UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

In Reply Refer To:
RII:JPO
50-438, 50-439
50-259, 50-260
50-296, 50-518
50-519, 50-520
50-521, 50-553
50-554, 50-327
50-328, 50-390
50-391, 50-566
50-567

MAY 13 1980

Tennessee Valley Authority
Attn: H. G. Parris
Manager of Power
500A Chestnut Street Tower II
Chattanooga, TN 37401

Gentlemen:

The enclosed IE Circular No. 80-11 is forwarded to you for information. No written response is required. Should you have any questions related to your understanding of the recommendations on this matter, please contact this office.

Sincerely,

James P. O'Reilly
Director

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

8006180034

cc w/encl:
A. M. Qualls
Plant Superintendent
Post Office Box 2000
Hollywood, Alabama 35752

W. R. Dahnke, Project Manager
Post Office Box 2000
Hollywood, Alabama 35752

J. F. Cox
400 Commerce Street
W10C131 C-K
Knoxville, Tennessee 37902

H. A. McBurnett
Project Engineer
400 Chestnut Street Tower II
Chattanooga, Tennessee 37401

H. L. Abercrombie
Plant Superintendent
Post Office Box 2000
Decatur, Alabama 35602

R. E. Rogers
Project Engineer
400 Chestnut Street Tower II
Chattanooga, Tennessee 37401

R. T. Hathcote, Project Manager
Post Office Box 2000
Hartsville, Tennessee 37074

J. E. Wills, Project Engineer
400 Chestnut Street Tower II
Chattanooga, Tennessee 37401

W. P. Kellaghan, Project Manager
Post Office Box 2000
Surgoinsville, Tennessee 37873

G. G. Stack, Project Manager
Post Office Box 2000
Daisy, Tennessee 37319

D. L. Terrill, Project Engineer
400 Chestnut Street Tower II
Chattanooga, Tennessee 37401

cc w/encl: (Continued on Page 3)

cc w/encl: (Continued from Page 2)
J. R. Calhoun
Director of Nuclear Power
1750 Chestnut Street Tower II
Chattanooga, Tennessee 37401

J. M. Ballentine
Plant Superintendent
Post Office Box 2000
Daisy, Tennessee 37319

M. J. Burzynski, Project Engineer
400 Chestnut Street Tower II
Chattanooga, Tennessee 37401

D. P. Ormsby, Project Engineer
400 Chestnut Street Tower II
Chattanooga, Tennessee 37401

J. F. Groves, Plant Superintendent
Post Office Box 2000
Spring City, Tennessee 37381

Joseph E. Wilkins, Project Manager
Post Office Box 2000
Spring City, Tennessee 37381

M. M. Price, Project Manager
Post Office Box 2000
Iuka, Mississippi 38852

H. N. Culver
249-A HBB
400 Commerce Avenue
Knoxville, Tennessee 37902

SSINS No.: 6830
Accession No.:
8002280662

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

May 13, 1980

IE Circular No. 80-11

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.

IE Circular No. 80-11
May 13, 1980

Enclosure

RECENTLY ISSUED IE CIRCULARS

Circular No.	Subject	Date of Issue	Issued to
80-11	Emergency Diesel Generator Lube Oil Cooler Failures	5/13/80	All holders of Reactor OLs and CPs
80-10	Failure to Maintain Environmental Qualification of Equipment	4/29/80	All holders of Reactor OLs and CPs
80-09	Problems With Plant Internal Communications Systems	4/28/80	All holders of a power reactor OL or CP
80-08	BWR Technical Specification Inconsistency - RPS Response Time	4/18/80	All General Electric BWR's holding a power reactor OL
80-07	Problems with HPCI Turbine Oil System	4/3/80	All holders of a power reactor OL or CP
80-06	Control and Accountability Systems for Implant Therapy Sources	4/14/80	Medical licensees in Categories G and G1
80-05	Emergency Diesel-Generator Lubricating Oil Addition and Onsite Supply	4/1/80	All holders of a power reactor OL or CP
80-04	Securing of Threaded Locking Devices on Safety-Related Equipment	3/14/80	All holders of a power reactor OL or CP
80-03	Protection from Toxic Gas Hazards	3/6/80	All holders of a power reactor OL
80-02	Nuclear Power Plant Staff Work Hours	2/1/80	All holders of Reactor OLs, including research and test reactors, and CPs
80-01	Service Advice for GE Induction Disc Relays	1/17/80	All licensees of nuclear power reactor operating facilities and holders of nuclear power reactor CPs