Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402-2801

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Rules and Directives Branch
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Gentlemen:

NUCLEAR REGULATORY COMMISSION (NRC) - COMMENTS ON DRAFT REGULATORY GUIDE (DG) -1119 - VOL. 67 *FEDERAL REGISTER* 57044, DATED SEPTEMBER 6, 2002

TVA appreciates the opportunity to comment on the proposed Draft Regulatory Guide (DG) -1119. The proposed Revision 1 of Regulatory Guide 1.180, "Guidelines for Evaluating Electromagnetic and Radio-Frequency Interference in Safety-Related Instrumentation and Control Systems," is being developed to provide up-to-date guidance to licensees and applicants on methods acceptable to the NRC staff for complying with the NRC's regulations on design, installation, and testing practices for addressing the effects of electromagnetic and radio-frequency interference and power surges on safety-related instrumentation and control systems. TVA's comments on this guidance is provided in the enclosure.

If you have any questions, please contact R. M. Brown at (423) 751-7228.

Sincerely,

Mark J. Burzynski

Mark J. Burzynski
Manager
Nuclear Licensing

Enclosure
cc (Enclosure):
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Hemplate = ADM-013

E-RIDS = ADM-03
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ENCLOSURE

COMMENTS ON PROPOSED DG 1119

COMMENT NUMBER	DG 1119 SECTION	COMMENTS
1	Figure 3.1	Appears to restrict AC power sources greater than 1kVA to a lower emissions value than those less than 1kVA. This should be clarified.
2	4.1 and 2	• The test limits for power supply/control and signal lines should have the same limits. The limits of Section 4.2 are out of line with the Radiated Susceptibility (RS) requirements of 10V/m--134 dBμV cited for International Electro-Technical Commission (IEC) 61000-4-6 using a 150 ohm source impedance is equivalent to 115 dBμA. Looking at MIL-STD-461E Appendix, Section 50.12, page 74 states: The basic relationship for the limit level in the resonance (flat) portion of the curve is 1.5 milli-amperes per volt/meter that is derived from worst-case measurements on aircraft. For example, 110 dBμA corresponds to 200 volts/meter. At resonance, the effective shielding effectiveness of the aircraft can be zero. Application of these results to other platforms is reasonable. This guide requires a test that exceeds 200V/m. This is not reasonable. • Surge testing is required on signal lines. Section 4.2 is ambiguous on power and control lines. Sections 4.1 does not mention it, while section 5 does not define ports to test. The source of this surge for signal lines should be explained. No source for the surge for equipment in a controlled environment is given. This is reasonable for equipment in outside areas or connect directly to outside areas. • Electrical Fast Transients (EFT) on signal leads is not defined as direct connect or clamp method.
3	5	Sets test values of 2 kV -- While this is good for test compliance, we believe it is missing equipment outside that should be tested to higher values.
4	general	• The IEC test and methods is a plus. • Magnetic field emissions and susceptibility needs to be defined clearly as applying only to equipment that is susceptible to magnetic fields. • Radiated emissions is too low based upon the EPRI testing. While it is good to hold down the emissions level of a given instrument, this level is very restrictive. Additionally, an allowance for packaged systems needs to be addressed.