

April 11, 2014

Mr. Allen Hsu
HF Controls Corporation
1624 West Crosby Road
Suite 124
Carrollton, TX 75006

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR TOPICAL REPORT
PP901-000-01, REVISION C, "HFC-6000 SAFETY SYSTEM"
(TAC NO. ME7577)

By letter dated June 29, 2011 (Agencywide Documents Access and Management System Accession No. ML11199A098), HF Controls Corporation (HFC) submitted for U.S. Nuclear Regulatory Commission (NRC) staff review "Request for Amendment to HFC-6000 Safety Evaluation Report." Upon review of the information provided, the NRC staff has determined that additional information is needed to complete the review.

In an email dated March 25, 2014, Mr. Ivan Chow, representing HFC, and I agreed that the NRC staff will receive your response to the enclosed Request for Additional Information (RAI) questions by April 30, 2014.

If you have any questions regarding the enclosed RAI, please contact me at 301-415-7297.

Sincerely,

/RA/

Joseph J. Holonich, Sr. Project Manager
Licensing Processes Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Project No. 731

Enclosure:
RAI questions

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DATE	03/25/2014	04/01/2014	04/07/2014	04/10/2014	04/11/2014

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REQUEST FOR ADDITIONAL INFORMATION
FOR SIX OPEN ITEMS OF HF CONTROL CORPORATION
TOPICAL REPORT PP901-000-01, REVISION C, "HFC-6000 SAFETY SYSTEM"
(TAC NO. ME7577)

RAI-1

HF Control Corporation (HFC) uses Electric Power Research Institute Topical Report 107330 Figure 4-4 to demonstrate compliance with environment stress requirements as described on page 6 of "Qualification Retest Summary Report," RR901-001-04, ERD111, Rev. A. The figure shows the tests include maintaining 40 °F and 5 percent relative humidity conditions for at least 8 hours. The U.S. Nuclear Regulatory Commission (NRC) staff noted that the test conducted by the Environmental Testing Laboratory (page 5 of Attachment 7.1 of RR901-001-04) only maintained conditions of 4 °C (40 °F) for 4 hours.

Please provide additional testing results or justification for qualification of the HFC-6000 platform under different environmental stress conditions than those conditions defined in EPRI TR-107330.

RAI-2

HFC uses NRC Regulatory Guide 1.180, Rev. 1, "Guidelines for Evaluating Electromagnetic and Radio-Frequency Interference [(EMI/RFI)] in Safety-Related Instrumentation and Control Systems" to comply with EMI/RFI tests as stated in page 6 of "Qualification Retest Summary Report", RR901-001-04, ERD111, Rev. A. However, the NRC staff noted the following discrepancies between RG 1.180 and Nemko tests:

Emissions:

Name of Test	Standard	Limits	Discrepancies	Nemko Test Report Page Number
CE101 Low Frequency Conducted Emissions	MIL-STD-461E as modified by RG 1.180, Rev. 1	60 Hz – 10 kHz For AC Power ≤ 1kVA	Missing test for 60Hz – 120 Hz	Pages 14 –16
RE102 High Frequency Radiated Emissions	MIL-STD-461E as modified by RG 1.180, Rev. 1	2M Hz – 10 GHz	Missing test for Horizontal 2 – 3 MHz	Pages 26 – 32

ENCLOSURE

Immunities:

Name of Test	Standard	Limits	Discrepancies	
CS114 Conducted Susceptibility, Power & Signal Leads	MIL-STD-461E as modified by RG 1.180, Rev. 1	10kHz – 30 MHz 10 kHz – 0.2 MHz, 100 dBμA; 0.2 Mz – 30MHz, 97 dBμA	dBμA values are lower than the required values. (No operating envelopes Figure provided)	Pages 36 - 39
RS101 Radiated Susceptibility, Magnetic Field	MIL-STD-461E as modified by RG 1.180, Rev. 1	30 Hz – 100 kHz	Missing 10 kHz – 100 kHz (No operating envelopes Figure provided)	Pages 67 – 70 (See Page 69)

Please provide additional testing results, or justification for qualification of the HFC-6000 platform under different EMI/RFI conditions than those conditions defined in NRC RG 1.180.