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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
631 PARK AVENUE  
KING OF PRUSSIA, PENNSYLVANIA 19406

May 13, 1981

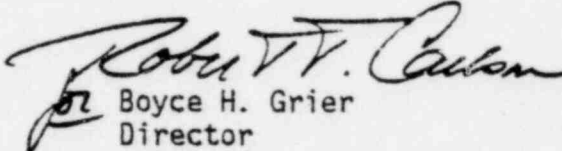
Docket Nos. 50-352  
50-353

Philadelphia Electric Company  
ATTN: Mr. John S. Kemper  
Vice President  
Engineering and Research  
2301 Market Street  
Philadelphia, Pennsylvania 19101

Gentlemen:

The enclosed IE Circular No. 80-11, "Emergency Diesel Generator Lube Oil Cooler Failures," is forwarded to you for information. No written response is required. If you desire additional information regarding this matter, please contact this office.

Sincerely,

  
Boyce H. Grier  
Director

Enclosures:

1. IE Circular No. 80-11
2. List of Recently Issued IE Circulars

CONTACT: W. H. Baunack  
(215-337-5253)

cc w/encls:

V. S. Boyer, Senior Vice President, Nuclear Power

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ENCLOSURE 1

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
WASHINGTON, D.C. 20555

SSINS No.: 6830  
Accession No.:  
8002280662

DUPLICATE

IE Circular No. 80-11  
Date: May 13, 1980  
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EMERGENCY DIESEL GENERATOR LUBE OIL COOLER FAILURES

Description of Circumstances:

Within a two week period (August 27 to September 11, 1979), the tube sheets failed in the lube oil coolers of both emergency diesel generators for Arkansas Nuclear One (ANO) Unit No. 1. The introduction of water into the diesel lube oil system resulted in trips of both diesels during surveillance testing. The diesels were not considered capable of sustained operation. These events were previously identified to all operating license and construction permit holders by Information Notice 79-23, Emergency Diesel Generator Lube Oil Cooler on September 25, 1979. The emergency diesel generators involved were manufactured by the Electro-Motive Division (EMD) of the General Motors Corporation and the failures occurred on engines 71-A1-1117 and 71-A1-1130. The failed lube oil coolers were manufactured by the Young Radiator Company.

An analysis of the failed coolers performed by EMD resulted in the conclusion that the failures were caused by severe corrosion of the solder which sealed the tubes to the tube sheets. The corrosion inhibitor in use at ANO was Calgon CS, a borate-nitrite type inhibitor. The manufacturer of this type of inhibitor has recommended the use of hard solder in CS treated systems. EMD does not recommend the use of Calgon CS since the puddle solder used in EMD radiators and oil coolers is considered to be soft solder of a lead-tin composition.

Recommended Action for Licensees' Consideration:

Based on the above, it is recommended that licensees:

1. Verify that the corrosion inhibitor used in cooling water systems of the emergency diesel generators is compatible with all materials wetted by the cooling water and the engine manufacturer's specific recommendations. Also, by means of the engine maintenance history, verify that the system corrosion inhibitor has been properly monitored and maintained at the recommended concentration.
2. If Item 1 cannot be successfully performed, the affected components should be inspected in accordance with the manufacturer's recommendations.

No written response to this Circular is required.

If you desire additional information regarding this matter, contact the Director of the appropriate NRC Regional Office.

ENCLOSURE 2

IE Circular No. 80-11  
Date: May 13, 1980  
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RECENTLY ISSUED IE CIRCULARS

Circular No.	Subject	First Date of Issue	Issued To
79-25 Supplement A	Shock Arrestor Strut Assembly Interference	1/31/80	All Power Reactor Facilities with an Operating License (OL) or Construction Permit (CP)
80-01	Service Advice for GE Induction Disc Relays	1/17/80	All Power Reactor Facilities with an OL or CP
80-02	Nuclear Power Plant Staff Work Hours	2/1/80	All Power and Research Reactors with an OL or CP
80-03	Protection from Toxic Gas Hazards	3/6/80	All Power Reactor Facilities with an OL
80-04	Securing Threaded Lacking Devices on Safety-Related Equipment	3/14/80	All Power Reactor Facilities with an OL or CP
80-05	Emergency Diesel Generator Lubricating Oil Addition and Onsite Supply	4/1/80	All Power Reactor Facilities with an OL or CP
80-06	Control and Accountability Systems for Implant Therapy Sources	4/14/80	Medical Licensees in Categories G and G1
80-07	Problems with HPCI Turbine Oil System	4/3/80	All Power Reactor Facilities with an OL or CP
80-08	BWR Technical Specification Inconsistency - RPS Response Time	4/18/80	All General Electric BWRs holding a power reactor OL
80-09	Problems with Plant Internal Communications Systems	4/28/80	All holders of a reactor OL or CP
80-10	Failure to Maintain Environmental Qualification of Equipment		All Power Reactor Facilities with an OL or CP