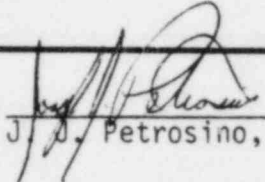
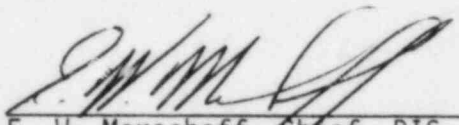


ORGANIZATION: NUTHERM INTERNATIONAL INCORPORATED (NI)  
MOUNT VERNON, ILLINOIS

REPORT NO.: 99900779/85-01	INSPECTION DATE(S): 4/29/85	INSPECTION ON-SITE HOURS: 6
CORRESPONDENCE ADDRESS: Nutherm International Incorporated ATTN: Mr. James S. Hanner Executive Vice President 501 South Eleventh Street Mount Vernon, Illinois 62864  ORGANIZATIONAL CONTACT: Mr. Ronald J. Heifner, QA Manager TELEPHONE NUMBER: (618) 244-6000		
PRINCIPAL PRODUCT: Electrical Control Components and Systems  NUCLEAR INDUSTRY ACTIVITY: 99% of total work is nuclear related, which includes military, commercial power, and research work. Current in house job orders are Beaver Valley 2 (NI-1323), Nine Mile Point (NI-1344), and Knolls Atomic (NI-1372/1385).		
ASSIGNED INSPECTOR:  J. J. Petrosino, Reactive Inspection Section (RIS) <span style="float: right;">6/7/85 Date</span>		
OTHER INSPECTOR(S):		
APPROVED BY:  E. W. Merschoff, Chief, RIS, Vendor Program Branch <span style="float: right;">6/7/85 Date</span>		
INSPECTION BASES AND SCOPE:  A. <u>BASES</u> : 10 CFR Part 21.  B. <u>SCOPE</u> : 1. Obtain vendor-licensee correspondence regarding Elma Engineering Incorporated (EEI) ferroresonant power supplies (FPS).  2. Verify where each EEI-FPS was shipped and the total number of units at each location.		
PLANT SITE APPLICABILITY: Pilgrim (50-293); Browns Ferry (50-259/260/296); Clinton (50-461).		

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ORGANIZATION: NUTHERM INTERNATIONAL INCORPORATED  
MOUNT VERNON, ILLINOIS

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A. Inspection Issues:

1. Verification of correspondence regarding Nutherm International (NI) customers who were shipped safety-related EEI ferroresonant power supplies regarding potential problems with these power supplies.
2. Obtain information regarding the total number of EEI - ferroresonant power supply units shipped.

B. Inspection Findings:

1. Three (3) commercial nuclear plants were supplied EEI - FPS units by NI. Correspondence was transmitted by NI to each customer who purchased the EEI units regarding the EEI power supply problems. Additionally, each customer acknowledged receipt of these NI notifications.
2. A total of fifty one (51) safety-related EEI power supplies were purchased by NI. Of that total, thirty two (32) units were shipped to Browns Ferry station, four (4) units went to Clinton station, and eight (8) units went to Pilgrim station. NI retained seven (7) units for equipment qualification testing.

C. Supplemental Information:

Recently, Elma Engineering Incorporated Ferroresonant power supply units were identified as having two potentially generic problems.

NRC-IE Information Notice Number 83-04 discussed the loss of output of EEI's - FPS due to overheating and subsequent capacitor failure. EEI reported to the NRC that their testing concluded that improper vertical mounting of FPS units could result in capacitor overheating and subsequent degraded operation. Additionally, FPS units utilized in a parallel load sharing application will have a greater heat output and therefore will increase the FPS unit enclosure temperature. Recommendations of EEI were to perform analyses for load sharing, adequate cooling and efficiency at low loads.

The second potentially generic problem was identified in a 10 CFR part 21 notification letter submitted by NI. Deficiencies identified were found by removing a mounting plate which enclosed the electrical wire connection area. Inadequate electrical wire soldering connections and a leaking oil filled capacitor were observed by NI. Routine receipt inspections by NI had not included removing the mounting plate to examine electrical wire connections. This was the subject of a nonconformance issued to Nutherm in Inspection Report 99900779/84-01.

ORGANIZATION: NUTHERM INTERNATIONAL INCORPORATED  
MOUNT VERNON, ILLINOIS

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<p>D. <u>Persons Contacted:</u></p> <p>James S. Hanner - Executive Vice President - NI Bill E. Ellis - Quality Assurance Engineer - NI Ronald J. Heifner - Quality Assurance Manager - NI</p>		

