

FROM:  
**Northern States Power Company**  
**Minneapolis, Minnesota 5540**  
**R.O. Duncanson, Jr.**

TO:  
**Dr. Peter A. Morris**

CLASSIF: **U** POST OFFICE  
 REG. NO:

DESCRIPTION: (Must Be Unclassified)  
**Ltr reporting a failure to start on 12**  
**Diesel Generator occurred at Monticello**  
**Plant on 5-8-71 during 50% power**  
**reactor testing.....**

ENCLOSURES:

REMARKS:

DATE OF OCCURRANCE: <b>May 18, 1971</b>		DATE RECEIVED <b>May 19, 1971</b>		NO. <b>20</b>	
LTR. <b>X</b>		MEMO:		REPORT:	
ORIG.:		CC:		OTHER:	
<b>1 signed &amp; 2 conf'd</b>					
ACTION NECESSARY <input type="checkbox"/>		CONCURRENCE <input type="checkbox"/>		DATE ANSWERED:	
NO ACTION NECESSARY <input type="checkbox"/>		COMMENT <input type="checkbox"/>		BY:	
FILE CODE:		<b>50-263</b>			
REFERRED TO		DATE		RECEIVED BY	
<b>Knuth</b>		<b>5-20-71</b>			
<b>w/9 cys for ACTION</b>					
DISTRIBUTION:					
<b>Reg File Cy</b>					
<b>AEC PDR</b>					
<b>OCC-Rm-P-506-A</b>					
<b>Compliance (2)</b>					
<b>HQ Price &amp; Staff</b>					
<b>D. Thompson</b>					
<b>Morris/Schroeder</b>				<b>DO NOT REMOVE</b>	
<b>Shovholt</b>					
<b>Boyd</b>				<b>ACKNOWLEDGED</b>	
<b>E.G. Case</b>					
<b>DTIE(Laughlin)</b>					
<b>NSIC(Buchanan)</b>				<b>2550</b>	
				<b>DL</b>	

U.S. ATOMIC ENERGY COMMISSION

MAIL CONTROL FORM FORM AEC-3265 (6-60)

# NSP

Regulatory

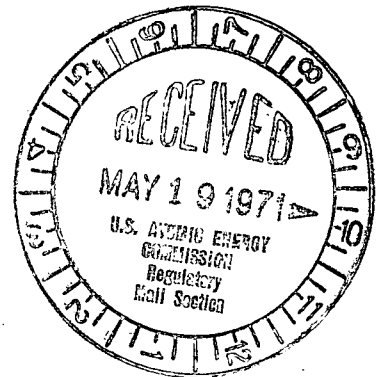
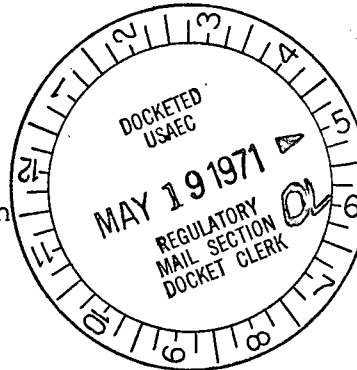
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## NORTHERN STATES POWER COMPANY

MINNEAPOLIS, MINNESOTA 55401

May 18, 1971

Dr. Peter A. Morris, Director  
Division of Reactor Licensing  
United States Atomic Energy Commission  
Washington, D. C. 20545



Dear Dr. Morris:

MONTICELLO NUCLEAR GENERATING PLANT E-5979  
Docket No. 50-263 License No. DPR-22  
Diesel Generator failure to Start

A "failure to start" on 12 Diesel Generator occurred at the Monticello Nuclear Generating Plant on May 8, 1971 during 50% power reactor testing. We interpret this occurrence to be reportable to your office in accordance with Section 6.6.B.2 of Appendix A, Technical Specifications, of the Provisional Operating License DPR-22. The Region III Compliance Office has been previously notified of the occurrence. The following is a description of the occurrence.

### 1. Summary Description of Occurrence

On Saturday May 8, 1971 at 1330 hours, 12 emergency diesel did not start when the turbine lockout relay was operated. The "12 Diesel Start Failure" annunciator point was not initiated.

### 2. Detailed Description of Occurrence

#### A. Summary of Conditions

The unit was undergoing startup tests at 50% load level for several days prior to the occurrence and had been operating at anywhere from zero power to 50% power as the test program dictated.

Immediately prior to the occurrence the reactor was operating at the 50% load point in preparation for a turbine trip test from this point. Station power was being supplied by the main auxiliary transformer.

#### B. Account & Analysis of Occurrence

The turbine trip test was initiated at 1330 hours by operating the "Turbine Emergency Trip" switch which trips the "Turbine Lockout" relay.

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Transfer of station power from the main auxiliary transformer to 1R auxiliary transformer functioned properly so that station power was maintained throughout the test.

Eleven Emergency Diesel properly received a start signal from the turbine lockout relay, ran up to operating speed and was ready to accept load. Its operation was not completely satisfactory because the annunciator window "11 Diesel Failure to Start" was activated.

Twelve Emergency Diesel did not start and the annunciator window "12 Diesel Failure to Start" was not activated. The absence of the "failure to start" alarm indicated that the unit had not received a start signal.

1. 12 Diesel Investigation

A physical examination of the 12 Diesel controls revealed that the control transfer switch for this unit was not completely seated in the "auto" position. Closer examination of the switch confirmed that the contacts in automatic start portion of the diesel control circuit were not closed, and that operation of the switch was difficult. The switch was cleaned and adjusted by the plant Electrician so that its operation was completely satisfactory.

An "automatic" start test was conducted on 12 Diesel after the control transfer switch maintenance had been performed. The control circuitry performed properly on this test, but the engine failed to start on the first crank and cranking speed was observed to be much slower than had been recorded during pre-operational testing. The screen in the engine starting air line which supplies air to the right side pair of starting motors was inspected and found to be almost completely stopped with rust. This screen and the one on the opposite side of the engine was cleaned and the air lines were purged.

A second automatic start test proved that the engine starting equipment was now performing satisfactorily although the cranking speed on the right pair of motors was still about 20% slower than that recorded during pre-operational testing.

2. 11 Diesel Investigation

An "Automatic Start" test was conducted on 11 Diesel to determine why the "failure to start" annunciator alarm had been received. The same slow cranking was observed on the right pair of starting motors as was observed on 12 Diesel so that it failed to start on the first crank and initiated the "11 Diesel failure to start" alarm. On the second start attempt, which utilizes all four cranking motors, the diesel started. After clearing both air line screens and purging the air lines, another "automatic start" test was conducted and the 11 Diesel starting equipment performed satisfactorily.

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C. Results of the Occurrence

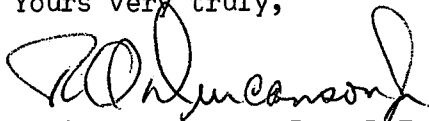
Station power was maintained throughout the test period by the proper transferring of load to the 1R auxiliary transformer. One of the Diesels was prepared to accept load if called upon so the plant safeguards were not jeopardized.

3. Corrective Action

The sticking and improper action of the control transfer switch for 12 Diesel was corrected by cleaning and adjusting the device so that it operated smoothly. The slow cranking due to dirt in the air line screens was corrected by cleaning the screens and blowing down the air lines.

An on-site abnormal occurrence investigation has been completed and the written reports of that investigation along with recommendations for the prevention of similar future occurrences is being reviewed by the site operations committee.

Yours very truly,



R. O. Duncanson, Jr., P.E.  
Gen. Supt. of Power Plants-Mechanical  
Chairman - Monticello Safety Audit Committee

ROD/CEL/jma