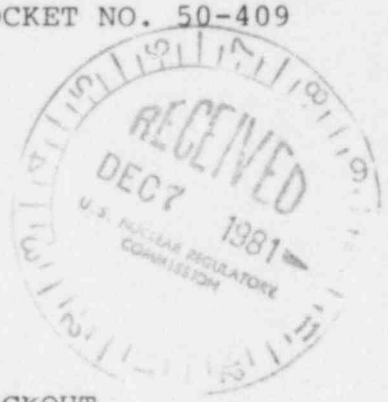
DAIRYLAND POWER COOPERATIVE · P.O. BOX 817 · 2615 EAST AV. SOUTH · LA CROSSE, WISCONSIN 54601
(608) 788-4000

November 30, 1981

In reply, please
refer to LAC-7933

DOCKET NO. 50-409



Director of Nuclear Reactor Regulation
ATTN: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

SUBJECT: DAIRYLAND POWER COOPERATIVE
LA CROSSE BOILING WATER REACTOR (LACBWR)
PROVISIONAL OPERATING LICENSE NO. DPR-45
INFORMATION REQUEST REGARDING STATION BLACKOUT,
UNRESOLVED SAFETY ISSUE A-44

REFERENCE: (1) NRC Letter, Crutchfield to Linder,
dated July 20, 1981.

Gentlemen:

Enclosed is the information requested by Reference 1, containing data for the years 1976 through 1980, inclusive. The information is provided on the four attached tables: (1) Diesel Generator Operations Data; (2) Diesel Generator Down Time Record; (3) Diesel Generator Unscheduled Down Time Record; and (4) Onsite Emergency Diesel Generator and Auxiliary Equipment Modification Record.

Also, enclosed are copies of Licensee Event Report (LER) documentation. The items listed as numbers 4 and 7 are not indicated on Enclosure 2 of Reference 1.

If there are any questions regarding this letter, please contact us.

Very truly yours,

DAIRYLAND POWER COOPERATIVE

Frank Linder

Frank Linder, General Manager

FL:GSB:af

Enclosure

cc: J. G. Keppler, Regional Director, NRC-DRO, Region III
NRC Resident Inspector

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TABLE 1

Diesel Generator Operations Data
Calendar Year 1976-80

Reason for DG Operation, & scheduled Duration of Run	DG No.	Number of Starts	Number of Failures	Percent Loading of DG (KW)	Duration of Run Before Stop For Each DG Failure	Identification of Failure (Refer to attached LERs or Table 3)
Tech. Spec Req'd Test						
Bi-weekly	1A	19	0	40%	0 Hrs.	
Bi-weekly	1B	6	1	75%	12 Hrs.	LER #1
Monthly	1A	55	1	40%	12 Hrs.	LER #3
Monthly	1B	56	1	75%		LER #6
Daily	1A	5	0	40%	0 Hrs.	
Daily	1B	8	0	75%	0 Hrs.	
Annual + 18 Mo.	1A	6	0	40%	0 Hrs.	
Annual + 18 Mo.	1B	7	0	75%	0 Hrs.	
		162	3			
DG Actual Demand Starts not for Testing						
	1A	14	0	59%	0 Hrs.	
	1B	8	0	55%	0 Hrs.	
		22	0			
Miscellaneous Tests (Specify Type)						
After Maintenance	1A	31	0	40%	0 Hrs.	
Has Been Performed	1B	14	1	75%	1 Hr.	LER #6
Severe Weather	1A	6	0	40%	0 Hrs.	
Operational Checks	1A	24	3	40%	24½ Hrs., 14½ Hrs.	LER #4
	1B	12	1	75%	10 Min SD	LER #1
Special Test	1A	5	0	40%	0 Hrs.	
	1B	4	0	75%	0 Hrs.	

TABLE 2

Diesel Generator Scheduled Downtime Record
Calendar Year 1976-80

Plant Name LACBWR
Unit No. #1

Reason for Downtime		Hours of Downtime										Comments
		Reactor shutdown					Reactor not shutdown					
		DG# 1A	DG# 1B	DG#	DG#	DG#	DG# 1A	DG# 1B	DG#	DG#	DG#	
Scheduled Maintenance	04/01/76	5Hr 55Min										P.M.
	06/06/76	30Min										Battery Change - PM
	08/04/76	<8Hr										P.M. Oil Change
PMs	11/16/76	17Min										Meggering
	05/27/77		<3Day									P.M.
	05/30/77		3Day 55Min									P.M.
	08/26/77	3Hr 15Min										P.M.
	08/26/77		1Hr 15Min									P.M.
	09/09/77	24Hr 51Min										P.M.
	05/01/78		10Min									Meggering
	05/02/78	45Min										Meggering
	10/19/78	95Min										P.M. Batts
	01/16/79		8Min									Meggering
	05/14/79	52Min										P.M. Oil Change
	08/31/79						1Hr 23Min					P.M. Batt Change
	04/24/80		4Hrs 42Min									P.M.
	05/25/80	1Hr 7Min										P.M.
	10/07/80							2Hr 12Min				P.M. Batt Change
	11/15/80		7Hrs 2Min									18 Mo. Battery Test
	12/09/80	1Hr										Meggering
Time DG is unavailable for emergency service because of required tests												

TABLE 2

Diesel Generator Scheduled Downtime Record
Calendar Year 19 76-80

Plant Name LACBWR
Unit No. #1

Reason for Downtime		Hours of Downtime										Comments
		Reactor shutdown					Reactor not shutdown					
		DG 1A	DG 1B	DG	DG	DG	DG 1A	DG 1B	DG	DG	DG	
Scheduled Maintenance	04/05/76	19Min										Installation of 1B EDG.
	05/11/76	16Days										Leak on Exhaust Piping.
CORRECTIVE MAINTENANCE	06/22/76		42Min									Install Oil Pressure Switch
	07/09/76	5Hr 29Min										Oil leak on turbocharger bearing return to sump.
	09/01/76						9Min					Lube oil filter gasket leak.
	09/15/76							3Hr 25Min				Test load alternately loaded and unloaded during monthly tests.
	05/20/77		5Days 22Hrs 35Min									Leak on cooling water line.
	07/11/77		35Min									Test of CO_2 System.
	10/10/77	2Hr 27Min										Replace cooling water hose to radiator.
	12/20/77	2Hr										Time delay on low lube oil pressure trip starting circuit.
	12/21/77	2Hr										Auto shutdown solenoid repairs.
	12/22/77	2Hr 15Min										Auto shutdown solenoid repairs.
	01/04/77	1Hr 14Min										Relocate fuel shutoff valve.
	01/12/78	4Hr										Fuel leak at inlet to fuel oil solenoid valve.
	08/11/78						72Min					Change oil.
	10/15/78	128Hr 15Min										Check for fuel oil leak.
	12/15/78							5Min				Failure to start on monthly test - Investig - Cause Unknown
	12/18/78							4Min				Tripped on overspeed while testing - Adjusted overspeed device.
	05/03/79	31Hr 36Min										Fuel oil contamination in lube oil.
Time DG is unavailable for emergency service because of required tests												

TABLE 3 Diesel Generator Unscheduled Downtime Record
Calendar Year 19 76-80

Plant Name TACBWR
Unit No. #1

LER Abstract No. (Refer to attached LER Abstracts)	Downtime Hours				Comments - If any of the reported failures would not have been a failure under emergency conditions, please explain here. Refer to attached LERs or the failures listed in Table 1.
	Total Hours	Trouble-shooting	Parts, Delivery, etc	Repair/ Replace	
1.	12 Hrs	12 Hrs.	-	-	1. Diesel unavailable.
2.	7 Hrs	-	-	2 Hrs.	2. Except for 2 hrs (1 Hr per tank) the diesels were available.
3.	7 Hrs	7 Hrs	-	2 Hrs.	3. The test load closed-in in excess of 10 secs (13 secs) Electrical Maintenance troubleshot problem. The diesel was available all this time.
4.	24½Hrs.	24½Hrs.	-	24½Hrs	4. Diesel unavailable.
5.	1 Hr. 12Min.	- 12Min.	-	1 Hr.	5. Diesel unavailable.
6.	82½ Hrs	82 Hrs	-	½ Hr.	6. Diesel Unavailable.
7.	-	-	-	-	7. Available throughout the whole sequence.

TABLE 4

Onsite Emergency Diesel Generator and Auxiliary Equipment Modification Record

Plant Name LACBWR
Unit No. #1

Equipment or procedure modified	Date of Mod.	Reason for Modification and Desired Improvement	Description of Modification
1A Diesel Generator	10/75	Improve Reliability and Availability of ECCS	FC#74-27 - Emergency Diesel Generator Low Water Level Start.
1A Diesel Generator	9/74	Eliminate overheating after diesel has shutdown.	FC#74-29 - Emergency Diesel Generator Hi Temperature Lockout.
1B Diesel Generator	8/76	To add a redundant emergency power system for LACBWR requirements.	FC#75-12 - Addition of 1B Diesel Generator Building.
1B Diesel Generator	8/76	To meet ECCS Requirements.	FC#75-26 - Add HPSW Well H_2O Service air to diesel building.
1B Diesel Generator	2/76	To permit filling oil storage tank with transfer pump from 20,000 gal. tank.	FC#75-33 - Fuel oil fill line to new diesel.
Diesel Generators	8/76	To maintain adequate fuel levels and to provide sampling capabilities.	FC#76-27 - Fuel oil tanks level transmitters relocation and recalibration.
1A Diesel Generator	6/77	Additional information to operators	FC#77-08 - Add low H_2O temperature and low voltage alarm to diesel generator.
1B Diesel Generator	8/77	NRC Requirement Operator information	FC#77-15 - Add Power "ON" lite in control room from D.G. 1B.
1A Diesel Generator	1/78	To prevent high D/P across solenoid valve which prevented valve from opening.	FC#78-01 - Diesel generator 1A fuel solenoid valve.
1B Diesel Generator	3/78	NRC Requirement - Change actuation signal to building Hi-Pressure switch.	FC#78-02 - Containment pressure switch for 1B HPCS pump and 1B diesel.
1B Diesel Generator	5/78	To allow flushing the header every 6 months as per Tech. Spec. Req.	FC#78-08 - Flush valve in 1B diesel generator building at fire hose 5F.

TABLE 4

Onsite Emergency Diesel Generator and Auxiliary Equipment Modification Record

Plant Name LACBWR
Unit No. #1

Equipment or procedure modified	Date of Mod.	Reason for Modification and Desired Improvement	Description of Modification
1A Diesel Generator	10/78	NRC Requirements - Operator Information	FC#78-10 - Install separate alarm in control room for 1A diesel out of "auto".
Diesel Generators	4/80	Isolates identified fire zones.	FC#79-10 - Fire Penetration Barriers
1B Diesel Generators	4/80	Rewire Power from the Diesel Building MCC to the TB MCC 1A Aux. Dist. Panel	FC#79-19 - Change 1B Diesel Fire Protection Power from 1B diesel to TB MCC 1A Aux. Panel
Diesel Generator	N/A	Cancelled by ORC 4/3/80 78-80-2 has replaced this Facility Change.	FC#79-23 Install fuel oil shutdown valve in 1A diesel generator supply.
Inverter 1-C	4/80	Information to operators	FC#78-80-1 Install loss of voltage alarm from inverter 1-C.
1A Diesel Generator	4/80	Switch to be located outside 1A Diesel Room to prevent inadvertent operation.	FC#78-80-2 Install electrical shutoff switch in fuel oil PM of 1A Diesel Generator.
1A Diesel Generator	2/81	Seismic Upgrade Program	FC#78-81-3 Anchor 1A Diesel Generator
Battery Rooms	8/77	NUREG 75/987 Section 9.5.1 Local and remote indications of H_2 Concentrations.	FC#77-16 Install H_2 Alarms in Battery Room.
1A Diesel Generator	4/81	Upgrade Fire Protection System	FC#06-80-1 Install sprinklers in 1A Diesel Generator Room
Diesel Generators	12/80	Upgrade Fire Protection System	FC#06-80-2 Install curbs in 1A and 1B Diesel Rooms
1B Diesel Generator	4/81	Upgrade Fire Protection System	FC#06-80-5 - Modify 1B Diesel Generator CO_2 System to remote manual actuators.

LA CROSSE BWR EMERG GENERATOR SYS + CONTROLS ENGINES,INTERNAL COMBUSTION DESIGN/FABRICATION ERROR	050-0409 015984 (1)	091576 101476 30-DAY	(76-9) DURING A SURVEILLANCE TEST THE 1B EMERGENCY DIESEL GENERATOR FAIL ED TO CARRY THE FULL TEST LOAD. THE 1A DIESEL GENERATOR WAS TESTED TO VE RIFY OPERABILITY. THE CAUSE WAS DETERMINED AND CORRECTED AND A SATISFACT ORY TEST PERFORMED.
LA CROSSE BWR EMERG GENERATOR SYS + CONTROLS ENGINES,INTERNAL COMBUSTION EXTERNAL CAUSE	050-0409 016302 (2)	111776 111676 24-HOUR	(76-15) EMERGENCY DIESEL GENERATOR FUEL OIL SAMPLES DID NOT MEET THE T ECH SPEC REQUIREMENTS FOR WATER AND SEDIMENT CONTENT. SAMPLE FROM BOTTOM OF TANK INDICATED 3.1% BY VOLUME. LIMIT IS 0.05%. THE OIL WILL BE REPLACED AND TESTED PRIOR TO STARTUP.
LA CROSSE BWR EMERG GENERATOR SYS + CONTROLS HEATERS,ELECTRIC COMPONENT FAILURE	050-0409 017027 (3)	120376 010377 30-DAY	(76-16) DURING ROUTINE SURVEILLANCE TEST, STARTING TIME OF EMERG. DIESEL -GEN. 1A EXCEEDED TECH. SPEC. LIMIT DUE TO LOW COOLANT TEMPERATURE. ELEC TRIC COOLANT HEATER WAS INOPERATIVE DUE TO LOOSE WIRE. FOLLOWING REPAIRS THE UNIT RETESTED SATISFACTORILY. THE REDUNDANT DIESEL GENERATOR WAS NO T AFFECTED BY THIS EVENT. COMBINATION OF VIBRATION AND INCOMPLETE TERMINAL LOG CRIMP ON POWER LEAD TO HEATER ELECTRODE.
LA CROSSE BWR AC ONSITE POWER SYS + CONTROLS COMPONENT CODE NOT APPLICABLE SUBCOMPONENT NOT APPLICABLE DESIGN/FABRICATION ERROR DESIGN ITEM NOT APPLICABLE	05000409 77-007/03L-0 020180 (4)	122077 010578 30-DAY	EMERGENCY DIESEL GENERATOR 1A DID NOT OPERATE CONTINUOUSLY UPON PROMPT AUTOMATIC RESTART FOLLOWING SATISFACTORY MANUAL OPERATION. PLANT WAS IN SHUTDOWN STATUS DURING CONDUCT OF EMERGENCY DIESEL GENERATOR TESTS. DESIGN DEFICIENCY IN LOCATION OF FUEL CUTOFF SOLENOID VALVE INTRODUCED P RESSURE DIFFERENTIAL PREVENTING VALVE OPENING. VALVE WAS RELOCATED AND S YSTEMS AND EQUIPMENT TESTED SATISFACTORILY.
LA CROSSE BWR EMERG GENERATOR SYS + CONTROLS COMPONENT CODE NOT APPLICABLE SUBCOMPONENT NOT APPLICABLE OTHER NOT APPLICABLE ITEM NOT APPLICABLE	05000409 78-010/03L-0 023247 (5)	081178 091578 30-DAY	1A DIESEL GENERATOR WAS TAKEN OUT OF SERVICE FOR ONE HOUR AND TWELVE MIN UTES DURING REACTOR OPERATION TO CHANGE ENGINE SUMP LUBE OIL. LUBE OIL WAS DILUTED WITH DIESEL FUEL OIL. 1B DIESEL GENERATOR AND OTHER A.C. SO URCES REMAINED OPERABLE TO PROVIDE REQUIRED BACKUP A.C. ELECTRICAL POWER . PARTIAL DILUTION OF LUBE OIL ATTRIBUTED TO RESIDUAL FUEL OIL IN INJECTOR S. FOLLOWING OIL CHANGE, TECHNICAL SPECIFICATION SURVEILLANCE TESTING W AS PERFORMED ON BOTH DIESEL GENERATORS TO VERIFY OPERABILITY. ADDITIONA L SAMPLING BY IMPROVED PROCEDURES WILL BE PERFORMED TO PROVIDE FURTHER B ASIS FOR ACCEPTANCE CRITERIA AND DETERMINATION OF RATE OF DILUTION. DURING CONDUCT OF PRIMARY REACTOR CONTAINMENT TYPE A LEAKAGE TEST, THE M
LA CROSSE BWR AC ONSITE POWER SYS + CONTROLS INSTRUMENTATION + CONTROLS SENSOR/DETECTOR/ELEMENT COMPONENT FAILURE ELECTRICAL SYNCHRO START PRODUCTS	05000409 78-014/03L-0 023505 (6)	121578 011879 30-DAY	DURING A ROUTINE SURVEILLANCE TEST ON THE 1B EMERGENCY DIESEL GENERATOR, THE UNIT TRIPPED ON INDICATED OVERSPEED. SUBSEQUENT RESTARTS WERE SATI SFACTORY AND THE SURVEILLANCE FREQUENCY WAS INCREASED. THE PROBLEM WAS DUPLICATED ON DECEMBER 18, 1978. THE UNIT WAS DECLARED INOPERABLE TO PE RMIT REPAIRS (TECH. SPEC. 5.2.10.1.1.2.A). THE REDUNDANT DIESEL GENERAT OR WAS OPERATED AT INCREASED SURVEILLANCE FREQUENCY PER TECH. SPEC. 4.2. 3.1.1. ACTION A. THE ELECTRIC OVERSPEED SWITCH REQUIRED READJUSTMENT AS IT WAS SET AT 198 0 RPM INSTEAD OF 2010-2015 RPM. THE LOWER SETPOINT CAUSED OVERSPEED TRI PS ON THE INITIAL COLD START ONLY. THE SWITCH SETPOINT WAS READJUSTED B Y A REPRESENTATIVE OF THE MANUFACTURER. A SCHEDULE OF INCREASED SURVEIL LANCE WAS IMPLEMENTED. PERIODIC LEAKAGE RATE TESTING REVEALED ELECTRICAL PENETRATION UNIT NOS

REPORT SOURCE: L (8) | DOCKET NUMBER: 0 5 0 - 0 4 0 9 (7) | EVENT DATE: 0 1 0 3 7 9 (8) | REPORT DATE: 0 1 1 8 7 9 (9)

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

THE RESULTS OF A ROUTINE SURVEILLANCE TEST ON FUEL OIL SAMPLES FROM THE TANKS SUPPLYING THE 1A HPSW PUMP, 1B HPSW PUMP AND THE 1B EMERGENCY DIESEL GENERATOR INDICATED WATER AND SEDIMENT CONCENTRATIONS OF 0.1% COMPARED TO A TECHNICAL SPECIFICATION LIMIT OF 0.05% (SECTIONS 5.2.18.1.2.c AND 5.2.10.1.1.2.b). SIMILAR OCCURRENCE RO-76-15. THE ELECTRIC DRIVEN HIGH PRESSURE SERVICE WATER PUMP AND THE 1A EMERGENCY DIESEL GENERATOR WERE AVAILABLE AND OPERABLE.

SYSTEM CODE (11)	CAUSE CODE (12)	CAUSE SUBCODE (13)	COMPONENT CODE (14)	COMP. SUBCODE (15)	VALVE SUBCODE (16)
A B	X	Z	Z Z Z Z Z Z	Z	Z

LER/RO REPORT NUMBER (17)	EVENT YEAR	SEQUENTIAL REPORT NO.	OCCURRENCE CODE	REPORT TYPE	REVISION NO.
	7 9	— 0 0 1	/ 0 1	1	— 0

ACTION TAKEN (18)	FUTURE ACTION (19)	EFFECT ON PLANT (20)	SHUTDOWN METHOD (21)	HOURS (22)	ATTACHMENT SUBMITTED (23)	NPRD-4 FORM SUB. (24)	PRIME COMP. SUPPLIER (25)	COMPONENT MANUFACTURER (26)
X	X	Z	Z	0 0 0 0	Y	N	Z	Z 9 9 9

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

EACH OF THE FUEL OIL TANKS WERE RESAMPLED AT THREE ELEVATIONS PRIOR TO PARTIAL PURGING. THE TANK TRUCK WAS ALSO SAMPLED AS WELL AS EACH TANK FOLLOWING REPLENISHMENT. ALL SAMPLES INDICATED WATER AND SEDIMENT LEVELS BELOW 0.02%. THE SAMPLING TECHNIQUE AND PROCESSING METHODS ARE BEING EXAMINED TO DETERMINE IF CHANGES ARE WARRANTED TO REDUCE THE POTENTIAL FOR SAMPLE CONTAMINATION.

FACILITY STATUS (28)	% POWER (29)	OTHER STATUS (30)	METHOD OF DISCOVERY (31)	DISCOVERY DESCRIPTION (32)
E	0 4 9	NA	B	NA

ACTIVITY RELEASED (33)	CONTENT OF RELEASE (34)	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
Z	Z	NA	NA

PERSONNEL EXPOSURES

NUMBER	TYPE (38)	DESCRIPTION (39)
0 0 0 (37)	Z	NA

PERSONNEL INJURIES

NUMBER	DESCRIPTION (41)
0 0 0 (40)	NA

LOSS OF OR DAMAGE TO FACILITY (43)

TYPE (42)	DESCRIPTION
Z	NA

PUBLICITY

ISSUED (44)	DESCRIPTION (45)
N	NA

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