

PROPOSED REVISION 15
AP1000 DESIGN CONTROL DOCUMENT

Tier 1 Table 3.2-1

Human Factors Engineering ITAAC

Description of Change

Changes are proposed to the acceptance criteria to identify individual criteria that could be completed in phases to facilitate completion and review of the parts of the human factors engineering program.

Technical Justification

Westinghouse took an action at the NRC/NEI meeting on June 9, 2005, to look at the human factors engineering ITAAC and identify parts of the ITAAC that could be revised to facilitate phased completion of the ITAAC.

Regulatory Consequence

This change does not affect the content of the ITAAC. Only the timing of completion is addressed.

Change Markup

Revise item 5 of Tier 1 Table 3.2-1 as shown on the next pages.

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Table 3.2-1 (cont.) Inspections, Tests, Analyses, and Acceptance Criteria		
Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
<p>5. The HFE verification and validation program is performed in accordance with the HFE verification and validation implementation plan and includes the following activities:</p> <ul style="list-style-type: none"> a) HSI Task support verification b) HFE design verification c) Integrated system validation d) Issue resolution verification e) Plant HFE/HSI (as designed at the time of plant startup) verification 	<ul style="list-style-type: none"> a) An evaluation of the implementation of the HSI task support verification will be performed. b) An evaluation of the implementation of the HFE design verification will be performed. c) (i) An evaluation of the implementation of the integrated system validation will be performed. 	<p><u>A report exists and concludes that:</u></p> <ul style="list-style-type: none"> a) <u>A report exists and concludes that:</u> Task support verification was conducted in conformance with the implementation plan and includes verification that the information and controls provided by the HSI match the display and control requirements generated by the function-based task analyses and the operational sequence analyses. b) <u>A report exists and concludes that:</u> HFE design verification was conducted in conformance with the implementation plan and includes verification that the HSI design is consistent with the AP1000 specific design guidelines (compiled as specified in the third acceptance criteria of design commitment 3) developed for each HSI resource. c) (i) <u>A report exists and concludes that:</u> The test scenarios listed in the implementation plan for integrated system validation were executed in conformance with the plan and noted human deficiencies were addressed.

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Table 3.2-1 (cont.)		
Inspections, Tests, Analyses, and Acceptance Criteria		
Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
	<p>c) (ii) Tests and analyses of the following plant evolutions and transients, using a facility that physically represents the MCR configuration and dynamically represents the MCR HSI and the operating characteristics and responses of the AP1000 design, will be performed:</p> <ul style="list-style-type: none"> - Normal plant heatup and startup to 100% power - Normal plant shutdown and cooldown to cold shutdown - Transients: reactor trip and turbine trip - Accidents: <ul style="list-style-type: none"> - Small-break LOCA - Large-break LOCA - Steam line break - Feedwater line break - Steam generator tube rupture <p>d) An evaluation of the implementation of the HFE design issue resolution verification will be performed.</p> <p>e) An evaluation of the implementation of the plant HFE/HSI (as designed at the time of plant startup) verification will be performed.</p>	<p>c) (ii) A report exists and concludes that: The test and analysis results demonstrate that the MCR operators can perform the following:</p> <ul style="list-style-type: none"> - Heat up and start up the plant to 100% power - Shut down and cool down the plant to cold shutdown - Bring the plant to safe shutdown following the specified transients - Bring the plant to a safe, stable state following the specified accidents <p>d) A report exists and concludes that: HFE design issue resolution verification was conducted in conformance with the implementation plan and includes verification that human factors issues documented in the design issues tracking system have been addressed in the final design.</p> <p>e) A report exists and concludes that: The plant HFE/HSI, as designed at the time of plant startup, is consistent with the HFE/HSI verified in 5.a) through 5.d).</p>