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DESIGN CONTROL DOCUMENT INTRODUCTION

1.0 SCOPE AND PURPOSE OF THE DESIGN CONTROL DOCUMENT

This Design Control Document (DCD) is a repository of information comprising the AP1000™(*) Standard Plant Design. The design control document also provides that design-related information to be incorporated by reference into Appendix D to 10 CFR Part 52 (the AP1000 design certification rule).

Applicants for a combined license pursuant to 10 CFR 52 must ensure that Appendix D to 10 CFR Part 52 and the associated Statements of Consideration are used when making licensing decisions relevant to the AP1000 Standard Plant Design.

Further sections of this introduction summarize the contents and use of the design control document. The design control document contains this introduction, the Tier 1 Information and the Tier 2 Information for the AP1000 Standard Plant Design.

Detailed information on the application and use of the AP1000 design control document may be found in Appendix D to 10 CFR Part 52.

If there is a conflict between this introduction and the AP1000 design certification rule, the AP1000 design certification rule controls.

1.1 Tier 1 Information

Tier 1 means the portion of the design-related information contained in the AP1000 design control document that is approved and certified by the NRC. Tier 1 information includes:

- Definitions and general provisions;
- Design descriptions;
- Inspections, tests, analyses, and acceptance criteria (ITAAC);
- Significant site parameters; and
- Significant interface requirements between the AP1000 Standard Plant Design and systems that are wholly or partially outside the scope of the AP1000 Standard Plant Design

The Tier 1 Information includes a table of contents, a figure legend and an abbreviation list.

* AP1000 is a trademark of Westinghouse Electric Company LLC.

1.2 Tier 2 Information

Tier 2 means the portion of the design-related information contained in the AP1000 Design Control Document that is approved but not certified by the NRC. Tier 2 information includes:

- Information required by 10 CFR 52.47, with the exception of generic technical specifications and conceptual design information;
- Information required for a final safety analysis report under 10 CFR 50.34;
- Supporting information on the inspections, tests, and analyses that will be performed to demonstrate that the acceptance criteria in the ITAAC have been met; and
- Combined license (COL) information items which identify certain matters that shall be addressed in the site-specific portion of the final safety analysis report (FSAR) by an applicant who references the AP1000 design certification rule

Each volume of the Tier 2 Information includes a master table of contents and each chapter contains a chapter specific table of contents.

1.3 Relationship of the Tier 1 Information to the Tier 2 Information

The design descriptions, interface requirements, and site parameters in Tier 1 are derived from Tier 2 information.

Compliance with Tier 2 is required, but generic changes to and plant-specific departures from Tier 2 are governed by the AP1000 design certification rule. Compliance with Tier 2 provides a sufficient, but not the only acceptable, method for complying with Tier 1. Compliance methods differing from Tier 2 must satisfy the change process in Section VIII of the AP1000 design certification rule.

1.4 Uses of the Design Control Document

An applicant for a license that wishes to reference the AP1000 design certification rule shall, in addition to complying with the requirements of 10 CFR 52.77, 52.78, and 52.79, comply with the following requirements:

- Incorporate by reference, as part of its application, the AP1000 design certification rule;
- Include, as part of its application:
  - A plant-specific design control document containing the same information and utilizing the same organization and numbering as the generic design control document for the AP1000 Standard Plant Design, as modified and supplemented by the applicant's exemptions and departures;
  - The reports on departures from and updates to the plant-specific design control document required by Section X of the AP1000 design certification rule;

- Plant-specific technical specifications, consisting of the generic and site-specific technical specifications, that are required by 10 CFR 50.36 and 50.36a;
- Information demonstrating compliance with the site parameters and interface requirements;
- Information that addresses the COL information items; and
- Information required by 10 CFR 52.47(a) that is not within the scope of the AP1000 design certification rule.
- Physically include, in the plant-specific design control document, the proprietary information referenced in the AP1000 design control document.

The Commission reserves the right to determine in what manner the AP1000 design certification rule may be referenced by an applicant for a construction permit or operating license under 10 CFR Part 50.

2.0 EFFECT OF THE TIER 1 INFORMATION

The following provisions describe the scope and effect of the Tier 1 Information.

2.1 Compliance with Tier 1 Information

All of the information in the Tier 1 Information is approved by the NRC and is applicable to a license application for a license that references the AP1000 design certification rule, and is among the "matters resolved" under 10 CFR52.63 (a)(4). The provisions and methods specified in the Tier 1 Information shall be complied with unless a plant specific exemption is granted by the NRC or a change is made to the Tier 1 Information in accordance with the change process specified in Section VIII of the AP1000 design certification rule.

2.2 Design Descriptions

The Design Descriptions pertain only to the design of structures, systems and components of an AP1000 Standard Plant Design and not to their operation, maintenance and administration. In the event of an inconsistency between the Design Descriptions and the Tier 2 Information, the Design Descriptions shall govern.

2.3 Inspections, Tests, Analyses and Acceptance Criteria

An applicant or licensee who references the AP1000 design certification rule shall perform and demonstrate conformance with the ITAAC before fuel load. With respect to activities subject to an ITAAC, an applicant for a license may proceed at its own risk with design and procurement activities, and a licensee may proceed at its own risk with design, procurement, construction, and preoperational activities, even though the NRC may not have found that any particular ITAAC has been satisfied.

In the event that an activity is subject to an ITAAC, and the applicant or licensee who references the AP1000 design certification rule has not demonstrated that the ITAAC has been satisfied, the applicant or licensee may either take corrective actions to successfully complete that ITAAC, request an exemption from the ITAAC in accordance with Section VIII of the AP1000 design certification rule and 10 CFR 52.97(b), or petition for rulemaking to amend the AP1000 design certification rule by changing the requirements of the ITAAC, under 10 CFR 2.802 and 52.97(b).

In accordance with 10 CFR 52.99 and 52.103(g), the Commission shall find that the acceptance criteria in the ITAAC for the license are met before fuel load.

After the Commission has made the finding required by 10 CFR 52.103(g), the ITAAC do not, by virtue of their inclusion within the design control document, constitute regulatory requirements either for licensees or for renewal of the license; except for specific ITAAC, which are the subject of a Section 103(a) hearing, their expiration will occur upon final Commission action in such proceeding. However, subsequent modifications must comply with the Tier 1 and Tier 2 design descriptions in the plant-specific design control document unless the licensee has complied with the applicable requirements of 10 CFR 52.97 and Section VIII of the AP1000 design certification rule.

2.4 Tier 1 Site Parameters

Site parameters are specified in the Tier 1 Information to establish the bounding parameters to be used in the selection of a suitable site for the facility referencing the AP1000 certified design. Since the Tier 1 Information Site Parameters were used in the bounding evaluations of the certified design, they define the requirements for the design that must be met to ensure that a facility built on the site remains in conformance with the design certification. In the event that an inconsistency between the Tier 1 Information Site Parameters and the Tier 2 Information, the Tier 1 Information Site Parameters shall govern.

2.5 Tier 1 Interface Requirements

The Tier 1 Interface Requirements describe the significant design provisions for interfaces between the AP1000 Standard Plant Design and structures, systems and components that are wholly or partially outside the scope of the AP1000 Standard Plant Design. Tier 1 Interface Requirements also define the significant attributes and performance characteristics that the out-of-scope portion of the plant must have in order to support the in-scope portion of the design. The FSAR shall contain provisions which implement the Interface Requirements in accordance with 10 CFR 52.79(b). Any plant-specific application for a COL shall contain additional ITAAC corresponding to these implementing provisions. In the event of an inconsistency between the Tier 1 Interface Requirements and the Tier 2 Information, the Tier 1 Interface Requirements shall govern.

3.0 EFFECT OF THE TIER 2 INFORMATION

The following provisions describe the scope and effect of the Tier 2 Information.

3.1 Compliance with the Tier 2 Information

All of the information in the Tier 2 Information is approved by the NRC and, with the exceptions noted in Sections 3.2 and 3.4 below, is applicable to a license that references the AP1000 design certification rule and is among the "matters resolved" under 10 CFR 52.63(a)(4). Compliance with the Tier 2 Information is a sufficient, but not necessarily the only, method of complying with the Tier 1 Information. The provisions and methods specified in the Tier 2 Information shall be followed unless a change is made in accordance with Section VIII of the AP1000 design certification rule.

3.2 COL Information Items

Combined license (COL) information items identify certain matters that shall be addressed in the site-specific portion of the final safety analysis report (FSAR) by an applicant who references the AP1000 design certification rule. These items constitute information requirements but are not the only acceptable set of information in the FSAR. An applicant may depart from or omit these items, provided that the departure or omission is identified and justified in the FSAR. After issuance of a construction permit or COL, these items are not requirements for the licensee unless such items are restated in the FSAR.

A summary of the AP1000 COL Information Items is provided in Table 1.8-2 of the Tier 2 Information.

3.3 Tier 2 Interface Requirements

The Tier 2 Interface Requirements describe the design provisions for interfaces between the AP1000 Standard Plant Design and structures, systems and components that are wholly or partially outside the scope of the AP1000 Standard Plant Design. Tier 2 Interface Requirements, summarized in Table 1.8-1 of the Tier 2 Information, also define the attributes and performance characteristics that the out-of-scope portion of the plant must have in order to support the in-scope portion of the design. The FSAR shall contain provisions which implement the Tier 2 Interface Requirements in accordance with 10 CFR 52.79(b). In the event of an inconsistency between the Tier 1 Interface Requirements and the Tier 2 Interface Requirements, the Tier 1 Interface Requirements shall govern.

3.4 Conceptual Designs

Conceptual designs for those portions of the plant that are outside the scope of the AP1000 Standard Plant Design are described and designated as out-of-scope in various places in the Tier 2 Information. As provided by 10 CFR 52.47(a)(1)(ix), these conceptual designs are not a part of the design certification for the AP1000 Standard Plant Design and do not impose requirements applicable to a COL, nor an application for a COL, that references the AP1000 design certification rule. Those portions of the AP1000 Standard Plant Design for which conceptual designs are

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
Piping Modeling	Yes	3.6.2.1.1.1 3.6.2.1.1.2 3.6.2.1.1.3 3.9.1.2
Pipe Stress Analysis Criteria	Yes	3.6.2.2 3.6.3.3 3.9.3.1.2 3.9.3.1.5 3.9.3.3 Table 3.9-5 Table 3.9-6 Table 3.9-7 Table 3.9-8 Table 3.9-9 Table 3.9-10 Table 3.9-11
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
Nuclear Island Seismic Model	Yes	3.7.2.3.3
Composite Modal Damping Approach	Yes	3.7.2.14
ASME Class 1 Piping, Fatigue Evaluation	Yes	3.7.3.2
Equivalent Static Load Method	Yes	3.7.3.5
Distributed Mass with Dynamic Response Single Mode Dominant	Yes	3.7.3.5.1
Multiple Mode Dominant Response	Yes	3.7.3.5.2
Three Components of Earthquake Motion	Yes	3.7.3.6
High Frequency or Rigid Modes	Yes	3.7.3.7
Pipestress Left-Out-Force Method	Yes	3.7.3.7.1.1
GAPPIPE, High Frequency Responses	Yes	3.7.3.7.1.1
SRP Section 3.7.2 Use for Combination of High-Frequency Modes	Yes	3.7.3.7.1.2
Combination of Low-Frequency Modes	Yes	3.7.3.7.2

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

Item	Expiration at First Full Power	Tier 2 Reference
Analytical Procedure for Piping	Yes	3.7.3.8
Supporting Systems	Yes	3.7.3.8.1
Large-Diameter Auxiliary Piping	Yes	3.7.3.8.2.1
Small-Diameter Auxiliary Piping	Yes	3.7.3.8.2.2
Piping Systems on Modules	Yes	3.7.3.8.3
Piping Systems with Gapped Supports	Yes	3.7.3.8.4
Seismic Anchor Motions	Yes	3.7.3.9
Independent Support Response Spectrum Methods	Yes	3.7.3.9
Torsional Effects of Eccentric Masses	Yes	3.7.3.11
Buried Piping Systems and Tunnels	Yes	3.7.3.12
Interaction of Connected Systems with Seismic Category I Piping Interaction of Piping with Seismic Category I Piping Systems, Structures, and Components	Yes	3.7.3.13 3.7.3.13.4
Design Method of Piping to Prevent Adverse Spatial Interactions	Yes	3.7.3.13.4.1 3.7.3.13.4.2 3.7.3.13.4.3
Composite Modal Damping for Coupled Building and Piping Systems	Yes	3.7.3.15
Time History Analysis of Piping Systems	Yes	3.7.3.17
SSE Damping Valves	Yes	Table 3.7.1-1
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 for Containment Design	Yes	3.8.2.2
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 3.8.3.5 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

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

Item	Expiration at First Full Power	Tier 2 Reference
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 Steel Wall of IRWST Minimum Size of Angles and Channels Spacing of Faceplates, Trusses, Channels, and Headed Studs. Mechanical Connectors. Use of Anchors, Studs, and Bars. Spacing of Faceplates and Trusses.	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 3.8.3-7 Table 3.8.4-1 Figure 3.8.3-1 Figure 3.8.3-2 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 Design and Analysis Procedures Seismic Loads Bearing Pressure	Yes	3.8.4.5.4 Figure 3.8.4-2 Figure 3.8.4-4 3.8.5.4 Figure 3.8.5-3 Sh 1, 2, 5 of 7 App 3H.1 App 3H.2 App 3H.3 App 3H.3.1 App 3H.3.2 App 3H.3.3 App 3H.3.4 App 3H.4 App 3H.4.1 App 3H.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
Design Summary of Critical Sections Outside Containment (Cont.)		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 App 3H.5.6.4 App 3H.5.6.4.1 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 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

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.)		Figure 3H.5-12
Design Summary of Critical Sections for Nuclear Island Basemat	Yes	3.8.5.4.4 Table 3.8.5-3
Design Transients	Yes	3.9.1.1
Loads for Class I Components and Core/Component Supports	Yes	3.9.3.1.2
Use of Square-Root-Sum-of-the-Squares Method for SSE plus Pipe Rupture	Yes	3.9.3.1.3
Analysis of Reactor Coolant Loop Piping	Yes	3.9.3.1.4
Analysis Methods	Yes	3.9.1.3 3.9.3.1.5
ASME Classes 1, 2, and 3 Piping	Yes	3.9.3.1.5
Pipe Support Criteria	Yes	3.9.1.2 3.9.3.4 3.9.3.5
Design of Spring-Loaded Safety Valves	Yes	3.9.3.3.1
Design and Analysis Requirement for Open and Closed Discharge Systems	Yes	3.9.3.3.3
Component and Piping Supports for Dynamic Loading	Yes	3.9.3.4
Class 2 and Class 3 Component Supports	Yes	3.9.3.4.2
Piping System Seismic Stress Analysis	Yes	3.9.3.4.3
Design Report for ASME Classes 1, 2, and 3 Piping	Yes	3.9.8.2
Seismic Qualification Standards	Yes	3.10.1.1
Seismic Response Spectra	Yes	3G.4.3.3 Figure 3G.4-5 X Figure 3G.4-5Y, Figure 3G.4-5Z Figure 3G.4-6X Figure 3G.4-6Y Figure 3G.4-6Z Figure 3G.4-7X Figure 3G.4-7Y Figure 3G.4-7Z Figure 3G.4-8X Figure 3G.4-8Y Figure 3G.4-8Z Figure 3G.4-9X Figure 3G.4-9Y

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

Item	Expiration at First Full Power	Tier 2 Reference
Seismic Response Spectra (cont.)		Figure 3G.4-9Z Figure 3G.4-10X Figure 3G.4-10Y Figure 3G.4-10Z
Fuel Principal Design Requirements	No	4.1.1
WCAP-12488-P-A, "Fuel Criteria Evaluation Process" WCAP-14204-A, "Fuel Criteria Evaluation Process"	No	Table 1.6-1 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 4.4.8
Maximum Fuel Rod Average Burnup	No	4.3.1.1.1
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
ASME Code Piping Design Restrictions	Yes	5.2.1.1
Reactor Coolant Pump Design	No	5.4.1.2.1
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
ASME Code Cases	Yes	Table 5.2-3 Table 3.9-9 Table 3.9-10 5.2.1.2
WCAP-17201-P, "AC160 High Speed Link Communication Compliance to DI&C-ISG-04 Staff Position 9, 12, 13, and 15," Rev 0, February 2010	Yes	Table 1.6-1 7.1.7

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

Item	Expiration at First Full Power	Tier 2 Reference
WCAP-15927 (Non-Proprietary), "Design Process for AP1000 Common Q Safety Systems," Rev 2	Yes	Table 1.6-1 7.1.2.14.1 7.1.7
WCAP-14605, "Westinghouse Setpoint Methodology for Protection Systems, AP600," Rev 0	Yes	Table 1.6-1 7.1
WCAP-16097-P-A, "Common Qualified Platform," Rev 0	Yes	Table 1.6-1 7.1
WCAP-16096-NP-A, "Software Program Manual for Common Q Systems," Rev 01A	Yes	Table 1.6-1 7.1
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
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 18.8.1.4 18.8.6

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-15860, "Programmatic Level Description of the AP1000 Human Factors Verification and Validation Plan," Rev 2	No	Table 1.6-1 18.1 18.1.1 18.8 18.8.1.2 18.8.1.7 18.8.6 18.11.2
WCAP-14651, "Integration of Human Reliability Analysis with Human Factors Engineering Design Implementation Plan," Rev 2	No	Table 1.6-1 18.1 18.1.1 18.5.1 18.5.5 18.7 18.7.2 18.8.1.9 18.8.2.1 18.8.6 18.12.2 18.12.5
WCAP-14695, "Description of the Westinghouse Operator Decision Making Model and Function Based Task Analysis Methodology," Rev 0	No	Table 1.6-1 18.5.2.1 18.5.5 18.8 18.8.1.8 18.8.2.2 18.8.6
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 18.2.3.5 18.2.7
Basis for Human Factors Engineering Program	Yes	18.1
NUREG-0711, "Human Factors Engineering Program Review Model," July 1994	Yes	18.1 18.1.1 18.2.1.2 18.2.1.6 18.2.5 18.2.7 18.5 18.5.5 18.8.2.5 18.8.6

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

Item	Expiration at First Full Power	Tier 2 Reference
Applicable Facilities	Yes	18.2.1.3
Applicable Human Systems Interfaces	Yes	18.2.1.4
Applicable Plant Personnel	Yes	18.2.1.5
Technical Basis	Yes	18.2.1.6
Responsibility of Human System Interface Design Team	Yes	18.2.2.1
Composition of HFE Design Team	Yes	18.2.2.3
Action Item Tracking	Yes	18.2.3.1
Subcontractor Efforts	Yes	18.2.3.5
General Process and Procedures for Design Review of HFE Products	Yes	18.2.4
HFE Technical Program and Milestones	Yes	18.2.5
NUREG-0711, "Human Factors Engineering Program Review Model," Rev 1	No	18.2.5 18.2.7
Human System Interface Design Team Process	Yes	Figure 18.2-1
AP600 Task Analysis Implementation Plan	Yes	18.5
Task Analysis Scope	Yes	18.5.1
Task Analysis Implementation Plan	Yes	18.5.2
Function-Based Task Analysis	Yes	18.5.2.1
Integration of Human Reliability Analysis with HFE	Yes	18.7
Human System Interface Design	Yes	18.8
Design Guidelines	Yes	18.8.1.2
Man-in-the-Loop Test Plan to Obtain Feedback from Prototype Design Products	Yes	18.8.1.4
HSI Design Provides Necessary Alarms, Displays, and Controls	Yes	18.8.1.7
Operator Decision-Making Model Used by Task Analysis Activities	Yes	18.8.1.8
Critical Human Actions and Risk-Important Tasks	Yes	18.8.1.9
Safety Parameter Display System 10 CFR 50.34(f)(2)(iv)	Yes	18.8.2
NUREG-0737, Supplement 1, "Requirements for Emergency Response Capability"	Yes	18.8.2 18.8.3.5 18.8.6

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

Item	Expiration at First Full Power	Tier 2 Reference
Implementation Plan for Integrating Human Reliability Analysis with HFE	Yes	18.8.2.1
Display of Safety Parameters	Yes	18.8.2.2
Safety Parameter Display System HFE	Yes	18.8.2.5
Minimum Information, Safety Parameter Display System Design	Yes	18.8.2.6
NUREG-1342, "A Status Report Regarding Industry Implementation of Safety Parameter Display Systems"	Yes	18.8.2.6 18.8.6
Main Control Area Mission and Major Tasks Regulatory Guide 1.97	Yes	18.8.3.2
Remote Shutdown Workstation Mission and Major Tasks	Yes	18.8.3.4
Technical Support Center Habitability and Interfaces Technical Support Center Location TSC Interfaces	Yes	18.8.3.5
10 CFR 50.34(f)(2)(iv)	Yes	18.8.6
Human Performance Issues to be Addressed by HSI Design	Yes	Table 18.8-1
Human Factors Engineering Verification and Validation	Yes	18.11.2
APP-OCS-GEH-120, "AP1000 Human Factors Engineering Design Verification Plan," Rev B	Yes	18.11.2
APP-OCS-GEH-220, "AP1000 Human Factors Engineering Task Support Verification Plan," Rev B	Yes	18.11.2
APP-OCS-GEH-320, "AP1000 Human Factors Engineering Integrated System Validation Plan," Rev D	Yes	18.11.2
APP-OCS-GEH-420, "AP1000 Human Factors Engineering Discrepancy Resolution Process," Rev B	Yes	18.11.2
APP-OCS-GEH-520, "AP1000 Plant Startup Human Factors Engineering Verification Plan," Rev B	Yes	18.11.2
Inventory of Displays, Alarms, and Controls	Yes	18.12.1
Implementation Process for Identification of Critical PRA Operator Actions	Yes	18.12.2
Remote Shutdown Workstation Displays, Alarms, and Controls	Yes	18.12.3

Table 1-2 Not Used.