



Westinghouse Electric Company  
Nuclear Power Plants  
P.O. Box 355  
Pittsburgh, Pennsylvania 15230-0355  
USA

U.S. Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
Washington, D.C. 20555

Direct tel: 412-374-6206  
Direct fax: 724-940-8505  
e-mail: sisk1rb@westinghouse.com

Your ref: Docket No. 52-006  
Our ref: DCP\_NRC\_002602

August 24, 2009

Subject: AP1000 Response to Request for Additional Information (SRP 18)

Westinghouse is submitting a response to the NRC request for additional information (RAI) on SRP Section 15. This RAI response is submitted in support of the AP1000 Design Certification Amendment Application (Docket No. 52-006). The information included in this response 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 RAI(s):

RAI-SRP18-COLP-17

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 Request for Additional Information on SRP Section 18

cc:	D. Jaffe	- U.S. NRC	1E
	E. McKenna	- U.S. NRC	1E
	P. Donnelly	- U.S. NRC	1E
	T. Spink	- TVA	1E
	P. Hastings	- Duke Power	1E
	R. Kitchen	- Progress Energy	1E
	A. Monroe	- SCANA	1E
	P. Jacobs	- Florida Power & Light	1E
	C. Pierce	- Southern Company	1E
	E. Schmiech	- Westinghouse	1E
	G. Zinke	- NuStart/Entergy	1E
	R. Grumbir	- NuStart	1E
	B. Seelman	- Westinghouse	1E

ENCLOSURE 1

Response to Request for Additional Information on SRP Section 18

# AP1000 TECHNICAL REPORT REVIEW

## Response to Request For Additional Information (RAI)

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RAI Response Number: RAI-SRP18-COLP-17

Revision: 0

### **Question:**

In section 18.5.3 of the AP1000 FSER the staff identified COL information item 18.5-1 (FSER Item 18.5.3-2) which states, "The COL applicant will use the information from the AP1000-specific task analysis in the development of its procedures and training programs." Further, in response to RAI-SRP18.5-COLP-01, the applicant referred to Sections 5.6 and 5.7 of the AP1000 Human Factors Engineering Program Plan (APP-OCS-GBH-001) which described 2 documents: APP-OCS-GER-031, "The Incorporation of Human Factors Engineering in the Development of the AP1000 Plant Procedures," and APP-OCS-GER-041, "The Incorporation of Human Factors Engineering into the Development of the AP1000 Plant Training Program."

In order to close COL Information Item 18.5-1, Westinghouse needs to provide complete information as to how it plans to use the task analysis information in both the procedure development and training development programs. Please provide this information as a basis for closing COL Information Item 18.5-1.

### **Westinghouse Response:**

The main purpose of the two documents, APP-OCS-GER-031, "The Incorporation of Human Factors Engineering in the Development of the AP1000 Plant Procedures," and APP-OCS-GER-041, "The Incorporation of Human Factors Engineering into the Development of the AP1000 Plant Training Program" is to communicate procedure and operator training related information obtained from Human Factors Engineering (HFE) activities to those responsible for the development of the AP1000 operator procedures and the operator training programs. The main users of these documents are Westinghouse and the COL applicants.

A Revision A of both these documents is scheduled for December 2009. Further revisions will be produced so that the documents cover the completed and updated HFE analyses.

The source information for these two documents is derived from various HFE activities and will be obtained from the following:

- APP-OCS-GJR-001, "Human Factors Engineering Operating Experience Review Report for the AP1000 Nuclear Power Plant"
- APP-OCS-J1A-030, "Function Based Task Analysis Summary Report"
- APP-OCS-J1R-120, "AP1000 Operational Sequence Analysis (OSA-1) Summary Report"
- APP-OCS-J1R-220, "AP1000 Operational Sequence Analysis (OSA-2) Summary Report."
- APP-OCS-T2R-022, "AP1000 Engineering Test Phase 2 Test Report"
- APP-OCS-T2R-030, "AP1000 Engineering Test Phase 3 Test Report."

# AP1000 TECHNICAL REPORT REVIEW

## Response to Request For Additional Information (RAI)

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- APP-OCS-J0A-001, "AP1000 Human Factors Engineering Analysis to Support Technical Support Center and Emergency Operations Facility Design."
- APP-OCS-GER-320, "AP1000 Human Factors Engineering Integrated System Validation Report."

The results of the HFE analyses produce a significant amount of information, including items relating to procedures and operator training, which comprise requirements, recommendations and assumptions. In respect to procedures, this may, for example, include identifying where specific cautions or warnings are required to prevent a potential incorrect action in complex tasks, clarification of wording, consistency of terminology, where additional procedural guidance or detail is required to support the operator decision-making process, highlighting items or parameters that the operator needs to check, or the identification of prerequisite operations. In respect to the development of operator training programs, this may, for example, be in the form of identifying tasks where specific skills are required, refresher training requirements, noting where training is required for complex or demanding tasks, or instructing participants on the use of the HSI resources.

The overall objective of these two documents is to compile procedure and operator training related information and effectively communicated this information in a timely manner to the groups that are responsible for the procedures and training programs. This is an iterative process; ongoing as the HFE analyses and the development of the procedures and training programs progresses. APP-OCS-GER-031 and APP-OCS-GER-41 are not substitutes for the task analysis reports. The information is derived from the HFE analysis results reports listed on the previous page. There is no new information in APP-OCS-GER-031 and APP-OCS-GER-41.

In addition, COL Information Item 18.5-1 is also addressed by the following documents:

- WCAP-14690, "Designer's Input to Procedure Development for the AP600"
- WCAP-14655, "Designer's Input to the Training of the Human Factors Engineering Verification and Validation Personnel"
- WCAP-14655, "Designer's Input to the Training of the Human Factors Engineering Verification and Validation Personnel"
- APP-GW-GJP-100, "Writer's Guideline for Normal Operating Procedures"
- APP-GW-GJP-200, "Writer's Guideline for Two Column Procedures"
- APP-GW-T1P-501, "AP1000 Plant Procedure Program Administrative Procedure"

As delineated in the Writer's Guidelines and the Procedure Program Administrative Procedure listed above, the HFE information is iteratively incorporated into each revision of the operating procedures when the operating procedures are developed and revised. The effectiveness of this process is evaluated during the reviews by the Westinghouse operations procedure team and the reviews by the Builder's Group as well as validation walk-throughs for each procedure. In addition many of the procedures will be validated within the ISV testing itself.

# AP1000 TECHNICAL REPORT REVIEW

## Response to Request For Additional Information (RAI)

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The operating procedures serve as the input documents for the training material and training scenario development. These training documents are also validated by a "walk-through" process on the training development simulators. The final operating procedures and training documentation will be achieved subsequent to the incorporation of any insights which are identified as a consequence of the ISV testing.

Reference:

None

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

None

**PRA Revision:**

None

**Technical Report (TR) Revision:**

None