

INDIANA & MICHIGAN POWER COMPANY

P. O. BOX 18
BOWLING GREEN STATION
NEW YORK, N. Y. 10004

February 8, 1978

Donald C. Cook, Nuclear Plant Units 1 & 2
Docket Nos. 50-315 and 50-316
DPR Nos. 53 and 74

Mr. Edison G. Case, Acting Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Case:

This letter is in response to Mr. Karl R. Goller's letter dated December 15, 1977 which requested response to the questionnaire for the reliability study of the standby Diesel Generators by all Power Reactor Licensees.

Enclosed please find a completed questionnaire for the Diesel Generators at the Donald C. Cook Nuclear Plant. Since we have not had any significant operating experience on the Unit 2 Diesel Generators, the responses to this questionnaire are addressing the Unit 1 Diesel Generators. Although there are small differences in the control circuitry between the two units, the Diesel Generators themselves that are installed in the two (2) units of the Cook Nuclear Plant, are identical.

We would appreciate it if you could make the results of your reliability study available to us at the earliest possible convenience.

Very truly yours,

John Tillinghast
John Tillinghast
Vice President

JT/mab

Sworn and subscribed to before me
this 13th day of February, 1978 in
New York County, New York

Kathleen Barry
Notary Public

KATHLEEN BARRY
NOTARY PUBLIC, State of New York
No. 41-1606792
Qualified in Queens County

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PDR

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- S. Are any foreign gases such as propane, freon, halon, carbon dioxide, etc. stored in the: Diesel Engine room?
Yes x No _____ or adjacent buildings? Yes x No _____

If yes, (other than hand portable fire extinguishers), then identify gases and give approximate tank size.

3

Gases	Volume (ft)
_____	_____
_____	_____
_____	_____
_____	_____

- T. Does control system automatically bypass, in emergency starting, any engine temporarily out of service for maintenance? Yes _____ No _____ NA

If yes, then how many failures to bypass have occurred?

- U. Does the control system automatically override the test made under emergency conditions? Yes _____ No x

- V. Have repetitive mechanical failures occurred in any component part or subsystem of the engine, generator, or switch gear, etc.?
Yes x No _____

If yes, then which part or subsystem? Fuel injection pumps

How many failures? 20

Give nature of failure. Sticking/leaking

- W. Would periodic (yearly or other) evaluation and/or testing by "outside experts" contribute significantly to the diesel-generator reliability? Yes _____ No x

Give brief reasons for the answer. _____

1. Give the accumulated time-load operating record for each diesel-generator unit from installation to the present (Running Hours):

Preoperational test Date _____

Engine	Surv. Testing & Maintenance Hrs.	Emergency and Other Service Hrs.	Total Hours
Serial No.	No. Load : Loaded		
VO-3671			
VO-3669			
VO-3672			
VO-3670			

2. Surveillance test load (percent of continuous rating) 50%

3. Give the projected or planned time-load operation for each diesel-generator unit during the next 12 months.

Surveillance & Maintenance Hrs.	Emergency and other Service Hrs.	Total Hours
50	8	58

4. Provide the following summary of the periodic surveillance testing experience:

- a. Starting date of surveillance testing (OL date) 10/25/74
- b. Periodic test interval 31 days
- c. Total number of surveillance tests performed 150 (EST)
- d. Total number of test failures None

failure to start _____ failure to accept load _____
failure to carry load _____ failures due to operator error _____
failure due to equipment not being operative during emergency conditions _____

- e. Supply a copy of the surveillance test procedures with this completed questionnaire.*

* Available for on-site inspection only.

TABLE I

[illegible]

[illegible]

Guaranteed 'Till 19

[illegible]

Onsite Emergency Diesel Generator and
Auxiliary Equipment Modification Record

TABLE 4

Equipment or procedure modified	Date of Mod.	Reason for modification and Desired Improvement	Description of Modification

TABLE CATEGORIES
EXPLANATION/CLARIFICATION

Table 1

Reason for DG Operation and Scheduled Duration of Run: This column contains the different categories of diesel generator operation. The categories are structured such that the start and run conditions are similar for all of the tests in a category. In this column, enter the scheduled run duration for each of the test categories. Also enter the number of diesel generator starts that are done for each type of test. For example, if on the monthly test there is one start from the local controls and one start from the remote controls, the number of starts per test is two. If two or more diesels are started simultaneously for any reason, please record it as a multiple start.

DG No.: Enter each diesel generator's identification number in this column as shown in the example.

Number of Starts: Enter the sum of the successful and unsuccessful start attempts for each category. If there are several starts for each test, include all of them, but be certain to record the number of starts per test in column one.

Number of Failures: Enter the sum of the failures for each category. A failure is counted if the objectives of the test are not achieved. A subsystem failure that does not cause failure of the diesel generator system is not counted as a failure. If the diesel generator did not start, run, and load as required by the test, a failure should be recorded. However, if the diesel generator would have supplied power in some capacity for an emergency, please explain in Table 3. For example, if the diesel started on the second attempt or the diesel was tripped to repair a minor oil leak that would not have been a problem in an emergency, this should be noted in Table 3.

Percent Loading of DG (KW): Enter the percentage that the diesel is loaded for each category. The continuous kilowatt rating is considered to be 100%.

Duration of Run Before Stop for each DG Failure: Record the run-time for each failure. If the diesel failed to start, the run-time would be 0 min.

Identification of Failures: Attached to this questionnaire are abstracts of the LERs related to the diesel generators. The abstracts are numbered starting with one. Refer to this number to identify the failures, but if there was a failure for which there is no abstract, assign the failure a number and include it in Table 3.

Table 2

Reason for Downtime: Enter in this column the categories of schedule maintenance that make the diesel generator unavailable for emergency service. If the diesel generator is unavailable for emergency service during surveillance testing, report that also.

Table 2 (cont'd)

Hours of Downtime: Enter the number of hours that the diesel generator is unavailable for emergency service. Report the hours under the column reactor shutdown or reactor not shutdown as appropriate.

Comments: Comment on time to return to service after maintenance has begun, or other pertinent information.

Table 3

LER Abstract No. (Refer to attached LER Abstracts): The attached LERs are numbered starting from one. Refer to this LER number in column one. Each LER abstract should have an entry in this table. If there was a failure not included in the attached abstracts, please assign it a number and enter it in this table.

Downtime Hours: Enter the number of hours that the diesel generator is unavailable for emergency service. Subdivide these total hours into troubleshooting, parts delivery, and repair or replacement.

Comments: Use this column to comment on the downtime and the failure. If the reported failure was only a technical specification violation, but would not be a complete failure of the diesel generator to supply power or would only be a delay, please elaborate in this column.

Table 4

Equipment or procedure modified: List in this column the equipment or procedures related to the emergency onsite power system that have been modified since the reactor became critical.

Date of Mod.: Enter the date that the modification was completed.

Reason for Modification and Desired Improvement: Report the reason for the modification and the desired or observed improvement in the system.

Description of Modification: Briefly describe what modification was made.

Diesel Generator Operations Data Calendar Year 1976

Plant Name: No.

Unit No. 1 & 2

[illegible]

TABLE 2
(Sample)

Diesel Generator Scheduled Downtime Record
Calendar Year 19__

Enclosure 1 - Page 8
Plant Name _____
Unit No. _____

Reason for Downtime	Hours of Downtime										Comments
	Reactor shutdown					Reactor not shutdown					
	DC# 1	DC# 2	DC# 3	DC#	DC#	DC# 1	DC# 2	DC# 3	DC#	DC#	
Scheduled Maintenance											
Preventive Maintenance Semi-annual & Annual	24	16	--					16			
Equipment Modification						8	8	8			Modified lube oil on each diesel. Diesels down at different times.
Time DG is unavailable for emergency service because of required tests Down 4 hrs per test		8				48	40	48			Diesel cannot be automatically started during test or for three hours afterwards

TABLE 3
(Sample)

Diesel Generator Unscheduled Downtime Record
Calendar Year 19__

Enclosure 1 - Page 9
Plant name _____
Unit No. _____

LER Abstract No. (Refer to attached LER Abstracts)	Downtime Hours			Parts, Del., Repair/ Tie, etc. (replace)	Comments - If any of the reported failures would not have been failure under emergency conditions, please explain here. Refer to attached LERs of the failures listed in Table 1.
	Total Hours	Trouble-shooting			
1	4	1	1	2	Diesel started in 15 sec instead of required 10 sec. Secondary air pressure low. Primary air satisfactory. Secondary air pressure low. Primary air satisfactory. Diesel started in 20 sec instead of required 10 sec. False DG start signal. DG satisfactory. Required DG starts after the failure of one diesel. Starts to verify repairs.
2	3	0.5	1	1.5	
3	12	1	10	1	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
No LER					
9	0	0	0	0	
10	0	0	0	0	

TABLE 4
(Sample)

Onsite Emergency Diesel Generator and
Auxiliary Equipment Modification Record

Enclosure 1 - Page 10

Plant Name _____

Unit No. _____

Equipment or procedure modified	Date of Mod.	Reason for Modification and Desired Improvement	Description of Modification
Lube oil system	2/76	Improve turbo charger lubrication for emergency starts.	Seak-back pump was removed and replaced with a continuous lube oil pump. New pump also continuously lubricates the crankshaft.
Relay cabinets	1/78	Prevent dirt from fouling relay contacts.	Cabinet doors with gaskets were installed.
Instrument Relocation	6/79	Eliminate vibration damage to instruments	Control and monitoring instrument panel was relocated from the engine skids to a free standing panel mounted on the engine room floor.

77/57/000001-000001377 1

ACCESSION NO. 00201377

TITLE 50-316, TYPE-PWR, LFC-WEST, AB-REP, CONTROL-0250 4

CORP AUTH LTR WZLER 79-017 TO U.S. NRC, REGION 3, MAY 16, 1979, DOCKET 50-316, TYPE-PWR, LFC-WEST, AB-REP, CONTROL-0250 4

DATE 1979

TYPE 0

MEMO 2 PAGES, LTR WZLER 79-017 TO U.S. NRC, REGION 3, MAY 16, 1979, DOCKET 50-316, TYPE-PWR, LFC-WEST, AB-REP, CONTROL-0250 4

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON D.C. 20555, (CG PAGE -- MINIMUM CHARGE 12.00)

ABSTRACT DATE OF EVENT - 10/17/79, POWER LEVEL - 100%, CAUSE - NUCLEAR SYSTEM FAILURE, WHILE PERFORMING STP. 522, LSC-142, ESSENTIAL SERVICE WATER CHECK VALVE TO 2CD DIESEL DID NOT SEAT PROPERLY. REPAIRS PLACED THE 2CD DIESEL INOPERABLE. COMPANION DIESEL REMAINED OPERABLE DURING REPAIRS. SIMILAR OCCURRENCES: 79-000703L-0 AND 79-010703X-1 DOCKET NO. 05000015. CAUSE OF EVENT WAS

DATE OF EVENT - 10/17/79, POWER LEVEL - 100%, CAUSE - NUCLEAR SYSTEM FAILURE, WHILE PERFORMING STP. 522, LSC-142, ESSENTIAL SERVICE WATER CHECK VALVE TO 2CD DIESEL DID NOT SEAT PROPERLY. REPAIRS PLACED THE 2CD DIESEL INOPERABLE. COMPANION DIESEL REMAINED OPERABLE DURING REPAIRS. SIMILAR OCCURRENCES: 79-000703L-0 AND 79-010703X-1 DOCKET NO. 05000015. CAUSE OF EVENT WAS

COMPONENT CODE RELAY-RELAYS

SYSTEM CODE GENERATOR SYS & CONTROLS

77/57/000001-000001377 2

ACCESSION NO. 00201377

TITLE MAINTENANCE PERFORMED ON WARDING GENERATOR AT 50-316

CORP AUTH INDIANA & MICHIGAN ELCO. CO.

DATE 1979

TYPE 0

MEMO LTR WZLER 79-042 TO U.S. NRC, REGION 3, MAY 16, 1979, DOCKET 50-316, TYPE-PWR, LFC-WEST, AB-REP, CONTROL-0250 4

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON D.C. 20555, (CG PAGE -- MINIMUM CHARGE 12.00)

ABSTRACT DATE OF EVENT - 11/17/79, POWER LEVEL - 100%, CAUSE - NUCLEAR SYSTEM FAILURE, WHILE IN MODE 6, WITH ONE DIESEL GENERATOR ON LINE, THE SERVICE CONTRACTOR PERSONNEL MISTAKENLY PLACED A WIRE FROM THE OPERABLE 2CD STARTING BUS FEED CABLE TO THE 2CD DIESEL INOPERABLE INVERTER. THIS RENDERED THE 2CD DIESEL INOPERABLE. THE GENERATOR WAS SWITCHED TO AN ALTERNATE SUPPLY, AND THE REPAIRS WERE COMPLETED. CONTRACTOR PERSONNEL WHO WERE INSTALLING THE WIRE CHANCE ON THE INOPERABLE 2CD, HAD MISTAKENLY STARTED WORK ON THE OPERABLE 2CD'S STARTING BUS FEED CABLE. THE 2CD CABLE CAME IN CONTACT WITH AN ADJACENT TERMINAL BLOCK CAUSING A SHORT CIRCUIT. REPAIRS WERE MADE AND PERSONNEL GIVEN ADDITIONAL TRAINING.

COMPONENT CODE 277777-00 COMPONENT CODE NOT APPLICABLE LS

SYSTEM CODE GENERATOR SYS & CONTROLS

77/57/000001-000001377 3

ACCESSION NO. 0020149213

TITLE ESSENTIAL SERVICE WATER CHECK VALVE FAILS TO SEAT PROPERLY AT

CORP AUTH INDIANA & MICHIGAN ELCO. CO.

DATE 1979

TYPE 0

MEMO LTR WZLER 79-017 TO U.S. NRC, REGION 3, MAY 16, 1979, DOCKET 50-316, TYPE-PWR, LFC-WEST, AB-REP, CONTROL-0250 4

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON D.C. 20555, (CG PAGE -- MINIMUM CHARGE 12.00)

ABSTRACT DATE OF EVENT - 04/20/79, POWER LEVEL - 100%, CAUSE - NATURAL END OF LIFE, WHILE PERFORMING STP. 522, LSC-142, ESSENTIAL SERVICE WATER CHECK VALVE TO 2CD DIESEL DID NOT SEAT PROPERLY. REPAIRS PLACED THE 2CD DIESEL INOPERABLE. COMPANION DIESEL REMAINED OPERABLE DURING REPAIRS. SIMILAR OCCURRENCES: 79-000703L-0 AND 79-010703X-1 DOCKET NO. 05000015. CAUSE OF EVENT WAS

2 PGS. LTR W/RO 78-046708L-0 TO NRC OFFICE OF 1 & 2, REGION 1, JULY 11, 1976, Docket 50-316, TYPE--RM7, NRG--WEST.
 AB--UTILITY
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20540 (50 CENTS/PAGE -- OTHER CHARGE \$2.00)

DEPENDENT CODE VALVEX-VALVES
 SYSTEM CODE RE-SECTION SERV WATER SYS & CONT

777570000001-00000177

ACCESSION NO. 0020141374
 TITLE SERVICE WATER CHECK VALVE TO DIESEL PUMPS AT COOK 2
 ORPAUTH INDIANA & MICHIGAN POWER CO., BRIDGEAN, MI

DATE 1976

TYPE 2 PGS. LTR W/RO 78-046708L-0 TO NRC OFFICE OF 1 & 2, REGION 1, JULY 11, 1976, Docket 50-316, TYPE--RM7, NRG--WEST.
 AB--UTILITY

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20540 (50 CENTS/PAGE -- OTHER CHARGE \$2.00)

ABSTRACT
 DATE OF EVENT - 061976. POWER LEVEL - 90%. CAUSE - LACK OF FUEL TO DIESEL PUMPS. WHILE ATTEMPTING TO PROVIDE THE AVAILABILITY OF TWO EMERGENCY DIESEL IN ORDER TO REMOVE COOLANT FROM SERVICE, THE DIESEL FAILING TO START. INVESTIGATION REVEALED A LACK OF FUEL TO THE DIESEL PUMPS. THE DIESEL WAS RE-STARTED AND DID START ON THE THIRD ATTEMPT. FUEL FILTER ELEMENT WAS REMOVED AND INSPECTED. CONDITION OF ELEMENT APPEARED SATISFACTORY, BUT A NEW ELEMENT WAS INSTALLED. THE CAUSE FOR THE APPARENT LACK OF FUEL COULD NOT BE DETERMINED. ENGINE-EXHASTS, INTERNAL COMBUSTION
 RE-SECTION SERV WATER SYS & CONT

DEPENDENT CODE VALVEX-VALVES
 SYSTEM CODE RE-SECTION SERV WATER SYS & CONT

777570000001-00000177

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ACCESSION NO. 0020141374
 TITLE DIESEL GENERATOR FAILS TO START AT COOK 2
 ORPAUTH INDIANA & MICHIGAN POWER CO., BRIDGEAN, MI

DATE 1976

TYPE 2 PGS. LTR W/RO 78-046708L-0 TO NRC OFFICE OF 1 & 2, REGION 1, JULY 11, 1976, Docket 50-316, TYPE--RM7, NRG--WEST.
 AB--UTILITY

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20540 (50 CENTS/PAGE -- OTHER CHARGE \$2.00)

ABSTRACT
 DATE OF EVENT - 101976. POWER LEVEL - 90%. CAUSE - LACK OF FUEL TO DIESEL PUMPS. WHILE ATTEMPTING TO PROVIDE THE AVAILABILITY OF TWO EMERGENCY DIESEL IN ORDER TO REMOVE COOLANT FROM SERVICE, THE DIESEL FAILING TO START. INVESTIGATION REVEALED A LACK OF FUEL TO THE DIESEL PUMPS. THE DIESEL WAS RE-STARTED AND DID START ON THE THIRD ATTEMPT. FUEL FILTER ELEMENT WAS REMOVED AND INSPECTED. CONDITION OF ELEMENT APPEARED SATISFACTORY, BUT A NEW ELEMENT WAS INSTALLED. THE CAUSE FOR THE APPARENT LACK OF FUEL COULD NOT BE DETERMINED. ENGINE-EXHASTS, INTERNAL COMBUSTION
 RE-SECTION SERV WATER SYS & CONT

DEPENDENT CODE
 SYSTEM CODE

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ACCESSION NO. 0020141374
 TITLE WELD LEAK FOUND ON DIESEL LOSE OIL COOLER HEAD AT COOK 2
 ORPAUTH INDIANA & MICHIGAN POWER CO., BRIDGEAN, MI

DATE 1976

TYPE 2 PGS. LTR W/RO 78-046708L-0 TO NRC OFFICE OF 1 & 2, REGION 1, JULY 11, 1976, Docket 50-316, TYPE--RM7, NRG--WEST.
 AB--UTILITY

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20540 (50 CENTS/PAGE -- OTHER CHARGE \$2.00)

ABSTRACT
 DATE OF EVENT - 061976. POWER LEVEL - 90%. CAUSE - MISALIGNMENT STRESS BETWEEN HEAD AND PIPING. DURING NORMAL OPERATIONS, A WELD LEAK WAS DISCOVERED ON THE DIESEL LOSE OIL COOLER HEAD. A WELD LEAK WAS DISCOVERED ON THE DIESEL LOSE OIL COOLER HEAD. TO AVOID FLASH WATER OUTLET ON 243 DIESEL LOSE OIL COOLER HEAD. TO AVOID FLASH REPAIRS, IT WAS NECESSARY TO TAKE THE DIESEL GENERATOR OUT OF SERVICE. THE CAUSE OF THE CHACK WAS MISALIGNMENT STRESS BETWEEN THE COOLER HEAD AND CONNECTING PIPING. A NEW PIPING

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ABSTRACT

77/07/000001-00000177
COSSION NO. 00000177
TITLE DIESEL GENERATOR TESTED SATISFACTORILY
INPAUTH INDIANA & MICHIGAN POWER CO., BRIDGEMAN, MI
DATE 1978
TYPE 2
END 2 PGS. LTR 270 78-000001-0 TO NRC OFFICE OF I & E, REGION
III, JULY 2, 1978, SUBJECT 50-010, TYPE-HAR, WFO-WEST.
AS-UTILITY
AVAILABILITY - NRC PUBLIC DOCUMENT NO. 1717 6 STREET,
WASHINGTON, D. C. 20555 (96 CENTPAGE -- MINIMUM CHARGE
\$2.00)
DATE OF EVENT - 061978. POWER LEVEL - 0%. CAUSE - FUEL OIL
CONTAMINATION. DURING THE MONTHLY CHECK OF 200 DIESEL LUBE
OIL, THE VISCOSITY WAS FOUND TO BE 210 US. 200 DIESEL WAS
DECLARED UNSUITABLE TO PREVENT DAMAGE WHICH MIGHT HAVE OCCURRED
DURING ITS OPERATION. THE LUB VISCOSITY WAS IDENTIFIED AS FUEL
OIL CONTAMINATION OF THE LUBE OIL. REPLACEMENT OF FOUR FUEL
INJECTION PUMPS AND ONE FUEL INJECTOR HAS ELIMINATED THE FUEL
OIL CONTAMINATION. DURING THE MONTHLY CHECK OF 200 DIESEL LUBE
OIL, THE VISCOSITY WAS FOUND TO BE 210 US. 200 DIESEL WAS
DECLARED UNSUITABLE TO PREVENT DAMAGE WHICH MIGHT HAVE OCCURRED
DURING ITS OPERATION. THE LUB VISCOSITY WAS IDENTIFIED AS FUEL
OIL CONTAMINATION OF THE LUBE OIL. REPLACEMENT OF FOUR FUEL
INJECTION PUMPS AND ONE FUEL INJECTOR HAS ELIMINATED THE FUEL
OIL CONTAMINATION.

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COSSION NO. 00000177
TITLE DIESEL GENERATOR TESTED SATISFACTORILY
INPAUTH INDIANA & MICHIGAN POWER CO., BRIDGEMAN, MI
DATE 1978
TYPE 2
END 2 PGS. LTR 270 78-000001-0 TO NRC OFFICE OF I & E, REGION
III, SEPT. 1, 1978, SUBJECT 50-010, TYPE-HAR, WFO-WEST.
AS-UTILITY
AVAILABILITY - NRC PUBLIC DOCUMENT NO. 1717 6 STREET,
WASHINGTON, D. C. 20555 (96 CENTPAGE -- MINIMUM CHARGE
\$2.00)
DATE OF EVENT - 061978. POWER LEVEL - 0%. CAUSE - FUEL OIL
CONTAMINATION. DURING THE MONTHLY CHECK OF 200 DIESEL LUBE
OIL, THE VISCOSITY WAS FOUND TO BE 210 US. 200 DIESEL WAS
DECLARED UNSUITABLE TO PREVENT DAMAGE WHICH MIGHT HAVE OCCURRED
DURING ITS OPERATION. THE LUB VISCOSITY WAS IDENTIFIED AS FUEL
OIL CONTAMINATION OF THE LUBE OIL. REPLACEMENT OF FOUR FUEL
INJECTION PUMPS AND ONE FUEL INJECTOR HAS ELIMINATED THE FUEL
OIL CONTAMINATION. DURING THE MONTHLY CHECK OF 200 DIESEL LUBE
OIL, THE VISCOSITY WAS FOUND TO BE 210 US. 200 DIESEL WAS
DECLARED UNSUITABLE TO PREVENT DAMAGE WHICH MIGHT HAVE OCCURRED
DURING ITS OPERATION. THE LUB VISCOSITY WAS IDENTIFIED AS FUEL
OIL CONTAMINATION OF THE LUBE OIL. REPLACEMENT OF FOUR FUEL
INJECTION PUMPS AND ONE FUEL INJECTOR HAS ELIMINATED THE FUEL
OIL CONTAMINATION.

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COSSION NO. 00000177
TITLE DIESEL LUBE OIL VISCOSITY FOUND TO BE LOW AT CLK 2
INPAUTH INDIANA & MICHIGAN POWER CO., BRIDGEMAN, MI
DATE 1978
TYPE 2
END 2 PGS. LTR 270 78-000001-0 TO NRC OFFICE OF I & E, REGION
III, SEPT. 29, 1978, SUBJECT 50-010, TYPE-HAR, WFO-WEST.
AS-UTILITY
AVAILABILITY - NRC PUBLIC DOCUMENT NO. 1717 6 STREET,
WASHINGTON, D. C. 20555 (96 CENTPAGE -- MINIMUM CHARGE
\$2.00)
DATE OF EVENT - 090178. POWER LEVEL - 0%. CAUSE - FUEL OIL
CONTAMINATION. DURING THE MONTHLY CHECK OF 200 DIESEL LUBE
OIL, THE VISCOSITY WAS FOUND TO BE 210 US. 200 DIESEL WAS
DECLARED UNSUITABLE TO PREVENT DAMAGE WHICH MIGHT HAVE OCCURRED
DURING ITS OPERATION. THE LUB VISCOSITY WAS IDENTIFIED AS FUEL
OIL CONTAMINATION OF THE LUBE OIL. REPLACEMENT OF FOUR FUEL
INJECTION PUMPS AND ONE FUEL INJECTOR HAS ELIMINATED THE FUEL
OIL CONTAMINATION. DURING THE MONTHLY CHECK OF 200 DIESEL LUBE
OIL, THE VISCOSITY WAS FOUND TO BE 210 US. 200 DIESEL WAS
DECLARED UNSUITABLE TO PREVENT DAMAGE WHICH MIGHT HAVE OCCURRED
DURING ITS OPERATION. THE LUB VISCOSITY WAS IDENTIFIED AS FUEL
OIL CONTAMINATION OF THE LUBE OIL. REPLACEMENT OF FOUR FUEL
INJECTION PUMPS AND ONE FUEL INJECTOR HAS ELIMINATED THE FUEL
OIL CONTAMINATION.

ABSTRACT
DATE OF EVENT - 041978. POWER LEVEL - 45%. CAUSE - OPERATOR ERROR. WITH THE UNIT IN MODE 1 OPERATION, NO ATTEMPT WAS MADE TO STOP THE CD EMERGENCY DIESEL GENERATOR AS REQUIRED BY THE TEST SCHEDULE. THE OPERATOR THOUGHT THE TEST SCHEDULE WAS IN ERROR. THE TEST HAD BEEN PERFORMED THE SAME YEAR AND IT IS NORMALLY A 31 DAY INTERVAL. WHEN THE TEST WAS SCHEDULED 3 DAYS LATER, THE OPERATOR REALIZED THIS ERROR AND REQUESTED A TEST LACK 3 DAYS. ALL OPERATORS HAVE BEEN INSTRUCTED TO SET ATTEMPTANCE TO DELETE FROM THE TEST SCHEDULE.

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VISION: 11/17/77 1 11/17/77 1 11/17/77 1 11/17/77 1

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COMMISSION NO. 11/17/77 1 11/17/77 1 11/17/77 1 11/17/77 1

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SUBJECT 11/17/77 1 11/17/77 1 11/17/77 1 11/17/77 1

REPORT 11/17/77 1 11/17/77 1 11/17/77 1 11/17/77 1

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