

## Table of Contents

1.1	Introduction
1.2	General Plant Description
1.3	Comparison Tables
1.4	Identification of Agents and Contractors
1.5	Requirements for Further Technical Information
1.6	GE Topical Reports and Other Documents
1.7	Drawings
1.8	Conformance with Standard Review Plan and Applicability of Codes and Standards
1.8S	Site Parameters, Interface Requirements, COL License Information Items, and Conceptual Design Information
1.9	COL License Information
1.9S	Conformance with Regulatory Criteria
1.10S	Impacts of Construction
1A	Response to TMI Related Matters
1AA	Plant Shielding to Provide Access to Vital Areas and Protective Safety Equipment for Post-Accident Operation [II.B.2]
1B	Not Used
1C	ABWR Station Blackout Considerations
2.0	Site Characteristics
2.1	Limits Imposed on SRP Section II Acceptance Criteria by ABWR Standard Plant
2.1S	Geography and Demography
2.2	Requirements for Determination of ABWR Site Acceptability
2.2S	Nearby Industrial, Transportation, and Military Facilities
2.3	COL License Information
2.3S Part A	Meteorology
2.3S Part B	Meteorology
2.3S Part C	Meteorology
2.4S.1	Hydrologic Description
2.4S.2	Floods
2.4S.3	Probable Maximum Flood (PMF) on Streams and Rivers
2.4S.4	Potential Dam Failures
2.4S.5	Probable Maximum Surge and Seiche Flooding
2.4S.6	Probable Maximum Tsunami
2.4S.7	Ice Effects
2.4S.8	Cooling Water Canals and Reservoirs
2.4S.9	Channel Diversions
2.4S.10	Flooding Protection Requirements

2.4S.11	Low Water Considerations
2.4S.12	Groundwater
2.4S.13	Accidental Releases of Radioactive Liquid Effluents in Ground and Surface Waters
2.4S.14	Technical Specifications and Emergency Operation Requirements
2.5S	Geology, Seismology, and Geotechnical Engineering
2.5S.1A	Basic Geologic and Seismic Information
2.5S.1B	Basic Geologic and Seismic Information
2.5S.1C	Basic Geologic and Seismic Information
2.5S.1D	Basic Geologic and Seismic Information
2.5S.1E	Basic Geologic and Seismic Information
2.5S.2	Vibratory Ground Motion
2.5S.3	Surface Faulting
2.5S.4	Stability of Subsurface Materials and Foundations
2.5S.5	Stability of Slopes
2A	Input to CRAC 2 Computer Code for Determination of ABWR Site Acceptability
3.1	Conformance with NRC General Design Criteria
3.2	Classification of Structures, Components, and Systems
3.3	Wind and Tornado Loadings
3.4	Water Level (Flood) Design
3.5	Missile Protection
3.6	Protection Against Dynamic Effects Associated with the Postulated Rupture of Piping
3.7	Seismic Design
3.8	Seismic Category I Structures
3.9	Mechanical Systems and Components
3.10	Seismic and Dynamic Qualification of Mechanical and Electrical Equipment
3.11	Environmental Qualification of Safety-Related Mechanical and Electrical Equipment
3.12	Tunnels
3.12S	Piping Design Review
3.13	Secondary Containment and Divisional Separation Zones – Barrier Considerations
3.13S	Threaded Fasteners - ASME Code Class 1, 2, and 3
3A	Seismic Soil Structure Interaction Analysis
3B	Containment Hydrodynamic Loads
3C	Computer Programs Used in the Design and Analysis of Seismic Category I Structures
3D	Computer Programs Used in the Design of Components, Equipment and Structures
3E	Guidelines for LBB Application
3F	Not Used
3G	Response of Structures to Containment Loads
3H	Details and Evaluation Results of Seismic Category 1 Structures
3I	Equipment Qualification Environmental Design Criteria

3J	Not Used
3K	Designated NEDE-24326-1-P Material Which May Not Change Without Prior NRC Staff Approval
3L	Evaluation of Postulated Ruptures in High Energy Pipes
3M	Resolution Of Intersystem Loss Of Coolant Accident For ABWR
3MA	System Evaluation for ISLOCA
4.0	Reactor
4.1	Summary Description
4.2	Fuel System Design
4.3	Nuclear Design
4.4	Thermal-Hydraulic Design
4.5	Reactor Materials
4.6	Functional Design of Reactivity Control System
4A	Typical Control Rod Patterns and Associated Power Distribution for ABWR
4B	Fuel Licensing Acceptance Criteria
4C	Control Rod Licensing Acceptance Criteria
4D	Reference Fuel Design Compliance with Acceptance Criteria
5.0	Reactor Coolant System and Connection Systems
5.1	Summary Description
5.2	Integrity of Reactor Coolant Pressure Boundary
5.3	Reactor Vessel
5.4	Component and Subsystem Design
5A	Method Of Compliance For Regulatory Guide 1.150
5B	RHR Injection Flow And Heat Capacity Analysis Outlines
6.0	General
6.1	Engineered Safety Feature Materials
6.2	Containment Systems
6.3	Emergency Core Cooling Systems
6.4	Habitability Systems
6.5	Fission Products Removal and Control Systems
6.6	Preservice and Inservice Inspection and Testing of Class 2 and 3 Components and Piping
6.7	High Pressure Nitrogen Gas Supply System
6A	Regulatory Guide 1.52, Section C, Compliance Assessment
6B	SRP 6.5.1, Table 6.5.1-1 Compliance Assessment
6C	Containment Debris Protection for ECCS Strainers
6D	HPCF Analysis Outlines
6E	Additional Bypass Leakage Considerations
7.0	Instrumentation and Control Systems
7.1	Introduction

7.2	Reactor Protection (Trip) System (RPS)—Instrumentation and Controls
7.3	Engineered Safety Feature Systems, Instrumentation and Control
7.4	Systems Required for Safe Shutdown
7.5	Information Systems Important to Safety
7.6	All Other Instrumentation Systems Required for Safety
7.6S	Interlock Systems Important to Safety
7.7	Control Systems Not Required for Safety
7.8	COL License Information
7.8S	Diverse Instrumentation and Control Systems
7.9S	Data Communication Systems
7A	Design Response to Appendix B, ABWR LRB Instrumentation and Controls
7B	Implementation Requirements for Hardware/Software Development
7C	Defense Against Common-Mode Failure in Safety-Related, Software-Based I&C Systems
8.0	Electric Power
8.1	Introduction
8.2	Offsite Power Systems
8.3	Onsite Power Systems
8.4S	Station Blackout
8A	Miscellaneous Electrical Systems
9.0	Auxiliary Systems
9.1	Fuel Storage and Handling
9.2	Water Systems
9.3	Process Auxiliaries
9.4	Air Conditioning, Heating, Cooling and Ventilating Systems
9.5	Other Auxiliary Systems
9A	Fire Hazards Analysis
9B	Summary of Analysis Supporting Fire Protection Design Requirements
9C	Regulatory Guide 1.52, Section C, Compliance Assessment
9D	SRP 6.5.1, Table 6.5.1-1 Compliance Assessment
9E	Fire Related Administrative Controls
10.0	Steam and Power Conversion Systems
10.1	Summary Description
10.2	Turbine Generator
10.3	Main Steam Supply System
10.4	Other Features of Steam and Power Conversion
11.0	Radioactive Waste Management
11.1	Source Terms
11.2	Liquid Waste Management System
11.3	Gaseous Waste Management System

11.4	Solid Waste Management System
11.5	Process and Effluent Radiological Monitoring and Sampling Systems
11.6	Offsite Radiological Monitoring Program
11A	Radioactive Waste Management - Additional Information
12.0	Radiation Protection
12.1	Ensuring that Occupational Radiation Exposures are ALARA
12.2	Radiation Sources
12.3	Radiation Protection Design Features
12.4	Dose Assessment
12.5	Health Physics Program
12.5S	Operational Radiation Protection Program
12A	Appendix 12A Calculation of Airborne Radionuclides
13.0	Conduct of Operations
13.1	Organizational Structure of Applicant
13.2	Training
13.3	Emergency Planning
13.4	Review and Audit
13.4S	Operational Program Implementation
13.5	Plant Procedures
13.6	Physical Security
13.7	Fitness For Duty
14.0	Initial Test Program
14.1	Specific Information to be Included in Preliminary Safety Analysis Reports
14.1S	Specific Information to be Addressed For the Initial Plant Test Program
14.2	Specific Information to be Included in Final Safety Analysis Reports
14.2S	Initial Plant Test Program
14.3	Tier 1 Selection Criteria and Processes
14.3S	Inspections, Tests, Analyses and Acceptance Criteria (ITAAC)
15.0	Accident and Analysis
15.1	Decrease in Reactor Coolant Temperature
15.1S	Transient and Accident Classification
15.2	Increase in Reactor Pressure
15.3	Decrease in Reactor Coolant System Flow Rate
15.4	Reactivity and Power Distribution Anomalies
15.5	Increase in Reactor Coolant Inventory
15.6	Decrease in Reactor Coolant Inventory
15.7	Radioactive Release from Subsystems and Components
15.8	Anticipated Transients Without Scram
15A	Plant Nuclear Safety Operational Analysis (NSOA)

15B	Failure Modes and Effects Analysis (FMEA)
15C	Not Used
15D	Probability Analysis of Pressure Regulator Downscale Failure
15E	ATWS Performance Evaluation
15F	LOCA Inventory Curves
16.0	Technical Specifications
16.1	Use and Application
16.2	Safety Limits
16.3	Limiting Condition for Operation (LCO) Applicability
16.4	Design Features
16.5	Administrative Controls
17.0	Introduction
17.1	Quality Assurance During Design and Construction
17.2	Quality Assurance During the Operations Phase
17.3	Reliability Assurance Program During Design Phase
17.4S	Reliability Assurance Program
17.5S	Quality Assurance Program Guidance
17.6S	Maintenance Rule Program
18.0	Human Factors Engineering
18.1	Introduction
18.2	Design Goals and Design Bases
18.2	Planning, Development, and Design
18.4	Control Room Standard Design Features
18.5	Remote Shutdown System
18.6	Systems Integration
18.7	Detailed Design of the Operator Interface System
18.8	COL License Information
18A	Emergency Procedure Guidelines
18B	Differences Between BWROG EPG Revision 4 and ABWR EPG
18C	Operator Interface Equipment Characterization
18D	Emergency Procedures Guidelines—Input Data and Calculation Results
18E	ABWR Human-System Interface Design Implementation Process
18F	Emergency Operation Information and Controls
18G	Design Development and Validation Testing
18H	Supporting Analysis for Emergency Operation Information and Controls
19.0	Response to Severe Accident Policy Statement
19.1	Purpose and Summary
19.1S	Additional Information to Support the COL Application
19.2	Introduction

19.3	Internal Event Analysis
19.4	External Event Analysis and Shutdown Risk Analysis
19.4S	PRA Maintenance
19.5	Source Term Sensitivity Studies
19.6	Measurement Against Goals
19.7	PRA as a Design Tool
19.8	Important Features Identified by the ABWR PRA
19.9	COL License Information
19.10	Assumptions and Insights Related to Systems Outside of ABWR Design Certification
19.11	Human Action Overview
19.12	Input to the Reliability Assurance Program
19.13	Summary of Insights Gained from the PRA
19A	Response to CP/ML Rule 10 CFR 50.34(f)
19B	Resolution of Applicable Unresolved Safety Issues and Generic Safety Issues
19C	Design Considerations Reducing Sabotage Risk
19D	Probabilistic Evaluations
19E	Deterministic Evaluations
19EA	Direct Containment Heating
19EB	Fuel Coolant Interactions
19EC	Debris Coolability and Core Concrete Interaction
19ED	Corium Shield
19EE	Suppression Pool Bypass
19F	Containment Ultimate Strength
19FA	Containment Ultimate Strength
19G	Not Used
19H	Seismic Capacity Analysis
19I	Seismic Margins Analysis
19J	Not Used
19K	PRA-Based Reliability and Maintenance
19L	ABWR Shutdown Risk Evaluation
19M	Fire Protection Probabilistic Risk Assessment
19N	Analysis of Common-Cause Failure of Essential Communications Equipment
19O	Not Used
19P	Evaluation of Potential Modifications to the ABWR Design
19Q	ABWR Shutdown Risk Assessment
19QA	Fault Trees
19QB	DHR Reliability Study
19QC	Review of Significant Shutdown Events: Electrical Power and Decay Heat Removal
19R	Probabilistic Flooding Analysis

20	Not Used
21	Engineering Drawings