

# CATEGORY 1

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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 AUTH. NAME AUTHOR AFFILIATION  
 MECREDY, R.C. Rochester Gas & Electric Corp.  
 RECIP. NAME RECIPIENT AFFILIATION  
 VISSING, G.S.

SUBJECT: Part 21 rept re defective 350 HP, 1800 RPM, 460 VAC, 3 phase,  
 5006P Frame, 1.15 SF, vertical hollow shaft motor used as  
 service water pump motor. Safety-Relayed CGIEE revised to  
 enhance steps for exam of windings & workmanship.

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ROBERT C. MECREDY  
Vice President  
Nuclear Operations

November 6, 1996

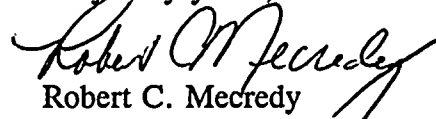
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Attn: Guy S. Vissing  
Project Directorate I-1  
Washington, D.C. 20555

Subject: 10 CFR Part 21 30 Day Report  
R.E. Ginna Nuclear Power Plant  
Docket No. 50-244

Dear Mr. Vissing:

In accordance with 10 CFR Part 21, Reporting of Defects and Noncompliance, Section 21 (d) (3) (ii), which requires "Written notification to the NRC ... on the identification of a defect or failure to comply", the attached 10 CFR 21 report is hereby submitted.

Very truly yours,

  
Robert C. Mecredy

xc: Mr. Guy S. Vissing (Mail Stop 14C7)  
Project Directorate I-1  
Washington, D.C. 20555

Regional Administrator  
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## 10CFR21 30 DAY WRITTEN REPORT

## I. NAME AND ADDRESS OF THE INDIVIDUAL INFORMING THE COMMISSION:

NAME: Robert C. Mecredy  
Vice President Nuclear Operations

ADDRESS: Rochester Gas & Electric Corporation  
89 East Avenue  
Rochester, New York 14649

## II. IDENTIFICATION OF THE FACILITY, THE ACTIVITY, OR THE BASIC COMPONENT SUPPLIED FOR SUCH FACILITY WHICH FAILS TO COMPLY OR CONTAINS A DEFECT:

The facility is the R.E. Ginna Nuclear Power Plant. The basic component is a 350 HP, 1800 RPM, 460 VAC, 3 phase, 5006P Frame, 1.15 SF, vertical hollow shaft motor for use as a Service Water (SW) pump motor. This component was installed at the R.E. Ginna Nuclear Power Plant to upgrade the motor for the "A" SW pump from a 300 HP to a 350 HP motor. (The "A" SW pump was never declared operable with this defective motor installed.)

## III. IDENTIFICATION OF THE FIRM CONSTRUCTING THE FACILITY OR SUPPLYING THE BASIC COMPONENT WHICH FAILS TO COMPLY OR CONTAINS A DEFECT:

The motor was a commercial-grade motor manufactured by:

U.S. Electrical Motors  
Division of Emerson Electric Co.  
8100 W. Florissant Ave.  
PO Box 3946  
St. Louis, MO 63136

The motor was procured from:

Auburn Armature, Inc.  
48 Canoga St.  
Auburn, NY 13021

Note: This motor was purchased commercial-grade, was commercially-dedicated by Rochester Gas & Electric, and satisfied all testing requirements included in the procurement documents.

IV. NATURE OF THE DEFECT OR FAILURE TO COMPLY AND THE SAFETY HAZARD WHICH IS CREATED OR COULD BE CREATED BY SUCH DEFECT OR FAILURE TO COMPLY:

A 350 HP motor was installed on the "A" SW pump in July, 1996. Post-modification functional testing revealed unacceptable megger readings. The motor was removed from the "A" SW pump, disassembled and inspected. The inspection revealed degradation of motor insulation integrity due to damaged motor leads, which could result in the failure of the motor in service. The overall quality of the motor was below that normally expected for a commercial grade motor.

The safety hazard which could be created by such a defect is the complete loss of Service Water. In the scenario of the "C" SW pump out of service and a concurrent loss of power to Bus 17 (which supplies power to the "B" and "D" SW pumps), a loss of all SW would occur if the "A" SW pump failed to operate due to the identified defect.

V. THE DATE ON WHICH THE INFORMATION OF SUCH DEFECT OR FAILURE TO COMPLY WAS OBTAINED:

The information was obtained on August 5, 1996.

VI. IN THE CASE OF A BASIC COMPONENT WHICH CONTAINS A DEFECT OR FAILS TO COMPLY, THE NUMBER AND LOCATION OF ALL SUCH COMPONENTS IN USE AT, SUPPLIED FOR, OR BEING SUPPLIED FOR GINNA STATION:

There are four (4) SW pumps located in the Screenhouse Building at Ginna Station.

A 350 HP motor had previously been procured separately. This motor was installed to upgrade the existing 300 HP motor on the "D" SW pump in August, 1995. This 350 motor is of similar design to the 3 motors discussed below, and was also manufactured by U.S. Electrical Motors. This motor was tested satisfactorily and placed in service in August, 1995, and operated trouble-free. As discussed below, this motor did not contain a defect.

Three (3) 350 HP motors, manufactured by U.S. Electrical Motors, were purchased at a later date (as a group) for upgrade of the existing 300 HP motors on the "A", "B", and "C" SW pumps. As discussed below, two of these three motors were discovered to be defective.

VII. THE CORRECTIVE ACTION WHICH HAS BEEN, IS BEING, OR WILL BE TAKEN; THE NAME OF THE INDIVIDUAL OR ORGANIZATION RESPONSIBLE FOR THE ACTION; AND THE LENGTH OF TIME THAT HAS BEEN OR WILL BE TAKEN TO COMPLETE THE ACTION:

The following corrective actions have been completed:

1. Ginna Station Maintenance personnel removed the defective 350 HP motor from the "A" SW pump, and shipped this motor and one uninstalled 350 HP motor to an Appendix B motor facility. These two motors both exhibited degradation of motor insulation integrity. The motors were tested, inspected, and confirmed to be defective. They were refurbished by the motor facility, and returned to Ginna Station.
2. The "A" SW pump remained inoperable until one of the above refurbished motors was reinstalled and satisfactorily tested in August, 1996.
3. The similar 350 HP motor, installed on the "D" SW pump in August, 1995, had shown no signs of motor degradation. However, this motor was removed from the "D" SW pump in October, 1996, and was replaced by the other refurbished spare motor.
4. Thus, corrective action was completed for these two defective motors in August, 1996, and these two refurbished motors were subsequently installed on the "A" and "D" SW pumps, and have fulfilled operability test requirements.
5. Electrical testing on the other two 350 HP motors did not indicate any degradation of the motor insulation integrity. Nevertheless, as a conservative measure, they were shipped to an Appendix B motor facility in October, 1996, for diagnostics and troubleshooting.
6. These remaining two 350 HP motors have been disassembled, inspected, and tested at an Appendix B motor facility. Electrical testing, performed at the motor facility, achieved satisfactory performance results, confirming that the motor (previously installed on the "D" SW pump) was operable while in service. However, some minor deficient conditions were noted on both motors. These motors were also refurbished. These refurbishments are considered to be conservative corrective measures which involved motor releading, insulation redip and bearing rework.

The following corrective actions are scheduled for completion by March, 1997:

1. Safety-related motor Commercial Grade Item Engineering Evaluations (CGIEE's) will be revised to enhance steps for the examination of windings and overall workmanship to ensure motors are constructed with acceptable quality.
2. CGIEE preparation guidelines will be enhanced to incorporate the lessons learned from these defective motors.



10-10-10

VIII. ANY ADVICE RELATED TO THE DEFECT OR FAILURE TO COMPLY ABOUT THE FACILITY, ACTIVITY, OR BASIC COMPONENT THAT HAS BEEN, IS BEING, OR WILL BE GIVEN TO PURCHASERS OR LICENSEES:

1. Source surveillance during motor assembly may have detected this defect.
2. A detailed physical inspection (or disassembly) upon receipt may have detected this defect.
3. Completion of commercial dedication could be dependent upon satisfactory completion of post-modification functional testing.