SPECTRUM TECHNOLOGIES®
UTILITIES SERVICES U.S.A., Inc.

December 20, 2002

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Notification of Existence of a Defective in a Component

Dear Sir/Madam:

In accordance with the requirements set forth in the Code of Federal Regulations Title 10, Part 21 (10CFR21), the following information is submitted:

1. Name and address of the individual or individuals informing the Commission:

   Spectrum Technologies Utilities Services USA, Inc.
   112 Erie Blvd., Suite 3
   Schenectady, New York 12305
   President: Mr. Brij M. Bharteey or Vice President, QA: Mr. William R. Willis
   Telephone: (518) 382-0056
   Fax" (518) 382-0283

2. Identification of the facility, the activity, or the basic component supplied for such facility or such activity with the United States which fails to comply or contains a defect:

   Starter, Non-Reversing, Size 1, 600VAC, 3 Pole, With 125VDC Coil, Westinghouse/Cutler-Hammer Part Number A200M1CS, Type B Thermal Overloads, Ambient Compensated, Manual Reset Only.

3. Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect:

   Original Equipment Manufacturer: Cutler-Hammer
   Contact: Mr. Pat Paterson
   Tel: (724) 779-5931
   or
   Mr. Gary Gibson
   Tel: (724) 779-5922

   Dedicating Entity: Spectrum Technologies Utilities Services USA, Inc.
   (See Contact Information in Item 1, above)

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112 ERIE BLVD, SCHENECTADY, N.Y. 12305, U S A. • TEL: 518-382-0056 • FAX 518-382-0283 • e-mail: spectrum@spectrumtechnologies net
Spectrum's Homepage. www.spectrumtechnologies net

4. 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:\

As reported in our initial notification fax, dated November 25, 2002, in March 2002, Spectrum Technologies provided 20 Class 1E safety related Cutler-Hammer A200 NEMA Size 1 starters with DC coils to Rochester Gas & Electric Company - Ginna Station. We had purchased the starters as commercial grade items from Cutler-Hammer, and dedicated them per EPRI NP5652, method 1, Special Tests and Inspections. This dedication successfully verified the following critical characteristics:

- **Markings**
- **Dimensions and Configuration**
- **Electrical Functional Attributes, Including:**
  - **Insulation Resistance**
  - **Current Carrying Capacity**
  - **Minimum Pickup and Drop Out Voltage**
  - **Time Current Characteristics of Overload Relay**

Ginna Station recently advised us that one of the starters had experienced an open phasing failure. They reported that they noted no current flow on one phase when measured with a clamp-on ammeter, and that current started to flow when the hand pressure was applied to the moving plunger extension that protrudes out the top of the starter. They also noted that the overall travel of the plunger appeared to be less than that noted on a similar older vintage starter. They provided the failed starter and the older vintage starter to us for our investigation. The continuity of all phases was successfully verified, along with the magnetic pull force of the coil, which was comparable to the older vintage starter. We then mounted the failed starter on a vertical plate in a horizontal (worst case) orientation, energized the coil and loaded the main contacts to 27 amps. This condition was maintained until the temperature stabilized with the highest temperature recorded on the terminals (i.e., 59°C to 63° with ambient at 20.3°C). None of this testing could duplicate the single phasing condition observed by Ginna Station. We verified that the total stroke of the failed starter was less than that of the earlier vintage starter by as much as 0.059" by our measurement.

Specimen	Plunger Length	Coil Depth
Failed Cutler-Hammer Stater	1.786"	1.324"
Older Vintage Westinghouse Starter	1.758"	1.355"
Difference	0.028"	0.031"

Visual inspection showed that the failed unit power contacts just made contact at the full stroke with no visible compression of the contact springs; whereas the older vintage starter showed obvious contact spring compression after the contacts made contact.

The failed starter and the earlier vintage starter were provided to Cutler-Hammer for an OEM evaluation. The results of the OEM evaluation were e-mailed by the OEM to our Cutler-Hammer distributor and provided to us on November 21, 2002. The OEM evaluation resulted in the following observations:

> **"New A200 Size 1 starters with DC coils typically have about .250 inch total stroke, with travel to the power pole contact touch position of about .180 inch. This provides an**

overtravel (wear allowance) length of .070 inch to permit contact spring compression for adequate contact force. The A200M1CS Starter with C010427 dated code measured a normal distance to the touch position (.175") but the total stroke was only .206 inch, preventing normal spring compression. This would result in low contact force and a continuity problem on the power poles. The older A200M1CS unit with SICEA (1989) date code measured .177 inch to the touch point. This older device had an open operating coil, as received, but manual closure gave a total stroke of about .25 inch. The low total stroke on C010427 was investigated. We found the plunger component in the armature/magnet assembly to be oversized on length by about .035 inch. This was the major contributor to the short total stroke condition. We have advised our manufacturing plant of our findings, and requested they perform an audit on plungers in their inventory."

Although Cutler-Hammer was unwilling to issue a formal report on their findings, on December 19, 2002 Mr. Pat Paterson (Cutler-Hammer Quality Assurance Department) advised Spectrum, via telecon, that the results of the audit performed on their manufacturing facility found that tooling was out of adjustment resulting in out of tolerance machining on the plunger. He stated that the A200 starters with DC coils are not an off the shelf commodity and have a very low customer demand. The components unique to these units, such as the plungers, are not maintained in inventory, rather they are machined on a case basis to fill specific orders. He certified that the only starters effected by the mismachining of the plunger were the batch produced for Spectrum (i.e., date code C010427), and that the tooling has been properly adjusted for the replacement batch of starters being fabricated for Spectrum.

Spectrum recognizes that without having audited a manufacturer, we cannot accept a reported condition solely on the certification, oral or written, provided by the manufacturer. Spectrum originally seismically qualified the A200 NEMA size 1 starter with DC coil for Ginna Station in 1999 (Spectrum job number JN99P0200). The seismic specimen from that job has been retained in Spectrum's controlled inventory. To substantiate the Cutler-Hammer claim that the problem was caused by mismachining of the starters with date code C010427, Spectrum retrieved the seismic specimen (date coded S990415) and measured the stroke and travel, as follows:

Total Stroke (~0.250")	Travel to Contact Touch (~0.180")	Contact Spring Compression (~0.070")
0.248"	0.184"	0.064"

As can be seen, the results of the measurements taken on the 1999 vintage starter, which has been operationally aged for an equivalent 40 year life and seismically tested, show nominal/acceptable characteristics. Also, visual inspection verified that there was obvious compression of the contact springs after the contact touch point was reached. This result lends itself to the Cutler-Hammer statement that the reported problem is a result of mismachining and not a design problem.

5. The date on which the information of such defect or failure to comply was obtained:

Cutler-Hammer notified Spectrum Technologies Utilities Services USA, via e-mail through their authorized distributor, on November 21, 2002. Ginna Station advised that starters from the affected batch were installed in 11 safety relate locations on November 25, 2002.

6. In 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 one or more facilities or activities subject to the regulations in this part:

Twenty A200 starters from the affected batch were shipped to Ginna Station as basic components on March 15, 2002. Ginna Station has advised that these starters have been installed in 11 safety related locations, as follows:

- **MOV-857A, Residual Heat Removal Pump A Discharge**
- **MOV-4616, Service Water Isolation in Auxiliary Building (Open & Close Circuit)**
- **MOV-860C, Containment Spray Pump B Discharge**
- **MOV-813, Component Cooling Water Isolation to Reactor Support Coolers (Open & Close Circuit)**
- **MOV-700, Residual Heat Removal Pump Suction from Loop A Holt Leg**
- **MOV-878A, Safety Injection Discharge to Loop B**
- **MOV-856, Residual Heat Removal Suction from Refueling Water Storage Tank**
- **MOV-4780, Service Water Isolation in Screenhouse (Open & Close Circuit)**

7. 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.

Cutler-Hammer has advised that a replacement batch of A200 starters will ship to Spectrum Technologies Utilities Services USA, Inc. today, December 20, 2002. Spectrum will dedicate these starters, paying particular attention to the total stroke and travel to contact touch. Based the Cutler-Hammer promised ship date, Spectrum expects to complete the dedication and qualification of these replacement starter to support shipment to Ginna Station no later than January 10, 2003.

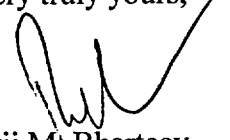
8. Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees:

Cutler-Hammer states that the mismachining of the A200 starter plungers effected only those A200 starters that were fabricated for Spectrum's order (i.e., dated code C010427). This has not been independently verified. However, Spectrum's evaluation has shown that the problem did not exist on similar starters manufactured about two years prior to the effected starters.

If there are any further questions, please don't hesitate to contact me.

Assuring you of our best intentions. Thanks! Have a great day and the Happiest of Holidays!

Very truly yours,



Brij M. Bharteey
President