removed or hydraulic system deactivated) for maintenance or inspection. In both of these situations, the PCB would be disabled from operating to its required position during a switchyard isolation event.

On September 21, 1989 with Units 2 and 3 at 100% full power and Unit 1 at 75% full power, licensee trainees were discussing the operability of the Keowee auxiliary transformers 1X and 2X (reference attachment 2). This discussion was prompted due to the trainees recently completing training given by the Operations Support group on the Emergency Power Switching Logic [EIIS:EK] and a proposed revision to Technical Specification (TS) 3.7. In their discussion, they questioned how the removal of PCB-9 from service would affect the operability of transformers 1X and 2X as required by the proposed revision to TS 3.7. They concluded from their discussion that the auxiliary transformers (1X and 2X) would be rendered inoperable while PCB-9 was out of service because Air Circuit Breaker (ACB 1 or 2) would not close due to the "switchyard isolate complete" logic not being satisfied. Operations Manager 'A', responsible for switchyard operations, was then consulted on this matter. Operations Manager 'A' agreed with the trainees conclusion and stated that no further action was necessary since the Keowee backup auxiliary transformer (CX) was available and because all Oconee Units would then be under a Limiting Condition of Operation as required by TS 3.7.2 (a) due to the removal of PCB-9 from service. Operations Manager 'A' then contacted Design Engineering (DE) personnel accountable for electrical systems to determine if the removal of either PCBs 18, 27, and 30 (the other PCBs required to close on a switchyard isolation signal) from service could affect more than just that Oconee Unit's respective overhead emergency power path. DE concluded that disabling either PCB 18, 27, or 30 (Oconee Units' 1, 2, and 3 Startup transformer feeders, respectively) would not only disable the respective unit's overhead emergency power path, but it would disable the overhead emergency power path for all Oconee units. This situation would occur because the "switchyard isolate complete" logic would sense that the switchyard PCBs were not aligned to their required switchyard isolation position and therefore no automatic close permissive would be given to ACB-1 or 2 to allow either Keowee hydro unit to close onto the overhead emergency power path. Therefore, during periods while one Oconee unit was shutdown, maintenance or testing may have been performed on the shutdown Unit's respective startup feeder PCB (18, 27, or 30) while the requirements of TS 3.7.2 (a) were not met for any remaining Oconee units above 200 degrees Fahrenheit. It was subsequently concluded that when any of the other switchyard isolation PCBs (8, 12, 15, 17, 21, 24, 26, 28, and 33) are removed from service such that they are unable to operate to their

required switchyard isolation position, the "switchyard isolate complete" circuitry would also be defeated thus not allowing the ACB associated with the Keowee hydro unit tied to the overhead emergency power path to close.

Operations Manager 'A', upon realizing that this TS had probably been violated upon occasion, took immediate corrective actions to give instructions (both verbal and written) to Operations shift personnel to place both of the Switchyard Isolated Test pushbuttons (channel A and B) in the "test" position whenever a switchyard isolate associated PCB is isolated for maintenance and inspection.

CONCLUSION

The root cause of this event is classified as Management Deficiency due to the following considerations.

1. There was a lack of awareness of how the "switchyard isolate complete" circuitry affected the overhead emergency power path. It was not understood by plant personnel that placing the Switchyard Isolate Test pushbuttons in the "test" position was necessary prior to removing a switchyard isolate Power Circuit Breaker (PCB) from service in order to preserve correct operation of the "switchyard isolate complete" circuitry. These pushbuttons were tested by plant personnel to verify their response to a simulated switchyard isolation signal. However, it was still not realized during the performance of this test how these pushbuttons related to the operability of the overhead emergency power path. This lack of awareness was due, in part, to insufficient documentation in plant system descriptions of how the Switchyard Isolate Test pushbuttons simulated the correct response of the PCBs to a switchyard isolation signal and how this was interlocked with the closure of Keowee Air Circuit Breakers (ACB 1 and 2).

2. Since little documented information existed on the interaction of the Switchyard Isolate Test pushbuttons with the close permissive of Keowee ACBs 1 and 2, except that found on circuit diagrams, no information on this was incorporated into training given to Operations personnel on the operation of the 230 KV switchyard.

3. There was also an inadequate procedure for removing PCBs from service. The procedure used to remove PCBs was OP/O/A/1102/06, "Removal and Restoration of Station Equipment" procedure which has no specific steps requiring the use of the Switchyard Isolate Test pushbuttons to preserve the overhead emergency power path.

4. There was less than adequate communication between departments. Personnel in various groups were aware of the need to depress the Switchyard Isolate Test pushbutton but this fact was never adequately communicated to Operations personnel responsible for operation of the 230 KV switchyard. It should be noted that there were some Operations personnel who had operated these pushbuttons but the reason for their use was never questioned and the "big picture" of how the "switchyard isolate complete" logic affected the overhead emergency power path was never identified.

For the reasons stated above, the root cause of this incident is concluded to be Management Deficiency: Operations personnel responsible for the 230 KV switchyard were not aware of or adequately trained on how the "switchyard isolate complete" circuitry interacted with the overhead emergency power path. It is also concluded that there have probably been some instances in the past in which a Limiting Condition of Operation in Technical Specification 3.7 was not entered when the above mentioned PCBs were made inoperable due to the lack of understanding of the system.

A review of events occurring during the past 12 months revealed no other events with the same root cause. Therefore, this event is classified as nonrecurring. There were no radiation exposures, radioactive releases, or injuries associated with this event. The health and safety of the public were not compromised. This incident did not involve any component failure; therefore, it is not NPRDS reportable.

CORRECTIVE ACTIONS

Immediate

1. Operations Support group issued instructions to Operations shift personnel to place both Switchyard Isolated Test pushbuttons in the "test" position whenever a switchyard isolate associated PCB is isolated for maintenance or inspection. These instructions were placed on the shift turnover sheet.

Subsequent

1. Operations Support group incorporated instructions into the Emergency Power Switching Logic training to make all Operations shift and staff personnel aware of this concern.

2. Operations installed signs on the switchyard isolate PCBs which require anyone working on these breakers to notify the Operations Shift Supervisor or the Switchyard Coordinator prior

to disabling the DC control power to the breaker or disabling the breaker.

Planned

1. Operations will write an enclosure for the removal and restoration of switchyard isolate breakers. This enclosure will be incorporated into the Removal and Restoration of Auxiliary Electrical Systems procedure (OP/O/A/1107/11).

2. Operations Support group added a limit and precaution to OP/O/A/1107/11, "Removal and Restoration of Auxiliary Electrical Systems", to depress the Switchyard Isolate Test pushbuttons for PCBs associated with the Oconee unit's Startup transformers when removing them from service.

3. Design Engineering department will perform a Design Basis Document Analysis on the 230 KV switchyard. This document will provide additional operability guidelines on the 230 KV switchyard and assist Operations when removing components and systems associated with the 230 KV switchyard.

4. Production Training Support will provide training to Operations personnel on the use and purpose of the Switchyard Isolate Test pushbuttons.

SAFETY ANALYSIS

If certain 230 KV switchyard Power Circuit Breakers (PCBs) are removed from service in such a way that they are disabled from operating, potential scenarios exist where essential station auxiliaries may not receive sufficient power (reference attachment 3). In order to evaluate the impact of this situation, two scenarios need to be addressed.

1. Loss of Offsite Power (LOOP)

In the event of a LOOP, the Oconee units will trip and the External Grid Trouble Protective System will be initiated. This system will; initiate a Keowee hydro emergency start signal; isolate the switchyard by tripping open PCBs 8, 12, 15, 17, 21, 24, 26, 28, and 33; and close PCBs 9, 18, 27, and 30 to connect the Keowee overhead emergency power path to the Startup transformers. If any of the above PCBs are removed from service in such a way that they are unable to reposition to their required switchyard isolated position, the "switchyard isolate complete" circuitry would be defeated. Since

this circuitry provides an automatic close permissive circuit to the Keowee hydro overhead Air Circuit Breakers (ACB 1 and 2), the overhead emergency power path would not be available to automatically close onto the yellow bus to supply power to the units Startup transformers.

If power is not restored to the Main Feeder Buses [EIIS:EA] (MFB) within 20 seconds after the loss of power, the MFB monitor [EIIS:EK] circuit would energize the Keowee emergency start relays (if not already energized) and complete the circuit for both channels of load shed. The MFB monitor circuit logic would then close the SK breakers to provide power from the Keowee underground feeder and the CT-4 transformer. However, if the LOOP event is concurrent with a single failure of the underground feeder path, manual operator action is required to restore power because the retransfer to the startup source is unavailable. The operator, in this scenario, has two choices for restoring power to the Standby Bus. The first would be to instruct the Keowee hydro operator to either close the breaker for the Keowee unit tied to the overhead emergency power path (ACB 1 and 2) or place the Keowee hydro unit connected to the overhead to "remote" such that the ACB could be closed from the Unit 2 control room. The second would be to align Lee Steam Station to the Standby bus. This last choice is allowed in this scenario because Final Safety Analysis Report (FSAR) Section 15.8.3 (Results of All Station Power Analysis) states that in the event of a loss of power with the Turbine Driven Emergency Feedwater Pump (TDEFWP) [EIIS:BA] and the gravity flow of the Emergency Condenser Cooling Water [EIIS:BS] (ECCW) available, core protection is ensured.

2. Loss of Coolant Accident/Loss of Offsite Power (LOCA/LOOP)

In the event of a LOCA/LOOP scenario where the inoperable PCB is associated with the LOCA unit's Startup (CT) transformer, all Oconee units will trip and the switchyard will align itself to provide power from the Keowee overhead emergency power path through the Startup transformers and the E breakers. Simultaneous with this action, the generated Engineered Safeguards (ES) [EIIS:JE] signal starts the Keowee hydro units. The Emergency Power Switching logic (EPSL) would first seek power from the startup source but none would be available because the switchyard would be isolated and because it takes the Keowee unit 12-16 seconds to reach rated speed and voltage. After 11 seconds, it is not expected there would be sufficient voltage from the Keowee overhead path to the Startup transformer to supply the LOCA unit; therefore, the EPSL would block the closing of the E breakers and receive power from the Keowee underground emergency path through the CT-4 transformer. Since in this scenario the LOCA unit

is operating under a Limiting Condition of Operation (LCO) from Technical Specification 3.7.2 (a) due to having a PCB out which inhibits an on-site emergency power path, no single failure has to be postulated; therefore, the units auxiliaries would be powered from the CT-4 transformer. The non-LOCA units would receive power from the Standby Bus as described in the LOOP scenario.

If the LOCA/LOOP event happened while the inoperable PCBs are on a unit other than the one with the LOCA, the unit with the LOCA would not be under a LCO and the single failure criteria would have to be applied. If a single failure of the underground emergency feeder path from Keowee is assumed, the Oconee units will be without power until manual operator action is taken to restore it. In this scenario, the operator must realize that the loss of power is due to the overhead emergency power path not closing. The operator could then instruct the Keowee hydro operator to manually close the ACB associated with the Keowee unit tied to the overhead to restore power to the MFBs via the retransfer to startup logic. The operator also has a choice of closing in the SL breakers thus supplying power to the Standby Bus through CT-5 and the Central Switchyard. It is recognized that this is not an "acceptable" offsite power source due to its lack of degraded grid protection, but it is allowed by AP/1700/11, "Loss of Power" procedure as a last resort to restore power to the MFBs if all other alternatives have been exhausted.

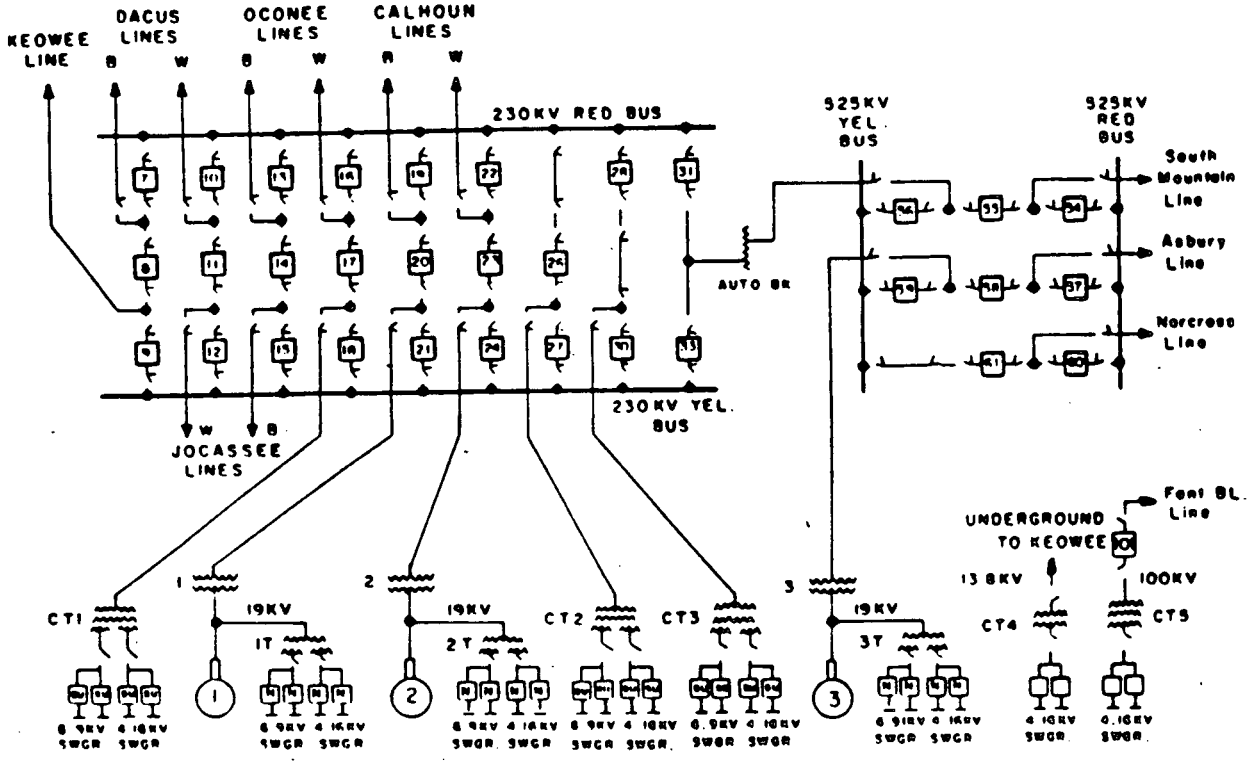
The time for this required manual operator action is purely speculative. Accident analyses require that emergency core coolant be delivered to the reactor vessel within 35 seconds after the ES signal (BAW-10103 Rev. 3: ECCS Analysis of B&W 177-FA Lowered Loop NSS). If power is not restored within a reasonable time frame, fuel damage resulting in radioactive release may occur. Even if this was to occur, it would be bounded by FSAR Section 15.15 (Maximum Hypothetical Accident) which states the gross release of fission products released from the core to the environment during such an accident will be well below the limits of 10CFR100.

Of the discussed scenarios, only the LOCA/LOOP could result in the possibility of fuel damage. The probability of a LOCA, a LOOP, and any of the above said PCBs to be inoperable simultaneously is extremely low. Since this scenario has never taken place, the health and safety of the public were not affected and corrective actions have been taken to ensure that such a condition will not exist.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Oconee Nuclear Station, Unit 1	0 5 0 0 0 2 6 9	8 9	0 1 4	0 0	0 9 OF 1 1

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

ATTACHMENT 1



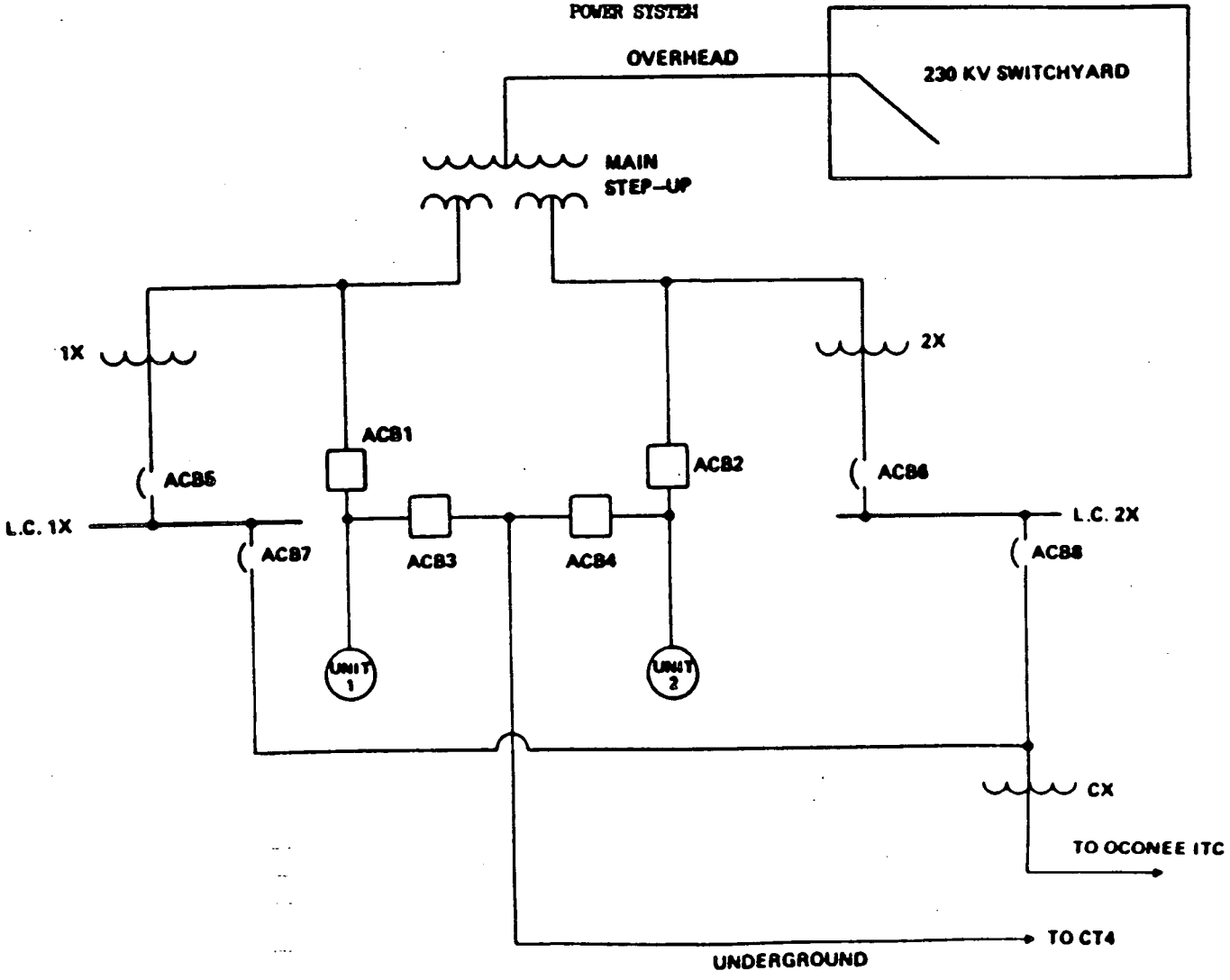
Main Power Distribution	Switchyard	OC-EL-MPD-1	8-16-85
		OEE-117 SERIES	
		DMC / ARB	
		TRAINING USE ONLY	

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Oconee Nuclear Station, Unit 1	0 5 0 0 0 2 6 9	8 9	— 0 1 4	— 0 0	1 0 OF 1 1

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

ATTACHMENT 2

KEOWEE HYDRO
POWER SYSTEM



FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Oconee Nuclear Station, Unit 1	0 5 0 0 0 2 6 9	8 9	— 0 1 4	— 0 0	1 1 OF 1 1

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

ATTACHMENT 3

OCONEE NUCLEAR STATION
Power System