

1.0 Introduction and General Description of the Plant

1.1 Introduction

AREVA NP submits for NRC review and approval under the provisions of 10 CFR Part 52, a Final Safety Analysis Report (FSAR) for an evolutionary pressurized water reactor (herein referred to as the U.S. EPR). AREVA NP requests NRC issuance of a Safety Evaluation Report (SER) and standard design certification for the U.S. EPR in accordance with 10 CFR 52, Subpart B. For the purpose of this document, only a single standard unit is considered. 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.

1.1.1 Plant Location

The U.S. EPR is to be located on a site which meets the parameters described in Chapter 2, "Site Characteristics." A COL applicant that references the U.S. EPR design certification will identify the specific plant site location.

1.1.2 Containment Type

The Containment Building for the U.S. EPR is part of an integrated structure called the Reactor Building. The Reactor Building consists of a cylindrical reinforced concrete outer Shield Building; a cylindrical, post-tensioned concrete inner Containment Building with a steel liner, and an annular space between the two buildings. The Shield Building is capable of protecting the Containment Building from external hazards.

1.1.3 Reactor Type

The U.S. EPR nuclear steam supply system is an AREVA NP-designed evolutionary pressurized water reactor.

1.1.4 Power Output

The U.S. EPR is designed for a rated core thermal power level of 4590 MWt with a bounding secondary heat balance uncertainty of ± 22 MWt. The nuclear steam supply system (NSSS) thermal power rating is about 4614 MWt. The plant is designed to operate at a net electrical power output of approximately 1600 MWe.

1.1.5 Schedule

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

1.1.6 Format and Content

1.1.6.1 Regulatory Guide 1.206

To the extent practical, this document is written in accordance with the format and content of RG 1.206, Rev. 0, “Combined License Applications for Nuclear Power Plants (LWR Edition),” March 2007. While the purpose of this RG is to provide guidance regarding the information to be submitted in a combined license application, AREVA NP has structured the FSAR for the U.S. EPR to be consistent to the extent practical with the format and content that would be expected for a COL applicant. Because the Standard Review Plan (NUREG-0800) was revised to be consistent with the guidance provided in RG 1.206, this should facilitate the NRC review of the FSAR and a COL application that references the U.S. EPR design certification.

1.1.6.2 Standard Review Plan

NUREG-0800 is used as guidance in preparing the content for individual sections of this document. Conformance with the Standard Review Plan is addressed in Section 1.9.

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 or subsection immediately following the text.

1.1.6.4 Numbering of Pages

Pages are numbered sequentially within each section or subsection.

1.1.6.5 Proprietary Information

This document contains no proprietary information. As noted in Section 1.6, the FSAR references topical reports that contain proprietary information. In these cases, in Table 1.6-1, the non-proprietary version of the topical report is also identified.

1.1.6.6 Acronyms

The list of acronyms used in this document is provided in Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions.

1.1.6.7 COL Information Items

A list of COL information items to be addressed by an applicant that references the U.S. EPR design certification is provided in Section 1.8.

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 1 of 17

Acronym	Description
AAC	Alternate AC Source
AC	Alternating Current
ACB	Access Building
ACT	Average Coolant Temperature
ACWS	Auxiliary Cooling Water System
A/D	Analog-to-Digital
ADL	Additional Dynamic Loads
AFWS	Auxiliary Feedwater System
AHU	Air Handling Unit
AHS	Air Humidification System
AICC	Adiabatic Isochoric Complete Combustion
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ALARA	As Low As Reasonably Achievable
ALL	Allowable Load Limit
ALU	Actuator Logic Unit
ALWR	Advanced Light-Water Reactors
AMI	Accident Monitoring Instrumentation
AMS	Aeroball Measurement System
AO	Axial Offset
AOO	Anticipated Operational Occurrence
AOP	Abnormal Operating Procedure
API	Axial Power Imbalance
APU	Acquisition and Processing Units
ARC	Automatic Rod Control
ARS	Amplified Response Spectra
ART	Adjusted Reference Temperature
ASEP	Accident Sequence Evaluation Program
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATWS	Anticipated Transient Without Scram
AVB	Anti-Vibration Bar
AVS	Annulus Ventilation System
AVT	All-Volatile Treatment
B&W	Babcock & Wilcox

**Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 2 of 17**

Acronym	Description
BACC	Boric Acid Corrosion Control
BDBE	Beyond Design Basis Event
BISI	Bypassed and Inoperable Status Indication
BOC	Beginning of Cycle
BOP	Balance of Plant
BPV	Boiler and Pressure Vessel
BRL	Ballistic Research Laboratory
BTP	Branch Technical Position
BWR	Boiling Water Reactor
CAS	Compressed Air System
CAV	Cumulative Absolute Velocity
CBDTM	Cause-Based Decision Tree Method
CBV	Complete Breach of Vessel
CCF	Common-Cause Failure
CCFL	Countercurrent Flow Limiting
CCFP	Conditional Containment Failure Probability
CCW	Component Cooling Water
CCWS	Component Cooling Water System
CDES	Core Damage End State
CDF	Core Damage Frequency
CDS	Coolant Degasification System
CE	Combustion Engineering
CET	Containment Event Tree
CEUS	Central Eastern United States
CFS	Condensate and Feedwater System
CGC	Combustible Gas Control
CGCS	Combustible Gas Control System
CH	Common Header
CHE	Closure Head Equipment
CHF	Critical Heat Flux
CHLA	Candidate High-Level Actions
CI	Conventional Island
CILRT	Containment Integrated Leakage Rate Test
CIS	Containment Isolation Signal
CIV	Containment Isolation Valve

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 3 of 17

Acronym	Description
CLCWS	Closed Cooling Water System
CMAA	Crane Manufacturers Association of America
CMF	Common Mode Failure
CMRS	Core Melt Retention System
CMSS	Core Melt Stabilization System
CMTR	Certified Material Test Report
CNI	Constrained Non-Informative Distribution
COL	Combined License
COMS	Communication System
CPR	Critical Power Ratio
CRDCS	Control Rod Drive Control System
CRGA	Control Rod Guide Assembly
COTC	Core Outlet Thermocouple
CPD	Condensate Pump Discharge
CPS	Coolant Purification System
CRACS	Control Room Air Conditioning System
CRAVS	Control Room Area Ventilation System
CRC	Cyclic Redundancy Checks
CRDM	Control Rod Drive Mechanism
CRDMPSS	Control Rod Drive Mechanism Power Supply System
CSDRS	Certified Seismic Design Response Spectra
CRE	Control Room Envelope
CREFS	Control Room Emergency Filtration System
CS	Conventional Seismic
CSDRS	Certified Seismic Design Response Spectra
CSSS	Coolant Supply and Storage System
CTCS	Condenser Tube Cleaning System
CTS	Coolant Treatment System
CVCS	Chemical and Volume Control System
CWPB	Circulating Water Pump Building
CWS	Circulating Water System
D-RAP	Design-Reliability Assurance Program
DAC	Design Acceptance Criteria
DAS	Diverse Actuation System
DBA	Design Basis Accident

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 4 of 17

Acronym	Description
DBE	Design Basis Event
DBT	Design Basis Threat
DCH	Direct Containment Heating
DDT	Deflagration-to-Detonation Transition
DET	Decomposition Event Tree
DGAIES	Diesel Generator Air Intake and Exhaust System
DGCWS	Diesel Generator Cooling Water System
DGFOSTS	Diesel Generator Fuel Oil Storage and Transfer System
DGLS	Diesel Generator Lubricating System
DGSAS	Diesel Generator Starting Air System
DLF	Dynamic Load Factor
DLS	Diesel Load Steps
DNB	Departure from Nucleate Boiling
DNBR	Departure from Nucleate Boiling Ratio
DOD	Department of Defense
DPD	Design Pressure Differential
DRB	Design Review Board
DSS	Diverse Scram System
DW	Dead Weight
DWDS	Demineralized Water Distribution System
DWS	Demineralized Water System
EAB	Exclusion Area Boundary
EAC	Emergency AC (Power System)
EAT	Emergency Auxiliary Transformer
EBA	Enriched Boric Acid
EBS	Extra Borating System
ECC	Emergency Core Cooling
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EDS	Electrical Distribution System
EFW	Emergency Feedwater
EFWS	Emergency Feedwater System
EH	Extra Hazard
EHV	Extra High Voltage
EIR	Engineering Information Record

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 5 of 17

Acronym	Description
EL	External Loads
ELWR	Evolutionary Light Water Reactor
EMI	Electromagnetic Interference
EOC	End-of-Cycle
EOF	Emergency Operations Facility
EOL	End of Life
EOP	Emergency Operating Procedure
EOT	Electric Overhead Traveling
EPG	Emergency Procedure Guideline
EPGB	Emergency Power Generating Building
EPGBVS	Emergency Power Generating Building Ventilation System
EPRI	Electric Power Research Institute
EPSS	Emergency Power Supply System
EPW	Explosion Pressure Wave
ERDS	Emergency Response Data System
ERF	Emergency Response Facility
ESD	Event Sequence Diagram
ESF	Engineered Safety Features
ESFAS	Engineered Safety Feature Actuation System
ESFS	Engineered Safety Features System
ESL	Equivalent Static Loads
ESW	Essential Service Water
ESWCT	Essential Service Water Cooling Tower
ESWPBVS	Essential Service Water Pump Building Ventilation System
ESWS	Essential Service Water System
EUPS	Emergency Uninterruptible Power Supply
EUR	European Utility Requirements
EVA	Early Valve Actuation
FA	Fire Area
FAC	Flow Assisted Corrosion
FAMOS	Fatigue Monitoring System
FATT	Fracture Appearance Transition Temperature
FB	Fuel Building
FBVS	Fuel Building Ventilation System
FCI	Fuel-Coolant Interaction

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 6 of 17

Acronym	Description
FCM	Fuel Centerline Melt
FDD	Flow Distribution Device
FDS	Fire Detection System
FEM	Finite Element Model
FFT	Fast Fourier Transform
FHS	Fuel Handling System
FIRS	Foundation Input Response Spectra
Fire-PRA	Probabilistic Fire Risk Assessment
FL	Full Load
FLVC	Full Load Control Valve
FMEA	Failure Modes and Effects Analysis
FML	Fluid Momentum Loads
FPA	Fire Protection Analysis
FPCPS	Fuel Pool Cooling and Purification System
FPCS	Fuel Pool Cooling System
FPP	Fire Protection Program
FPPS	Fuel Pool Purification System
FR	Fuel Rack
FRA	Functional Requirements Analysis
FSAR	Final Safety Analysis Report
FTTF	Fuel Transfer Tube Facility
FUM	Function Modules
FV	Fussel-Vesely
FVW	Fussel-Vesely Worth
FWH	Feedwater Heater
FWIV	Feedwater Isolation Valve
FWLB	Feedwater Line Break
FWS	Feedwater System
GDC	General Design Criteria
GMRS	Ground Motion Response Spectra
GPS	Global Positioning System
GSI	Generic Safety Issue
GTAW	Gas Tungsten Arc Welding
GW	Gateway
GWPS	Gaseous Waste Processing System

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 7 of 17

Acronym	Description
HA	Human Action
HCF	Hot Channel Factors
HCLPF	High Confidence, Low Probability of Failure
HCMS	Hydrogen and Containment Atmosphere Monitoring System
HCPL	High Core Power Level
HCR	Human Cognitive Reliability
HELB	High Energy Line Break
HEP	Human Error Probability
HEPA	High Efficiency Particulate Air
HFE	Human Factors Engineering
HFP	Hot Full Power
HGDS	Hydrogen Gas Distribution System
HI	Hydraulics Institute
HL	High Load Line
HLHE	Heavy Load Handling Equipment
HLMS	Humidity Leakage Monitoring System
HLPD	High Linear Power Density
HMI	Human Machine Interface
HMS	Hydrogen Monitoring System
HP	High Pressure
HPME	High-Pressure Melt Ejection
HRA	Human Reliability Analysis
HRR	Heat Release Rate
HRS	Hydrogen Reduction System
HSI	Human System Interface
HSS	High Safety Significance
HVAC	Heating, Ventilation, Air Conditioning
HX	Heat Exchanger
HZP	Hot Zero Power
I&C	Instrumentation and Controls
I&CSC	Instrumentation and Control Service Center
IBA	Intermediate Pipe Break Accident
IBC	International Building Code
ICS	Interior Concrete Structure
ID	Inner Diameter

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 8 of 17

Acronym	Description
IDCOR	Industry Degraded Core Rulemaking
IEEE	Institute of Electrical and Electronics Engineers
INPO	The Institute of Nuclear Power Operations
I/O	Input/Output
IOZ	Inorganic Zinc Coating
IP	Intermediate Pressure
IPB	Isolated Phase Bus
IPE	Individual Plant Examinations
IRD	Intermediate Range Detectors
IRWST	In-Containment Refueling Water Storage Tank
ISI	Inservice Inspection
ISLOCA	Intersystem Loss of Coolant Accident
ISM	Independent Support Motion
IST	Inservice Testing
ISRS	In-Structure Response Spectra
ITAAC	Inspection, Test, Analysis and Acceptance Criteria
IOPSV	Inadvertent Opening of a Pressurizer Safety Valve
JIC	Joint Information Center
KKS	Kraftwerks Kennzeichen System
KSA	Knowledge, Skill, and Attribute
LAN	Local Area Network
LBB	Leak-Before-Break
LBD	Licensing Basis Documentation
LBLOCA	Large Break Loss of Coolant Accident
LBOP TR	Loss of Balance of Plant
LCO	Limiting Conditions for Operation
LCS	Local Control Stations
LHSI	Low Head Safety Injection
LL	Low Load Line
LLCV	Low Load Control Valve
LLRT	Local Leakage Rate Test
LMP	Level Monitoring Probe
LNEP	Loss of Non-Emergency Power
LNFF	Loss of Normal Feedwater Flow
LOCA	Loss of Coolant Accident

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 9 of 17

Acronym	Description
LOCF	Loss of Coolant Flow
LOCV	Loss of Condenser Vacuum
LOOP	Loss of Offsite Power
LOOP PL	Loss of Offsite Power with a Low Pressure End State
LOOP SS	Loss of Offsite Power with Seal LOCA
LOOP TR	Loss of Offsite Power with a High Pressure End State
LP	Low Pressure
LPD	Linear Power Density
LPMS	Loose Parts Monitoring System
LPSD	Low Power Shutdown
LPZ	Low Population Zone
LRF	Large Release Frequency
LSP	Lower Support Plate
LSSS	Limiting Safety System Setting
LTOP	Low Temperature Overpressure Protection
LUHS	Loss of Ultimate Heat Sink
LWR	Light Water Reactor
MAAP	Modular Accident Analysis Program
MCC	Motor Control Center
MCCI	Molten Corium-to-Concrete Interaction
MCES	Main Condenser Evacuation System
MCL	Main Coolant Loop
MCR	Main Control Room
MDNBR	Minimum Departure from Nucleate Boiling Ratio
MFW	Main Feedwater
MFWFLCV	Main Feedwater Full Load Control Valve
MFWFLIV	Main Feedwater Full Load Isolation Valve
MFWIV	Main Feedwater Isolation Valve
MFWLB	Main Feedwater Line Break
MFWLLCV	Main Feedwater Low Load Control Valve
MFWLLIV	Main Feedwater Low Load Isolation Valve
MFWVLLCV	Main Feedwater Very Low Load Control Valve
MFWVLLIV	Main Feedwater Very Low Load Isolation Valve
MFWS	Main Feedwater System
MFWSVS	Main Feedwater System Valve Station

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 10 of 17

Acronym	Description
MGL	Multiple Greek Letter
MHSI	Medium Head Safety Injection
MOV	Motor Operated Valve
MR	Maintenance Rule
MS	Main Steam
MSB	Main Steam Bypass
MSI	Monitoring Service Interface
MSIV	Main Steam Isolation Valve
MSIVC	Main Steam Isolation Valve Closure
MSL	Main Steam Line
MSLB	Main Steam Line Break
MSR	Moisture Separator Reheater
MSRCV	Main Steam Relief Control Valve
MSRIV	Main Steam Relief Isolation Valve
MSRT	Main Steam Relief Train
MSRV	Main Steam Relief Valve
MSS	Main Steam System
MSSS	Main Steam Supply System
MSSV	Main Steam Safety Valve
MSU	Main Step Up (Transformer)
MSVS	Main Steam Valve Station
MSWCV	Main Steam Warming Control Valve
MSWIV	Main Steam Warming Isolation Valve
MTC	Moderator Temperature Coefficient
MTTR	Mean Time to Repair
MV	Medium Voltage
MW	Mega Watts
NAB	Nuclear Auxiliary Building
NABVS	Nuclear Auxiliary Building Ventilation System
NAT	Normal Auxiliary Transformer
NDE	Non-Destructive Examination
NDL	Nuclear Data Link
NDTT	Nil Ductility Transition Temperature
NEMA	National Electrical Manufacturers Association
NFE	New Fuel Elevator

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 11 of 17

Acronym	Description
NFPA	National Fire Protection Association
NFSF	New Fuel Storage Facility
NHS	Normal Heat Sink
NI	Nuclear Island
NIDVS	Nuclear Island Drain/Vent System
NLO	Non-Licensed (Equipment) Operator
NNS	Non-Nuclear Safety
NOPD	Normal Operating Pressure Differential
NPS	Nominal Pipe Size
NPSH	Net Positive Suction Head
NPSS	Normal Power Supply System
NR	Narrow Range
NSAC	Nuclear Safety Analysis Center
NSM	Non-Self Monitored
NSS	Nuclear Sampling System
NSSS	Nuclear Steam Supply System
NUMARC	Nuclear Utilities Management and Resources Council
NUPS	Non-Class 1E UPS
OBE	Operating Basis Earthquake
OCWS	Operational Chilled Water System
OER	Operating Experience Review
OH	Ordinary Hazard
OM	Operation & Maintenance
OPP	Overpressure Protection
ORE	Operator Reactor Experiments
OSC	Operational Support Center
OSSA	Operating Strategies for Severe Accidents
PA	Postulated Accident
PABX	Private Automatic Branch Exchange
PACS	Priority Actuation and Control System
PAMS	Post-Accident Monitoring System
PAR	Passive Autocatalytic Recombiner
PAS	Process Automation System
PASS	Post Accident Sampling System
PC	Personal Computer

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 12 of 17

Acronym	Description
PCI	Pellet to Clad Interaction
PCD	Partial Cool Down
PDD	Power Density Detector
PDS	Pressurizer (or Primary) Depressurization System
PE	Phenomenological Evaluation
PI	Panel Interface
PICS	Process Information and Control System
P&ID	Piping and Instrumentation Diagram
PM	Preventive Maintenance
PMF	Probable Maximum Flood
PMP	Probable Maximum Precipitation
PMWP	Probable Maximum Winter Precipitation
POP	Plant Overview Panel
POS	Plant Operating States
PRA	Probabilistic Risk Assessment
PRD	Power Range Detectors
PRT	Pressurizer Relief Tank
PS	Protection System
PSF	Performance Shaping Factors
PSRV	Pressurizer Safety Relief Valve
PSTN	Public Switched Telephone Network
PSV	Pressurizer Safety Valve
PT	Partial Trip
PTF	Partial Trip Function
PTLR	Pressure-Temperature Limitations Report
PTRD	Plant Technical Requirements Document
PV	Pressure Velocity
PSWS	Potable and Sanitary Water System
PWR	Pressurized Water Reactor
PZR	Pressurizer
QA	Quality Assurance
QAP	Quality Assurance Program
QDS	Qualified Display System
RAI	Request for Additional Information
RAP	Reliability Assurance Program

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 13 of 17

Acronym	Description
RAU	Remote Acquisition Units
RAW	Risk Achievement Worth
RB	Reactor Building
RBIS	Reactor Building Internal Structures
RBWMS	Reactor Boron and Water Make-Up System
RC	Release Category
RCB	Reactor Containment Building
RCCA	Rod Cluster Control Assembly
RCDT	Reactor Coolant Drain Tank
RCL	Reactor Coolant Loop
RCP	Reactor Coolant Pump
RCPB	Reactor Coolant Pressure Boundary
RCS	Reactor Coolant System
RCSL	Reactor Control, Surveillance and Limitation
RFI	Radio Frequency Interference
RG	Regulatory Guide
RHR	Residual Heat Removal
RHRS	Residual Heat Removal System
RLE	Review Level Earthquake
RM	Refueling Machine
RMS _(EQUATIONS)	Root Mean Square
RMS _(TEXT)	Radiation Monitoring System
RPS	Reactor Protection System
RPV	Reactor Pressure Vessel
RPVDT	Reactor Pressure Vessel Dome Temperature
RPVL	Reactor Pressure Vessel Level
RR	Rod Return
RRS	Required Response Spectra
RS	Radwaste Seismic
RSB	Reactor Shield Building
RSS	Remote Shutdown Station
RT	Reactor Trip
RT _{NDT}	Reference Temperature
RTNS	Regulatory Treatment of Non-Safety (Systems)
RTP	Rated Thermal Power

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 14 of 17

Acronym	Description
RV	Reactor Vessel
RWB	Radioactive Waste Building
RWBVS	Radioactive Waste Building Ventilation System
RWSS	Raw Water Supply System
SA	Severe Accident
SADV	Severe Accident Depressurization Valves
SAFDL	Specified Acceptable Fuel Design Limits
SAHRS	Severe Accident Heat Removal System
SAM	Severe Accident Management
SAMDA	Severe Accident Mitigation Design Alternatives
SAMG	Severe Accident Mitigation Guideline
SAMS	Sample Air Monitoring System
SAS	Safety Automation System
SASS	Severe Accident Sampling System
SAT	Systematic Approach to Training
SB	Safeguard Building
SBA	Small Pipe Break Accident
SBLOCA	Small Break Loss of Coolant Accident
SBO	Station Blackout
SBODG	Station Blackout Diesel Generator
SBOVS	Station Blackout Ventilation System
SBVS	Safeguard Building (Controlled Area) Ventilation System
SBVSE	Safeguard Building Ventilation System (Electrical)
SCBA	Self-Contained Breathing Apparatus
SCC	Stress Corrosion Cracking
SCT	Staircase Tower
SCWS	Safety Chilled Water System
SDOF	Single-Degree-of-Freedom
SDRD	System Design Requirements Document
SDD	System Description Document
SECSS	Secondary Sampling System
SEL	Seismic Equipment List
SER	Safety Evaluation Report
SEWSS	Seal Water Supply System
SFM	Spent Fuel Machine

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 15 of 17

Acronym	Description
SFP	Spent Fuel Pool
SFPC	Spent Fuel Pool Cooling
SFPE	Society of Fire Protection Engineers
SFSF	Spent Fuel Storage Facility
SG	Steam Generator
SGB	Steam Generator Blowdown
SGBS	Steam Generator Blowdown System
SGTR	Steam Generator Tube Rupture
SHS	Space Heating System
SI	Safety Injection
SIAS	Safety Injection Actuation System
SICS	Safety Information and Control System
SIM	Signal Modules
SIS	Safety Injection System
SIT	Structural Integrity Test
SLBI	Steam Line Break Inside (Containment)
SLOCA	Small Loss of Coolant Accident
SLOCA SL	Small LOCA (2 to 8.5-inch Diameter)
S LOOP	Seismic Loss of Offsite Power
SL	Surge Line
SL _(CHAPTER 16 ONLY)	Safety Limit
SM	Self Monitored
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SMS	Seismic Monitoring System
SPAR-H	Standardized Plant Analysis Risk-Human Reliability Analysis
SPDS	Safety Parameter Display System
SPND	Self-Powered Neutron Detector
SQDP	Seismic Qualification Data Package
SRI	Stanford Research Institute
SRM	Staff Requirement Memorandum
SRO	Senior Reactor Operator
SRP	Standard Review Plan
SRSS	Square Root of the Sum of the Squares
SS	Shift Supervisor
SSC	Structures, Systems and Components

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 16 of 17

Acronym	Description
SSE	Safe Shutdown Earthquake
SSI	Soil-Structure Interaction
S SLOCA	Seismic Small Loss of Coolant Accident
SSS	Startup and Shutdown System
SSSI	Structure-Soil-Structure Interaction
SSSS	Standstill Seal System
STA	Shift Technical Advisor
SWS	Solid Waste System
SWSC	Service Water System (Conventional)
SWYD	Switchyard
T _{AVG}	Temperature (Average)
TA	Task Analysis
TAF	Top of Active Fuel
TB	Turbine Building
TBCCWS	Turbine Building Closed Cooling Water System
TBS	Turbine Bypass System
TBVS	Turbine Building Ventilation System
TCV	Turbine Control Valve
TG	Turbine Generator
TGSS	Turbine Gland Sealing System
TH	Thermo-Hydraulics
THERP	Technique for Human Error Rate Prediction
THL	Transient Hazard Level
TI	Turbine Island
TLOCC	Total Loss of Cooling Chain
TMI	Three Mile Island
TRS	Test Response Spectra
TSC	Technical Support Center
TSP	Tube Support Plate
TSI	Turbine Supervisory Instrument (System)
TSV	Turbine Stop Valve
TT	Turbine Trip
TXS	TelepermXS
12UPS	12-Hour Uninterruptible Power Supply
UCP	Upper Core Plate

Table 1.1-1—U.S. EPR FSAR Acronyms and Descriptions
Sheet 17 of 17

Acronym	Description
UHRS	Uniform Hazard Response Spectra
UHS	Ultimate Heat Sink
ULD	Uncontrolled Level Drop
UPS	Uninterruptible Power Supply
USI	Unresolved Safety Issue
USM	Uniform Support Motion
USP	Upper Support Plate
UTM	Universal Transverse Mercator
VCT	Volume Control Tank
VHE	Vessel Head Equipment
VMS	Vibration Monitoring System
VS	Vent Stack
VWO	Valves Wide Open
V&V	Verification and Validation
WB	Waste Building
WR	Wide Range
ZPA	Zero Period Acceleration