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## Washington Public Power Supply System

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REGION V

Mr. J.B. Martin  
Regional Administrator  
Nuclear Regulatory Commission  
Region V  
1450 Maria Lane, Suite 210  
Walnut Creek, CA 94596

Subject: NUCLEAR PROJECTS 1 & 4  
DOCKET NOS. 50-460 AND 50-513  
POTENTIALLY REPORTABLE CONDITION 10CFR50.55(e)  
EMERGENCY DIESEL GENERATOR ENGINE MOUNTED  
ELECTRICAL CABLES

Reference: A) Telecon, CR Edwards, Supply System to Bob Dodds, NRC, same subject,  
dated October 28, 1983.

In Reference A the Supply System informed your office of a reportable deficiency under 10CFR50.55(e).

Attachment A provides a statement of the identified condition and a brief description for our planned actions to correct the identified deficiency. Based on the current construction status at WNP-1/4, the Supply System will not be able to issue a final report at this time. An update will be provided at construction restart.

If you have any questions or desire further information, please advise.



R.A. De Lorenzo,  
Program Director WNP-1/4

RAD/LCO/cmh

Attachment

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## **ATTACHMENT A**

Docket Nos. 50-460 and 50-513  
Reportable Condition per 10CFR50.55(e)  
Emergency Diesel Generator Engine Mounted Electrical Cables

### **DESCRIPTION OF DEFICIENCY**

The Supply System purchased Emergency Diesel Generators, two per plant, from Transamerica Delaval. Transamerica Delaval has reported under the requirements of 10CFR Part 21, a deficiency associated with the engine mounted electrical cables. There are a total of three cables:

- A) Shielded cables from the Airpax magnetic pickups (two) to the junction boxes on the side of the engine.
- B) Multiconductor cable from the Woodward governor actuator to the engine side mounted junction box.

In October 1982 Delaval issued service Information Memo #361 which stated that these same three cables were installed using commercial grade wire which subsequently failed an IEEE 383 flame test. This was not reportable because if a flame caused circuitry failure, causes other than the unqualified cable already had affected engine availability. In September 1983, Delaval notified the NRC that the manufacturer's temperature rating for the cable insulation may be exceeded during normal operation of the Emergency Diesel Generator and therefore this deficiency is now reportable.

The two magnetic pickup cables are rated for 80°C. The governor actuator cable is rated for 75°C. The maximum design ambient temperature in the Diesel Generator area is 102°F but it must be assumed that the actual temperature in the proximity of the cables will be much higher. According to Delaval, the rated insulation temperature of the governor cable will be exceeded at an ambient temperature over 98.5°F, and the rated temperature of the magnetic pickup cables will be exceeded at an ambient temperature over 129°F.

### **ANALYSIS OF SAFETY IMPLICATION**

Failure of the magnetic pickup cables would not allow the overspeed trip to function properly. Failure of the governor cable would affect the ability of the engine to respond to electrical load changes. In either case the cable failure would affect the engine availability.

### **CAUSE OF DEFICIENCY**

This deficiency was caused by Delaval's failure in the design process to use properly rated and qualified cable on the engine.

### CORRECTIVE ACTION

After Delaval issued the Service Information Memo (SIM) in 1982, the Supply System chose to replace the unqualified cables. Documents (1-BNCR-53-03 and 4-BNCR-53-03) were issued identifying that commercial grade wire was used and the disposition was to replace the cables with 90°C rated cable as directed by SIM #361. It is purely coincidental that the recommendations in SIM #361 also correct the problem that is now reported.

Due to the construction status of WNP 1/4, the design changes as identified on the BNCR's will not be implemented until after construction resumes. As a result, an update of this report will be provided at restart.

### ACTION TO PREVENT RECURRENCE

Implementation of the above corrective actions will assure that there are no further cable problems with the Diesel Generator. The Diesel Generator is a unique equipment item as it is commercial grade hardware qualified for nuclear use. As such, evaluation of other components is not warranted at this time.