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11/18/2011  
76 FR 2924  
(12)

March 18, 2011

Ms. Cindy K. Bladey  
Chief, Rules, Announcements, and Directives Branch  
Division of Administration Services  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

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Subject: **Comments on Draft Regulatory Issues Summary, "Adequacy of  
Station Electric Distribution System Voltages,"  
(Docket ID NRC-2011-0013)**

The U.S. Nuclear Regulatory Commission (NRC) published draft Regulatory Issue Summary (RIS) 2011-XX, "Adequacy of Station Electric Distribution System Voltages," in the Federal Register on January 18, 2011 (76 FR 2924). In the referenced Federal Register Notice, the NRC solicited comments on the draft RIS.

The Tennessee Valley Authority (TVA) has reviewed and endorses comments made by the Nuclear Energy Institute in a letter dated March 2, 2011, on behalf of the nuclear industry. TVA has an additional comment which is provided in the Enclosure.

Please direct any questions concerning this matter to Kara Stacy at 423-751-3489.

Respectfully,

R. M. Krich

Enclosure: TVA Additional Comment Regarding Draft Regulatory Information  
Summary (RIS) 2011-XX

SUNSI Review Complete  
Template = ADM-013

E-RIS = ADM-03  
Add = K. Miller (Karm4)

## Enclosure

### TVA Additional Comment Regarding Draft Regulatory Information Summary (RIS) 2011-XX

**Comment:** The RIS suggests that demonstrating adequate motor starting voltage is a reasonable objective or outcome of a setpoint calculation for a Degraded Voltage Relay whose purpose is to protect Class 1E equipment.

TVA's position is that such an objective or outcome is not technically achievable for the reasons discussed below:

1) A Voltage Relay is not a Predictive Device

Voltage sensing equipment cannot provide a predictive function without crediting the capacity or capability of the upstream system, since it cannot determine the capacity or capability provided during a transient condition such as a motor start. Since the existing regulatory framework for degraded voltage protection was based on use of voltage relaying, it is not clear how the existing relaying equipment could be used to demonstrate compliance with an adequate motor starting demonstration requirement.

2) A Degraded Voltage Relay Protection Setpoint Based on Starting Voltage Does Not Provide Motor Protection

This method could potentially be calculated but would mean that the DVR setpoint would have been determined during the starting of the most limiting Class-1E motor. A degraded voltage relay setpoint based on a motor starting would not protect the motor from damage (required by regulations) or preclude tripping of the motor's over-current device(s) prior to transferring to the onsite power supply (required by regulations). This is because the DVR time delays are (by definition) required to be longer than a motor starting transient (1st time delay) and long enough to allow operator intervention (2nd time delay). If starting of the limiting (worst-case) motor was attempted in a true degraded voltage situation (even *slightly* below the DVR setpoint), the DVR scheme could not perform either of these protective functions prior to tripping the normal over-current relays. Therefore, this would not provide any additional protection for the Class-1E loads.