Appendix A
AP1000 DCD, Introduction, Table 1-1, Revision 15

included in the Tier 2 Information are identified by double brackets and listed in Section 1.8 of the Tier 2 Information.

3.5 Plant-Specific Changes to Designated Information in the Tier 2 Information

*Tier 2** means the portion of the Tier 2 information, designated as such in the AP1000 design control document, which is subject to the change process in Section VIII of the AP1000 design certification rule. This designation expires for some Tier 2* information under Section VIII of the AP1000 design certification rule.

An applicant who references the AP1000 design certification rule may not depart from Tier 2* information, which is designated with italicized text or brackets and an asterisk in the AP1000 design control document, without NRC approval. The departure will not be considered a resolved issue, within the meaning of Section VI of the AP1000 design certification rule and 10 CFR 52.63(a)(4).

The AP1000 Tier 2* information, summarized in Table 1-1 of this introduction, is designated with italicized text in the Tier 2 Information. Certain figures that are indicated to be Tier 2* may contain information beyond that that is considered to be Tier 2*. A review of the text referencing the figure may be necessary to determine what information on the figure is considered to be Tier 2*. The AP1000 Tier 2* information for which the Tier 2* designation expires when the COL holder first achieves 100% power operation is indicated in Table 1-1 of this introduction.

3.6 Treatment of Probabilistic Risk Assessment Information

A design-specific Probabilistic Risk Assessment (PRA) for the AP1000 Standard Plant Design was submitted as a part of the application for design certification as required by 10 CFR 52.47. One purpose of the PRA was to develop insights for the design and its features. Significant insights that resulted from the PRA are identified in Section 19.59 of the Tier 2 Information. However, the detailed methodology and quantitive portions of the design-specific PRA are not included in the Design Control Document because it is anticipated that this material will be subject to modifications and refinements as the detailed design is completed and the as-built plant parameters and new methodology become available.

Table 1-1
Index of AP1000 Tier 2 Information Requiring NRC Approval for Change

Item	Expiration at First Full Power	Tier 2 Reference
Dimensions for Nuclear Island Structures	Yes	3.7.1.4 Table 3.7.1-2 Figure 3.7.1-14
Nuclear Island Key Structural Dimensions	Yes	3.7.2 Figure 3.7.2-12
Polar Crane Parked Orientation	Yes	3.7.2.3.2
Containment Vessel Design Characteristics and Spacing Between Each Pair of Ring Supports	Yes	3.8.2.1.1
2001 Edition of ASME Code, Section III, including 2002 Addenda	Yes	3.8.2.2 3.8.2.5 5.2.1.1
ASME Code Case N-284-1	Yes	3.8.2.2 3.8.2.5
Use of ACI-349-01	Yes	3.8.3.2 3.8.4.2 3.8.4.4.1 3.8.4.5 3.8.4.5.1 3.8.5.5 Table 3.8.4-2
Use of AISC N690-1994	Yes	3.8.3.2 3.8.4.2 3.8.4.4.1 3.8.4.5 3.8.4.5.2 Table 3.8.4-1
Use of AISI	Yes	3.8.4.4.1 3.8.4.5
Design Summary of Critical Sections Inside Containment	Yes	3.8.3.5.8.1 3.8.3.5.8.2 3.8.3.5.8.3 Table 3.8.3-3 Table 3.8.3-4 Table 3.8.3-5 Table 3.8.3-6 Table 3.8.4-1 Figure 3.8.3-1 Figure 3.8.3-2

Table 1-1 (Cont.)
Index of AP1000 Tier 2 Information Requiring NRC Approval for Change

Item	Expiration at First Full Power	Tier 2 Reference
Design Summary of Critical Sections Inside Containment (Cont.)		Figure 3.8.3-8 Figure 3.8.3-14 Figure 3.8.3-15 Figure 3.8.3-17 Figure 3.8.3-18
Design Summary of Critical Sections Outside Containment	Yes	3.8.4.5.4 Figure 3.8.4-2 Figure 3.8.4-4 Figure 3.8.5-3 App 3H.1 App 3H.2 App 3H.3 App 3H.3.1 App 3H.3.2 App 3H.3.3 App 3H.4 App 3H.4.1 App 3H.5 App 3H.5.1 App 3H.5.1.1 App 3H.5.1.2 App 3H.5.1.3 App 3H.5.1.4 App 3H.5.1.5 App 3H.5.2 App 3H5.2.1 App 3H.5.2.2 App 3H.5.3 App 3H.5.3.1 App 3H.5.4 App 3H.5.5 App 3H.5.5.1 App 3H.5.6 App 3H.5.6.1 App 3H.5.6.2 App 3H.5.6.3 Table 3H.5-1 Table 3H.5-2 Table 3H.5-3 Table 3H.5-4 Table 3H.5-5 Table 3H.5-6 Table 3H.5-7

Table 1-1 (Cont.)
Index of AP1000 Tier 2 Information Requiring NRC Approval for Change

Item	Expiration at First Full Power	Tier 2 Reference
Design Summary of Critical Sections Outside Containment (Cont.)		Table 3H.5-8 Table 3H.5-9 Table 3H.5-10 Table 3H.5-11 Table 3H.5-12 Table 3H.5-13 Figure 3H.2-1 Figure 3H.5-1 Figure 3H.5-2 Figure 3H.5-3 Figure 3H.5-4 Figure 3H.5-5 Figure 3H.5-6 Figure 3H.5-7 Figure 3H.5-8 Figure 3H.5-9 Figure 3H.5-10 Figure 3H.5-11 Figure 3H.5-12
Design Summary of Critical Sections for Nuclear Island Basemat	Yes	3.8.5.4.3 Table 3.8.5-3
Seismic Qualification Standards	Yes	3.10.1.1
Methods and Procedures for Qualifying Electrical Equipment, Instrumentation, and Mechanical Components	Yes	3.10.2
Experienced-Based Qualification	Yes	3.10.6
Maximum Fuel Rod Average Burnup	No	4.3.1.1.1
Fuel Principal Design Requirements	No	4.1.1
WCAP-12488-P-A, "Fuel Criteria Evaluation Process"	No	4.1 4.1.3 4.2 4.2.1 4.2.1.1.2 4.2.1.1.3 4.2.1.5 4.2.1.6 4.2.3 4.2.6 4.3.1 4.3.5

Table 1-1 (Cont.)
Index of AP1000 Tier 2 Information Requiring NRC Approval for Change

Item	Expiration at First Full Power	Tier 2 Reference
Reactor Core Description (First Cycle)	Yes	Table 4.3-1
Nuclear Design Parameters (First Cycle)	Yes	Table 4.3-2
Reactivity Requirements for Rod Cluster Control Assemblies	Yes	Table 4.3-3
MOV Design and Qualification	Yes	5.4.8.1.2
Other Power-Operated Valves Design and Qualification	Yes	5.4.8.1.3
Motor Operated Valves	Yes	5.4.8.5.2
Power Operated Valves	Yes	5.4.8.5.3
N-284-1 Metal Containment Shell Buckling Design Methods, Section III, Division I Class MC	Yes	Table 5.2-3
WCAP-13383, "AP600 Instrumentation and Control Hardware & Software Design, Verification & Validation Process Report," Rev 1.	Yes	Chapter 7 Table 1.6-1
WCAP-14605, "Westinghouse Setpoint Methodology for Protection Systems, AP600," Rev 0	Yes	Chapter 7 Table 1.6-1
CENPD-396-P, Rev. 01, "Common Qualified Platform"	Yes	Chapter 7 Table 1.6-1
CE-CES-195, "Software Program Manual for Common Q Systems," Rev 01	Yes	Chapter 7 Table 1.6-1
WCAP-15927, "Design Process for AP1000 Common Q Safety Systems," Rev 0	Yes	Chapter 7 Table 1.6-1
Verification and Validation	Yes	7.1.2.14
Hard-wired DAS manual actuation	No	7.7.1.11
Nuclear Island Fire Areas	No	Figure 9A-1
Turbine Building Fire Areas	No	Figure 9A-2
Annex I & II Building Fire Areas	No	Figure 9A-3
Radwaste Building Fire Areas	No	Figure 9A-4
Diesel Generator Building Fire Areas	No	Figure 9A-5
Natural Circulation Test	First Plant Only	14.2.5
Description of "First Three Plant Tests"	Third Plant	14.2.5
Verification of proper operation of core makeup tanks in recirculation mode	Third Plant	14.2.9.1.3

Table 1-1 (Cont.)
Index of AP1000 Tier 2 Information Requiring NRC Approval for Change

Item	Expiration at First Full Power	Tier 2 Reference
Verification of automatic depressurization during hot functional testing	Third Plant	14.2.9.1.3
Verification of proper operation of core makeup tanks to transition to draindown mode	Third Plant	14.2.9.1.3
Passive Residual Heat Removal Heat Exchanger Natural Circulation Test	First Plant Only	14.2.10.3.7
First-Plant-Only and Three-Plant-Only Tests	As Discussed	14.4.6
10 CFR 50.46 Criteria for NOTRUMP Homogeneous Sensitivity Model	No	15.6.5.4B.2.2
10 CFR 50.46 Criteria for Critical Heat Flux Assessment	No	15.6.5.4B.2.3
WCAP-14396, "Man-in-the-Loop Test Plan Description," Rev 3	No	Table 1.6-1
WCAP-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Rev 2	No	Table 1.6-1
WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2	No	Table 1.6-1
WCAP-14695, "Description of the Westinghouse Operator Decision Making Model and Function Based Task Analysis Methodology," Rev 0	No	Table 1.6-1
WCAP-15847, "AP1000 Quality Assurance Procedures Supporting NRC review of AP1000 SSAR Sections 18.2 and 18.8," Rev 1	No	Table 1.6-1
Basis for Human Factors Engineering Program	No	18.1
NUREG-0711, "Human Factors Engineering Program Review Model," July 1994 WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2 WCAP-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Rev 2	No	18.1.1
NUREG-0711, "Human Factors Engineering Program Review Model," July 1994	No	18.2.1.2
Applicable Facilities	No	18.2.1.3
Applicable Human Systems Interfaces	No	18.2.1.4
Applicable Plant Personnel	No	18.2.1.5

Table 1-1 (Cont.)
Index of AP1000 Tier 2 Information Requiring NRC Approval for Change

Item	Expiration at First Full Power	Tier 2 Reference
Technical Basis NUREG-0711, "Human Factors Engineering Program Review Model," July 1994	No	18.2.1.6
Responsibility of Human System Interface Design Team	No	18.2.2.1
Composition of HFE Design Team	No	18.2.2.3
Action Item Tracking	No	18.2.3.1
Subcontractor Efforts WCAP-15847, "AP1000 Quality Assurance Procedures Supporting NRC review of AP1000 SSAR Sections 18.2 and 18.8," Rev 1	No	18.2.3.5
General Process and Procedures for Design Review of HFE Products	No	18.2.4
HFE Technical Program and Milestones NUREG-0711, "Human Factors Engineering Program Review Model," July 1994 NUREG-0711, "Human Factors Engineering Program Review Model," Rev 1	No	18.2.5
NUREG-0711, "Human Factors Engineering Program Review Model," July 1994 WCAP-15847, "AP1000 Quality Assurance Procedures Supporting NRC review of AP1000 SSAR Sections 18.2 and 18.8," Rev 1 NUREG-0711, "Human Factors Engineering Program Review Model," Rev 1	No	18.2.7
Human System Interface Design Team Process	No	Figure 18.2-1
AP600 Task Analysis Implementation Plan NUREG-0711, "Human Factors Engineering Program Review Model," July 1994	No	18.5
Task Analysis Scope WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2	No	18.5.1
Task Analysis Implementation Plan	No	18.5.2

Table 1-1 (Cont.)
Index of AP1000 Tier 2 Information Requiring NRC Approval for Change

Item	Expiration at First Full Power	Tier 2 Reference
Function-Based Task Analysis WCAP-14695, "Description of the Westinghouse Operator Decision Making Model and Function Based Task Analysis Methodology," Rev 0	No	18.5.2.1
NUREG-0711, "Human Factors Engineering Program Review Model," July 1994 WCAP-14695, "Description of the Westinghouse Operator Decision Making Model and Function Based Task Analysis Methodology," Rev 0 WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2	No	18.5.5
Integration of Human Reliability Analysis with HFE WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2	No	18.7
WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2	No	18.7.2
Human System Interface Design WCAP-14695, "Description of the Westinghouse Operator Decision Making Model and Function Based Task Analysis Methodology," Rev 0 WCAP-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Rev 2	No	18.8
Design Guidelines WCAP-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Rev 2	No	18.8.1.2
Man-in-the-Loop Test Plan to Obtain Feedback from Prototype Design Products WCAP-14396, "Man-in-the-Loop Test Plan Description," Rev 3	No	18.8.1.4
HSI Design Provides Necessary Alarms, Displays, and Controls WCAP-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Rev 2	No	18.8.1.7

Table 1-1 (Cont.)
Index of AP1000 Tier 2 Information Requiring NRC Approval for Change

Item	Expiration at First Full Power	Tier 2 Reference
Operator Decision-Making Model Used by Task Analysis Activities WCAP-14695, "Description of the Westinghouse Operator Decision Making Model and Function Based Task Analysis Methodology," Rev 0	No	18.8.1.8
Critical Human Actions and Risk-Important Tasks WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2	No	18.8.1.9
Safety Parameter Display System 10 CFR 50.34(f)(2)(iv) NUREG-0737, Supplement 1, "Requirements for Emergency Response Capability"	No	18.8.2
Implementation Plan for Integrating Human Reliability Analysis with HFE WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2	No	18.8.2.1
Display of Safety Parameters WCAP-14695, "Description of the Westinghouse Operator Decision Making Model and Function Based Task Analysis Methodology," Rev 0	No	18.8.2.2
Safety Parameter Display System HFE NUREG-0711, "Human Factors Engineering Program Review Model," July 1994	No	18.8.2.5
Minimum Information, Safety Parameter Display System Design NUREG-1342, "A Status Report Regarding Industry Implementation of Safety Parameter Display Systems"	No	18.8.2.6
Main Control Area Mission and Major Tasks Regulatory Guide 1.97	No	18.8.3.2
Remote Shutdown Workstation Mission and Major Tasks	No	18.8.3.4
Technical Support Center Mission and Major Tasks NUREG-0737, Supplement 1, "Requirements for Emergency Response Capability"	No	18.8.3.5

Table 1-1 (Cont.)
Index of AP1000 Tier 2 Information Requiring NRC Approval for Change

Item	Expiration at First Full Power	Tier 2 Reference
WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2 WCAP-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Rev 2 WCAP-14695, "Description of the Westinghouse Operator Decision Making Model and Function Based Task Analysis Methodology," Rev 0 10 CFR 50.34(f)(2)(iv) NUREG-0737, Supplement 1, "Requirements for Emergency Response Capability" NUREG-0711, "Human Factors Engineering Program Review Model," July 1994 NUREG-1342, "A Status Report Regarding Industry Implementation of Safety Parameter Display Systems" WCAP-14396, "Man-in-the-Loop Test Plan Description," Rev 3	No	18.8.6
Human Performance Issues to be Addressed by HSI Design	No	Table 18.8-1
Human Factors Engineering Verification and Validation WCAP-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Rev 2	No	18.11.2
Inventory of Displays, Alarms, and Controls	No	18.12.1
Implementation Process for Identification of Critical PRA Operator Actions WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2	No	18.12.2
Remote Shutdown Workstation Displays, Alarms, and Controls	No	18.12.3
WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2	No	18.12.5
Piping Design Analysis Criteria (DAC)	Yes	See DCD Intro, Table 1-2