WBN2Public Resource

From: Clark, Mark Steven [msclark0@tva.gov]
Sent: Thursday, April 07, 2011 1:25 PM
To: Poole, Justin
Subject: WBT-D-2782.pdf - Adobe Acrobat Standard
Attachments: WBT-D-2782.pdf - Adobe Acrobat Standard.pdf

Hearing Identifier: Watts_Bar_2_Operating_LA_Public
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Subject: WBT-D-2782.pdf - Adobe Acrobat Standard
Sent Date: 4/7/2011 1:25:12 PM
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From: Clark, Mark Steven

Created By: msclark0@tva.gov

Recipients:
"Poole, Justin" <Justin.Poole@nrc.gov>
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MESSAGE	3	4/7/2011 1:25:47 PM
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Response to Request for Loose Parts Monitoring System Qualification Documents

Westinghouse DMIMS-DX In-Containment equipment environmental specifications

The Westinghouse Digital Metal Impact Monitoring System (*DMIMS-DX*) is designed to meet or exceed all the requirements of United States Nuclear Regulatory Commission Regulatory Guide (RG) 1.133, Rev. 1, "Loose Part Detection Program for the Primary System of Light-Water-Cooled Reactors." Section C-1.g of the RG states the following:

g. *Operability for Seismic and Environmental Conditions.*
Components of the loose-part detection system within containment should be designed and installed to perform their function following all seismic events that do not require plant shutdown, i.e., up to and including the Operating Basis Earthquake (OBE). Recording equipment need not function without maintenance following the specified seismic event provided the audio or visual alarm capability remains functional. The system should also be shown to be adequate by analysis, test, or combined analysis and test for the normal operating radiation, vibration, temperature, and humidity environment.

The seismic qualification of the *DMIMS-DX* in-containment equipment is summarized in EQ-QR-33-WBT, Rev. 0, "Seismic Evaluation of the Digital Metal Impact Monitoring System (DMIMS-DX) for Watts Bar Unit 2." provided to TVA under Reference 2.

Westinghouse is providing TVA with the *DMIMS-DX* in-containment equipment listed below. The environmental specification for the equipment is listed, along with the normal environmental conditions. The normal environmental conditions for a Westinghouse containment are reported in Tables 6-1 and 6-2 from WCAP 8587 Rev. 6, "Methodology for Qualifying Westinghouse WRD Supplied NSSS Safety Related Electrical Equipment". These tables are attached.

- **5357C52G01 – Accelerometer with 4' integral hardline cable**

  Radiation: Specification: Gamma dose >= 200 R/hr with a TID of 10^8 R

  Vibrations: Specification: 200g (Peak) Maximum

  Temperature: Specification: -65°F to 625°F at sensor face, max of 185°F at connector

  Humidity: Specification: 5% to 95% relative humidity

- **5359C29G44 – 120' soft line cable assembly**

  Radiation: Specification: Radiation resistant, no specification given

  Vibrations: Specification: No specification given

  Temperature: Specification: -140°F to 302°F on the cable, max of 185°F at connectors

  Humidity: Specification: 95%, connector should be the same as the hard line cable.

- **2657C47G01 – Charge Preamplifier**

  Radiation: Specification: Radiation resistant, no specification given

  Vibrations: Specification: No specification given

  Temperature: Specification: 40°F to 212°F

  Humidity: Specification: No specification given