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Your ref: Docket No. 52-006  
Our ref: DCP\_NRC\_002769

February 8, 2010

Subject: AP1000 Response to Proposed Open Item (Chapter 7)

Westinghouse is submitting the following responses to the NRC open item (OI) on Chapter 7. These proposed open item response are submitted in support of the AP1000 Design Certification Amendment Application (Docket No. 52-006). The information included in these responses is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification and the AP1000 Design Certification Amendment Application.

Enclosure 1 provides the response for the following proposed Open Item(s):

OI-SRP7.9-ICE-03

Questions or requests for additional information related to the content and preparation of this response should be directed to Westinghouse. Please send copies of such questions or requests to the prospective applicants for combined licenses referencing the AP1000 Design Certification. A representative for each applicant is included on the cc: list of this letter.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Robert Sisk'.

Robert Sisk, Manager  
Licensing and Customer Interface  
Regulatory Affairs and Standardization

/Enclosure

1. Response to Proposed Open Item (Chapter 7)

DO63  
NR0

cc:	D. Jaffe	-	U.S. NRC	1E
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	A. Monroe	-	SCANA	1E
	P. Jacobs	-	Florida Power & Light	1E
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ENCLOSURE 1

AP1000 Response to Proposed Open Item (Chapter 7)

# AP1000 TECHNICAL REPORT REVIEW

## Response to Open Item (OI)

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RAI Response Number: OI-SRP7.9-ICE-03

Revision: 0

### **Question:**

Provide an ITAAC to verify that the isolation device between the non-safety equipment and the PMS provides electrical isolation in Case D of the communication between safety and non-safety systems to meet the requirements of IEEE Std. 603-1991, Clause 5.6.3.

Section 5.2.1 of WCAP-16674 states that qualified isolations are used to provide electrical isolation between the PMS and non-safety equipment to meet the requirements of IEEE Std. 603-1991. 10 CFR 50.55(a)(h) incorporates by reference IEEE Std. 603-1991, "Standards and Criteria for Safety System Design." IEEE Std. 603-1991, Clause 5.6.3 requires independence between safety and non-safety systems such that credible failures in and consequential actions by non-safety systems shall not prevent the safety system from accomplishing its intended safety function. The staff identified ITAACs within Table 2.5.2-8 of the DCD ITAACs for isolation devices between the PMS and the PLS and between the PMS and the DDS to ensure electrical isolation. However, the staff did not identify any ITAACs for verifying electrical isolation between the PMS and the non-safety equipment that will be used to activate interlocks for these PMS tests. The staff requests the applicant provide additional information to demonstrate how the qualified isolation devices provide electrical isolation between the non-safety equipment and the PMS to meet the requirements of IEEE Std. 603-1991, Clause 5.6.3. Specifically, the staff requests the applicant provide an additional ITAAC to verify electrical isolation between the PMS and the non-safety equipment for the activation of certain interlocks.

### **Westinghouse Response:**

The DCD will be revised to add an ITAAC to verify that the isolation device for signals coming from non-safety equipment to the PMS that provide interlocks for PMS test functions provide electrical isolation as described in Case D of WCAP-16674-P.

WCAP-16674-P, submitted via DCP\_NRC\_002726 dated December 30, 2010, was updated to reference the ITAAC.

### **References:**

1. WCAP-16674-P (APP-GW-GLR-065), "AP1000 I&C Data Communication and Manual Control of Safety Systems and Components"
2. APP-GW-GL-700, "AP1000 Design Control Document"

### **Design Control Document (DCD) Revision:**

# AP1000 TECHNICAL REPORT REVIEW

## Response to Open Item (OI)

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### DCD Tier 1 Changes

#### 2.5.2 Protection and Safety Monitoring System

##### Design Description

*[Rest of Section unchanged]*

7 e.) The PMS receives signals from non-safety equipment that provide interlocks for PMS test functions through isolation devices.

Table 2.5.2-8 (cont.) Inspections, Tests, Analyses, and Acceptance Criteria		
7.e) The PMS receives signals from non-safety equipment that provide interlocks for PMS test functions through isolation devices.	Type tests, analyses, or a combination of type tests and analyses of the isolation devices will be performed.	A report exists and concludes that the isolation devices prevent credible faults from propagating into the PMS.

##### PRA Revision:

None

##### Technical Report (TR) Revision:

The ITAAC is listed in the introductory portion of Section 5 of WCAP-16674-P and Section 5.2.1 as follows:

7.e) The PMS receives signals from non-safety equipment that provide interlocks for PMS test functions through isolation devices. – This ITAAC is met.