



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION V
1450 MARIA LANE, SUITE 210
WALNUT CREEK, CALIFORNIA 94596

E. D. ...
[Handwritten signatures]

April 9, 1991

NOTE TO: T. E. Murley, Director,
Office of Nuclear Reactor Regulation
FROM: J. B. Martin, Regional Administrator

Enclosed is a copy of the Palo Verde information they have sent to INPO for broadcast on their information network. This involves the high CDF sequences they identified during their IPE work.

I suggest we put out an INFO Notice on some similar communication to underscore that our expectations are that utilities act promptly to resolve issues arising from the IPE and not wait until the end of 1992.

J. B. Martin
Regional Administrator

Enclosure
a/s

cc: W. Russell, NRR ✓
J. Sniezek, OEDO

9406060346 910812
PDR REVGP NRGRGR
MEETING208 PDR

RECEIVED
NRC
REGION V

Arizona Public Service Company

P.O. BOX 53999 • PHOENIX ARIZONA 85072-3999

APR -8 AM 11:07

WILLIAM F. CONWAY
EXECUTIVE VICE PRESIDENT
NUCLEAR

April 2, 1991

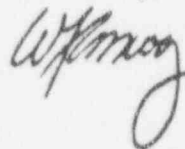
Mr. John B. Martin
Region V Regional Administrator
U. S. Nuclear Regulatory Commission
1450 Maria Lane, Suite 210
Walnut Creek, California 94596-5368

Dear Mr. Martin:

Enclosed is a copy of the information we provided INPO so that it could be transmitted via their information network.

I indicated we would do so during the meeting with you and members of your staff on March 15, 1991.

Sincerely,



WFC/lbs

Enclosure

9104160376 380

SUBJECT: PROBABLISTIC RISK ASSESSMENT IDENTIFIED TWO MAJOR
CONTRIBUTORS TO CORE DAMAGE FREQUENCY

PLANT : PALO VERDE 1, 2, & 3 (PWR/CEs) EVENT DATE : N/A
SOURCE : ARIZONA PUBLIC SERVICE CO. LOG# : OE 4476

EVENT:

During the performance of our Individual Plant Examination (IPE) per Generic Letter 88-20, Palo Verde Nuclear Generating Station's Probablistic Risk Assessment (PRA) identified two major contributors to core damage frequency (CDF). The combined CDF for these two events without taking credit for operator recovery is 8×10^{-4} /Rx year. The two initiating events resulting in the CDF contributions are: Loss of Class 1E DC Control Power Channel 'A', and Loss of Ventilation (cooling) to the Class 1E DC equipment rooms. The high CDF results from both the potential transient impact on the plant and the loss of the plant's capability to mitigate the transient effects.

The design of the Main Steam and Feedwater Isolation valves at Palo Verde is configured to actuate closed when a single channel of DC control power is lost. This results in a simultaneous load rejection and loss of feedwater.

The plant's ability to mitigate this potential transient is impacted by the initiator. One entire train of safety equipment (ECCS pumps, Auxiliary Feedwater and support systems including the field flash for the Train 'A' EDG) would be disabled. In the case of Channel 'A' DC power loss, two of the three Auxiliary Feedwater pumps are impacted. Auxiliary Feedwater is required to remove decay heat. A random failure in the remaining train of Auxiliary Feedwater would lead to complete loss of a safety function. Operator action, both inside and outside the Control Room, is required to mitigate postulated consequences.

Plant Change Requests (PCRs) have been initiated to address both the reduction in the transient effects of these initiators and the plant's ability to mitigate them.

Interim compensatory measures are being taken before permanent plant changes are implemented. These measures include staging temporary ventilating equipment to be used in the event of loss of ventilation to the DC equipment rooms; operator training to sensitize the operators to the importance and complexity of addressing these events; and changes to the emergency operating procedures, including the Function Recovery Procedure, to ensure local, manual action can occur early enough to avoid postulated core uncover. This included a new instruction for local manual operation of the steam-driven Auxiliary Feedwater pump without DC control power.

As stated in GL 88-20, licensees are expected to move expeditiously to correct any identified vulnerabilities that warrant correction. The scenarios identified by the PRA team were determined by APS to be significant and immediate actions are being taken to ensure reliable and safe operation of the Palo Verde Units.

With the compensatory measures in place and an aggressive plant change implementation schedule, APS is confident that plant risk has been reduced. These findings further demonstrate that the IPE process is an effective tool in identifying dependent failures and subtle event scenarios that may contribute significantly to calculated core damage risk.

APS has discussed the measures being taken with NRC. This Operating Experience (OE) report alerts all other licensees to similar event scenarios at their plants and the need to take expeditious measures to reduce calculated core damage risk if any significant scenario is identified through the IPE process.

If you would like more detailed information on this issue, please contact the individual listed below.

INFORMATION CONTACT: Chuck Stevens, (602) 340-4081

NUCLEAR REGULATORY COMMISSION
SHARED INFORMATION NETWORK
OPERATIONS OFFICERS SUPPORT SYSTEM
EVENT NOTIFICATION - POWER FACILITIES

EVENT NUMBER: 20749 ✓

FACILITY: TROJAN
NIT NO: 1
REGION: 5
SOCKET NO: 050-00344 - -
LICENSE TYPE: Power reactor
STATE: OR
EMERGENCY: N/A Not applicable
LICENSE NO: NPF 001
LICENSEE: PORTLAND GENERAL ELECTRIC CO.
REPORT REQUIRED BY: DAS 50.72 (b)(2)(i)

EVENT DATE: 04/02/
EVENT TIME: 11:10
NOTIFY DATE: 04/02/
NOTIFY TIME: 18:11
CALLER: HOWARD
OPS OFFICER: STEVE
NOTIFIED: RDO H

NIT	SCRAM CD	RX CRITL	INIT PWR	INIT RX MODE	CURR PWR	CURR RX
1	N	N	000	Mode 5 - Cold s	000	Mode 5 -

DESCRIPTION TEXT

LICENSEE DISCOVERED THAT THE CONTROL ROOM EMERGENCY VENTILATION (CREV) COOLERS ARE NOT SEISMICALLY SUPPORTED ON A NORTH-SOUTH AXIS. LICENSEE DECLARED BOTH TRAINS OF CREV INOPERABLE AND ISOLATED SERVICE WATER TO BOTH TRAINS OF COOLERS. LICENSEE ENTERED TECH SPEC 3.7.6.1 WHICH SAYS NO REACTIVITY CHANGES OR CORE ALTERATIONS UNTIL ONE TRAIN OF CREV IS RESTORED. THE LICENSEE WILL INFORM THE STATE OF OREGON AND THE NRC RESIDENT INSPECTOR.

*** UPDATE DATE 05/02/91 @ 1754 EDT ***FROM: BILL WILLIAMS BY T. MCGINTY
THE LICENSEE IS RETRACTING THIS EVENT BASED ON FURTHER ANALYSIS HAS DETERMINED THAT THE SERVICE WATER SYSTEM IS OPERABLE WITH RESPECT TO THE SEISMIC SUPPORT ISSUE. ALSO, CONTROL ROOM HABITABILITY WOULD NOT BE AFFECTED BASED ON NOT EXCEEDING ANY DOSE LIMITS FOR THIS PARTICULAR SCENARIO. ADDITIONALLY, CONTROL ROOM TEMPERATURE CONCERNS FOR INSTRUMENTATION WOULD NOT BE AFFECTED BY LOSS OF THE COOLERS DUE TO THE PRESENCE OF THE SEISMICALLY QUALIFIED SUPPLEMENTAL COOLING UNIT "TB-16" BEING OPERABLE AT THE TIME. THE LICENSEE WILL INFORM THE NRC RESIDENT INSPECTOR, AND HAS INFORMED THE OREGON DEPT OF ENERGY. R5 (PHIL MORRILL) NOTIFIED.

DCS No: 50277910429
Date: May 2, 1991

CORRECTED COPY

*shutdown
- due to
degraded
equip*

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE--PNO-I-91-35

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the Region I staff on this date.

Facility:	Licensee Emergency Classification:
Philadelphia Electric Company	___ Notification of Unusual Event
Peach Bottom Atomic Power Stations	___ Alert
Philadelphia, Pennsylvania	___ Site Area Emergency
Docket No. 50-277/278	___ General Emergency
	<u>X</u> Not Applicable

Subject: UNPLANNED SHUTDOWN OF BOTH UNITS DUE TO DEGRADED ELECTRICAL CABLES

On April 29, 1991, a non-licensed operator observed smoke emanating from an electrical manway near the No. 2 Emergency Auxiliary (2EA) Transformer. The control room immediately removed the No. 2EA transformer from service. Investigation identified that one of eight B phase transmission cables between the secondary side of the transformer and the 4KV bus bar, had failed. At Peach Bottom offsite power is supplied to the four safety-related 4KV busses per unit through two redundant transformers, the 2EA and 3EA. Normally each transformer feeds two safety busses per unit. With one of these two ties to the offsite power network unavailable Technical Specifications allow continued operation for seven days.

The licensee examined the faulted cable and concluded that the failure had been caused by insulation defects. Impurities in the cable insulation created small voids. High moisture in the underground duct bank, and continuously applied voltage in the normally energized cable caused the voids to grow over the life of the cable to near through-insulation defects. A voltage surge caused by switching or transformer energization caused the degraded cable to fault. A similar faulted cable and a degraded cable associated with the 2EA transformer had been identified and repaired during the week of April 22, 1991. The licensee assessed the status of the No. 3EA transformer cables and concluded that similar problems may exist. This issue was discussed with NRC Region I staff on May 1, 1991. Based on the reduced assurance in offsite power reliability licensee management elected to shutdown both units. As of 8:30 a.m., May 2, 1991, Unit 3 was in Hot Shutdown, and Unit 2 power had been reduced to 33%, with plans to continue to cold shutdown.

The resident staff is monitoring licensee activities with support from Region I specialist inspectors and NRR. The licensee is evaluating this problem for its reportability under 10 CFR Part 21. Region I Public Affairs is prepared to respond to media inquiries.

The Commonwealth of Pennsylvania and the State of Maryland have been informed. The licensee issued a press release on May 1, 1991.

CONTACT: Barry Norris Jeff Lyash
 FTS 346-5171 717-456-7614

~~91-05090341~~ *2 p.*

*Al
Pat
Dave
Kathy
Dan - I.P.*

John - P'leau

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NUCLEAR REGULATORY COMMISSION
SHARED INFORMATION NETWORK
OPERATIONS OFFICERS SUPPORT SYSTEM
EVENT NOTIFICATION - POWER FACILITIES

EVENT NUMBER: 20926 ✓

FACILITY:	WATERFORD	EVENT DATE:	05/02/
UNIT NO:	3	EVENT TIME:	01:22
REGION:	4	NOTIFY DATE:	05/02/
DOCKET NO:	050-00382 - -	NOTIFY TIME:	02:58
LICENSE TYPE:	Power reactor	CALLER:	AUTHOR
STATE:	LA	OPS OFFICER:	THOMAS
EMERGENCY:	N/A Not applicable	NOTIFIED:	
LICENSE NO:	NPF 038		
LICENSEE:	LOUISIANA POWER & LIGHT CO.		
REPORT REQUIRED BY:	ARC 50.72 (b) (1) (v)		

JNIT	SCRAM CD	RX CRITL	INIT PWR	INIT RX MODE	CURR PWR	CURR RX
3	N	N	000	Mode 5 - Cold s	000	Mode 5 -

DESCRIPTION TEXT

THE SAFETY PARAMETER DISPLAY SYSTEM (SPDS) DECLARED INOPERABLE. WHILE REVIEWING OPERATING LOGS AT 0122 CDT ON 05/02/91, THE LICENSEE DISCOVERED THAT A PROBLEM WITH THE PLANT COMPUTER MADE SPDS INOPERABLE AT 0841 CDT ON 05/01/91. THE SYSTEM WAS RETURNED TO SERVICE AT 0156 CDT ON 05/02/91. SPDS IS USED TO DISPLAY DATA FROM VARIOUS INSTRUMENTS IN THE PLANT IN A CONCISE FORMAT DURING NORMAL PLANT OPERATIONS AND EMERGENCY SITUATIONS. IT IS ALSO USED TO TRANSMIT PLANT DATA TO THE TECHNICAL SUPPORT CENTER (TSC) AND THE EMERGENCY OPERATIONS FACILITY (EOF). THE DATA FOUND ON SPDS IS DISPLAYED ON OTHER INSTRUMENTS IN AND AROUND THE CONTROL ROOM FOR THE OPERATORS. HOWEVER, WITH SPDS INOPERABLE, THE INFORMATION WOULD HAVE TO BE RELAYED VERBALLY FROM THE CONTROL ROOM TO THE TSC AND EOF DURING EMERGENCY SITUATIONS. SPDS IS NOT REQUIRED TO BE OPERABLE BY THE WATERFORD TECHNICAL SPECIFICATIONS. THE NRC RESIDENT INSPECTOR HAS BEEN NOTIFIED.

NUCLEAR REGULATORY COMMISSION
SHARED INFORMATION NETWORK
OPERATIONS OFFICERS SUPPORT SYSTEM
EVENT NOTIFICATION - POWER FACILITIES

EVENT NUMBER: 17595

FACILITY: BEAVER VALLEY
UNIT NO: 1
REGION: 1
DOCKET NO: 050-00334 - -
LICENSE TYPE: Power reactor
STATE: PA
EMERGENCY: N/A Not applicable
LICENSE NO:
LICENSEE:
REPORT REQUIRED BY: IWF 50.72 (1)(b)(III)

EVENT DATE: 01/19/1990
EVENT TIME: 16:22 (EST)
NOTIFY DATE: 01/19/1990
NOTIFY TIME: 17:21 (EST)
CALLER: BAKKEN
OPS OFFICER: BILL RECKLEY
NOTIFIED: RDO CONTE

UNIT	SCRAM CD	RX CRITL	INIT PWR	INIT RX MODE	CURR PWR	CURR RX MODE
1	N	Y	100	Mode 1 - Power	040	Mode 1 - Power

DESCRIPTION TEXT

UNIT COMMENCED A CONTROLLED SHUTDOWN REQUIRED BY TECHNICAL SPECIFICATIONS AFTER THE REVISION OF A TECHNICAL SPECIFICATION INTERPRETATION RELATED TO VITAL ELECTRICAL BUS OPERABILITY. THE UNIT HAS BEEN OPERATING WITH THE #3 UNINTERRUPTABLE POWER SUPPLY (UPS) OUT OF SERVICE SINCE 01/14/90 DUE TO A BLOWN FUSE WITH THE #3 120VAC VITAL BUS BEING ENERGIZED FROM A BACKUP POWER SUPPLY (480V/120V TRANSFORMER CONNECTED TO SAFETY RELATED 4160V BUS). THE LICENSEE HAD PREVIOUSLY TAKEN THE POSITION THAT A VITAL BUS COULD BE CONSIDERED OPERABLE WHEN POWERED FROM THE BACKUP POWER SUPPLY. DISCUSSIONS WITH THE NRC RESIDENT INSPECTOR AND REGIONAL STAFF LED THE LICENSEE TO REVISE THE TECHNICAL SPECIFICATION INTERPRETATION SUCH THAT THE VITAL BUS IS CONSIDERED INOPERABLE WHEN POWERED FROM THE BACKUP POWER SUPPLY. TECHNICAL SPECIFICATIONS ALLOW 8 HOURS FOR RESTORATION OF AN INOPERABLE VITAL BUS PRIOR TO A REQUIRED SHUTDOWN OF THE UNIT. SINCE THE #3 UPS HAD BEEN OUT OF SERVICE FOR SEVERAL DAYS, THE LICENSEE INITIATED A PLANT SHUTDOWN UPON REVISING THE TECHNICAL SPECIFICATION INTERPRETATION. THE LICENSEE EXPECTS TO ENTER MODE 3 (HOT STANDBY), COMPLETE REPAIRS TO THE #3 UPS AND PERFORM OTHER MAINTENANCE ACTIVITIES PRIOR TO A RETURN TO POWER OPERATION. LICENSEE INFORMED THE RI.

PRIORITY ATTENTION REQUIRED MORNING REPORT-REGION IV
DECEMBER 18, 1989

LICENSEE/FACILITY: ARKANSAS POWER & LIGHT CO.
ARKANSAS NUCLEAR ONE, UNIT 1
DOCKET: 50-313

NOTIFICATION:
LICENSEE
SUBJECT: CONTAINMENT SUMP NET
POSITIVE SUCTION HEAD (NPSH)
CALCULATIONS

B&W PWR/PRESTRESSED CONCRETE

REPORTABLE EVENT NUMBER: 17358

DISCUSSION:

ON DECEMBER 15, 1989, AT 2:10 P.M. (CST) WITH ANO UNIT 1 IN COLD SHUTDOWN, THE LICENSEE REPORTED THAT THEIR ENGINEERING STAFF HAD FOUND INCONSISTENCIES IN THE ORIGINAL DESIGN CALCULATIONS RELATING TO POST-LOCA CONTAINMENT SUMP WATER LEVELS REQUIRED TO ASSURE ADEQUATE NPSH TO THE LOW PRESSURE INJECTION (LPI) AND CONTAINMENT SPRAY (CS) PUMPS. THIS WAS FOUND DURING DESIGN BASIS RECONSTITUTION EFFORTS BY THE LICENSEE. IMMEDIATE ACTION BY THE LICENSEE WAS TO DELAY HEATUP OF THE UNIT PENDING RESOLUTION OF THIS PROBLEM. THE LICENSEE ALSO MADE A 50.72 REPORT ON THIS PROBLEM. SUBSEQUENT REVIEW BY THE LICENSEE HAS DETERMINED THAT ADDITIONAL EMERGENCY OPERATING PROCEDURE (EOP) REQUIREMENTS TO LIMIT FLOW UNDER CERTAIN CONDITIONS FOR THE LPI AND CS PUMPS IS NEEDED TO ASSURE ADEQUATE NPSH. THE LICENSEE HAS REVISED THE APPLICABLE EOPS AND CONFIRMED WITH B&W THAT THE MORE RESTRICTIVE FLOWS MEET ACCIDENT ANALYSIS REQUIREMENTS. THE LICENSEE HAS LIFTED THE HEATUP RESTRAINT AND UNIT HEATUP IS SCHEDULED TO BEGIN AROUND NOON TODAY.

REGIONAL ACTION: THE RESIDENT INSPECTORS ARE MONITORING LICENSEE ACTIONS. THE NRR PROJECT MANAGER WILL ALSO BE ONSITE TODAY AND WILL REVIEW THIS MATTER.

CONTACT: D. CHAMBERLAIN FTS: 728-8249

LICENSEE/FACILITY: HOUSTON LIGHTING & POWER CO.
SOUTH TEXAS PROJECT, UNIT
DOCKET: 50-498
PWR/REINFORCED CONCRETE

NOTIFICATION:
SRI PHONE CALL 12/18/89
SUBJECT: TECH SPEC REQUIRED
SHUTDOWN

REPORTABLE EVENT NUMBER: 17369 AND 17370

DISCUSSION:

AT APPROXIMATELY 11:55 P.M. (CST) ON DECEMBER 16, 1989, HOUSTON LIGHTING & POWER COMPANY (HL&P) DECLARED AN UNUSUAL EVENT UPON INITIATING A TECHNICAL SPECIFICATION (TS) REQUIRED SHUTDOWN FOR SOUTH TEXAS PROJECT, UNIT 1 (STP-1). AT 2:42 A.M. (CST) ON DECEMBER 16, 1989, WITH STP-1 AT 100 PERCENT REACTOR POWER, THE LICENSEE DISCOVERED A PROBLEM WITH THE NO. 11 DIESEL GENERATOR

LICENSEE/FACILITY:

HOUSTON LIGHTING & POWER CO. (CONTINUED)

VOLTAGE REGULATOR WHILE PERFORMING A 31-DAY SURVEILLANCE TEST THE LICENSEE DECLARED THE NO. 11 DIESEL GENERATOR INOPERABLE AND ENTERED THE 72-HOUR ACTION STATEMENT OF TS 3 8 1 1 AT APPROXIMATELY 9 55 P.M. ON DECEMBER 16, 1989. THE LICENSEE DISCOVERED THAT THE ESSENTIAL CHILLER NO. 12C ELECTRICAL BREAKER WOULD NOT TRIP WITH CONTROL ROOM OR LOCAL ACTUATION. NO. 12C ESSENTIAL CHILLER PROVIDES COOLING TO ROOM COOLERS ASSOCIATED WITH, AMONG OTHER THINGS, THE NO. 13 DIESEL GENERATOR. TS 3 8 1 1 D 1 REQUIRES THAT WITH ONE DIESEL GENERATOR INOPERABLE, ALL REQUIRED SYSTEMS, TRAINS, AND COMPONENTS DEPENDING ON THE REMAINING TWO DIESEL GENERATORS AND OTHER SOURCES OF POWER MUST BE OPERABLE. WITH THE NO. 12C ESSENTIAL CHILLER INOPERABLE BECAUSE OF THE BREAKER PROBLEM, THE LICENSEE ENTERED A 2-HOUR ACTION STATEMENT TO RESTORE THE CHILLER IN 2 HOURS OR BE IN HOT STANDBY (MODE 3) WITHIN THE NEXT 6 HOURS. AT 11 55 P.M. (CST), WITH THE NO. 11 DIESEL GENERATOR AND THE NO. 12C CHILLER INOPERABLE, THE LICENSEE BEGAN THE TS REQUIRED SHUTDOWN TO MODE 3 AND DECLARED AN UNUSUAL EVENT AS REQUIRED BY THE STP-1 EMERGENCY PLAN. STATE OF TEXAS AND LOCAL OFFICIALS WERE INFORMED OF THE NOTIFICATION OF UNUSUAL EVENT (NOUE). AT 5 50 A.M. ON DECEMBER 17, 1989, STP-1 COMPLETED A SHUTDOWN TO MODE 3.

SUBSEQUENT TO THE STP-1 SHUTDOWN, HL&P DISCOVERED A MALFUNCTIONING AUXILIARY RELAY CONTACT ASSOCIATED WITH THE NO. 12C ESSENTIAL CHILLER BREAKER. THE RELAY WAS REPLACED AND THE BREAKER WAS TESTED SATISFACTORY. THE NO. 12C ESSENTIAL CHILLER WAS DECLARED OPERABLE AND THE NOUE EXITED AT 7:55 P.M. ON DECEMBER 17, 1989.

DURING THE TS REQUIRED SHUTDOWN, THE LICENSEE WAS CONTROLLING STEAM GENERATOR WATER LEVELS BY USING THE FEEDWATER BYPASS VALVES BECAUSE OF LEAKAGE THROUGH THE FEEDWATER REGULATING VALVES. OPERATORS OVERFED THE NO. 1A STEAM GENERATOR AND A HIGH-HIGH STEAM GENERATOR FEEDWATER ISOLATION SIGNAL OCCURRED WHEN THE NO. 1A STEAM GENERATOR REACHED THE 87 PERCENT LEVEL SETPOINT. SYSTEMS RESPONDED AS EXPECTED AFTER THE ACTUATION. THE LICENSEE INITIATED AUXILIARY FEED FLOW TO CONTROL STEAM GENERATOR LEVELS AND SUBSEQUENTLY RESTORED MAIN FEEDWATER FLOW.

TWO OTHER EVENTS OCCURRED DURING THE TS REQUIRED SHUTDOWN. THE NO. 1D STEAM GENERATOR POWER OPERATED RELIEF VALVE DID NOT OPERATE WHEN ACTUATED REMOTELY. THE VALVE WAS DECLARED INOPERABLE AND THE LICENSEE IS INVESTIGATING THE FAILURE TO OPERATE. ALSO, THE DISCHARGE VALVE FOR THE NO. 11 SECONDARY PLANT MAIN CIRCULATING WATER PUMP FAILED. THE MECHANISM WHICH CONNECTS THE VALVE DISC TO THE MOTOR OPERATOR MALFUNCTIONED AND ALLOWED THE VALVE TO GO SHUT. THE SUBSEQUENT RAPID SHUTTING OF THE VALVE WITH THE CIRCULATING PUMP STILL RUNNING RESULTED IN A CRACKING OF THE CIRCULATING PUMP CASING. A SIMILAR EVENT OCCURRED TO ANOTHER STP-1 MAIN CIRCULATING PUMP IN MARCH 1987.

LICENSEE/FACILITY:

HOUSTON LIGHTING & POWER CO. (CONTINUED)

STP-1 IS CURRENTLY IN HOT SHUTDOWN (MODE 3). THE NO. 11 DIESEL GENERATOR VOLTAGE REGULATOR HAS BEEN REPLACED AND THE LICENSEE IS CONDUCTING POSTREPAIR TESTING. THE NO. 11 DIESEL GENERATOR MUST BE RETURNED TO OPERABLE STATUS OR STP-1 MUST BE IN COLD SHUTDOWN BY 2 45 A M. ON DECEMBER 19, 1989. THE LICENSEE ANTICIPATES RETURNING THE DIESEL GENERATOR TO OPERABLE STATUS BEFORE COOLDOWN TO MODE 5 IS REQUIRED.

HL&P INTENDS TO REMAIN SHUTDOWN IN MODE 3 UNTIL INVESTIGATION AND REPAIRS ASSOCIATED WITH THE NO. 10 STEAM GENERATOR POWER OPERATED RELIEF VALVE, THE NO. 11 MAIN CIRCULATING WATER PUMP, AND OTHER SECONDARY PLANT ITEMS ARE COMPLETED. THE LICENSEE ANTICIPATES DECEMBER 19 AND 20 AS THE EARLIEST DATE FOR RETURN TO POWER OPERATION.

REGIONAL ACTION: THE RESIDENT INSPECTORS ARE MONITORING THE LICENSEE'S RECOVERY ACTIONS.

CONTACT: E. HOLIER

FTS: 728-8287

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 ^{AC} A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

- a. Two physically independent circuits between the offsite transmission network and the on-site Class 1E Distribution System**, and
- b. Three separate and independent standby diesel generators, each with a separate fuel tank containing a minimum volume of 60,500 gallons of fuel.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With one offsite circuit of the above-required ~~A.C.~~^{AC} electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Demonstrate the OPERABILITY of each standby diesel generator that has not been successfully tested within the past 24 hours by performing Surveillance Requirement 4.8.1.1.2.a.2) for each such standby diesel generator, separately, within 24 hours. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. With a standby diesel generator inoperable, demonstrate the OPERABILITY of the above-required A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the standby diesel generator became inoperable due to any cause other than preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE standby diesel generators by performing Surveillance Requirement 4.8.1.1.2.a.2) and for each such standby diesel generator, separately, within 24 hours.* Restore the inoperable standby diesel generator to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- c. With one offsite circuit and one standby diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Specification 4.8.1.1.1a. within 1 hour and at least once per 8 hours thereafter; and if the standby diesel generator became inoperable due to

*This test is required to be completed regardless of when the inoperable standby diesel generator is restored to OPERABILITY.

**Loss of one 13.8 kV Standby bus to 4.16 kV ESF bus line constitutes loss of one offsite source. Loss of two 13.8 kV Standby busses to 4.16 kV ESF bus lines constitutes loss of two offsite sources.

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION

ACTION (Continued)

any cause other than preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE standby diesel generators by performing Surveillance Requirement 4.8.1.1.2a.2) within 8 hours*; restore at least one of the inoperable sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least two offsite circuits and three standby diesel generators to OPERABLE status within 72 hours from the time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

- d. With one standby diesel generator inoperable in addition to ACTION b. or c. above, verify that:
1. All required systems, subsystems, trains, components, and devices that depend on the remaining OPERABLE diesel generator as a source of emergency power are also OPERABLE, and
 2. When in MODE 1, 2, or 3, the steam-driven auxiliary feedwater pump is OPERABLE.

If these conditions are not satisfied within 2 hours be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

- e. With two of the above required offsite A.C. circuits inoperable, demonstrate the OPERABILITY of three standby diesel generators by performing the requirements of Specification 4.8.1.1.2a.2) within 8 hours unless the standby diesel generators are already operating; restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, restore at least two offsite circuits to OPERABLE status within 72 hours from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- f. With two or three of the above required standby diesel generators inoperable, demonstrate the OPERABILITY of two offsite A.C. circuits by performing the requirements of Specification 4.8.1.1.1a. within 1 hour and at least once per 8 hours thereafter; restore at least two standby diesel generators to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least three standby diesel generators to OPERABLE status within 72 hours from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

*This test is required to be completed regardless of when the inoperable standby diesel generator is restored to OPERABILITY.

ENCLOSURE 4

OGC Comments