

October 13, 1995

Mr. James M. Taylor  
Executive Director for Operations  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Dear Mr. Taylor:

SUBJECT: PROPOSED FINAL REVISION 1 TO REGULATORY GUIDE 1.152,  
"CRITERIA FOR DIGITAL COMPUTERS IN SAFETY SYSTEMS OF  
NUCLEAR POWER PLANTS"

During the 425th meeting of the Advisory Committee on Reactor Safeguards, October 5-7, 1995, we reviewed the proposed final Revision 1 to Regulatory Guide 1.152. The revised Regulatory Guide endorses IEEE Standard Criteria for Digital Computers in Safety Systems of Nuclear Power Generating Stations (IEEE Standard 7-4.3.2-1993), "with the exception of quantitative reliability goals (Section 5.15)." During this meeting, we had the benefit of discussions with the NRC staff. We also had the benefit of the documents referenced.

Based on our review, we concur with the Regulatory Position of Revision 1 to Regulatory Guide 1.152. However, we offer the following comment.

In the proposed Regulatory Guide, the staff declines to endorse the use of quantitative reliability goals as the sole means of meeting the Commission regulations for reliability of digital computers in safety systems. This position is consistent with our previously expressed views as provided in our report of March 18, 1993 to Chairman Selin. The language used in the staff response to Public Comment 1 on this issue provides a clearer expression of the staff position on quantitative reliability goals than does the language used in the Regulatory Guide. During our discussion, the staff agreed to modify the language in the Regulatory Guide to be consistent with its response to the public comment.

Subject to the staff's planned modification, we have no objection to the issuance of Regulatory Guide 1.152, Revision 1.

Additional comments by ACRS Members George Apostolakis, Ivan Catton, Mario H. Fontana, William J. Lindblad, and Charles J. Wylie are presented below.

Sincerely,

/s/

T. S. Kress  
Chairman

Additional Comments by ACRS Members George Apostolakis, Ivan Catton, Mario H. Fontana, William J. Lindblad, and Charles J. Wylie

We believe that in taking exception to IEEE 7-4.3.2-1993, Section 5.15, the staff is tilting at windmills. We would endorse the Standard in its entirety. The staff could make its point regarding the adequacy of quantitative reliability goals for software without taking exception to this Section.

References:

1. Regulatory Guide 1.152, Revision 1, dated September 1995, "Criteria for Digital Computers in Safety Systems of Nuclear Power Plants," transmitted by memorandum dated September 1, 1995, from David L. Morrison, NRC Office of Nuclear Regulatory Research, to John T. Larkins, ACRS
2. Institute of Electrical and Electronics Engineers, Standard 7-4.3.2-1993, "Criteria for Digital Computers in Safety Systems of Nuclear Power Generating Stations," September 15, 1993
3. Letter dated July 31, 1995, from C. L. Terry, Group Vice President, Nuclear, TUELECTRIC, to U.S. NRC, Subject: TU Electric Comments on Draft Regulatory Guide DG-1039, "Criteria for Digital Computers in Safety Systems of Nuclear Power Plants"
4. Report dated March 18, 1993, from Paul Shewmon, Chairman, ACRS, to Ivan Selin, Chairman, NRC, Subject: Computers in Nuclear Power Plant Operations

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