

PART 21 IDENTIFICATION NO. 80-286-000 COMPANY NAME Colt Industries

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ACTION:

PRELIMINARY EVALUATION OF THE ATTACHED REPORT INDICATES LEAD RESPONSIBILITY FOR FOLLOWUP AS SHOWN BELOW:

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September 22, 1980

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Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Ill. 60137

Attention: Mr. James G. Keppler, Director, Region III

Subject: Colt Industries-Fairbanks Morse Engine Division
Emergency Diesel Generators
South Carolina Electric & Gas Co.-Summer Station, 50-345
Part 21 Report - Beloit Power Systems Generators
Possible Field Insulation Damage

Gentlemen:

This is to confirm our verbal report (R.H. Beadle to D.W. Hayes) of September 19, 1980.

A Beloit Power Systems generator in commercial service at Sitka, Alaska lost its field because a lead between the collector rings and the field coils shorted to the rotor and burned in two pieces at the point of the short. Subsequent examination of another generator of identical design at the same installation showed frayed insulation at a clamp (same location as the burn through) which secures the lead to the rotor. This unit was operating satisfactorily but if the insulation damage were to progress the possibility of grounding the lead to the rotor exists.

To determine if the problem might exist at other locations our chief electrical engineer was sent to Provo, Utah which has four generators of identical design. He has reported by phone that two of the four at Provo have frayed insulation at the clamp but that there was no indication of loss of field.

Concurrent with our inspection at Provo, Beloit Power Systems was asked to evaluate the cause of frayed insulation and also if any other generators might have the same problem. Their verbal report to us is that the cause of fraying is poor workmanship in installation of the clamps and that there are other generators of identical design in this area. Specifically the eight generators shipped to Limerick (Philadelphia Electric) are of the identical design in the area where poor workmanship is known to have caused a problem.

Our plan is to inspect the Limerick generators and repair any poor workmanship which may be found. Beloit Power Systems also reports verbally that the design in this area for 5 and 6 frame alternators has been similar for a number of years and it is therefore possible that the problem may extend to operating units.

The list of Fairbanks Morse Model 38TDC-1/8 OP generator sets equipped with 5 or 6 frame Beloit Power Systems generators is as follows:

POOR ORIGINAL

September 22, 1980

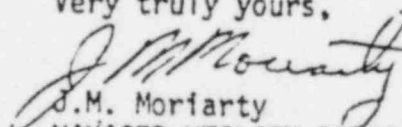
1. 1 Unit - 2665 KW for Northeast Utilities, Millstone Nuclear Plant - Unit #1.
2. 2 Units - 2500 KW for Carolina Power & Light, Robinson Nuclear Plant.
3. 2 Units - 3000 KW for Northern States Power, Prairie Island Nuclear Plant.
4. 2 Units - 3000 KW for Vermont Yankee Corp., Vermont Yankee Nuclear Plant.
5. 2 Units - 3000 KW for Metropolitan Edison, Three Mile Island Nuclear Plant #1.
6. 4 Units - 3250 KW for Philadelphia Electric Co., Peachbottom Nuclear Station #2 & #3.
7. 3 Units - 3250 KW for Baltimore Gas & Electric Company, Calvert Cliffs Nuclear Stations #1 and #2.
8. 2 Units - 3000 KW for Florida Power Corporation, Crystal River No. 3
9. 2 Units - 3000 KW for Jersey Central Power and Light Company, Three Mile Island Nuclear Station No. 2
10. 3 Units - 3250 KW for Georgia Power Company, Hatch Nuclear Plant #1.
11. 2 Units - 3250 KW for Iowa Electric Light & Power Co., Duane Arnold Nuclear Plant.
12. 4 Units - 3000 KW for Virginia Electric & Power Co., North Anna Nuclear Plant #1 & #2.
13. 2 Units - 3250 KW for Northeast Utilities, Millstone Nuclear Plant - Unit #2.
14. 2 Units - 3250 KW for Alabama Power Company, Farley Nuclear Plant Units #1 & #2.
15. 2 Units - 3250 KW for Arkansas Power & Light Company, Arkansas Nuclear One - Unit #2.
16. 2 Units - 3250 KW for Georgia Power Company, Hatch Nuclear Plant #2 (with option for additional unit).
17. 4 Units - 3250 KW for Detroit Edison Company, Enrico Fermi #2.
18. 8 Units - 3250 KW for Philadelphia Electric Company, Limerick Nuclear Station #1 & #2.

It is suggested that the generator field leads be inspected for insulation damage at the clamps attaching these leads to the generator rotor.

A conference call with NRC duty officer, Personnel from Prairie Island Nuclear Plant, R.H. Beadle, and C. Evenson of Beloit Power Systems was arranged for 9:30 AM 9/20/80 so that the method of inspection could be explained and taped for use by the NRC in explaining the inspection required to other sites. Mr. Evenson was the spokesman and described the method of inspection to visually check for insulation distress at clamps and for clearance between generator field leads and the generator fan.

Edited written instructions covering the inspection method have been requested of Beloit Power Systems. We will contact NRC upon receipt to discuss method of distribution.

Very truly yours,


J.M. Moriarty
MANAGER UTILITY SALES

JMM/jl

cc: U.S. Nuclear Regulatory Commission
c/o Document Management Branch
Washington, D.C. 20555

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