

WBN2Public Resource

From: Poole, Justin
Sent: Thursday, November 04, 2010 5:16 PM
To: Garg, Hukam
Cc: WBN2HearingFile Resource
Subject: FW: Foxboro Spec 200 FSAR Section

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From: Crouch, William D [<mailto:wdcrouch@tva.gov>]
Sent: Thursday, November 04, 2010 4:09 PM
To: Poole, Justin
Subject: Fw: Foxboro Spec 200 FSAR Section

From: Clark, Mark Steven
To: Crouch, William D
Cc: Hilmes, Steven A; Knuettel, Edward Terry
Sent: Thu Nov 04 16:08:10 2010
Subject: Foxboro Spec 200 FSAR Section

Bill:

Here is the draft based on the comments at the phone call. Please forward to Justin for Hukam to review. If it is ok, I'll incorporate it into the FSAR Amendment 102 change package.

TVA Response:

Reg. Guide 1.209, Guidelines for Environmental Qualification of Safety-Related Computer-Based Instrumentation and Control Systems in Nuclear Power Plants, is not applicable to the analog Foxboro Spec 200 hardware.

The following new section and reference will be added to the WBN Unit 2 FSAR as part of Amendment 102:

7.3.1.1.3 Analog Instrumentation

The miscellaneous safety-related analog process control and indication loops are made up of discrete analog modules that have been tested and qualified for use in safety related systems. The various components have been qualified to IEEE Standard 323-1983 (R-1996) "IEEE Standard for Qualifying Class IE Equipment for Nuclear Power Generating Stations", IEEE Standard 344-1987 (R-1993) "IEEE Standard Recommended Practices for Seismic Qualification of Class IE Equipment for Nuclear Power Generating Stations", and IEEE Standard 384-1984 (R-1992) "IEEE Standard Criteria for Independence of Class IE Equipment and Circuits". The modules are arranged in instrument loops to provide the safety functions listed below:

- Turbine driven AFW Pump Flow Control

- Motor driven AFW pump differential pressure indication and recirculation valve control
- Steam generator AFW flow and level indication and control
- Containment Pressure indication
- Upper and Lower Compartment Containment Ambient Temperature indication
- RHR Heat Exchanger CCS Supply Header Flow
- Sample Heat Exchanger Header CCS Differential Flow
- ERCW Strainer Differential Pressure, Backwash and Flush Control
- CCS Heat Exchanger B Inlet Pressure
- CCS Surge Tank Level Control
- CCS Heat Exchanger B Outlet Temperature
- Reactor Vessel Head Vent Throttle Manual Loading Station (Unit 2 Only)
- EGTS Annulus Differential Pressure Control

The components are physically arranged in the racks to meet the requirements of IEEE-279 and Watts Bar Design Criteria WB-DC-30-4, Separation/Isolation. (Unit 2 Only) Two IE analog modules are used to isolate IE to Non-IE signals. These are the Contact Output Isolator and Voltage-to-Current Converter, both of which have the Input and Output signals isolated.

EMI testing and acceptance by TVA of the Foxboro Spec 200 hardware is documented in Reference [8].

References:

(8) Invensys Process Systems Document No. 800063-1830, Electromagnetic Compatibility Test Reports, dated August 21, 2008, Rev. 0

Regards,

Steve

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