

**18.11 Human Factors Engineering Verification and Validation**

A programmatic level description of the AP1000 human factors engineering verification and validation program is provided by Reference 1. Figure 18.11-1 shows the verification and validation activities conducted as part of AP1000 human factors engineering program. Using the programmatic level description, the development of an implementation plan for the AP1000 human factors engineering verification and validation is executed and documented as discussed in Reference 2. The implementation of the verification and validation activities is detailed in the five documents References 3 to 7.

The verification and validation activities are in accordance with Reference 1. There are a number of exceptions in respect to Integrated System Validation. The details of these exceptions and the corresponding justifications are provided in Reference 5.

**18.11.1 Combined License Information**

The Combined License information requested in this subsection has been fully addressed in Reference 2 (APP-GW-GLR-084). No additional work is required by the Combined License applicant to address the Combined License information requested in this subsection.

The following words represent the original Combined License Information Item commitment, which has been addressed as discussed above:

Combined License applicants referencing the AP1000 certified design will address the development, execution and documentation of an implementation plan for the verification and validation of the AP1000 human factors engineering program. The programmatic level description of the AP1000 verification and validation program, presented and referenced by Section 18.11, will be used by the Combined License applicant to develop the implementation plan.

**18.11.2 References**

- [1. *WCAP-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Revision 2, October 2003.*]\*
2. APP-GW-GLR-084, "AP1000 Human Factors Engineering Verification and Validation," Westinghouse Electric Company LLC.
- [3. *APP-OCS-GEH-120, "AP1000 Human Factors Engineering Design Verification Plan," Revision B, Westinghouse Electric Company LLC.*]\*
- [4. *APP-OCS-GEH-220, "AP1000 Human Factors Engineering Task Support Verification Plan," Revision B, Westinghouse Electric Company LLC.*]\*
- [5. *APP-OCS-GEH-320, "AP1000 Human Factors Engineering Integrated System Validation Plan," Revision D, Westinghouse Electric Company LLC.*]\*

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\*NRC Staff approval is required prior to implementing a change in this information; see DCD Introduction Section 3.5.

- [6. *APP-OCS-GEH-420, “AP1000 Human Factors Engineering Discrepancy Resolution Process,” Revision B, Westinghouse Electric Company LLC.*]\*
- [7. *APP-OCS-GEH-520, “AP1000 Plant Startup Human Factors Engineering Verification Plan,” Revision B, Westinghouse Electric Company LLC.*]\*

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\*NRC Staff approval is required prior to implementing a change in this information; see DCD Introduction Section 3.5.

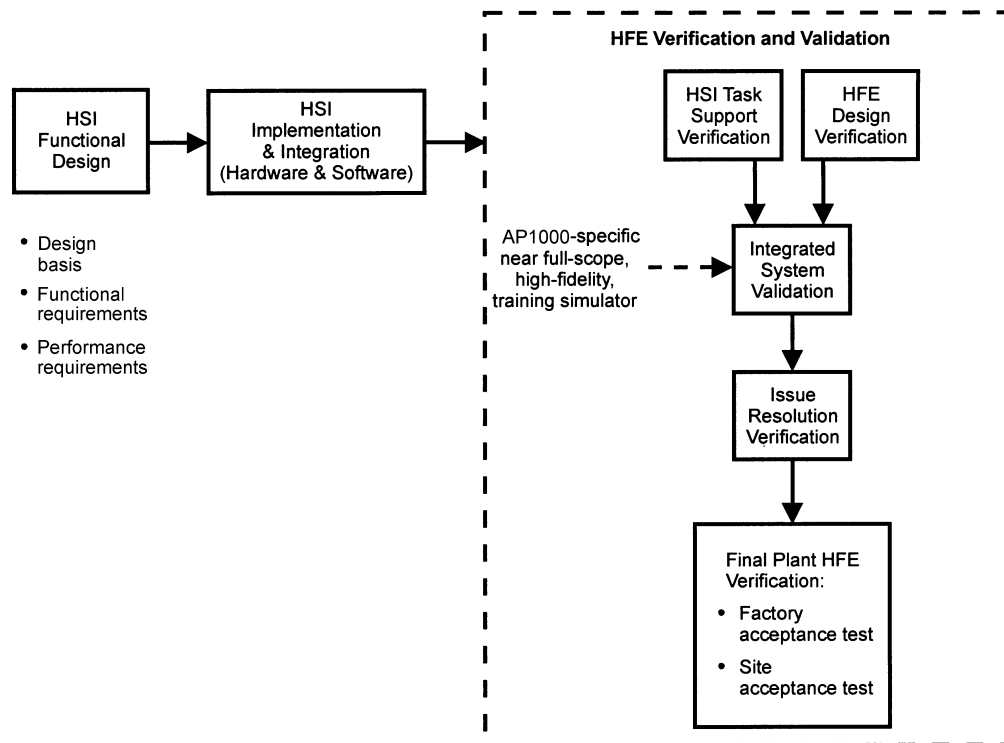


Figure 18.11-1

**AP1000 HFE Verification and Validation**