FINAL SAFETY ANALYSIS REPORT

CHAPTER 1

INTRODUCTION AND GENERAL DESCRIPTION OF THE PLANT

1.0 INTRODUCTION AND GENERAL DESCRIPTION OF THE PLANT

This chapter of the U.S. EPR Final Safety Analysis Report (FSAR) is incorporated by reference with supplements as identified in the following sections.

1.1 INTRODUCTION

This section of the U.S. EPR FSAR is incorporated by reference with the following supplements.

This Final Safety Analysis Report is submitted to the Nuclear Regulatory Commission as part of an application for a Class 103 combined license (COL) to construct and operate a nuclear power facility under the provisions of 10 CFR 52, Subpart C. {This FSAR is also being submitted to the Nuclear Regulatory Commission to support the necessary Materials Licenses requested in the COL Application Letter (UNE, 2008) to receive, possess and use byproduct, source and special nuclear material under 10 CFR 30, 10 CFR 40 and 10 CFR 70, respectively.}This nuclear power facility is designated {Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3.}This FSAR incorporates the FSAR prepared for the design certification application for the AREVA evolutionary pressurized water reactor, (herein referred to as the U.S. EPR). AREVA NP, the entity sponsoring the design certification application for the U.S. EPR, submitted a revised U.S. EPR design certification application to the NRC on August 31, 2010 (AREVA, 2010).

Upon approval and issuance of the design certification for the U.S. EPR, the approved version of the FSAR for the U.S. EPR and the associated Appendix to 10 CFR 52 documenting the design certification for the U.S. EPR are incorporated by reference into this COL application. Within each section, or subsection, only supplemental information or departures from the certified design are presented. If the U.S. EPR provides sufficient information, this FSAR will state "This section of the U.S. EPR FSAR is incorporated by reference" at the section (i.e. X.Y) level and "No departures or supplements" at the highest subsection level where such a statement can be made. Likewise, if a section contains additional information, a statement is provided at the section level to identify if departures or supplements are provided. Section and subsection numbering is only provided to the extent necessary to provide sufficient context to correlate the information provided in this FSAR with the information provided in the U.S. EPR FSAR.

Supplemental information is provided in three forms. Additional information, such as this text, is provided in the appropriate section. The second form is COL Item responses. COL Items are statements in the U.S. EPR FSAR that indicate that the COL applicant must provide additional information. Each applicable COL Item is restated in the equivalent section/subsection in this FSAR and information to address the COL Item is provided. The final type of supplemental information provided in this FSAR is to address conceptual design information provided in the U.S. EPR FSAR. Conceptual design information is presented in the U.S. EPR FSAR enclosed in double brackets "[[ ]]". As stated in the U.S. EPR FSAR, the conceptual design information is outside the scope of the U.S. EPR standard design, and is not submitted for certification as part of that document. Like COL Items, the conceptual design information is restated in this FSAR followed by the site specific information.

Departures from the U.S. EPR FSAR are identified in the applicable sections of the COL Application.

{U.S. EPR nuclear power plants that are licensed, constructed, and operated in cooperation with UniStar Nuclear Operating Services LLC (UniStar Nuclear Operating Services) are standardized to the extent practical. This allows for a standardized FSAR. Information that is unique to {CCNPP Unit 3} is enclosed in braces "{ }". Information not enclosed in braces is generic for all UniStar Nuclear Operating Services facilities. Minor changes are made within the generic text that are not identified as site specific. These includes figure and table numbers, which are organized sequentially within sections, and minor grammatical changes necessary to support introduction of site specific text.}

The U.S. EPR FSAR includes the following COL Item in Section 1.1:

> A combined license (COL) applicant that references the U.S. EPR design certification and proposes a multi-unit license application will provide the changes and additional information needed to license a multi-unit plant.

This COL Item is addressed as follows:

{This COL application is for a single unit U.S. EPR. As such, no changes or additional information are needed to address this COL Item.}

1.1.1 Plant Location

The U.S. EPR FSAR includes the following COL Item in Section 1.1.1:

> A COL applicant that references the U.S. EPR design certification will identify the specific plant site location.

This COL Item is addressed as follows:

{CCNPP Unit 3 is co-located with two currently licensed reactors (CCNPP Units 1 and 2). CCNPP Unit 3 is located south of the existing nuclear power plant on the existing CCNPP site. The CCNPP site consists of 2070 acres (838 hectares) in Calvert County, Maryland, on the west bank of Chesapeake Bay, approximately halfway between the mouth of the bay and its headwaters at the Susquehanna River. As reflected in Figure 2.1-1, CCNPP Unit 3 is within the CCNPP Units 1 and 2 Exclusion Area Boundary and the CCNPP Units 1 and 2 Independent Spent Fuel Storage Installation Exclusion Area Boundary. The site is approximately 40 mi (64 km) southeast of Washington D.C. and 7.5 mi (12 km) north of Solomons Island, Maryland. Figure 1.1-1 through Figure 1.1-3 illustrate the location of the site, and the arrangement of the three units.

CCNPP Unit 3 shares the following structures, systems, and components with CCNPP Units 1 and 2:

- Offsite transmission system
- Chesapeake Bay intake channel and embayment
- Meteorological tower
- Emergency Operations Facility (EOF)
- Barge dock

In accordance with 10 CFR 52.79(a)(31) (CFR, 2008), the following provides an assessment of the potential hazards to the structures, systems, and components (SSCs) important to safety of operating units resulting from construction activities at a multi-unit site and identifies that managerial and administrative controls are to be used to provide assurance that the limiting conditions for operation (LCOs) at the operating units, are not exceeded as a result of new plant construction activities.

The managerial and administrative controls include coordination, with CCNPP Units 1 and 2, of construction activities which have the potential for causing CCNPP Units 1 and 2 to exceed LCOs or have an adverse impact on the availability of safety and risk significant SSCs. CCNPP

Units 1 and 2 procedures and processes are currently in place to control activities that could affect compliance with an LCO or availability of safety and risk significant SSCs, e.g., equipment clearance and tagout procedures, access controls, and switchyard controls.

The potential hazards associated with CCNPP Unit 3 construction activities include, but are not limited to general construction activities such as site exploration, grading, clearing, and installation of drainage and erosion-control measures; boring, drilling, dredging, pile driving and excavating; transportation, storage and warehousing of equipment; construction, erection, and fabrication of new facilities; and connection, integration, and testing. Specific potential impacts to CCNPP Units 1 and 2 SSCs include the following:

- Relocation and construction of transmission lines/towers
- Construction of Sheetpile wall and Intake Pipes on the shore of the Chesapeake Bay next to the embayment for the intake structures for CCNPP Units 1 and 2
- Meteorological data transmission modifications (electrical and instrumentation tie-ins and connections to provide input to CCNPP Unit 3 facilities)
- Modification to the existing Emergency Operations Facility to accommodate CCNPP Unit 3 Emergency Planning activities

The majority of the CCNPP Units 1 and 2 SSCs important to safety are contained and protected within safety-related structures. Managerial controls will protect these internal SSCs from postulated construction hazards by maintaining the integrity and design basis of the safety-related structures and foundations. Heavy load drop controls, crane boom failure standoff requirements, ground vibration controls and construction generated missiles controls are examples of managerial controls that shall be established to provide this reasonable assurance.

Other managerial controls shall be established to ensure that hazardous materials and gasses are controlled, cooling water supplies are protected, instrumentation is protected from vibrations, and the SSCs are protected from site excavation issues. These managerial controls prevent or mitigate external construction impacts that could affect these SSCs. These controls also prevent or mitigate unnecessary challenges to CCNPP Units 1 and 2 safety systems that could be caused by potential CCNPP Unit 3 construction activity hazards, such as disruption of offsite transmission lines or impact to cooling water supplies. Onsite construction activities with potential safety significance to the operating units shall also be addressed in accordance with established CCNPP Unit 1 and 2 procedures and processes, as described above.

Construction impacts on security controls are addressed in the CCNPP Unit 3 Security Plan. The CCNPP Unit 3 Security Plan is provided in Part 8 of the COL application.}

Additional site details are provided in Chapter 2.

1.1.2 Containment Type

No departures or supplements.

1.1.3 Reactor Type

No departures or supplements.

1.1.4 Power Output

No departures or supplements.

1.1.5 Schedule

The U.S. EPR FSAR includes the following COL Item in Section 1.1.5:

> A COL applicant that references the U.S. EPR design certification will provide the estimated schedules for completion of construction and commercial operation.

This COL Item is addressed as follows:

{The following major activities are scheduled*:

Order Ultra Heavy Forgings for Reactor Vessel and NSSS Components	April 2006 (complete)
Submit Environmental Report for CCNPP Unit 3	July 2007 (complete)
Submit Certificate of Public Convenience and Necessity (CPCN) Application to the State of Maryland	November 2007 (complete)
Submit Design Certification Application for the U.S. EPR	December 2007 (complete)
Submit Remainder of COL Application for CCNPP Unit 3	March 2008 (complete)
State of Maryland Issues CPCN for CCNPP Unit 3	December 2008
NRC Issues Design Certification for U.S. EPR	October 2010
NRC Issues COL	March 2011
Plant Construction Starts	April 2011
Construction Complete	July 2015
Plant Startup Testing Begins	July 2015
Commercial Operation	December 2015}
* dates are provided as representative projections	

1.1.6 Format and Content

1.1.6.1 Regulatory Guide 1.206

This FSAR follows the U.S. EPR FSAR organization and numbering. The U.S. EPR FSAR was written in accordance with the format and content of Regulatory Guide 1.206, (NRC, 2007). This FSAR provides departures and supplemental information from the standard U.S. EPR design that is unique to the {CCNPP Unit 3} project. If the information provided in the U.S. EPR FSAR sufficiently addresses the Regulatory Guide 1.206 content for {CCNPP Unit 3}, this FSAR will state "No departures or supplements" at the highest section level where such a statement can be made.

In addition, this FSAR may add a final section or subsection (when necessary) for references made within this document. References will be provided if they are used in this FSAR even if they were identified within the U.S. EPR FSAR.

1.1.6.2 Standard Review Plan

No departures or supplements.

1.1.6.3 Text, Tables and Figures

Tables and figures are identified by the section or subsection in which they appear and are numbered sequentially. For example, Table 1.1-1 and Figure 1.1-1 would be the first table and figure appearing in Section 1.1. Figures consist of diagrams, plots, pictures, graphs or other illustrations. Tables and figures are located at the end of the applicable section (X.Y) immediately following the text.

1.1.6.4 Numbering of Pages

Pages are numbered sequentially within each chapter.

1.1.6.5 Proprietary Information

This document contains no proprietary information.

1.1.6.6 Acronyms

Table 1.1-1 provides a list of acronyms that are used in this document.

1.1.6.7 COL Information Items

The COL Items in the U.S. EPR FSAR are discussed in Section 1.8.

1.1.6.8 Tense

This section is added as a supplement to the U.S. EPR FSAR.

This FSAR is a licensing basis document that will control plant design and operations after the COL is issued and is generally written in the present tense. Plant design and configuration are described in the present tense although the plant is not yet built. Similarly, programs, procedures, and organizational matters are generally described in the present tense although such descriptions may not yet be implemented. Accordingly, the use of the present tense in this FSAR should be understood as describing the plant, programs and procedures, and organization as they will exist when in place, and not as a representation that they are already in place.

1.1.7 References

{This section is added as a supplement to the U.S. EPR FSAR.

AREVA, 2010. Submittal of Revision 2 of the U.S. EPR Final Safety Analysis Report for Design Certification, S. Sloan letter to U. S. Nuclear Regulatory Commission Document Desk, dated August 31, 2010.

CFR, 2008. Title 10, Code of Federal Regulations, Part 52.79, Contents of Applications; Technical Information in Final Safety Analysis Report, U.S. Nuclear Regulatory Commission, 2008.

NRC, 2007. Combined License Applications for Nuclear Power Plants (LWR Edition), Regulatory Guide 1.206, Revision 0, U.S. Nuclear Regulatory Commission, March 2007.

UNE, 2008. UniStar Nuclear Energy Letter, G. Gibson to U.S. Nuclear Regulatory Commission, UN#08-003, Submittal of Revision 2 to the Partial Combined License Application for the Calvert Cliffs Nuclear Power Plant, Unit 3, dated March 14, 2008.}

Table 1.1-1— {Acronyms Used in this Document}
(Page 1 of 6)

Acronym	Description
χ/Q	Atmospheric Dispersion Value
A/E	Architect – Engineer
AASHTO	American Association of State Highway and Transportation Officials
AB	Access Building
ACI	American Concrete Institute
AFDD	Accumulated Freezing Degree-Days
ALOHA	Areal Locations of Hazardous Atmospheres
ANS	American Nuclear Society
ANSI	American National Standards Institute
ANSS	Advanced National Seismic Network
AOV	Air-Operated Valve
AQCR	Air Quality Control Region
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
AWWA	American Water Works Association
BE	Best Estimate
BF	Butterfly Valve
BGE	Baltimore Gas and Electric
BMA	Brunswick Magnetic Anomaly
BWI	Baltimore/Washington International
C/NM	Consumable/Non-Metallic
CAM	Continuous Air Monitor
CBBT	Chesapeake Bay Bridge Tunnel
CBIS	Common Basemat Intake Structures
CCNPP	Calvert Cliffs Nuclear Power Plant
CD	Certified Design
CEUS	Central and Eastern United States
CLSZ	Charlevoix-La Malbaie Seismic Zone
CK	Check Valve
CPCN	Certificate of Public Convenience and Necessity
CPT	Cone Penetrometer Test
CR	Control Room
CRE	Control Room Envelope
CRR	Cyclic Resistance Ratio
CSDRS	Certified Seismic Design Response Spectra
CSR	Cyclic Stress Ratio
CTI	Cooling Tower Institute
CVSZ	Central Virginia Seismic Zone
D.C.	District of Columbia

Table 1.1-1— {Acronyms Used in this Document}
(Page 2 of 6)

Acronym	Description
D/Q	Deposition Factor
DAC	Derived Air Concentration
DC	Direct Current
DCPLNG	Dominion Cove Point Liquefied Natural Gas
DI	Diaphragm Valve
DNAG	Decade of North American Geology
DOE	Department of Energy
DOT	Department of Transportation
EC	Erosion/Corrosion
ECFS	East Coast Fault System
ECL	Effluent Concentration Limits
ECMA	East Coast Magnetic Anomaly
EMC	Electromagnetic Compatibility
EPA	Environmental Protection Agency
EPIX	Equipment Performance and Information Exchange
EPR	Evolutionary Power Reactor
EQ	Environmental Qualification
ER	Environmental Report or Electrical Resistivity
ERC	Estuarine Research Center
ES	Engineered Safeguards
ESP	Early Site Permit
EST	Earth Science Team
ESWB	Essential Service Water Building
ETR	Energy Transfer Ratio
FERC	Federal Energy Regulatory Commission
FFD	Fitness for Duty
FHA	Fire Hazards Analysis
FIRS	Foundation Input Response Spectra
FOS	Factor of Safety
FPE	Fire Protection Engineer
GB	Globe Valve
GMRS	Ground Motion Response Spectra
GSA	Geological Society of America
GT	Gate Valve
HF	High Frequency
HMR	Hydrometeorological Report
HO	Hydraulic Operated
HPS	Health Physics Society
ICEA	Insulated Cable Engineers Association

Table 1.1-1— {Acronyms Used in this Document}
(Page 3 of 6)

Acronym	Description
ICRP	International Commission on Radiological Protection
ID	Identification
IDLH	Immediately Dangerous to Life and Health
IRC	Independent Review Committee
ISFSI	Independent Spent Fuel Storage Installation
JFD	Joint Frequency Distribution
JPM	Job Performance Measures
KKS	Kraftworks Kennzeichen System
LB	Lower Bound
LERF	Large Early Release Frequency
LF	Low Frequency
LFL	Lower Flammability Limit
LiDAR	Light Detection and Ranging
LLC	Limited Liability Company
LNG	Liquefied Natural Gas
LPS	Layer Parallel Shortening
LSS	Low Safety Significance
LSZ	Lancaster Seismic Zone
MA	Manual Actuated
MD	Maryland
MDE	Maryland Department of Environment
MDNR	Maryland Department of Natural Resources
MED	Master Equipment Database
MMBO	Million Barrels of Oil
MEDEVAC	Medical Evacuation
MEOW	Maximum Envelopes of Water
MGS	Maryland Geological Survey
MHHW	Mean Higher High Water
MLLW	Mean Lower Low-Water
MLW	Mean Low Water
MMI	Modified Mercalli Intensity
MOM	Maximum of the MEOWS
MPSSZ	Middleton Place-Summerville Seismic Zone
MRFF	Maintenance Rule Functional Failure
MSL	Mean Sea Level
MSS	Medium Safety Significance
NAAQS	National Ambient Air Quality Standards
NAS	Naval Air Station
NEC	National Electrical Code

Table 1.1-1— {Acronyms Used in this Document}
(Page 4 of 6)

Acronym	Description
NEI	Nuclear Energy Institute
NERC	North American Electric Reliability Corporation
NGVD 29	National Geodetic Vertical Datum of 1929
NHC	National Hurricane Center
NIC	National Ice Center
NIOSH	National Institute for Occupational Safety and Health
NJ	New Jersey
NLSWE	Nonlinear Shallow Water Equations
NOAA	National Oceanic and Atmospheric Administration
NP	Non-Proprietary
NPDES	National Pollution Discharge Elimination System
NPRDS	Nuclear Plant Reliability Data System
NRC	Nuclear Regulatory Commission
NRCS	U.S. National Resources Conservation Service
NWS	National Weather Service
NYAL	New York – Alabama Lineament
OBE	Operating Basis Earthquake
OCR	Over Consolidation Ratio
ODCM	Offsite Dose Calculation Manual
OJT	On-the-Job Training
OSHA	Occupational Safety and Health Administration
P	Proprietary
PA	Pilot Actuated
PCP	Process Control Program
PEPCO	Potomac Electric Power Company
PGA	Peak Ground Acceleration
PJM	Pennsylvania, New Jersey, and Maryland Regional Transmission Organization
PL	Plug Valve
PMH	Probable Maximum Hurricane
PMSS	Probable Maximum Storm Surge
PMT	Probable Maximum Tsunami
PMWP	Probable Maximum Winter Precipitation
PPRP	Power Plant Research Program
PSAR	Preliminary Safety Analysis Report
PSHA	Probabilistic Seismic Hazard Analysis
PSP	Physical Security Plan
PST	Pre-Service Testing
PTS	Pressurized Thermal Shock
QAPD	Quality Assurance Program Description

Table 1.1-1— {Acronyms Used in this Document}
(Page 5 of 6)

Acronym	Description
QC	Quality Control
RCA	Radiologically Controlled Area
RCTS	Resonant Column Torsional Shear
RD	Rupture Disk Valve
REMP	Radiological Environmental Monitoring Program
RETS	Radiological Effluent Technical Specifications
RMS	Records Management System
RSZ	Ramapo Seismic Zone
RV	Relief Valve
RVT	Random Vibration Theory
SA	Self Actuated
SAR	Safety Analysis Report
SARA	Superfund Amendments and Reauthorization Act
SCDOT	South Carolina Department of Transportation
SCR	Stable Continental Region
SDWIS	Safe Drinking Water Information System
SECPOP	Sector Population Land Fraction, and Economic Estimation Program
SEUSSN	Southeastern U.S. Seismic Network
SGA	Salisbury Geophysical Anomaly
SLOSH	Sea, Lake, and Overland Surges from Hurricanes
SOV	Solenoid-Operated Valve
SPH	Standard Project Hurricane
SPT	Standard Penetration Test
SSE	Safe Shutdown Earthquake
SSI	Soil-Structure Interaction
SSSI	Structure-Soil-Sturcture Interaction
STEL	Short-Term Exposure Limit
TEDE	Total Effective Dose Equivalent
TIP	Trial Implementation Project
TLD	Thermoluminescent Dosimeter
TNT	Trinitrotoluene
TOC	Top of Concrete
TRT	Test Review Team
TSU	Tsunami Model
TWA	Time Weighted Average
UB	Upper Bound
UCSS	Updated Charleston Seismic Source
UFL	Upper Flammability Limit
UFSAR	Updated Final Safety Analysis Report

Table 1.1-1— {Acronyms Used in this Document}
(Page 6 of 6)

Acronym	Description
UHS	Uniform Hazard Spectra or Ultimate Heat Sink
UHS MWIS	Ultimate Heat Sink Makeup Water Intake Structure
USACE	U.S. Army Corps of Engineers
USCG	United States Coast Guard
USCS	Unified Sort Classification System
USGS	U.S. Geological Survey
USNSN	U.S. National Seismograph Network
VA	Virginia
Vp	Compressional Wave Velocity
Vs	Shear-Wave Velocity
WOH	Weight of Hammer
WOR	Weight of Rod
WUS	Western United States

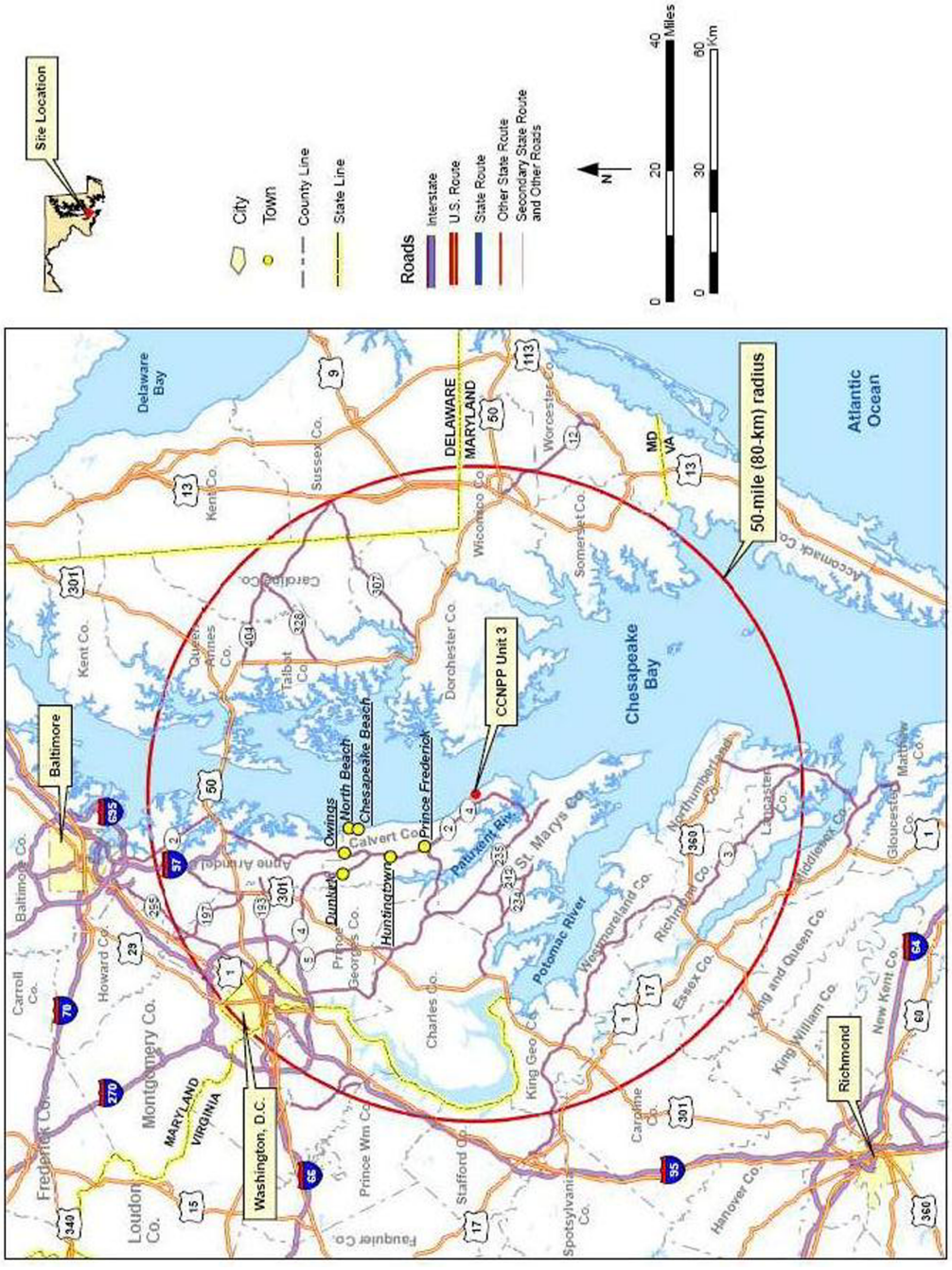


Figure 1.1-1— {50 mi (80 km) Surrounding Area}

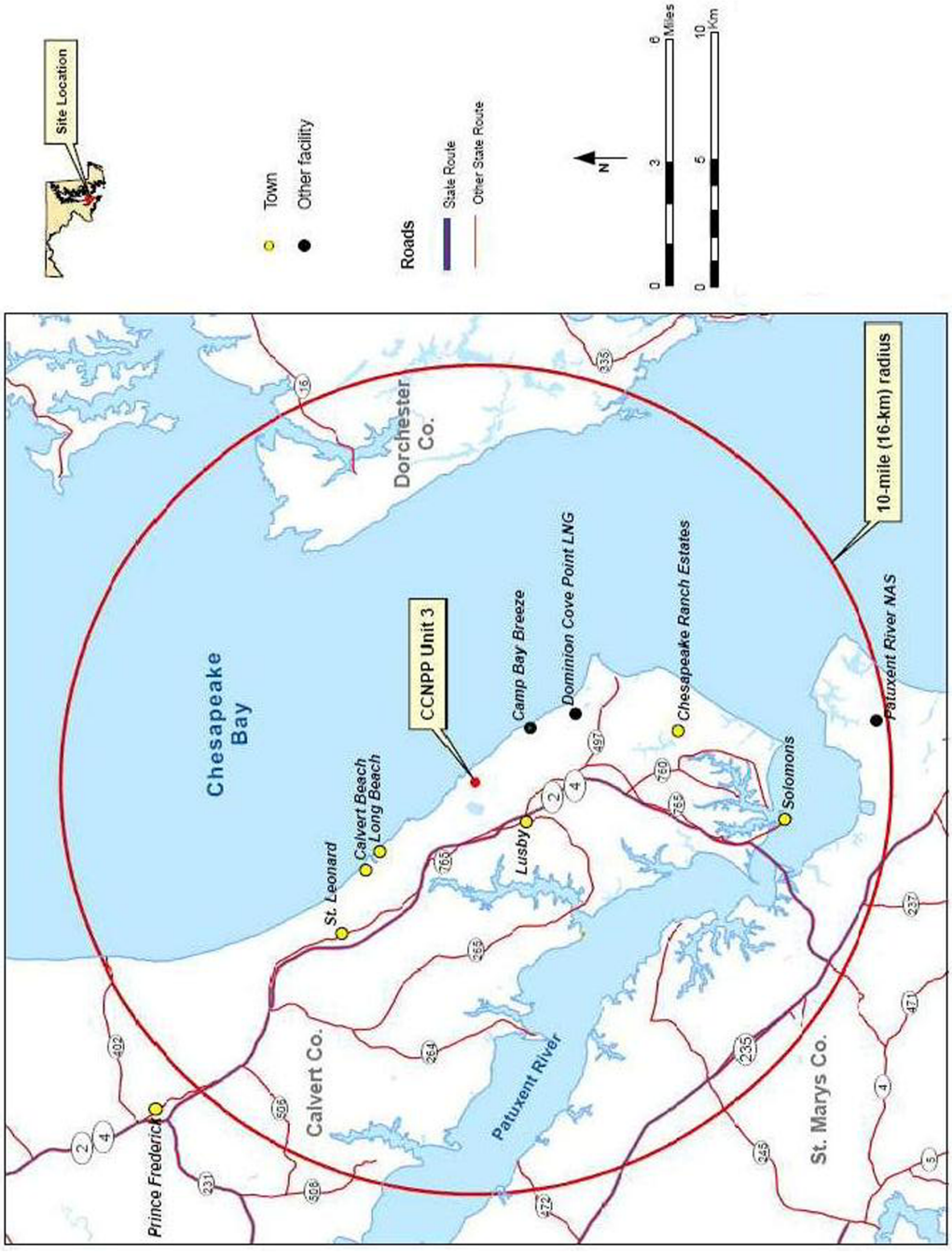
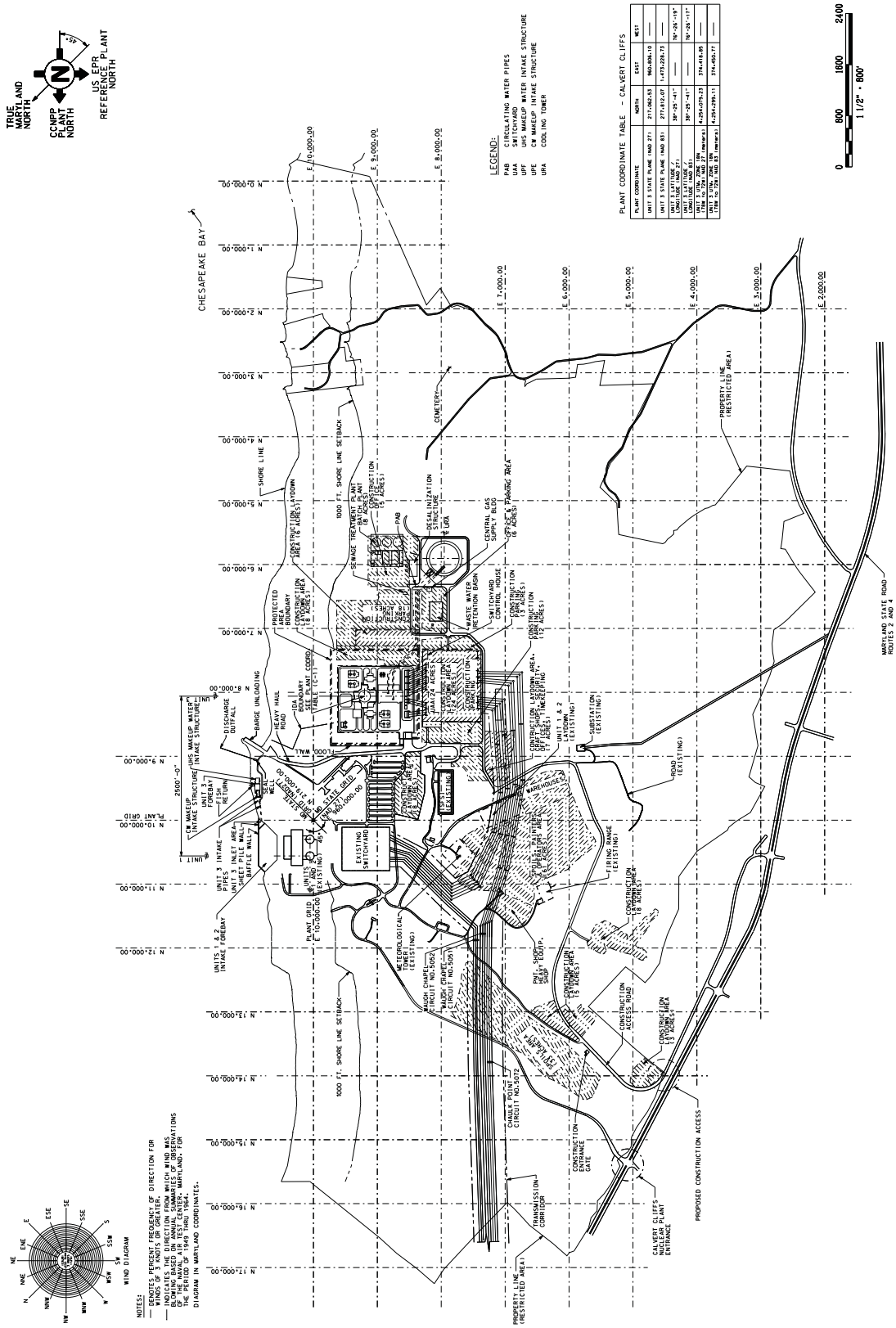


Figure 1.1-2— {10 mi (16 km) Surrounding Area}

Figure 1.1-3— {Site Area Map}



1.2 GENERAL PLANT DESCRIPTION

This section of the U.S. EPR FSAR is incorporated by reference with the following supplements.

The U.S. EPR FSAR includes the following COL Item in Section 1.2:

> A COL applicant that references the U.S. EPR design certification will identify those site-specific features of the plant likely to be of special interest because of their relationship to safety. The COL applicant will also highlight items such as unusual site characteristics, solutions to particularly difficult engineering, construction problems, and significant extrapolations in technology represented by the site specific design.

This COL Item is addressed as follows:

{There are no site-specific features of the plant considered to be of special interest because of their relationship to safety. There are no unusual site characteristics, and no particularly difficult engineering or construction problems, and no significant extrapolations in technology represented by the site specific design.}

1.2.1 Principal Design Criteria, Operating Characteristics, and Safety Considerations

No departures or supplements.

1.2.2 Site Description

The U.S. EPR FSAR includes the following conceptual design information in Section 1.2.2 for the Turbine Building:

> Turbine Building – [[Figures 1.2-28 through 1.2-48.]]

The above conceptual design information is addressed as follows:

An Alstom turbine generator design has been selected. This is the reference design reflected in U.S. EPR FSAR Section 10.1, 10.2, and 10.4.7. Figures in Section 1.2 of the U.S. EPR FSAR are incorporated by reference.

The U.S. EPR FSAR includes the following conceptual design information in Section 1.2.2 for the Access Building:

> Access Building – [[Figures 1.2-50 through 1.2-58.]]

The above conceptual design information is addressed as follows:

The reference Access Building shown in U.S. EPR FSAR Figures 1.2-50 through 1.2-58 is incorporated by reference.

The U.S. EPR FSAR includes the following COL Item in Section 1.2.2:

> A COL applicant that references the U.S. EPR design certification will provide a site-specific layout figure.

This COL Item is addressed as follows:

{The site specific layout is presented in Figure 1.1-3 showing the CCNPP Unit 3 circulating water system cooling tower and intake structures on the Chesapeake Bay. An enlargement of the layout of the Nuclear and Turbine Building Islands is presented in Figure 1.2-1.}

The U.S. EPR FSAR includes the following COL Item in Section 1.2.2:

> A COL applicant that references the U.S. EPR design certification will provide site-specific general arrangement drawings for the Turbine Building and Access Building.

This COL Item is addressed as follows:

The reference plant Turbine Building and Access Building are utilized. The general arrangement drawings provided in the U.S. EPR FSAR are incorporated by reference as discussed above.

1.2.3 Plant Description

1.2.3.1 Introduction to the U.S. EPR Design and Building Arrangement

1.2.3.1.1 Overview

No departures or supplements.

1.2.3.1.2 Buildings and Arrangement

The U.S. EPR FSAR includes the following conceptual design information in Section 1.2.3.1.2 for the Turbine Building:

> Physical separation also protects the [[Turbine Building and Switchgear Building. The Turbine Building houses the components of the steam condensate main feedwater cycle, including the turbine-generator. This building is located in a radial position with respect to the Reactor Building, but is independent from the NI. The Turbine Building is further described in Section 3.7.2. The Switchgear Building, which contains the power supply, the instrumentation and controls (I&C) for the balance of plant, and the SBO diesel generators, is located next to the Turbine Building and is physically separate from the NI. The Switchgear Building is shown in Figure 1.2-1.]]

The above conceptual design information is addressed as follows:

The reference Turbine Building and Switchgear Building designs are utilized. The information as stated in the U.S. EPR FSAR is incorporated by reference.

1.2.3.2 Reactor Coolant System

No departures or supplements.

1.2.3.3 Engineered Safety Features and Emergency Systems

No departures or supplements.

1.2.3.4 Instrumentation and Control Systems

No departures or supplements.

1.2.3.5 Electrical Systems

1.2.3.5.1 General

The U.S. EPR FSAR includes the following conceptual design information in Section 1.2.3.5.1:

> [[For operational flexibility and reliability, the switchyard is configured in either a breaker-and-a-half or double breaker scheme.]]

The above conceptual design information is addressed as follows:

{The CCNPP Unit 3 switchyard is configured in a breaker and a half arrangement.}

1.2.3.5.2 Offsite Power

No departures or supplements.

1.2.3.5.3 Onsite Power System

No departures or supplements.

1.2.3.6 Power Conversion Systems

No departures or supplements.

1.2.3.7 Fuel Handling and Storage Systems

No departures or supplements.

1.2.3.8 Cooling Water and Other Auxiliary Systems

No departures or supplements.

1.2.3.9 Radioactive Waste Management Systems

No departures or supplements.

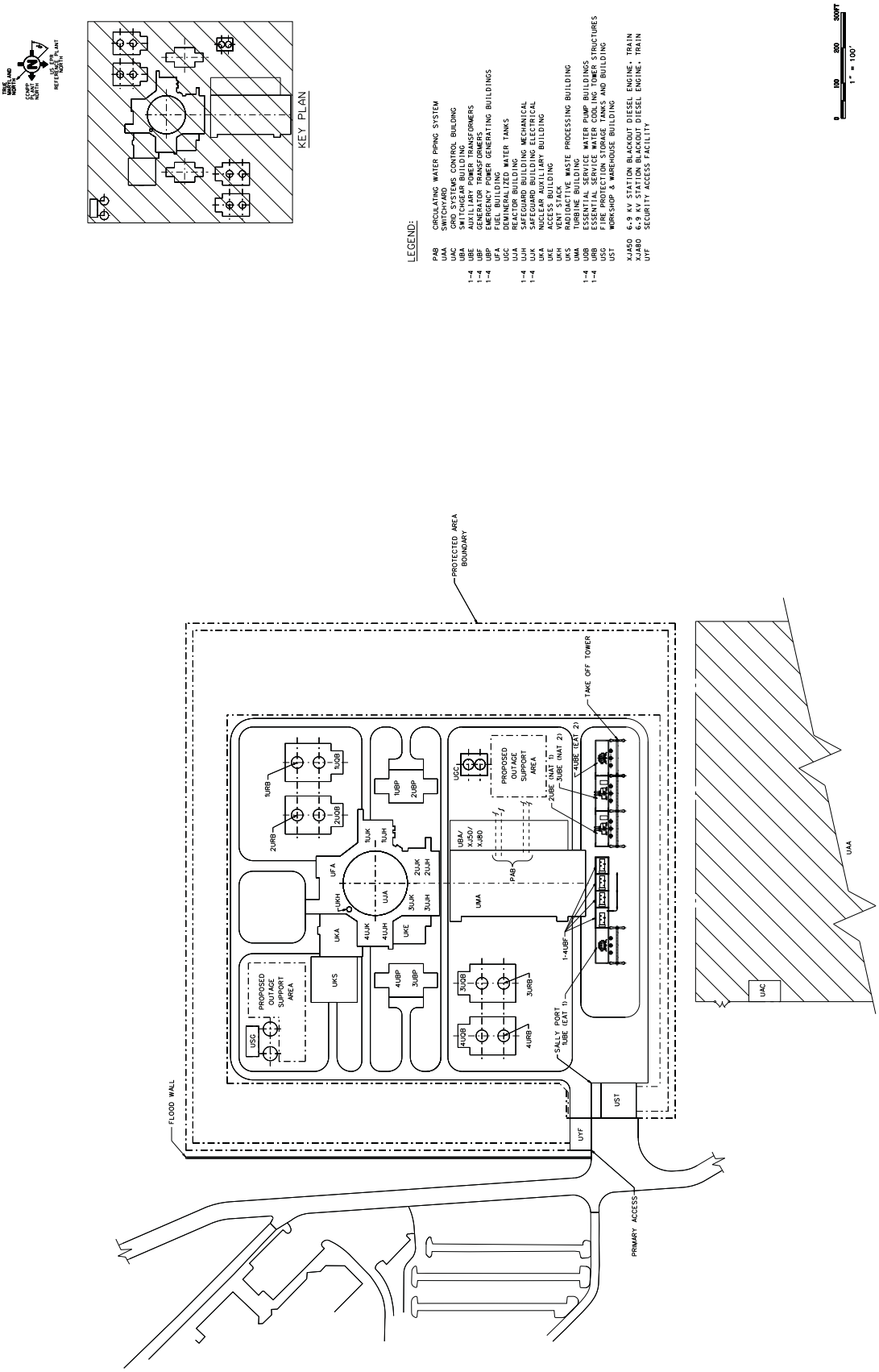


Figure 1.2-1— {CCNPP Unit 3 Nuclear and Turbine Building Island Layout}

1.3 COMPARISONS WITH SIMILAR FACILITY DESIGNS

This section of the U.S. EPR FSAR is incorporated by reference.

1.4 IDENTIFICATION OF AGENTS AND CONTRACTORS

This section of the U.S. EPR FSAR is incorporated by reference with the following supplements.

1.4.1 Applicant – Program Manager

{Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC are applying for a combined license for CCNPP Unit 3. The owner of the proposed project is Calvert Cliffs 3 Nuclear Project, LLC. The operator of the proposed project is UniStar Nuclear Operating Services, LLC. The contact with the NRC during the licensing process is UniStar Nuclear Energy, LLC. UniStar Nuclear Energy, LLC is discussed in Section 1.4.2.

Sections 1.4.1.1 and 1.4.1.2 are added as supplements to the U.S. EPR FSAR.

1.4.1.1 Calvert Cliffs 3 Nuclear Project, LLC

Calvert Cliffs 3 Nuclear Project, LLC is a limited liability company and is an indirect subsidiary (through UniStar Nuclear Holdings, LLC and UniStar Project Holdings, LLC, which operate as holding companies) of UniStar Nuclear Energy, LLC. UniStar Nuclear Energy is owned jointly by Constellation New Nuclear, LLC and by EDF, Inc. Constellation New Nuclear is a member (through Constellation Nuclear, LLC) of Constellation Energy Group, Inc. EDF Development is an indirect subsidiary of (through EDF International, SA) of Èlecticitè de Franco, SA.

The principal offices of Calvert Cliffs 3 Nuclear Project, LLC are located in Baltimore, Maryland. Calvert Cliffs 3 Nuclear Project, LLC is organized under the laws of the State of Delaware pursuant to the Limited Liability Company Agreement of Calvert Cliffs 3 Nuclear Project, LLC dated March 10, 2008, by UniStar Project Holdings, LLC. Calvert Cliffs 3 Nuclear Project, LLC will be one of the licensees and will own CCNPP Unit 3.

Constellation Energy Group is a holding company for several companies involved with electric and gas energy. Constellation Energy Group, through its subsidiaries, is a major generator of electric power and a leading supplier of competitive electricity, with a power generation portfolio of over 8,700 megawatts. The output of Constellation Energy Group's plants is sold by Constellation Energy Group's commodities business, Constellation Energy Commodities Group, Inc., to many of the nation's leading distribution utilities, energy companies, and cooperatives.

1.4.1.2 UniStar Nuclear Operating Services, LLC

UniStar Nuclear Operating Services, LLC has been formed to be a licensee and to operate U.S. EPR nuclear power plants in the United States. The principal offices of UniStar Nuclear Operating Services, LLC are located in Baltimore, Maryland.

UniStar Nuclear Operating Services, LLC is organized under the laws of the State of Delaware pursuant to the entity's articles of incorporation, dated May 12, 2006. This entity will be one of the licensees for, and will provide the operating services for, CCNPP Unit 3.}

1.4.2 Other Contractors and Participants

The U.S. EPR FSAR includes the following COL Item in Section 1.4.2:

> A COL applicant that references the U.S. EPR design certification will identify the prime agents or contractors for the construction and operation of the nuclear power plant.

This COL Item is addressed as follows:

Design responsibility for the U.S. EPR nuclear power plant resides with AREVA NP Inc. (AREVA NP) for the portions of the facility included in the design certification application. AREVA NP has headquarters in Lynchburg, Virginia, and major design organizations in Lynchburg, Virginia; Charlotte, North Carolina; and Marlborough, Massachusetts. AREVA NP is an AREVA and Siemens company. AREVA NP and its predecessor companies have designed light water reactors for over 40 years. As such, AREVA NP has extensive nuclear design experience in addition to maintaining fabrication facilities for fuel and major components in Europe and the United States. AREVA NP will provide additional services during conduct of startup testing.

{Bechtel North American Power Corporation (Bechtel) provides design services for portions of the facility design not included in the U.S. EPR design certification (balance of plant) and is expected to be the prime contractor for the construction of CCNPP Unit 3. Bechtel has extensive architectural-engineering experience, and has participated in the design and construction of more than 150 nuclear power plants worldwide. Bechtel provides design assistance to AREVA NP which retains design responsibility for the U.S. EPR.

UniStar Nuclear Energy, LLC. provides project management, engineering, procurement, training, regulatory affairs and startup, testing, and commissioning support during the design, construction, startup and operation of CCNPP Unit 3.

CCNPP Unit 3 will be operated by UniStar Nuclear Operating Services, LLC as discussed in Section 1.4.1.2.}

Other various agents and contractors provide specialized services to the project.

1.5 REQUIREMENTS FOR FURTHER TECHNICAL INFORMATION

This section of the U.S. EPR FSAR is incorporated by reference.

1.6 MATERIAL REFERENCED

This section of the U.S. EPR FSAR is incorporated by reference with the following supplements.

The U.S. EPR FSAR includes the following COL Item in Section 1.6:

> A COL applicant that references the U.S. EPR design certification will include any site-specific topical reports that are incorporated by reference as part of the COL application in Table 1.6-1.

This COL Item is addressed as follows:

Table 1.6-1 of this FSAR contains a list of topical reports submitted to the NRC to support this application.

Table 1.6-1— {Reports Referenced}

Report No.	Title/Revision	Date Submitted to the NRC	FSAR Section
NEI 07-08A	Generic FSAR Template Guidance for Ensuring that Occupational Radiation Exposures Are As Low As Is Reasonably Achievable (ALARA), Revision 0	October 2009	12.1.3
NEI 07-03A	Generic FSAR Template Guidance for Radiation Protection Program Description, Revision 0	May 2009	12.1.3 12.5
NEI 06-13A	Template for an Industry Training Program Description, Revision 2	March 2009	13.2
UN-TR-06-001-A	Quality Assurance Program Description, Revision 0	April 2007	17.5
NEI 07-02A	Generic FSAR Template Guidance for Maintenance Rule Program Description for Plants Licensed Under 10 CFR Part 52, Revision 0	March 2008	17.7
NEI 06-06	Fitness for Duty Program Guidance for New Revision Power Plant Construction Sites, Revision 5	August 2009	13.7
NEI 04-07	Pressurized Water Reactor Sump Performance Evaluation Methodology	December 2004	6.3.2.2.2
NEI 00-02	Probabilistic Risk Assessment (PRA) Peer Review Process Guidance, Revision 1	May 2006	19.1.2
NEI 07-09A	Generic FSAR Template Guidance for Offsite Dose Calculation Manual (ODCM) Description, Revision 0	March 2009	11.5
NEI 07-10A	Generic FSAR Template Guidance for Process Control Program (PCP), Revision 0	August 2009	11.4
NEI 08-08A	Generic FSAR Template Guidance for Life Cycle Minimization of Contamination	October 2009	11.2,11.3,11.4,11.5

1.7 DRAWINGS AND OTHER DETAILED INFORMATION

This section of the U.S. EPR FSAR is incorporated by reference with the following supplements.

1.7.1 Electrical and Instrumentation and Control Drawings

The U.S. EPR FSAR includes the following COL Item in Section 1.7.1:

> A COL applicant that references the U.S. EPR design certification will list additional site specific instrumentation and control functional diagrams and electrical one-line diagrams included in the COL FSAR in Table 1.7-1 and supplement the figure legends, if applicable.

This COL Item is addressed as follows:

Table 1.7-1 contains a list of site specific instrumentation and control functional diagrams and electrical one-line diagrams included in the COL FSAR.

1.7.2 Piping and Instrumentation Diagrams

The U.S. EPR FSAR includes the following COL Item in Section 1.7.2:

> A COL applicant that references the U.S. EPR design certification will list additional site specific P&IDs included in the COL FSAR in Table 1.7-2 and supplement the figure legend, if applicable.

This COL Item is addressed as follows:

A list of site specific P&IDs included in the {CCNPP Unit 3} FSAR is presented in Table 1.7-2.

Table 1.7-1— {I&C Functional and Electrical One Line Diagrams}

FSAR Figure Number	Title
Figure 8.2-2	CCNPP Unit 3 500 kv Switchyard Single Line Diagram
Figure 8.3-1	CCNPP Unit 3 Emergency Power Supply System Single Line Drawing (three sheets)
Figure 8.3-2	CCNPP Unit 3 Normal Power Supply System Single Line Drawing (five sheets)
Figure 8.3-3	CCNPP Unit 3 Transformer 30BBT03 Distribution System Single Line Drawing

Table 1.7-2— {Piping and Instrumentation Diagrams}

FSAR Figure Number	Title
Figure 9.2-1	Potable Water System
Figure 9.2-2	Sanitary Waste Water System
Figure 9.2-3	Normal Makeup, Ultimate Heat Sink Makeup, Blowdown & Chemical Treatment
Figure 9.2-7	Raw Water & Desalinated Water Supply
Figure 9.4-1	Turbine Building Ventilation System
Figure 9.4-2	UHS Makeup Water Intake Structure Ventilation System
Figure 9.5-1	CCNPP Unit 3 Fire Water Distribution System - Cooling Tower Loop
Figure 9.5-2	CCNPP Unit 3 Fire Water Distribution System - Intake Structure Loop
Figure 9.5-3	CCNPP Unit 3 UHS Makeup Water Intake Structure
Figure 10.4-1	Circulating Water System P& ID (Circulating Water Pump Building)
Figure 10.4-2	Circulating Water System P& ID (Turbine Building)
Figure 10.4-3	Circulating Water System Makeup System P& ID
Figure 10.4-6	Circulating Water System Blowdown Flowpath

1.8 INTERFACES WITH STANDARD DESIGNS AND EARLY SITE PERMITS

This section of the U.S. EPR FSAR is incorporated by reference with the following supplements.

The U.S. EPR FSAR includes the following COL Item in Section 1.8:

> A COL applicant that references the U.S. EPR design certification will describe where the interface requirements are satisfied in the COL Final Safety Analysis Report (FSAR) to demonstrate compatibility with the U.S. EPR design.

This COL Item is addressed as follows:

Interface requirements for systems, structures, and components (SSCs) that relate to specific mechanical, electrical, nuclear, or structural systems are identified in appropriate sections of the FSAR. Table 1.8-1 provides a cross-reference to the description of these interfaces.

1.8.1 COL Information Items

The U.S. EPR FSAR includes the following COL Item in Section 1.8.1:

> A COL applicant that references the U. S. EPR design certification will identify the FSAR section, or provide a list, that demonstrates how the COL information items have been addressed.

This COL Item is addressed as follows:

The text of the COL Items and COL No. identifier listed in Table 1.8-2 of the U.S. EPR FSAR are presented in Table 1.8-2. For each COL Item listed, the corresponding section of this FSAR that addresses the COL Item is identified. Additional explanatory comments are provided as necessary or appropriate.

1.8.2 Departures

The U.S. EPR FSAR includes the following COL Item in Section 1.8.2:

> A COL applicant that references the U. S. EPR design certification will provide a list of any departures from the FSAR in the COL FSAR.

This COL Item is addressed as follows:

{The list of departures from the U.S. EPR FSAR is as follows:

Maximum Differential Settlement (across the basemat)	FSAR 2.5.4 and 3.8.5
Maximum Annual Average Atmospheric Dispersion Factor (0.5 mile - limiting sector)	FSAR 2.3.5
Accident Atmospheric Dispersion Factor from (0 - 2 hour, Low Population Zone, 1.5 miles)	FSAR 2.3.4 and 15.0.3
In-Structure Response Spectra	FSAR 3.7.2.5.2
Toxic Gas Detection and Isolation	FSAR 3.11, 6.4, 9.4.1 and 14.2.12
Minimum Shear Wave Velocity	FSAR 2.5.4.2.5.8 and COLA Part 10, ITAAC Table 2.4-1
Maximum Non-Coincident Wet Bulb Temperature Value at 0% Exceedance (85°F)	FSAR 2.0, 2.3, and 9.2.1
Coefficient of Static Friction	FSAR 3.8.5.5
Generic Technical Specifications and Bases - Setpoint Control Program	FSAR 16 (COLA Part 4)

Justification for these departures is presented in Part 7 of the COL application.}

Table 1.8-1— FSAR Sections that Demonstrate Conformance to U.S. EPR FSAR Interface Requirements

Item No.	Interface	Interface Type	FSAR Section
1-1	Switchgear Building	U.S. EPR Interface	1.2, 8.3, 8.4
1-2	Access Building	U.S. EPR Interface	1.2, 3.7.2
1-3	Turbine Building	U.S. EPR Interface	1.2, 3.7.2
1-4	Fire Protection Storage Tanks and Building	U.S. EPR Interface	1.2, 3.7.2
2-1	Envelope of U.S. EPR site related design	Site Parameter	2.0, Table 2.0-1
2-2	Consequences of potential hazards from nearby industrial, transportation and military facilities	Site Parameter	2.2
2-3	Site-specific χ/Q values based on site-specific meteorological data at the exclusion area boundary (EAB), low population zone (LPZ), and control room	Site Parameter	2.3
2-4	Site-specific seismic characteristics	Site Parameter	2.5, 3.7
2-5	Soil conditions and profiles	Site Parameter	2.5
2-6	Bearing pressure of soil beneath the nuclear island basemat	Site Parameter	2.5
2-7	Foundation settlements	Site Parameter	2.5
3-1	Missiles generated from nearby facilities	Site Parameter	3.5
3-2	Missiles generated by tornadoes or extreme winds	Site Parameter	3.5
3-3	Aircraft hazards	Site Parameter	3.5
3-4	Site-specific loads that lie within the standard plant design envelope for Seismic Category I structures	Site Parameter	3.8
3-5	Buried conduit and duct banks, and pipe and pipe ducts	U.S. EPR Interface	3.8
8-1	Off-site AC power transmission system connections to the switchyard and the connection to the plant power distribution system	U.S. EPR Interface	8.2
8-2	On-site AC power transmission system connections to the switchyard and the connection to the plant power distribution system	U.S. EPR Interface	8.3
8-3	Auxiliary power and generator transformer areas	U.S. EPR Interface	8.2
8-4	Lightning protection and grounding system grid	U.S. EPR Interface	8.3.1
9-2	Provide support systems such as makeup water, blowdown and chemical treatment (to control biofouling) for the UHS	U.S. EPR Interface	9.2.5
9-3	Raw water system	U.S. EPR Interface	9.2.9
9-4	Fire water distribution system	U.S. EPR Interface	9.5.1
10-1	Design details for circulating water system including makeup water, and water treatment	U.S. EPR Interface	10.4.5
11-1	Process Control program and program aspects of process and effluent monitoring and sampling	U.S. EPR Interface	11.5
13-1	Site-specific information for administrative, operating, emergency, maintenance, and other operating procedures.	U.S. EPR Interface	13.5
13-2	Site-specific emergency plan	U.S. EPR Interface	13.3
13-3	Site-specific security assessment and Physical Security Plan	U.S. EPR Interface	13.6
14-1	Site-specific information for development of the initial test program	U.S. EPR Interface	14.2

Table 1.8-2— FSAR Sections that Address COL Items

(Page 1 of 20)

Item No.	Description	Section
1.1-1	A COL applicant that references the U.S. EPR design certification and proposes a multi-unit license application will provide the changes and additional information needed to license a multi-unit plant.	1.1
1.1-2	A COL applicant that references the U.S. EPR design certification will identify the specific plant site location.	1.1.1
1.1-3	A COL applicant that references the U.S. EPR design certification will provide the estimated schedules for completion of construction and commercial operation.	1.1.5
1.2-1	A COL applicant that references the U.S. EPR design certification will identify those site specific features of the plant likely to be of special interest because of their relationship to safety. The COL applicant will also highlight items such as unusual site characteristics, solutions to particularly difficult engineering, construction problems, and significant extrapolations in technology represented by the site specific design.	1.2
1.2-2	A COL applicant that references the U.S. EPR design certification will provide a site-specific layout figure.	1.2.2
1.2-3	A COL applicant that references the U.S. EPR design certification will provide site-specific general arrangement drawings for the Turbine Building and Access Building.	1.2.2
1.4-1	A COL applicant that references the U.S. EPR design certification will identify the prime agents or contractors for the construction and operation of the nuclear power plant.	1.4.2
1.6-1	A COL applicant that references the U.S. EPR design certification will include any site-specific topical reports that are incorporated by reference as part of the COL application in Table 1.6-1.	1.6
1.7-1	A COL applicant that references the U.S. EPR design certification will list additional site specific instrumentation and control functional diagrams and electrical one-line diagrams included in the COL FSAR in Table 1.7-1 and supplement the figure legends, if applicable.	1.7.1
1.7-2	A COL applicant that references the U.S. EPR design certification will list additional site specific P&IDs included in the COL FSAR in Table 1.7-2 and supplement the figure legend, if applicable.	1.7.2
1.8-1	A COL applicant that references the U.S. EPR design certification will describe where the interface requirements are satisfied in the COL FSAR to demonstrate compatibility with the U.S. EPR design.	1.8
1.8-2	A COL applicant that references the U. S. EPR design certification will identify the FSAR section, or provide a list, that demonstrates how the COL information items have been addressed.	1.8.1
1.8-3	A COL applicant that references the U. S. EPR design certification will provide a list of any departures from the FSAR in the COL FSAR.	1.8.2
1.9-1	A COL applicant that references the U.S. EPR design certification will review and address the conformance with Regulatory Criteria in effect six months before the docket date of the COL application for the site-specific portions and operational aspects of the facility design.	1.9
2.0-1	A COL applicant that references the U.S. EPR design certification will compare the characteristics of its proposed site to the site parameters in Table 2.1-1. If the characteristics of the site fall within the assumed site parameters in Table 2.1-1, then the U.S. EPR standard design is bounding for the site. For sitespecific characteristics that are outside the bounds of the assumptions presented in Table 2.1-1, the COL applicant will demonstrate that the U.S. EPR design acceptably meets the regulatory requirements, given the more limiting site-specific characteristic. In such an instance, the COL applicant will also demonstrate that the design commitments and acceptance criteria described in the FSAR do not need to be changed, or will propose new design commitments or acceptance criteria, or both.	2.0
2.1-1	A COL applicant that references the U.S. EPR design certification will provide site-specific information related to site location and description, exclusion area authority and control, and population distribution.	2.1
2.2-1	A COL applicant that references the U.S. EPR design certification will provide site-specific information related to the identification of potential hazards stemming from nearby industrial, transportation, and military facilities within the site vicinity, including an evaluation of potential accidents (such as explosions, toxic chemicals, and fires).	2.2

Table 1.8-2— FSAR Sections that Address COL Items
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Item No.	Description	Section
2.2-2	A COL applicant that references the U.S. EPR design certification will provide information concerning site- specific evaluations to determine the consequences that potential accidents at nearby industrial, transportation, and military facilities could have on the site. The information provided by the COL applicant will include specific changes made to the U.S. EPR design to qualify the design of the site against potential external accidents with an unacceptable probability of severe consequences.	2.2.3
2.3-1	If A COL applicant that references the U.S. EPR design certification identifies site-specific meteorology values outside the range of the site parameters in Table 2.1-1, then the COL applicant will demonstrate the acceptability of the site-specific values in the appropriate sections of the Combined License application.	2.3
2.3-2	A COL applicant that references the U.S. EPR design certification will provide site-specific characteristics for regional climatology.	2.3.1
2.3-3	A COL applicant that references the U.S. EPR design certification will provide site-specific characteristics for local meteorology.	2.3.2
2.3-4	A COL applicant that references the U.S. EPR design certification will provide the site-specific, onsite meteorological measurement program.	2.3.3
2.3-5	A COL applicant that references the U.S. EPR design certification will provide a description of the atmospheric dispersion modeling used in evaluating potential design basis events to calculate concentrations of hazardous materials (e.g., flammable or toxic clouds) outside building structures resulting from the onsite and/or offsite airborne releases of such materials.	2.3.4
2.3-6	A COL applicant that references the U.S. EPR design certification will confirm that site specific χ/Q values, based on site-specific meteorological data, are bounded by those specified in Table 2.1-1 at the EAB, LPZ and at the control room. For site-specific χ/Q values that exceed the bounding χ/Q values, a COL applicant that references the U.S. EPR design certification will demonstrate that the radiological consequences associated with the controlling design basis accident continue to meet the dose reference values given in 10 CFR 50.34 and the control room operator dose limits given in GDC 19 using site-specific χ/Q values.	2.3.4.2
2.3-7	A COL applicant that references the U.S. EPR design will provide χ/Q values for each cumulative frequency distribution which exceeds the median value (50 percent of the time) as part of the assessment of the postulated impact of an accident on the environment.	2.3.4.2.2
2.3-8	A COL applicant that references the U.S. EPR design certification will provide the site-specific, long-term diffusion estimates for routine releases. In developing this information, the COL applicant should consider the guidance provided in RG 1.23, RG 1.109, RG 1.111, and RG 1.112.	2.3.5
2.3-9	A COL applicant that references the U.S EPR design certification will also provide estimates of annual average atmospheric dispersion (χ/Q values) and deposition (D/Q values) for 16 radial sectors to a distance of 50 miles (80 km) from the plant as part of its environmental assessment.	2.3.5
2.3-10	A COL applicant that references the U.S. EPR design certification will describe the means for providing UHS makeup sufficient to meet the maximum evaporative and drift water loss after 72 hours through the remainder of the 30 day period consistent with RG 1.27.	2.3.1.2
2.4-1	A COL applicant that references the U.S. EPR design certification will provide a site-specific description of the hydrologic characteristics of the plant site.	2.4.1
2.4-2	A COL applicant that references the U.S. EPR design certification will identify site-specific information related to flood history, flood design considerations, and effects of local intense precipitation.	2.4.2
2.4-3	A COL applicant that references the U.S. EPR design certification will provide site-specific information to describe the probable maximum flood of streams and rivers and the effect of flooding on the design.	2.4.3
2.4-4	A COL applicant that references the U.S. EPR design certification will verify that the site specific potential hazards to the safety-related facilities due to the failure of upstream and downstream water control structures are within the hydrogeologic design basis.	2.4.4

Table 1.8-2— FSAR Sections that Address COL Items
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Item No.	Description	Section
2.4-5	A COL applicant that references the U.S. EPR design certification will provide site-specific information on the probable maximum surge and seiche flooding and determine the extent to which safety-related plant systems require protection. The applicant will also verify that the site-specific characteristic envelope is within the design maximum flood level, including consideration of wind effects.	2.4.5
2.4-6	A COL applicant that references the U.S. EPR design will provide site-specific information and determine the extent to which safety-related facilities require protection from tsunami effects, including Probable Maximum Tsunami Flooding.	2.4.6
2.4-7	A COL applicant that references the U.S. EPR design certification will provide site-specific information regarding ice effects and design criteria for protecting safety-related facilities from ice-produced effects and forces with respect to adjacent water bodies.	2.4.7
2.4-8	A COL applicant that references the U.S. EPR design certification will evaluate the potential for freezing temperatures that may affect the performance of the ultimate heat sink makeup, including the potential for frazil and anchor ice, maximum ice thickness, and maximum cumulative degree-days below freezing.	2.4.7
2.4-9	A COL applicant that references the U.S. EPR design certification will provide site-specific information and describe the design basis for cooling water canals and reservoirs used for makeup to the UHS cooling tower basins.	2.4.8
2.4-10	A COL applicant that references the U.S. EPR design certification will provide site-specific information and demonstrate that in the event of diversion or rerouting of the source of cooling water, alternate water supplies will be available to safety-related equipment.	2.4.9
2.4-11	A COL applicant that references the U.S. EPR design certification will use site-specific information to compare the location and elevations of safety-related facilities, and of structures and components required for protection of safety-related facilities, with the estimated static and dynamic effects of the design basis flood conditions.	2.4.10
2.4-12	A COL applicant that references the U.S. EPR design certification will identify natural events that may reduce or limit the available cooling water supply, and will verify that an adequate water supply exists for operation or shutdown of the plant in normal operation, anticipated operational occurrences, and in low water conditions.	2.4.11
2.4-13	A COL applicant that references the U.S. EPR design certification will provide site-specific information to identify local and regional groundwater reservoirs, subsurface pathways, onsite use, monitoring or safeguard measures, and to establish the effects of groundwater on plant structures.	2.4.12
2.4-14	A COL applicant that references the U.S. EPR design certification will provide site-specific information on the ability of the groundwater and surface water environment to delay, disperse, dilute, or concentrate accidental radioactive liquid effluent releases, regarding the effects that such releases might have on existing and known future uses of groundwater and surface water resources.	2.4.13
2.4-15	A COL applicant that references the U.S. EPR design certification will describe any emergency measures required to implement flood protection in safety-related facilities and to verify there is an adequate water supply for shutdown purposes.	2.4.14
2.5-1	A COL applicant that references the U.S. EPR design certification will use site-specific information to investigate and provide data concerning geological, seismic, geophysical, and geotechnical information.	2.5.1
2.5-2	A COL applicant that references the U.S. EPR design certification will review and investigate site-specific details of seismic, geophysical, geological, and geotechnical information to determine the safe shutdown earthquake (SSE) ground motion for the site and compare site specific ground motion to the Certified Seismic Design Response Spectra (CSDRS) for the U.S. EPR.	2.5.2
2.5-3	A COL applicant that references the U.S. EPR design certification will compare the final site-specific soil characteristics with the U.S. EPR design generic soil parameters and verify that the site-specific seismic characteristics are enveloped by the CSDRS (anchored at 0.3 g PGA) and the 10 generic soil profiles discussed in Section 2.5.2, 2.5.4.7 and 3.7.1 and summarized in Table 3.7.1-6.	2.5.2.6

Table 1.8-2— FSAR Sections that Address COL Items
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Item No.	Description	Section
2.5-4	A COL applicant that references the U.S. EPR design certification will verify that site-specific foundation soils beneath the foundation basemats of Seismic Category I structures have the capacity to support the bearing pressure with a factor of safety of 3.0 under static conditions.	2.5.4.10.1
2.5-5	A COL applicant that references the U.S. EPR design certification will investigate site-specific surface and subsurface geologic, seismic, geophysical, and geotechnical aspects within 25 miles around the site and evaluate any impact to the design. The COL applicant will demonstrate that no capable faults exist at the site in accordance with the requirements of 10 CFR 100.23 and of 10 CFR 50, Appendix S. If non-capable surface faulting is present under foundations for safety-related structures, the COL applicant will demonstrate that the faults have no significant impact on the structural integrity of safety-related structures, systems, or components.	2.5.3
2.5-6	A COL applicant that references the U.S. EPR design certification will present site-specific information about the properties and stability of soils and rocks that may affect the nuclear power plant facilities under both static and dynamic conditions, including the vibratory ground motions associated with the CSDRS and the site specific SSE.	2.5.4
2.5-7	A COL applicant that references the U.S. EPR design certification will verify that the predicted differential settlement value of ½ in per 50 ft in any direction across the foundation basemat of a Seismic Category I structure is not exceeded. Settlement values larger than this may be demonstrated acceptable by performing additional site-specific evaluations.	2.5.4.10.2
2.5-8	A COL applicant that references the U.S. EPR design certification will evaluate site-specific information concerning the stability of earth and rock slopes, both natural and manmade (e.g., cuts, fill, embankments, dams, etc.), of which failure could adversely affect the safety of the plant.	2.5.5
2.5-9	A COL applicant that references the U.S. EPR design certification will reconcile the site specific soil properties with those used for design of U.S. EPR Seismic Category I structures and foundations described in Section 3.8.	2.5.4.2
2.5-10	A COL applicant that references the U.S. EPR design certification will investigate and determine the uniformity of the underlying layers of site specific soil conditions beneath the foundation basemats. The classification of uniformity or non-uniformity will be established by a geotechnical engineer.	2.5.4.10.3
3.1-1	A COL applicant that references the U.S. EPR design certification will identify the site-specific QA Program Plan that demonstrates compliance with GDC-1.	3.1.1.1.1
3.2-1	A COL applicant that references the U.S. EPR design certification will identify the seismic classification of applicable site-specific SSCs that are not identified in Table 3.2.2-1.	3.2.1
3.2-2	A COL applicant that references the U.S. EPR design certification will identify the quality group classification of applicable site-specific SSCs important to safety that are not identified in Table 3.2.2-1.	3.2.2
3.3-1	A COL applicant that references the U.S. EPR design certification will determine site-specific wind and tornado characteristics and compare these to the standard plant criteria. If the site-specific wind and tornado charactistics are not bounded by the site parameters, postulated for the certified design, then the COL applicant will evaluate the design for site-specific wind and tornado events and demonstrate that these loadings will not adversely affect the ability of safety-related structures to perform their safety functions during or after such events.	3.3
3.3-2	A COL applicant that references the U.S. EPR design certification will demonstrate that failure of site-specific structures or components not included in the U.S. EPR standard plant design, and not designed for wind loads, will not affect the ability of other structures to perform their intended safety functions.	3.3.1
3.3-3	A COL applicant that references the U.S. EPR design certification will demonstrate that failure of site-specific structures or components not included in the U.S. EPR standard plant design, and not designed for tornado loads, will not affect the ability of other structures to perform their intended safety functions.	3.3.2
3.4-1	A COL applicant that references the U.S. EPR design certification will confirm the potential site specific external flooding events are bounded by the U.S. EPR design basis flood values or otherwise demonstrate that the design is acceptable.	3.4.3.2

Table 1.8-2— FSAR Sections that Address COL Items
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Item No.	Description	Section
3.4-2	A COL applicant that references the U.S. EPR design certification will perform a flooding analysis for the ultimate heat sink makeup water intake structure based on the site-specific design of the structures and the flood protection concepts provided herein.	3.4.3.10
3.4-3	A COL applicant that references the U.S. EPR design certification will define the need for a site-specific permanent dewatering system.	3.4.3.11
3.4-4	A COL applicant that references the U.S. EPR design certification will perform internal flooding analyses prior to fuel load for the Safeguard Buildings and Fuel Building to demonstrate that the impact of internal flooding is contained within the Safeguard Building or Fuel Building division of origin.	3.4.1
3.4-5	A COL applicant that references the U.S. EPR design certification will perform an internal flooding analysis prior to fuel load for the Reactor Building and Reactor Building Annulus to demonstrate that the essential equipment required for safe shutdown is located above the internal flood level.	3.4.1
3.4-6	A COL applicant that references the U.S. EPR design certification will include in its maintenance program appropriate watertight door preventive maintenance in accordance with manufacturer recommendations so that each Safeguards Building watertight door above elevation +0 feet remains capable of performing its intended function.	3.4.1
3.4-7	A COL applicant that references the U.S. EPR design certification will design the watertight seal between the Access Building and the adjacent Category I access path to the Reactor Building Tendon Gallery. Watertight seal design will account for hydrostatic loads, lateral earth pressure loads, and other applicable loads.	3.4.2
3.5-1	A COL applicant that references the U.S. EPR design certification will describe controls to confirm that unsecured maintenance equipment, including that required for maintenance and that are undergoing maintenance, will be removed from containment prior to operation, moved to a location where it is not a potential hazard to SSCs important to safety, or seismically restrained to prevent it from becoming a missile.	3.5.1.2.3
3.5-2	A COL applicant that references the U.S. EPR design certification will confirm the evaluation of the probability of turbine missile generation for the selected turbine generator, P1, is less than 1 x 10-4 for turbine-generators favorably oriented with respect to containment.	3.5.1.3
3.5-3	A COL applicant that references the U.S. EPR design certification will assess the effect of potential turbine missiles from turbine generators within other nearby or co-located facilities.	3.5.1.3
3.5-4	A COL applicant that references the U.S. EPR design certification will evaluate the potential for other missiles generated by natural phenomena, such as hurricanes and extreme winds, and their potential impact on the missile protection design features of the U.S. EPR.	3.5.1.4
3.5-5	A COL applicant that references the U.S. EPR design certification will evaluate the potential for site proximity explosions and missiles generated by these explosions for their potential impact on missile protection design features.	3.5.1.5
3.5-6	A COL applicant that references the U.S. EPR design certification will evaluate site-specific aircraft hazards and their potential impact on plant SSCs.	3.5.1.6
3.5-7	For sites with surrounding ground elevations higher than plant grade, a COL applicant that references the U.S. EPR design certification will confirm that automobile missiles cannot be generated within a 0.5 mile radius of safety-related SSCs that would lead to impact higher than 30 ft above plant grade.	3.5.1.4
3.5-8	A COL applicant that references the U.S. EPR design certification will describe controls to confirm that unsecured compressed gas cylinders will be either removed or seismically supported when not in use to prevent them from becoming missiles.	3.5.1.1.3
3.5-9	A COL applicant that references the U.S. EPR design certification will describe controls to confirm that unsecured maintenance equipment, including that required for maintenance and that are undergoing maintenance, will be either removed or seismically supported when not in use to prevent it from becoming a missile.	3.5.1.1.3
3.6-1	A COL applicant that references the U.S. EPR design certification will perform the pipe break hazards analysis and reconcile deviations in the as-built configuration to the as-designed analysis.	3.6.1

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Item No.	Description	Section
3.6-2	A COL applicant that references the U.S. EPR design certification will perform the pipe break hazards analysis and reconcile deviations in the as-built configuration to the as-designed analysis.	3.6.2.1
3.6-3	A COL applicant that references the U.S. EPR design certification will confirm that the design LBB analysis remains bounding for each piping system and provide a summary of the results of the actual as-built plant specific LBB analysis, including material properties of piping and welds, stress analyses, leakage detection capability, and degradation mechanisms.	3.6.3
3.6-4	A COL applicant that references the U.S. design certification will provide diagrams showing the final as-designed configurations, locations, and orientations of the pipe whip restraints in relation to break locations in each piping system.	3.6.2.5.1
3.6-5	A COL applicant that references the U.S. EPR design certification will implement the ISI program as augmented with NRC approved ASME Code cases that are developed and approved for augmented inspections of Alloy 690/152/52 material to address PWSCC concerns.	3.6.3
3.7-1	A COL applicant that references the U.S. EPR design certification will confirm that the site specific seismic response is within the parameters of section 3.7 of the U.S. EPR standard design.	3.7.2
3.7-2	A COL applicant that references the US EPR design certification will provide the site-specific separation distances for the access building and turbine building.	3.7.2.8
3.7-3	A COL applicant that references the U.S. EPR design certification will provide a description of methods used for seismic analysis of site-specific Category I concrete dams, if applicable.	3.7.3.13
3.7-4	A COL applicant that references the U.S. EPR design certification will determine whether essentially the same seismic response from a given earthquake is expected at each of the units in a multi-unit site or instrument each unit. In the event that only one unit is instrumented, annunciation shall be provided to each control room.	3.7.4.2
3.7-5	A COL applicant that references the U.S. EPR design certification will determine a location for the free-field acceleration sensor such that the effects associated with surface features, buildings, and components on the recordings of ground motion are insignificant. The acceleration sensor must be based on material representative of that upon which the Nuclear Island (NI) and other Seismic Category I structures are founded.	3.7.4.2.1
3.7-6	A COL applicant that references the US EPR design certification will provide the seismic design basis for the sources of fire protection water supply for safe plant shutdown in the event of a SSE.	3.7.2.8
3.7-7	A COL applicant that references the U.S. EPR design certification will demonstrate that the response of the Access Building to an SSE event will not impair the ability of Seismic Category I systems, structures, or components to perform their design basis safety functions.	3.7.2.8
3.7-8	A COL applicant that references the U.S. EPR design certification will demonstrate that the response of the TB (including Switchgear Building on the common basemat) to an SSE event will not impair the ability of Seismic Category I systems, structures, or components to perform their design basis safety functions.	3.7.2.8
3.8-1	A COL applicant that references the U.S. EPR design certification will confirm that site specific loads lie within the standard plant design envelope for the Reactor Containment Building, or perform additional analyses to verify structural adequacy.	3.8.1.3
3.8-2	A COL applicant that references the U.S. EPR design certification will describe any differences between the standard plant layout and design of Seismic Category I structures required for site-specific conditions.	3.8.4.1
3.8-3	A COL applicant that references the U.S. EPR design certification will confirm that site specific loads lie within the standard design envelope for other Seismic Category I structures, or perform additional analyses to verify structural adequacy.	3.8.4.3
3.8-4	A COL applicant that references the U.S. EPR design certification will provide a description of Seismic Category I buried conduit and duct banks.	3.8.4.1.8
3.8-5	A COL applicant that references the U.S. EPR design certification will provide a description of Seismic Category I buried pipe and pipe ducts.	3.8.4.1.9

Table 1.8-2— FSAR Sections that Address COL Items

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Item No.	Description	Section
3.8-6	A COL applicant that references the U.S. EPR design certification will confirm that site specific loads lie within the standard design envelope for RB internal structures, or perform additional analyses to verify structural adequacy.	3.8.3.3
3.8-7	A COL applicant that references the U.S. EPR design certification will confirm that site-specific conditions for Seismic Category I buried conduit, electrical duct banks, pipe, and pipe ducts satisfy the requirements specified in Section 3.8.4.4.5 and those specified in AREVA NP Topical Report ANP-10264NP-A.	3.8.4.5
3.8-8	A COL applicant that references the U.S. EPR design certification will address site-specific Seismic Category I structures that are not described in this section.	3.8.4.1
3.8-9	A COL applicant that references the U.S. EPR design certification will describe site-specific foundations for Seismic Category I structures that are not described in this section.	3.8.5.1
3.8-10	A COL applicant that references the U.S. EPR design certification will evaluate site-specific methods for shear transfer between the foundation basemats and underlying soil for site-specific soil characteristics that are not within the envelope of the soil parameters specified in Section 2.5.4.2.	3.8.5.5
3.8-11	A COL applicant that references the U.S. EPR design certification will evaluate the use of epoxy coated rebar for foundations subjected to aggressive environments, as defined in ACI 349-01, Chapter 4. In addition, the waterproofing system of all Seismic Category I foundations subjected to aggressive environments will be evaluated for use in aggressive environments. Also, the concrete of Seismic Category I foundations subjected to aggressive environments will meet the durability requirements of ACI 349-01, Chapter 4 or ASME, Section III, Division 2, Article CC-2231.7, as applicable.	3.8.5.6.1
3.8-12	A COL applicant that references the U.S. EPR design certification will describe the program to examine inaccessible portions of below-grade concrete structures for degradation and monitoring of groundwater chemistry.	3.8.5.7
3.8-13	A COL applicant that references the U.S. EPR design certification will identify if any site-specific settlement monitoring requirements are required for Seismic Category I foundations based on site-specific soil conditions.	3.8.5.7
3.8-14	A COL applicant that references the U.S. EPR design certification will describe the design and analysis procedures used for buried conduit and duct banks, and buried pipe and pipe ducts.	3.8.4.4.5
3.8-15	A COL applicant that references the U.S. EPR design certification will use results from site specific investigations to determine the routing of buried pipe and pipe ducts.	3.8.4.4.5
3.8-16	A COL applicant that references the U.S. EPR design certification will perform geotechnical engineering analyses to determine if the surface load will cause lateral and/or vertical displacement of bearing soil for the buried pipe and pipe ducts and consider the effect of wide or extra heavy loads.	3.8.4.4.5
3.9-1	A COL applicant that references the U.S. EPR design certification will submit the results from the vibration assessment program for the U.S. EPR RPV internals, and piping systems specified in U.S. EPR FSAR Tier 2, Section 3.9.2.1, in accordance with RG 1.20.	3.9.2.4
3.9-2	A COL applicant that references the U.S. EPR design certification will prepare the design specifications and design reports for ASME Class 1, 2, and 3 components, piping, supports and core support structures that comply with and are certified to the requirements of Section III of the ASME Code. The COL applicant will address the results and conclusions from the reactor internals material reliability programs applicable to the U.S. EPR reactor internals with regard to known aging degradation mechanisms such as irradiation-assisted stress corrosion cracking and void swelling.	3.9.3
3.9-3	A COL applicant that references the U.S. EPR design certification will examine the feedwater line welds after hot functional testing prior to fuel loading and at the first refueling outage, in accordance with NRC Bulletin 79-13. A COL applicant that references the U.S. EPR design certification will report the results of inspections to the NRC, in accordance with NRC Bulletin 79-13.	3.9.3.1.1
3.9-4	As noted in ANP-10264NP-A, A COL applicant that references the U.S. EPR design certification will confirm that thermal deflections do not create adverse conditions during hot functional testing.	3.9.3.1.1

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Item No.	Description	Section
3.9-5	As noted in ANP-10264NP-A, should a COL applicant that references the U.S. EPR design certification find it necessary to route Class 1, 2, and 3 piping not included in the U.S. EPR design certification so that it is exposed to wind and tornadoes, the design must withstand the plant design-basis loads for this event.	3.9.3.1.1
3.9-6	A COL applicant that references the US EPR design certification will identify any additional site-specific valves in Table 3.9.6-2 to be included within the scope of the IST program.	3.9.6.3
3.9-7	A COL applicant that references the U.S. EPR design certification will submit the preservice testing (PST) program and IST program for pumps, valves, and snubbers as required by 10 CFR 50.55a.	3.9.6
3.9-8	A COL applicant that references the US EPR design certification will identify any additional site-specific pumps in Table 3.9.6-1 to be included within the scope of the IST program.	3.9.6.2
3.9-9	COL applicant that references the U.S. EPR design certification will either use a piping analysis program based on the computer codes described in Section 3.9.1 and Appendix 3C or will implement a U.S. EPR benchmark program using models specifically selected for the U.S. EPR.	3.9.1.2
3.9-10	Pipe stress and support analysis will be performed by a COL applicant that references the U.S. EPR design certification.	3.9.1.2
3.9-11	A COL applicant that references the U.S. EPR design certification will provide a summary of the maximum total stress, deformation (where applicable), and cumulative usage factor values for each of the component operating conditions for ASME Code Class 1 components. For those values that differ from the allowable limits by less than 10 percent, the COL applicant will provide the contribution of each of the loading categories (e.g., seismic, pipe rupture, dead weight, pressure, and thermal) to the total stress for each maximum stress value identified in this range. The COL applicant will also provide the maximum total stress and deformation values for each operating condition for Class 2 & 3 components required for safe shutdown of the reactor, or mitigation of consequences of a postulated piping failure without offsite power. Identification of those values that differ from the allowable limits by less than 10 percent will also be provided.	3.9.3.1
3.9-12	A COL applicant that references the U.S.EPR design certification will provide a table identifying the safety-related systems and components that use snubbers in their support systems, including the number of snubbers, type (hydraulic or mechanical), applicable standard, and function (shock, vibration, or dual-purpose snubber). For snubbers identified as either a dual-purpose or vibration arrester type, the COL applicant shall indicate whether the snubber or component was evaluated for fatigue strength.	3.9.6.4
3.9-13	A COL applicant that references the U.S. EPR design certification will identify the implementation milestones and applicable ASME OM Code for the preservice and inservice examination and testing programs. These programs will be consistent with the requirements in the latest edition and addenda of the OM Code incorporated by reference in 10 CFR 50.55a on the date 12 months before the date for initial fuel load.	3.9.6
3.9-14	A COL applicant that references the U.S. EPR design certification will provide a summary of reactor core support structure maximum total stress, deformation, and cumulative usage factor values for each component and each operating condition in conformance with ASME Section III Subsection NG.	3.9.5.2
3.10-1	A COL applicant that references the U.S. EPR design certification will create and maintain the SQDP file during the equipment selection and procurement phase.	3.10.4
3.10-2	A COL applicant that references the U.S. EPR design certification will identify any additional site specific components that need to be added to the equipment list in Table 3.10-1.	3.10.1.1
3.10-3	If the seismic and dynamic qualification testing is incomplete at the time of the COL application, A COL applicant that references the U.S. EPR design certification will submit an implementation program, including milestones and completion dates, for NRC review and approval prior to installation of the applicable equipment.	3.10.4
3.11-1	A COL applicant that references the U.S. EPR design certification will maintain the equipment qualification test results and qualification status file during the equipment selection, procurement phase and throughout the installed life in the plant.	3.11

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Item No.	Description	Section
3.11-2	A COL applicant that references the U.S. EPR design certification will identify additional site specific components that need to be added to the environmental qualification list in Table 3.11-1.	3.11.1.1.3
3.11-3	If the equipment qualification testing is incomplete at the time of the COL application, a COL applicant that references the U.S. EPR design certification will submit an implementation program, including milestones and completion dates, for NRC review and approval prior to installation of the applicable equipment.	3.11.3
3.12-1	A COL applicant that references the U.S. EPR design certification will perform a review of the impact of contributing mass of supports on the piping analysis following the final support design to confirm that the mass of the support is no more than ten percent of the mass of the adjacent pipe span.	3.12.4.2
3.12-2	As indicated in Section 5.3 of topical report ANP-10264NP-A, pipe and support stress analysis will be performed by the COL applicant that references the U.S. EPR design certification. If the COL applicant that references the U.S. EPR design certification chooses to use a piping analysis program other than those listed in Section 5.1 of the topical report, the COL applicant will implement a benchmark program using models specifically selected for the U.S. EPR.	3.12.4.3
3.12-3	A COL applicant that references the U.S. EPR design certification will monitor the RHR/SIS/ EBS injection piping from the RCS to the first isolation valve (all four trains), and RHR/SIS suction piping from the RCS to the first isolation valve (trains 1 and 4) during the first cycle of the first U.S. EPR initial plant operation to verify that operating conditions have been considered in the design unless data from a similar plant's operation demonstrates that thermal oscillation is not a concern for piping connected to the RCS.	3.12.5.9
3.12-4	A COL applicant that references the U.S. EPR design certification will monitor pressurizer surge line temperatures during the first fuel cycle of initial plant operation to verify that the design transients for the surge line are representative of actual plant operations.	3.12.5.10.1
3.12-5	A COL applicant that references the U.S. EPR design certification will monitor the normal spray line temperatures during the first cycle of the first U.S. EPR initial plant operation to verify that the design transients for the normal spray are representative of actual plan operations unless data from a similar plant's operation determines that monitoring is not warranted.	3.12.5.10.3
3.12-6	A COL applicant that references the U.S. EOR design certification will monitor the temperature of the main feedwater lines during the first cycle of the first U.S. EPR initial plant operation to verify that the design transients for the main feedwater lines are representative of actual plant operations unless data from a similar plant's operation determines that monitoring is not warranted.	3.12.5.10.4
3.13-1	A COL applicant referencing the U.S. EPR design certification will submit the inservice inspection program for ASME Code Class 1, Class 2, and Class 3 threaded fasteners, to the NRC prior to performing the first inspection. The program will identify the applicable edition and addenda of ASME Section XI and ensure compliance with the requirements of 10 CFR 50.55a(b)(2)(xxvii).	3.13.2
3E-1	A COL applicant that references the U.S. EPR design certification will address critical sections relevant to site-specific Seismic Category I structures.	3E
5.2-1	Deleted	
5.2-2	A COL applicant that references the U.S. EPR design certification will identify additional ASME code cases to be used.	5.2.1.2
5.2-3	A COL applicant that references the U.S. EPR design certification will identify the implementation milestones for the site-specific ASME Section XI preservice and inservice inspection program for the reactor coolant pressure boundary, consistent with the requirements of 10 CFR 50.55a (g). The program will identify the applicable edition and addenda of the ASME Code Section XI, and will identify additional relief requests and alternatives to Code requirements.	5.2.4
5.2-4	A COL applicant that references the U.S. EPR design certification will develop procedures in accordance with RG 1.45, Revision 1.	5.2.5
5.3-1	A COL applicant that references the U.S. EPR design certification will identify the implementation milestones for the material surveillance program.	5.3.1.6

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Item No.	Description	Section
5.3-2	A COL applicant that references the U.S. EPR design certification will provide a plant-specific pressure and temperature limits report (PTLR), consistent with an approved methodology.	5.3.2.1
5.3-3	A COL applicant that references the U.S. EPR design certification will provide plant-specific RT_{PTS} values in accordance with 10 CFR 50.61 for vessel beltline materials.	5.3.2.3
5.3-4	A COL Applicant that references the U.S. EPR design certification will provide plant specific surveillance data to benchmark BAW-2241P-A and demonstrate applicability to the specific plant.	5.3.1.6
5.4-1	A COL applicant that references the U.S. EPR design certification will identify the edition and addenda of ASME Section XI applicable to the site specific Steam Generator inspection program.	5.4.2.5.2.2
6.1-1	A COL applicant that references the U.S. EPR design certification will review the fabrication and welding procedures and other QA methods of ESF component vendors to verify conformance with RGs 1.44 and 1.31.	6.1.1.1
6.1-2	If components cannot be procured with DBA-qualified coatings applied by the component manufacturer, A COL applicant that references the U.S. EPR design certification must do one of the following: procure the component as uncoated and apply a DBA-qualified coating system in accordance with 10 CFR 50 Appendix B, Criterion IX; confirm that the DBA-unqualified coating is removed and the component is recoated with DBA-qualified coatings in accordance with 10 CFR 50 Appendix B, Criterion IX; or add the quantity of DBA-unqualified coatings to a list that documents those DBA-unqualified coatings already existing within containment.	6.1.2.3.2
6.2-1	A COL applicant that references the U.S. EPR design certification will identify the implementation milestones for the CLRT program described under 10 CFR 50, Appendix J.	6.2.6
6.3-1	A COL applicant that references the U.S. EPR design certification will describe the containment cleanliness program which limits debris within containment.	6.3.2.2.2
6.4-1	A COL applicant that references the U.S. EPR design certification will identify the type(s) of Seismic Category I Class IE toxic gas sensors (i.e., the toxic chemical(s) of concern) necessary for control room operator protection.	6.4.6
6.4-2	A COL applicant that references the U.S. EPR design certification will provide written emergency planning and procedures in the event of a radiological or a hazardous chemical release within or near the plant, and will provide training of control room personnel.	6.4.3
6.4-3	A COL applicant that references the U.S. EPR design certification will evaluate the results of the toxic chemical accidents from Section 2.2.3 and address their impact on control room habitability in accordance with RG 1.78.	6.4.4
6.4-4	A COL applicant that references the U.S. EPR design certification will confirm that the radiation exposure of main control room occupants resulting from a design basis accident at a nearby unit on a multi-unit site is bounded by the radiation exposure from the postulated design basis accidents analyzed for the U.S. EPR; or confirm that the limits of GDC-19 are met.	6.4.4
6.6-1	A COL applicant that references the U.S. EPR design certification will identify the implementation milestones for the site-specific ASME Section XI preservice and inservice inspection program for the Class 2 and Class 3 components, consistent with the requirements of 10 CFR 50.55a (g). The program will identify the applicable edition and addenda of the ASME Code Section XI, and will identify additional relief requests and alternatives to Code requirements.	6.6
7.1-1	A COL applicant that references the U.S. EPR design certification will update the initial inventory list of accident monitoring variables including variable types in Table 7.5-1 - Initial Inventory of Post-Accident Monitoring Variables, with a final list upon completion of the emergency procedure guidelines or the emergency operating and abnormal operating procedures prior to fuel loading.	7.5.2.2.1
8.1-1	A COL applicant that references the U.S. EPR design certification will provide site-specific information describing the interface between the offsite transmission system, and the nuclear unit, including switchyard interconnections.	8.1.1
8.1-2	A COL applicant that references the U.S. EPR design certification will identify site-specific loading differences that raise EDG or Class 1E battery loading, and demonstrate the electrical distribution system is adequately sized for the additional load.	8.1.3

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Item No.	Description	Section
8.2-1	A COL applicant that references the U.S. EPR design certification will provide site specific information regarding the offsite transmission system and their connections to the station switchyard.	8.2.1.1
8.2-2	A COL applicant that references the U.S. EPR design certification will provide site-specific information for the switchyard layout design.	8.2.1.2
8.2-3	A COL applicant that references the U.S. EPR design certification will provide site-specific information that identifies actions necessary to restore offsite power and use available nearby power sources when offsite power is unavailable.	8.2.2.7
8.2-4	A COL applicant that references the U.S. EPR design certification will provide a site-specific grid stability analysis.	8.2.2.4
8.2-5	A COL applicant that references the U.S. EPR design certification will provide site-specific information for the protective devices that control the switchyard breakers and other switchyard relay devices.	8.2.1.2
8.2-6	A COL applicant that references the U.S. EPR design certification will provide site-specific information for the station switchyard equipment inspection and testing plan.	8.2.2.5
8.2-7	A COL applicant that references the U.S. EPR design certification will provide site specific information regarding the communication agreements and protocols between the station and the transmission system operator, independent system operator, or reliability coordinator/authority. Additionally, the applicant will provide a description of the analysis tool used by the transmission system operator to determine, in real time, the impact that the loss or unavailability of various transmission system elements will have on the condition of the transmission system to provide post-trip voltages at the switchyard. The information provided will be consistent with information requested in NRC Generic Letter 2006-02.	8.2.1.1
8.2-8	A COL applicant that references the U.S. EPR design certification will provide site-specific information regarding indication and control of switchyard components.	8.2.1.2
8.3-1	A COL applicant that references the U.S. EPR design certification will monitor and maintain EDG reliability during plant operations to verify the selected reliability level target is being achieved as intended by RG 1.155.	8.3.1.1.5
8.3-2	A COL applicant that references the U.S. EPR design certification will describe inspection, testing and monitoring programs to detect the degradation of inaccessible or underground power cables that support EDGs, offsite power, ESW and other systems that are within the scope of 10 CFR 50.65.	8.3.1.1.8
8.4-1	A COL applicant that references the U.S. EPR design certification will provide site-specific information that identifies any additional local power sources and transmission paths that could be made available to resupply the power plant following a LOOP.	8.4.1.3
8.4-2	A COL applicant that references the U.S. EPR design certification will address the RG 1.155 guidance related to procedures and training to cope with SBO.	8.4.2.6.4
9.1-1	A COL applicant that references the U.S. EPR design certification will provide site-specific information on the heavy load handling program, including a commitment to procedures for heavy load lifts in the vicinity of irradiated fuel or safe shutdown equipment, and crane operator training and qualification.	9.1.5.2.5
9.2-1	A COL applicant that references the U.S. EPR design certification will provide site specific information for the UHS support systems such as makeup water, blowdown, and chemical treatment (to control biofouling).	9.2.5.2
9.2-2	A COL applicant that references the U.S. EPR design certification will provide site-specific details related to the sources and treatment of makeup to the potable and sanitary water system along with a simplified piping and instrument diagram.	9.2.4.2.1
9.2-3	The raw water supply system (RWSS) and the design requirements of the RWSS are site specific and will be addressed by the COL applicant.	9.2.9
9.2-4	A COL applicant that references the U.S. EPR design certification will provide a description of materials that will be used for the essential service water system (ESWS) at their site location, including the basis for determining that the materials being used are appropriate for the site location and for fluid properties that apply	9.2.1.3.5

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Item No.	Description	Section
9.2-5	A COL applicant that references the U.S. EPR design certification will provide a description of materials that will be used for the UHS at their site location, including the basis for determining that the materials being used are appropriate for the site location and for the fluid properties that apply.	9.2.5.2
9.4-1	A COL applicant that references the U.S. EPR design certification will provide site-specific design information for the turbine building ventilation system (TBVS).	9.4.4
9.4-2	A COL applicant that references the U.S. EPR design certification will provide site-specific design information for the switchgear building ventilation system, turbine island (SWBVS).	9.4.4
9.5-1	A COL applicant referencing the U.S. EPR certified design will identify additional site specific communication locations necessary to support effective communication between plant personnel in all vital areas of the plant during normal operation, as well as during accident conditions.	9.5.2.3
9.5-2	A COL applicant that references the U.S. EPR design certification will submit site specific information to address the Regulatory Guide 1.189, Regulatory Position C.1.7.1, Design and Procurement Document Control.	Table 9.5-1, C.1.7.1
9.5-3	A COL applicant that references the U.S. EPR design certification will submit site specific information to address the Regulatory Guide 1.189, Regulatory Position C.1.7.2, Instructions, Procedures and Drawings.	Table 9.5-1, C.1.7.2
9.5-4	A COL applicant that references the U.S. EPR design certification will submit site specific information to address the Regulatory Guide 1.189, Regulatory Position C.1.7.3, Control of Purchased Material, Equipment, and Services.	Table 9.5-1, C.1.7.3
9.5-5	A COL applicant that references the U.S. EPR design certification will submit site specific information to address the Regulatory Guide 1.189, Regulatory Position C.1.8, Fire Protection Program Changes/Code Deviations.	Table 9.5-1, C.1.8
9.5-6	A COL applicant that references the U.S. EPR design certification will submit site specific information to address the Regulatory Guide 1.189, Regulatory Position C.1.8.1, Change Evaluations.	Table 9.5-1, C.1.8.1
9.5-7	A COL applicant that references the U.S. EPR design certification will submit site specific information to address the Regulatory Guide 1.189, Regulatory Position C.1.8.5, 10 CFR 50.72 Notification and 10 CFR 50.73 Reporting.	Table 9.5-1, C.1.8.5
9.5-8	A COL applicant that references the U.S. EPR design certification will submit site specific information to address the Regulatory Guide 1.189, Regulatory Position C.1.8.7, Fire Modeling.	Table 9.5-1, C.1.8.7
9.5-9	A COL applicant that references the U.S. EPR design certification will submit site specific information to address the Regulatory Guide 1.189, Regulatory Position C.5.5, Post-Fire Safe- Shutdown Procedures.	Table 9.5-1, C.5.5
9.5-10	A COL applicant that references the U.S. EPR design certification will submit site specific information to address the Regulatory Guide 1.189, Regulatory Position C.5.5.1, Safe- Shutdown Procedures.	Table 9.5-1, C.5.5.1
9.5-11	A COL applicant that references the U.S. EPR design certification will submit site specific information to address the Regulatory Guide 1.189, Regulatory Position C.5.5.2, Alternative/ Dedicated Shutdown Procedures.	Table 9.5-1, C.5.5.2
9.5-12	A COL applicant that references the U.S. EPR design certification will submit site specific information to address the Regulatory Guide 1.189, Regulatory Position C.5.5.3, Repair Procedures.	Table 9.5-1, C.5.5.3
9.5-13	A COL applicant that references the U.S. EPR design certification will submit site specific information to address the Regulatory Guide 1.189, Regulatory Position C.6.2.4, Independent Spent Fuel Storage Areas.	Table 9.5-1, C.6.2.4
9.5-14	A COL applicant that references the U.S. EPR design certification will submit site specific information to address the Regulatory Guide 1.189, Regulatory Position C.6.2.6, Cooling Towers.	9.5.1.2.1
9.5-15	A COL applicant that references the U.S. EPR design certification will submit site specific information to address Regulatory Guide 1.189, Regulatory Position C.7.6, Nearby Facilities.	Table 9.5-1, C.7.6

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Item No.	Description	Section
9.5-16	A COL applicant that references the U.S. EPR design certification will perform an as-built, post-fire Safe Shutdown Analysis, which includes final plant cable routing, fire barrier ratings, purchased equipment, equipment arrangement and includes a review against the assumptions and requirements contained in the Fire Protection Analysis. The post-fire Safe Shutdown Analysis will demonstrate that safe shutdown performance objectives are met prior to fuel loading and will include a post-fire safe shutdown circuit analysis based on the methodology described in NEI 00-01, "Guidance for Post-Fire Safe-Shutdown Circuit Analysis."	9.5.1.2.1
9.5-17	A COL applicant that references the U.S. EPR design certification will evaluate the differences between the as-designed and as-built plant configuration to confirm the Fire Protection Analysis remains bounding. This evaluation will be performed prior to fuel loading and will consider the final plant cable routing, fire barrier ratings, combustible loading, ignition sources, purchased equipment, equipment arrangement and includes a review against the assumptions and requirements contained in the Fire Protection Analysis. The applicant will describe how this as-built evaluation will be performed and documented, and how the NRC will be made aware of deviations from the FSAR, if any.	9.5.1.3
9.5-18	A COL applicant that references the U.S. EPR design certification will perform a supplemental Fire Protection Analysis for site-specific areas of the plant not analyzed bv the FSAR.	9.5.1.3
9.5-19	A COL applicant that references the U.S. EPR design certification will provide a description and simplified Fire Protection System piping and instrumentation diagrams for site-specific systems.	9.5.1.2.1
9.5-20	A COL applicant that references the U.S. EPR design certification will describe the program used to monitor and maintain an acceptable level of quality in the fire protection system freshwater storage tanks.	9.5.1.2.1
9.5-21	A COL applicant that references the U.S. EPR design certification will provide a description of the offsite communication system that interfaces with the onsite communication system, including type of connectivity, radio frequency, normal and backup power supplies and plant security system interface.	9.5.2.1.1
9.5-22	A COL applicant that references the U.S. EPR design certification will describe the site-specific sources of acceptable fuel oil available for refilling the EDG fuel oil storage tanks within seven days, including the means of transporting and refilling the fuel storage tanks, following a design basis event to enable each diesel generator system to supply uninterrupted emergency power.	9.5.4.4
10.0-1	Deleted	
10.2-1	Deleted	
10.2-2	A COL applicant that references the U.S. EPR design certification will provide applicable material properties of the turbine rotor, including the method of calculating the fracture toughness properties, after the site specific turbine has been procured.	10.2.3.1
10.2-3	A COL applicant that references the U.S. EPR design certification will provide applicable turbine disk rotor specimen test data, load displacement data from the compact tension specimens and the fracture toughness properties after the site-specific turbine has been procured.	10.2.3.2
10.2-4	A COL applicant that references the U.S. EPR design certification will provide schematics and logic diagrams for the turbine control system.	10.2.2.5
10.2-5	A COL applicant that references the U.S. EPR design certification will provide the site-specific turbine rotor inservice inspection program and inspection interval consistent with the manufacturer's turbine missile analysis.	10.2.3.6
10.3-1	A COL applicant that references the U.S. EPR design certification will identify the authority responsible for implementation and management of the secondary side water chemistry program.	10.3.5
10.3-2	A COL applicant that references the U.S. EPR design certification will develop and implement a FAC condition monitoring program that is consistent with Generic Letter 89-08 and NSAC-202L-R3 for the carbon steel portions of the steam and power conversion systems that contain water or wet steam prior to initial fuel loading.	10.3.6.3
10.4-1	A COL applicant that references the U.S. EPR design certification will describe the site-specific main condenser materials.	10.4.1.2

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Item No.	Description	Section
10.4-2	A COL applicant that references the U.S. EPR design certification will describe the site-specific design pressure and test pressure for the main condenser.	10.4.1.2
10.4-3	A COL applicant that references the U.S. EPR design certification will provide the description of the site-specific portions of the CWS.	10.4.5.2.1
10.4-4	A COL applicant that references the U.S. EPR design certification will provide the specific chemicals used within the chemical treatment system as determined by the site-specific water conditions.	10.4.5.2.2
10.4-5	A COL applicant that references the U.S. EPR design certification will provide the site-specific CWS piping design pressure.	10.4.5.2.2
10.4-6	If a vacuum priming system is required, a COL applicant that references the U.S. EPR design certification will provide the site-specific information.	10.4.5.2.2
10.4-7	A COL applicant that references the U.S. EPR design certification will provide information to address the potential for flooding of safety-related equipment due to failures of the site-specific CWS.	10.4.5.3
11.2-1	A COL applicant that references the U.S. EPR design certification will perform a site-specific liquid waste management system cost-benefit analysis.	11.2.4
11.2-2	A COL applicant that references the U.S. EPR design certification will provide site-specific information on the release pathway, including a detailed description of the discharge path and plant sources of dilution, the discharge flow rate, and dilution factors at or beyond the point of discharge.	11.2.3.3
11.2-3	A COL applicant that references the U.S. EPR design certification will confirm that the site-specific parameters are bounded by those provided in Table 11.2-5 and the dose pathways provided in Section 11.2.3.4.1. For site-specific parameters that are not bounded by the values provided in Table 11.2-5 and dose pathways other than those provided in Section 11.2.3.4.1, a COL applicant that references the U.S. EPR design certification will perform a site-specific liquid pathway dose analysis following the guidance provided in RG 1.109 and RG 1.113, and compare the doses to the numerical design objectives of 10 CFR Part 50, Appendix I and demonstrate compliance with requirements of 10 CFR Part 20.1302 and 40 CFR Part 190.	11.2.3.4.2
11.2-4	A COL applicant that references the U.S. EPR design certification will confirm that the site-specific annual average liquid effluent concentrations are bounded by those specified in Table 11.2-7. For site-specific annual average liquid effluent concentrations that exceed the values provided in Table 11.2-7, a COL applicant that references the U.S. EPR design certification will demonstrate that the annual average liquid effluent concentrations for expected and design basis conditions meet the limits of 10 CFR Part 20, Appendix B, Table 2 in unrestricted areas.	11.2.3.5
11.2-5	A COL applicant that references the U.S. EPR design certification will confirm that the site-specific data (such as distance from release location to unrestricted area, contaminant migration time, and dispersion and dilution in surface or ground water) are bounded by those specified in Section 11.2.3.7. For site-specific parameters that exceed the values provided in Section 11.2.3.7, a COL applicant that references the U.S. EPR design certification will provide a site-specific analysis to demonstrate that the resulting water concentrations in the unrestricted area would meet the concentration limits of 10 CFR Part 20, Appendix B, Table 2 using the guidance provided in SRP Sections 2.4.12, 2.4.13, 11.2 and BTP 11-6.	11.2.3.7
11.2-6	A COL applicant that references the U.S. EPR design certification and that chooses to install and operate mobile skid-mounted processing systems connected to permanently installed LWMS processing equipment will include plant and site-specific information describing how design features and implementation of operating procedures for the LWMS will address the requirements of 10 CFR Part 20.1406(b) and guidance of SRP Section 11.2, RG 4.21 and 1.143, IE Bulletin 80-10, and NEI 08-08.	11.2.1.2.4
11.3-1	A COL applicant that references the U.S. EPR design certification will perform a site-specific gaseous waste management system cost-benefit analysis.	11.3.4
11.3-2	A COL applicant that references the U.S. EPR design certification will provide a discussion of the onsite vent stack design parameters and site-specific release point characteristics.	11.3.3.3

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Item No.	Description	Section
11.3-3	A COL applicant that references the U.S. EPR design certification will confirm that the site-specific parameters are bounded by those provided in Table 11.3-4 and the dose pathways provided in Section 11.3.3.4. For site-specific parameters that are not bounded by the values provided in Table 11.3-4 and dose pathways other than those provided in Section 11.3.3.4, a COL applicant that references the U.S. EPR design certification will perform a site-specific gaseous pathway dose analysis following the guidance provided in RG 1.109 and RG 1.111, and compare the doses to the numerical design objectives of 10 CFR Part 50, Appendix I and demonstrate compliance with requirements of 10 CFR Part 20.1302 and 40 CFR Part 190.	11.3.3.4
11.3-4	A COL applicant that references the U.S. EPR design certification will confirm that the site-specific annual average gaseous effluent concentrations are bounded by those specified in Table 11.3-6. For site-specific annual average gaseous effluent concentrations that exceed the values provided in Table 11.3-6, a COL applicant that references the U.S. EPR design certification will demonstrate that the annual average gaseous effluent concentrations for expected and design basis conditions meet the limits of 10 CFR Part 20, Appendix B, Table 2 in unrestricted areas.	11.3.3.5
11.3-5	A COL applicant that references the U.S. EPR design certification will confirm that the site-specific accident atmospheric dispersion data is bounded by the values provided in Table 2.1-1. For site-specific accident atmospheric dispersion data that exceed the values provided in Table 2.1-1, a COL applicant that references the U.S. EPR design certification will provide a site-specific analysis demonstrating that the resulting dose at the exclusion area boundary associated with a radioactive release due to gaseous waste system leak or failure does not exceed 0.1 rem in accordance with SRP Section 11.3, BTP 11-5.	11.3.3.6
11.3-6	A COL applicant that references the U.S. EPR design certification and that chooses to install and operate mobile skid-mounted processing systems connected to permanently installed GWMS processing equipment will include plant and site-specific information describing how design features and implementation of operating procedures for the GWMS will address the requirements of 10 CFR Part 20.1406(b) and guidance of SRP Section 11.3, RG 4.21, RG 1.143, IE Bulletin 80-10, and NEI 08-08.	11.3.1.2.4
11.4-1	A COL Applicant that references the U.S. EPR design certification will fully describe, at the functional level, elements of the Process Control Program (PCP). This program description will identify the administrative and operational controls for waste processing process parameters and surveillance requirements which demonstrate that the final waste products meet the requirements of applicable federal, state, and disposal site waste form requirements for burial at a 10 CFR 61 licensed low level disposal site, toxic or hazardous waste requirements per 10 CFR 20.2007, and will be in accordance with the guidance provided in RG 1.21, NUREG-0800 Branch Technical Position 11-3, ANSI/ANS- 55.1-1992, and Generic Letters 80-09, 81-38, and 81-39. NEI 07-10A PCP Template is an alternate means of demonstrating compliance with GL 89-01 and SECY 05-0197 until a plant specific PCP is developed under license conditions.	11.4.3
11.4-2	A COL applicant that references the U.S. EPR design certification and that chooses to install and operate mobile skid-mounted processing systems connected to permanently installed solid waste management system (SWMS) processing equipment will include plant and site-specific information describing how design features and implementation of operating procedures for the SWMS will address the requirements of 10 CFR Part 20.1406(b) and guidance of SRP Section 11.4, Regulatory Guides 4.21 and 1.143, IE Bulletin 80-10, industry standards, and NEI 08-08.	11.4.1
11.4-3	A COL applicant that references the U.S. EPR design certification will address plant-specific commitments to address the long-term storage of LLRW beyond the provisions described in the U.S. EPR design certification when such storage capacity is exhausted and describe how additional onsite LLRW storage or alternate LLRW storage will be integrated in plant operations. To address the need for additional storage, the commitment will address the requirements of 10 CFR Part 20, Appendix B (Table 2, Column 1 and 2); dose limits of 10 CFR 20.1301, 20.1302, and 20.1301(e) in unrestricted areas; Part 20.1406(b) in minimizing the contamination of plant facilities and environs; and design objectives of Sections II.A, II.B, II.C, and II.D of Appendix I to 10 CFR Part 50. The design and operations of additional onsite storage capacity will be integrated in the plant-specific process control program and consider the guidance of SRP Section 11.4 and Appendix 11.4-A, Regulatory Guides 1.206, 4.21 and 1.143, IE Bulletin 80-10, industry standards, and NEI 08-08	11.4.1

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Item No.	Description	Section
11.5-1	A COL applicant that references the U.S. EPR design certification will fully describe, at the functional level, elements of the process and effluent monitoring and sampling programs required by 10 CFR Part 50 Appendix I, and 10 CFR 52.79 (a)(16). This program description, Offsite Dose Calculation Manual (ODCM), will specify how a licensee controls, monitors, and performs radiological evaluations of releases. The program will also document and report radiological effluents discharged to the environment. NEI 07-09A is an alternate means of demonstrating compliance with GL 89-01 and SECY 05-0197 until a plant and site-specific ODCM is developed under a license condition. NEI 07-9A is an alternate means of demonstrating compliance with GL 89-01 and SECY 05-0197 until a plant and site-specific ODCM is developed under a license condition.	11.5.2
11.5-2	A COL applicant that references the U.S. EPR design certification and that chooses to install and operate skid-mounted radiation monitoring and sampling systems connected to permanently installed radioactive process and waste management systems will include plant-specific information describing how design features and implementation of operating procedures for the PERMSS will address the requirements of 10 CFR Part 20.1406(b) and guidance of SRP Section 11.5, Regulatory Guides 4.21 and 1.143, IE Bulletin 80-10, ANSI/HPS-13.1-1999 and ANSI N42.18-2004, and NEI 08-08.	11.5.1
11.5-3	A COL applicant that references the U.S. EPR design certification is responsible for deriving PERMSS subsystem's lower limits of detection or detection sensitivities, and set-points (alarms and process termination/diversion) for liquid and gaseous process radiation monitoring equipment not covered by the ODCM based on plant and site-specific conditions and operating characteristics of each installed radiation monitoring subsystem.	11.5.2
11.5-4	A COL applicant that references the U.S. EPR design certification is responsible for developing a plant-specific process and effluent radiological sampling and analysis plan for systems not covered by the ODCM, including provisions describing sampling and analytical frequencies, and radiological analyses for the expected types of liquid and gaseous samples and waste media generated by the LWMS, GWMS, and SWMS.	11.5.2
12.1-1	A COL applicant that references the U.S. EPR design certification will fully describe, at a functional level, elements of the ALARA program for ensuring that occupational radiation exposures are ALARA. This program will comply with provisions of 10 CFR Part 20 and be consistent with the guidance in RGs 1.8, 8.2, 8.7, 8.8, 8.9, 8.10, 8.13, 8.15, 8.27, 8.28, 8.29, 8.34, 8.35, 8.36, and 8.38, and the applicable portions of NUREG-1736.	12.1.3
12.2-1	A COL applicant that references the U.S. EPR design certification will provide site-specific information for required radiation sources containing byproduct, source, and special nuclear material that may warrant shielding design considerations. This site-specific information will include a listing of isotope, quantity, form, and use of all sources in this latter category that exceed 100 millicuries.	12.2.1.13
12.3-1	A COL applicant that references the U.S. EPR design certification will provide site-specific information on the extent to which the guidance provided by RG 1.21, 1.97, 8.2, 8.8, and ANSI/ HPS-N13.1-1999 is employed in sampling recording and reporting airborne releases of radioactivity.	12.3.4.5
12.3-2	A COL applicant that references the U.S. EPR design certification will provide site-specific information on estimated annual doses to construction workers in a new unit construction area as a result of radiation from onsite radiation sources from the existing operating plant(s). This information will include bases, models, assumptions, and input parameters associated with these annual doses.	12.3.5.1
12.3-3	A COL applicant that references the U.S. EPR design certification will describe the use of portable instruments, and the associated training and procedures, to accurately determine the airborne iodine concentration within the facility where plant personnel may be present during an accident, in accordance with requirements of 10 CFR 50.34(f)(2)(xxvii) and the criteria in Item III.D.3.3 of NUREG-0737. The procedures for locating suspected high-activity areas will be described.	12.3.4.5

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Item No.	Description	Section
12.5-1	A COL applicant that references the U.S. EPR design certification will fully describe, at the functional level, elements of the Radiation Protection Program. The purpose of the Radiation Protection Program is to maintain occupational and public doses ALARA. The program description will identify how the program is developed, documented, and implemented through plant procedures that address quality requirements commensurate with the scope and extent of licensed activities. This program will comply with the provisions of 10 CFR Parts 19, 20, 50, 52, and 71 and be consistent with the guidance in Regulatory Guides 1.206, 1.8, 8.2, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.13, 8.15, 8.27, 8.28, 8.29, 8.34, 8.35, 8.36, 8.38, and the consolidated guidance in NUREG-1736.	12.5
13.1-1	A COL applicant that references the U.S. EPR design certification will provide site-specific information for management, technical support, and operating organizations.	13.1
13.2-1	A COL applicant that references the U.S. EPR design certification will provide site-specific information for training programs for plant personnel.	13.2
13.3-1	A COL applicant that references the U.S. EPR design certification will provide a site-specific emergency plan in accordance with 10 CFR 50.47 and 10 CFR 50 Appendix E.	13.3
13.4-1	A COL applicant that references the U.S. EPR design certification will provide site-specific information for operational programs and schedule for implementation.	13.4
13.5-1	A COL applicant that references the U.S. EPR design certification will provide site-specific information for administrative, operating, emergency, maintenance, and other operating procedures.	13.5
13.6-1	A COL applicant that references the U.S. EPR design certification will provide a site-specific security assessment that adequately demonstrates how the performance requirements of 10 CFR 73.55(a) are met for the initial implementation of the security program.	13.6
13.6-2	A COL applicant that references the U.S. EPR design certification will provide a security plan to the NRC to fulfill the requirements of 10 CFR 52.79(a)(35).	13.6
13.6-3	A COL applicant that references the U.S. EPR design certification will provide a security program through the PSP and supporting documents such as the vital equipment list and the vital areas list that incorporates the security features listed in the U.S. EPR FSAR Tier 2, Section 13.6.	13.6
13.6-4	A COL applicant that references the U.S. EPR design certification will provide a cyber security plan consistent with 10 CFR 73.54.	13.6
13.7-1	A COL applicant that references the U.S. EPR design certification will submit a physical security plan to the NRC to fulfill the fitness for duty requirements of 10 CFR Part 26.	13.7
14.2-1	A COL applicant that references the U.S. EPR certified design will provide site specific information that describes the organizational units that manage, supervise, or execute any phase of the test program.	14.2.2
14.2-2	A COL applicant that references the U.S. EPR certified design will develop a test program that considers the following guidance components: 1) The applicant should allow at least nine months to conduct preoperational testing. 2) The applicant should allow at least three months to conduct startup testing, including fuel loading, low-power tests, and power-ascension tests. 3) Plant safety will not be dependent on the performance of untested SSCs during any phase of the startup test program. 4) Surveillance test requirements will be completed in accordance with plant Technical Specification requirements for SSC operability before changing plant modes. 5) Overlapping test program schedules (for multiunit sites) should not result in significant divisions of responsibilities or dilutions of the staff provided to implement the test program. 6) The sequential schedule for individual startup tests should establish, insofar as practicable, that test requirements should be completed prior to exceeding 25 percent power for SSC that are relied on to prevent, limit, or mitigate the consequences of postulated accidents. 7) Approved test procedures should be in a form suitable for review by regulatory inspectors at least 60 days prior to their intended use or at least 60 days prior to fuel loading for fuel loading and startup test procedures. 8) Identify and cross reference each test (or portion thereof) required to be completed before initial fuel loading and that is designed to satisfy the requirements for completing ITAAC.	14.2.11
14.2-3	A COL applicant that references the US EPR design certification will provide site-specific information for review and approval of test procedures.	14.2.3

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Item No.	Description	Section
14.2-4	A COL applicant that references the US EPR design certification will address the site-specific administrative procedures for review and approval of test results.	14.2.5
14.2-5	A COL applicant that references the U.S. EPR design certification will provide site-specific test abstract information for the circulating water supply system.	14.2.12
14.2-6	A COL applicant that references the U.S. EPR certified design will either perform the natural circulation test (Test #196) or provide justification for not performing the test. The need to perform the test will be based on evaluation of previous natural circulation test results and a comparison of reactor coolant system (RCS) hydraulic resistance coefficients applicable to normal flow conditions.	14.2.12
14.2-7	A COL applicant that references the U.S. EPR design certification will provide site-specific test abstract information for the cooling tower.	14.2.12
14.2-8	A COL applicant that references the U.S. EPR design certification will provide site-specific test abstract information for the raw water supply system.	14.2.12
14.2-9	A COL applicant that references the U.S. EPR design certification will provide site-specific test abstract information for personnel radiation monitors.	14.2.12
14.2-10	A COL applicant that references the U.S. EPR design certification will plan, and subsequently conduct, the plant startup test program.	14.2.4
14.2-11	A COL applicant that references the U.S. EPR design certification will identify the specific operator training to be conducted as part of the low-power testing program related to the resolution of TMI Action Plan Item I.G.1, as described in (1) NUREG-0660 - NRC Action Plans Developed as a Result of the TMI-2 Accident, Revision 1, August 1980, (2) NUREG-0694 - TMI-Related Requirements for New Operating Licenses, June 1980, and (3) NUREG-0737 - Clarification of TMI Action Plan requirements.	14.2.9
14.2-12	A COL applicant that references the U.S. EPR design certification will provide site-specific test abstract information for plant laboratory equipment.	14.2.12
14.2-13	A COL applicant that references the U.S. EPR design certification will provide site-specific test abstract information for the turbine island ventilation systems.	14.3
14.3-1	A COL applicant that references the U.S. EPR design certification will provide ITAAC for emergency planning, physical security, and site specific portions of the facility that are not included in the Tier 1 ITAAC associated with the certified design (10 CFR 52.80(a)).	14.3
14.3-2	A COL applicant that references the U.S. EPR design certification will describe the selection methodology for site-specific SSCs to be included in ITAAC, if the selection methodology is different from the methodology described within the FSAR, and will also provide the selection methodology associated with emergency planning and physical security hardware.	14.3
14.3-3	A COL applicant that references the U.S. EPR design certification will identify a plan for implementing DAC. The plan will identify 1) the evaluations that will be performed for DAC, 2) the schedule for performing these evaluations, and 3) the associated design processes and information that will be available to the NRC for audit.	14.3
15.0-1	A COL applicant that references the U.S. EPR design certification will provide for staff review, prior to the first cycle of operation, the analysis results demonstrating that the uncompensated DNBR and LPD satisfies the SAFDL with a 95/95 assurance in accordance with ANP-10287P.	15.0
16.0-1	Reviewer's Notes and brackets are used to identify information or characteristics that are plant specific or are based on preliminary design information. A COL applicant that references the U.S. EPR design certification will provide the necessary information in response to the Reviewer's Notes and replace preliminary information provided in brackets of the Technical Specifications and Technical Specification Bases with plant specific values.	16.0
17.2-1	A COL applicant that references the U.S. EPR design certification will provide the Quality Assurance Programs associated with the construction and operations phases.	17.2
17.4-1	A COL applicant that references the U.S. EPR design certification will identify the site-specific SSCs within the scope of the RAP.	17.4.2

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Item No.	Description	Section
17.4-2	A COL applicant that references the U.S. EPR design certification will provide the information requested in Regulatory Guide 1.206, Section C.I.17.4.4.	17.4.4
17.6-1	A COL applicant that references the U.S. EPR design certification will describe the process for determining which plant structures, systems, and components (SSC) will be included in the scope of the Maintenance Rule Program in accordance with 10 CFR 50.65(b). The program description will identify that additional SSC functions may be added to or subtracted from the Maintenance Rule scope prior to fuel load, when additional information is developed (e.g., emergency operating procedures, or EOP), and after the license is issued.	17.6.1
17.6-2	A COL applicant that references the U.S. EPR design certification will provide the process for determining which SSC within the scope of the Maintenance Rule program will be tracked to demonstrate effective control of their performance or condition in accordance with 10 CFR 50.65(a)(2).	17.6.2
17.6-3	A COL applicant that references the U.S. EPR design certification will provide a program description for monitoring SSC in accordance with 10 CFR 50.65(a)(1).	17.6.2
17.6-4	A COL applicant that references the U.S. EPR design certification will identify and describe the program for periodic evaluation of the Maintenance Rule program in accordance with 10 CFR 50.65(a)(3).	17.6.3
17.6-5	A COL applicant that references the U.S. EPR design certification will describe the program for maintenance risk assessment and management in accordance with 10 CFR 50.65(a)(4). Since the removal of multiple SSC from service can lead to a loss of Maintenance Rule functions, the program description will address how removing SSC from service will be evaluated. For qualitative risk assessments, the program description will explain how the risk assessment and management program will preserve plant-specific key safety functions.	17.6.4
17.6-6	A COL applicant that references the U.S. EPR design certification will describe the program for selection, training, and qualification of personnel with Maintenance-Rule-related responsibilities consistent with the provisions of Section 13.2 as applicable. Training will be commensurate with maintenance rule responsibilities, including Maintenance Rule Program administration, the expert panel process, operations, engineering, maintenance, licensing, and plant management.	17.6.5
17.6-7	A COL applicant that references the U.S. EPR design certification will describe the relationship and interface between Maintenance Rule Program and the Reliability Assurance Program.	17.6.6
17.6-8	A COL applicant that references the U.S. EPR design certification will describe the plan or process for implementing the Maintenance Rule Program as described in the COL application, which includes establishing program elements through sequence and milestones and monitoring or tracking the performance and/or condition of SSC as they become operational. The Maintenance Rule Program will be implemented by the time that fuel load is authorized.	17.6.8
17.6-9	A COL applicant that references the U.S. EPR design certification will describe the program for Maintenance Rule implementation.	17.6
18.1-1	A COL applicant that references the U.S. EPR design certification will execute the NRC approved HFE program as described in this section.	18.1
18.1-2	A COL applicant that references the U.S. EPR design certification will be responsible for HFE design implementation for a new Emergency Operations Facility (EOF) and/or Operational Support Center (OSC) and changes resulting from the addition of the U.S. EPR to an existing EOF and/or OSC.	18.1.1.3
18.5-1	A COL applicant that references the U.S. EPR design will confirm that actual staffing levels and qualifications of plant personnel specified in Section 13.1 of the COL application remain bounded by regulatory requirements and results of the staffing and qualifications analysis.	18.5
18.8-1	A COL applicant that references the U.S. EPR design certification will describe how HFE principles and criteria are incorporated into the development program for site procedures.	18.8
18.9-1	A COL applicant that references the U.S. EPR design certification will describe how HFE principles and criteria are incorporated into the development of training program scope, structure, and methodology.	18.9
18.12-1	A COL applicant that references the U.S. EPR design certification will implement a human performance monitoring program similar to that which is described in this section.	18.12

Table 1.8-2— FSAR Sections that Address COL Items
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Item No.	Description	Section
19.0-1	A COL applicant that references the U.S. EPR design certification will either confirm that the PRA in the design certification bounds the site specific design information and any design changes or departures, or update the PRA to reflect the site-specific design information and any design changes or departures.	19.0
19.1-1	A COL applicant that references the U.S. EPR design certification will describe the uses of PRA in support of licensee programs and identify and describe risk-informed applications being implemented during the combined license application phase.	19.1.1.2
19.1-2	A COL applicant that references the U.S. EPR design certification will describe the uses of PRA in support of licensee programs and identify and describe risk-informed applications being implemented during the construction phase.	19.1.1.3
19.1-3	A COL applicant that references the U.S. EPR design certification will describe the uses of PRA in support of licensee programs and identify and describe any risk-informed applications being implemented during the operational phase.	19.1.1.4
19.1-4	A COL applicant that references the U.S. EPR design certification will conduct a peer review of the PRA relative to the ASME PRA Standard prior to use of the PRA to support risk-informed applications or before fuel load.	19.1.2.3
19.1-5	A COL applicant that references the U.S. EPR design certification will describe the applicant's PRA maintenance and upgrade program.	19.1.2.4.1
19.1-6	A COL applicant that references the U.S. EPR design certification will confirm that the design-specific U.S. EPR PRA-based seismic margins assessment is bounding for their specific site.	19.1.5.1.2.4
19.1-7	A COL applicant that references the U.S. EPR design certification will perform the site-specific screening analysis and the site-specific risk analysis for external events applicable to their site, including a site-specific PRA-based SMA for soil effects (including sliding and overturning, liquefaction, and slope failure).	19.1.5.4
19.1-8	A COL applicant that references the U.S. EPR design certification will describe the uses of PRA in support of site-specific design programs and processes during the design phase.	19.1.1.1
19.1-9	A COL applicant that references the U.S. EPR design certification will review as-designed and as-built information and conduct walk-downs as necessary to confirm that the assumptions used in the PRA (including PRA inputs to RAP and SAMDA) remain valid with respect to internal events, internal flood and fire events (routings and locations of pipe, cable and conduit), and HRA analyses (development of operating procedures, emergency operating procedures and severe accident management guidelines and training), external events including PRA-based seismic margins HCLPF fragilities, and LPSD procedures.	19.1.2.2
19.2-1	A COL applicant that references the U.S. EPR design certification will develop and implement severe accident management guidelines prior to fuel loading using the Operating Strategies for Severe Accidents (OSSA) methodology described in U.S. EPR FSAR Section 19.2.5.	19.2.5

1.9 CONFORMANCE WITH REGULATORY CRITERIA

This section of the U.S. EPR FSAR is incorporated by reference with the following supplements.

The U.S. EPR FSAR includes the following COL Item in Section 1.9:

> A COL applicant that references the U.S. EPR design certification will review and address the conformance with regulatory criteria in effect six months before the docket date of the COL application for the site-specific portions and operational aspects of the facility design.

This COL Item is addressed as follows:

A guide to U.S. EPR conformance with regulatory criteria is presented in Section 1.9 of the U.S. EPR FSAR. Conformance with regulatory criteria was summarized in Sections 1.9.1 through 1.9.5 of the U.S. EPR FSAR, including four conformance demonstration tables. These four conformance demonstration tables include U.S. EPR FSAR Table 1.9–2, U.S. EPR Conformance with Regulatory Guides, U.S. EPR FSAR Table 1.9–3, U.S. EPR Conformance with TMI Requirements (10 CFR 50.34(f)) and Generic Issues (NUREG-0933), U.S. EPR FSAR Table 1.9–4, U.S. EPR Conformance with Advanced and Evolutionary Light-Water Reactor Design Issues (SECY-93-087), Table 1–2, U.S. EPR Conformance with Standard Review Plan (NUREG-0800) from ANP-10292, U.S. EPR Conformance with Standard Review Plan (NUREG-0800) Technical Report (AREVA 2009).

Codes used to indicate conformance determinations in the "U.S. EPR Assessment" columns of the four conformance demonstration tables are listed in Table 1.9-1 of the U.S. EPR FSAR. The definition of the conformance code "N/A-COL" is:

> Guidance addresses concerns not addressed with the context of a design certification application and must be addressed by a combined license (COL) applicant referencing the U.S. EPR design certification.

Site-specific conformance to relevant aspects of the associated NRC guidance, as stipulated within the specific context of the cited guidance statement, was assessed for the regulatory guidance assigned a code of "N/A-COL" in the four conformance demonstration tables of the U.S. EPR FSAR.

Regulatory guidance not applicable to {CCNPP Unit 3} or not within the scope of the FSAR is not identified as non-conforming. Therefore, exceptions to this non-applicable regulatory guidance are not required. For example, Regulatory Guide 1.81, Shared Emergency and Shutdown Electric Systems for Multi-Unit Nuclear Power Plants, is not applicable to {CCNPP Unit 3} since it does not share emergency or shutdown electric systems with {CCNPP Units 1 and 2}. The results of these assessments are presented in Sections 1.9.1, 1.9.2, 1.9.3, and 1.9.5. Conformance with regulatory criteria associated with operational experience (generic communications) is addressed in Section 1.9.4.

1.9.1 Conformance with Regulatory Guides

Site-specific assessment of conformance with the regulatory guidance identified with a code of "N/A-COL" in Table 1.9-2 of the U.S. EPR FSAR was performed. Those Regulatory Guides for which the facility takes exception are identified in Table 1.9-1. The document and section that address the exceptions are also provided in Table 1.9-1. No exceptions are taken to other applicable Regulatory Guides included in U.S. EPR FSAR Table 1.9-2.

1.9.2 Conformance with the Standard Review Plan

Site-specific assessment of conformance with regulatory guidance identified with a code of "N/A-COL" in Table 1-2 of ANP-10292 (AREVA, 2009) was performed. No exceptions are taken to the applicable NUREG-0800 acceptance criteria included in ANP-10292, Table 1-2.

1.9.3 Generic Issues

Assessment of the conformance with regulatory requirements and guidance identified with a code of "N/A-COL" in Table 1.9-3 of the U.S. EPR FSAR was performed. {CCNPP Unit 3} conforms to the regulatory requirements and applicable regulatory guidance in effect six months prior to the submittal date of the COL application that were assigned an assessment code of "N/A-COL" in Table 1.9-3 of the U.S. EPR FSAR.

1.9.4 Operational Experience (Generic Communications)

Operational experience described in Bulletins and Generic Letters are incorporated by the NRC staff into updates of applicable sections of NUREG-0800. The U.S. EPR design certification application was submitted May29, 2009 (AREVA, 2009) and addressed conformance with the most recent NUREG-0800 updates relative to the U.S. EPR design certification application, March 2007 (for NUREG-0800 Chapters 1-18) and June 2007 (for NUREG-0800 Chapter 19). {In the time period from the mentioned NUREG-0800 updates to September, 2007 (i.e. six months prior to submittal of the remainder of the CCNPP Unit 3 COL application), no new applicable NRC Bulletins or Generic Letters were issued. Therefore, the conformance assessment for CCNPP Unit 3 relative to operational experience is satisfied by the conformance assessment provided in Section 1.9.2 above.}

1.9.5 Advanced and Evolutionary Light-Water Reactor Design Issues

Assessment of the conformance with regulatory guidance identified with a code of "N/A-COL" in Table 1.9-4 of the U.S. EPR FSAR was performed. {CCNPP Unit 3} conforms to the applicable regulatory guidelines in effect six months prior to the submittal date of the COL application that were assigned an assessment code of "N/A-COL" in Table 1.9-4 of the U.S. EPR FSAR.

1.9.6 References

{**AREVA, 2009.** U.S. EPR Conformance with Standard Review Plan (NUREG-0800) Technical Report, ANP-10292, Revision 1, AREVA, May 2009.}

Table 1.9-1— {Conformance with Regulatory Guides}

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RG / Rev	Description	Exception Descriptions	Reference
		Division 1 Regulatory Guides	
1.8, R3	Qualification and Training of Personnel for Nuclear Power plants	Licensed personnel are not able to meet Regulatory Guide 1.8, Rev. 3 operating plant experience requirements on CCNPP Unit 3. Regulatory Guide 1.8, Rev. 2, Regulatory Position C.1.b will be followed instead for a cold licensing program.	FSAR 13.1.3.1 FSAR 13.2 Technical Specifications 5.3.1
		Quality Control and Quality Assurance personnel will meet education and experience requirements in accordance with the approved Quality Assurance Program Description.	FSAR 13.1.3.1
		The Quality Assurance Manager will approve the use of an alternative for the formal education and experience requirements for Quality Assurance positions in accordance with the approved Quality Assurance Program Description.	FSAR 13.1.3.1
1.16, R4	Reporting of Operating Information —Appendix A Technical Specifications	The annual operating report and monthly operating report are submitted in accordance with Technical Specifications. Event reporting is performed in accordance with 10 CFR 50.72 and 50.73 utilizing the guidance of NUREG-1022. Technical Specifications reporting requirements are implemented, as required.	License Condition and Technical Specifications
1.23, R1	Meteorological Monitoring Programs for Nuclear Power Plants	Atmospheric moisture data for the UHS and CWS cooling towers are not taken on site. They are taken from the closest source of atmospheric moisture data at the Patuxent River Naval Air Station. The meteorological tower is at a different elevation than plant grade to assure the tower is on a level, open terrain. No wind shield installed on the precipitation gauge prior to June 2009. A digital data sampling rate of 10 seconds will be used instead of 5 seconds.	FSAR 2.3.3.1.7, 2.3.1.2.2.13, and 2.3.3.2.7 ER 6.4.1, 6.4.1.7, and 6.4.2.7
1.28, R3	Quality Assurance Program Requirements	Quality Assurance Program Requirements are in accordance with the approved Quality Assurance Program Description.	FSAR 17.5
1.30, R0	Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment	Quality Assurance requirements for the installation, inspection, and testing of instrumentation and electric equipment are in accordance with the approved Quality Assurance Program Description.	FSAR 17.5
1.33, R2	Quality Assurance Program Requirements (Operation)	Quality Assurance Program Requirements for Operation are in accordance with the approved Quality Assurance Program Description.	FSAR 17.5
1.38, R2	Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, Handling of Items for Water-Cooled Nuclear Power Plants	Quality Assurance requirements for packaging, shipping, receiving, storage, and handling of items are in accordance with the approved Quality Assurance Program Description.	FSAR 17.5
1.39, R2	Housekeeping Requirements for Water-cooled Nuclear Power Plants	Quality Assurance requirements for housekeeping are in accordance with the approved Quality Assurance Program Description.	FSAR 17.5
1.70, R3	Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants (LWR Edition)	The format and content of the FSAR follows Regulatory Guide 1.206 and the U.S. EPR FSAR.	FSAR 1.1.6

Table 1.9-1— {Conformance with Regulatory Guides}
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RG / Rev	Description	Exception Descriptions	Reference
1.94, R1	Quality Assurance Requirements for Installation, Inspection and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants	Quality Assurance Program Requirements for installation, inspection and testing of structural concrete and structural steel during the construction phase of nuclear power plants are in accordance with the approved Quality Assurance Program Description.	FSAR 17.5
1.116, R0	Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems	Quality Assurance Program Requirements for installation, inspection, and testing of mechanical equipment and systems are in accordance with the approved Quality Assurance Program Description.	FSAR 17.5
1.132, R2	Site Investigation for Foundations of Nuclear Power Plants	Soil boring quantities, locations, and depths, vertical deviation measurements, and soil core photography deviate from Regulatory Guide 1.132.	FSAR 2.5.4.2.2.2
1.138, R2	Laboratory Investigations of Soils and rocks for Engineering Analysis and Design of Nuclear Power Plants	More recent ASTM or EPA standards were used that are equivalent to the out-of-date and uncommon test procedures discussed in Regulatory Guide 1.138, R2	FSAR 2.5.4.2.4
1.198, R0	Procedures and Criteria for Assessing Seismic Soil Liquefaction at Nuclear Power Plant Sites	Aerial photography was not conducted to plan and conduct the subsurface investigation due to uniformity in geologic conditions between the existing CCNPP Units 1 and 2 and CCNPP Unit 3.	FSAR 2.5.4.8.2
1.208, R0	A Performance-Based Approach to Define the Site-Specific Earthquake Ground Motion	EPRI Report TR-1014381 was used in lieu of EPRI Report 1013105. The former report is the final EPRI report versus the latter update report cited in the Regulatory Guide. There is no technical difference between the recommended CEUS sigma values and report conclusions. Equation 7 in Appendix D, Step 3, Determining Controlling Earthquakes, was not used because it is incorrect. A corrected equation was used instead.	FSAR 2.5.2.4.5
		The mean magnitude and mean distance contributing to high frequency ground motion was used versus the average magnitude and average distance specified in Appendix D. Use of the mean provides a more accurate description of the magnitudes and distances.	FSAR 2.5.2.4.6
		Division 4 Regulatory Guides	
4.4, R0	Reporting Procedure for Mathematical Models Selected to Predict Heated Effluent Dispersion in Nuclear Water Bodies	NUREG-1555 Section 5.3.2 was utilized.	ER 5.3.2
		Division 5 Regulatory Guides	
		None	
		Division 8 Regulatory Guides	
8.2, R0	Guide for Administrative Practices in Radiation Monitoring	The reference to 10 CFR 20.401 is no longer valid in the current version of 10 CFR Part 20 ANSI N13.2-1969 was reaffirmed in 1988.	FSAR 12.5

Table 1.9-1— {Conformance with Regulatory Guides}
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RG / Rev	Description	Exception Descriptions	Reference
8.4, R0	Direct-Reading and Indirect-Reading Pocket Dosimeters	The reference to 10 CFR 20.202 (a) and 20.401 is no longer valid in the current version of 10 CFR Part 20. ANSI N13.5-1972 was reaffirmed in 1989. The two performance criteria specified in Regulatory Guide 8.4 (accuracy and leakage) for these devices are met using acceptance standards in ANSI N322-1997 "American National Standard Inspection, Test, Construction, and Performance Requirements for Direct Reading Electrostatic/ Electroscope Type Dosimeters."	FSAR 12.5
8.6, R0	Standard Test Procedure for Geiger-Muller Counters	The instrument calibration program is based upon criteria in ANSI N323-1978 (R1993) "Radiation Protection Instrumentation and Calibration."	FSAR 12.5
8.8, R3	Information Relevant to Ensuring That Occupational Radiation Exposures at Nuclear Power Stations Will Be As Low As Reasonably Achievable	Section C.3.b – Regulatory Guide 1.16 Section C.1.b (3) data is no longer reported. Reporting is also no longer required for Section C.1.b (2). Sections C.4.b – C.4.d – Conformance is with the latest revision of NUREG-0041.	FSAR 12.5