APPENDIX C - ABBREVIATIONS

Aac	Amps alternating current
AAPS	auxiliary ac power source
ABS	auxiliary boiler system
AC	acceptance criteria
ac	alternating current
ACI	American Concrete Institute
ACRS	Advisory Committee on Reactor Safeguards
ADAMS	Agencywide Documents Access and Management System
AEA	Atomic Energy Act
AFT	as-found tolerance
AFU	air filtration unit
AFWS	automatic auxiliary feedwater system
AFWST	auxiliary feedwater storage tank
AHU	air handling unit
AIA	Aircraft Impact Assessment
AICC	adiabatic isochoric with complete combustion
AIL	accident-induced leakage
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AL	analytical limit
ALARA	as low as reasonably achievable
ALI	annual limits on intake
ALT	as-left tolerance
AMS	Aerospace Material Specification
ANB	Annex Building
ANBVS	Annex Building HVAC system
ANL	Argonne National Laboratory
ALWR	advanced light-water reactor
ANS	American Nuclear Society
ANSI	American National Standards Institute
AO	axial offset
AOAS	axial offset anomaly
AOO	anticipated operational occurrence
AOV	air-operated valve
APL	actuation and priority logic
APRM	average power range [neutron flux] monitor
AQ-S	as augmented quality
Ar	argon
AR	acoustic resonance
ASAI	application-specific action item
ASCE	American Society of Civil Engineers

ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATWS	anticipated transient without scram
AWS	American Welding Society
B	boron
Ba	Barium
BACE	boric acid corrosion evaluation
BAS	boron addition system
BDBE	beyond-design-basis event
BDBEE	beyond-design-basis external event
BDG	backup diesel generator
BISI	bypassed and inoperable status indication
BL	bulletin
BOC	beginning of cycle
BIST	built-in self-test
BNL	Brookhaven National Laboratory
BPDS	balance-of-plant drain system
BPSS	backup power supply system
BPV	Boiler and Pressure Vessel
BPVC	Boiler and Pressure Vessel Code
BTP	branch technical position
BWR	boiling-water reactor
C	carbon
C	Celsius
cal/g	calories per gram
CARS	condenser air removal system
CAS	compressed air system
CB	control building
CBA	cost-benefit analysis
CBP	computer-based procedures
CCF	common-cause failure
CCFP	conditional containment failure probability
CCTV	closed-circuit television system
CDE	core damage event
CDF	core damage frequency
CDI	conceptual design information
CDST	core damage source term
CEAC	control element assembly calculator
CES	containment evacuation system
CET	containment event tree
CFD	computational fluid dynamics

CFD	containment flood and drain
CFDS	containment flooding and drain system
cfm	cubic feet per minute
CFR	*Code of Federal Regulations*
CFT	containment flange tool
CFWS	condensate and feedwater system
CHF	critical heat flux
CHFR	critical heat flux ratio
CHRS	containment heat removal system(s)
Ci/yr	curies per year
CILRT	containment integrated leak rate test
CIS	containment isolation system
CIV	containment isolation valve
CLD	complex logic device
CLL	collapsed liquid level
cm	centimeter(s)
CM	communication module
cmh	cubic meters per hour
CMTR	certified material test report
CNTS	containment system
CNV	containment vessel
CNV	containment volume
CoF	Coefficient of friction
COL	combined license
COLR	core operating limits report
COMS	communications systems
ConOps	concept of operations
COT	channel operational test
CP	construction permit
CPC	core protection calculator
CPS	condensate polishing system
Cr-Mo	chrome-molybdenum
CRA	control rod assembly
CRAGT	control rod assembly guide tube
CRAM	containment response analysis methodology
CRB	control building
CRC	cyclic redundancy check
CRD	control rod drive
CRDM	control rod drive mechanism
CRDS	control rod drive system
CREATCS	Control Room Emergency Air Temperature Control System
CRE	control room envelope
CRHS	control room habitability system
CRVS	control room heating, ventilation, and air conditioning system
CRVS	control room ventilation system

CS	core support
CSA	core support assembly
CSDRS	certified seismic design response spectra
CSDRS-HF	CSDRS-high frequency
CSF	critical safety function
CST	condensate storage tank
CTB	calibration and testing bus
CUF	cumulative usage factor
CVAP	Comprehensive Vibration Assessment Program
CVCS	Chemical and Volume Control System
CVCSI	CVCS Isolation
CWS	circulating water system
DAC	derived air concentration
DAC	design acceptance criteria
DBA	design-basis accident
DBAST	Design Basis Analysis Source Term
DBE	design-basis event
DBFFF	design-basis failed fuel fraction
DBPB	design basis pipe break
DBST	design basis source term
DBT	design-basis threat
DBT	design basis tornado
DC	design certification
dc	direct current
DCA	design certification application
DCD	design control document
DCS	distributed control system
DE	dose equivalent
DF	decontamination factor
DGB	diesel generator building
DHR	decay heat removal
DHRS	decay heat removal system
DI	design implementation
DID	defense-in-depth (also refers to as D3)
DLF	dynamic load factor
DM	direct method
DNBR	departure from nucleate boiling ratio
DO	dissolved oxygen
DOD	Department of Defense
DOE	Department of Energy
DOT	Department of Transportation
DPR	Division of Preparedness and Response
D/Q	deposition factor
DR	decay ratio

D-RAP	design reliability assurance program
DSRS	design specific review standard
DWO	density wave oscillation
DWS	demineralized water system
DWSI	demineralized water system isolation
DWST	demineralized water storage tank
DWT	demineralized water treatment
EAB	exclusion area boundary
EAF	environmentally assisted fatigue
ECCS	emergency core cooling system
EDAS	NuScale augmented DC power system
EDG	emergency diesel generator
EDNS	(refers to NuScale) normal dc power system
EDSS	(refers to NuScale) highly reliable dc power system
EDSS-C	EDSS-common
EFDS	equipment and floor drain system
EFPDS	effective full power day
EFPYs	full-power years
EHVS	switchyard system (Chapter 8)
EIM	equipment interface module
ELVS	electrical distribution system (Chapter 8)
EM	evaluation model
EMI	electromagnetic interference
EMVS	electrical distribution system (Chapter 8)
ENDF	Evaluated Nuclear Data File
EOC	end of cycle
EOF	emergency operations facility
EOL	End-of-life
EOP	emergency operating procedure
EP	emergency planning
EPAs	electrical penetration assemblies
EPA	Environmental Protection Agency
EPRI	Electric Power Research Institute
EQ	equipment qualification
EQRF	equipment qualification record file
ERDS	emergency response data system
ERG	emergency response guideline
ERS	equipment requirement specification
ESF	engineered safety feature
ESFAS	engineered safety features actuation system
ESM	extended subtraction method
ESS-MS	module specific
ETAP	Electrical Transient Analyzer Program
E-W	east-west

F	Fahrenheit
FA	function allocation
FAC	flow-accelerated corrosion
FCU	fan coil unit
FE	finite element
FEA	finite element analysis
FEI	fluid-elastic instability
FEM	finite element model
FEMA	failure modes and effects analysis
F_{en}	factor for environmental fatigue
FFD	fitness for duty
F/G	flutter and galloping
FHA	fire hazards analysis
FHA	fuel handling accident
FHE	fuel handling equipment
FHM	fuel handling machine
FIRS	foundation input response spectra
FIV	flow-induced vibration
FMEA	failure modes and effects analysis
FN	ferrite number
FOAK	first-of-a-kind
FOS	factor of safety
FPGA	field programmable gate array
FPP	fire protection program
FPRA	fire probabilistic risk assessment
FPS	fire protection system
F_Q	flux hot channel factor
FR	Federal Register
FRA	functional requirements analysis
FRA/FA	functional requirements analysis and function allocation
FRED	EPRI Fuel Reliability Database
FSAR	final safety analysis report
FSER	final safety evaluation report
FSI	fluid structure interaction
FSSD	fire safe shutdown
ft	Feet or foot
FTR	final test report
FWIV	feedwater isolation valve
FWLB	feedwater line break
FWPD	feedwater pipe break
FWRV	feedwater regulating valve
FWRV	feedwater regulation valve
FWS	feedwater system
g	grams

GAC	Granulated Activated Charcoal
GALE	gaseous and liquid effluent
GALL	generic aging lessons learned
GCB	generator circuit breaker
Gd_2O_3	gadolinium oxide
GDC	general design criterion/criteria
GE	General Electric
GL	generic letter
GMRS	ground motion response spectrum
gph	gallon per hour
gpm	gallons per minute
GRWS	gaseous radioactive waste system
GSI	generic safety issue
GTG	generic technical guidance
GTS	generic technical specification
Gy/h	grays per hour
H_2	hydrogen
H-3	tritium
hr	hour
HA	hazard analysis
HA	human action
HCSG	helical coil SG
HCSG	helical coil steam generator
HCW	high-conductivity waste
HDCI	high duty core index
HDPE	high-density polyethylene
HDR	Heissdampf reactor
HED	human engineering discrepancy
HELB	high energy line break
HEPA	high-efficiency particulate air
HF	high frequency
HFE	human factors engineering
HFEITS	human factors engineering issues tracking system
HFP	hot full power
HIC	high integrity container
HICR	highly-integrated control rooms—human factors issue
HIPS	highly integrated protection system
HIPS TR	highly integrated protection system topical report
HMI	human machine interface
HOV	hydraulic operated valve
HPS	Health Physics Society
HPU	hydraulic power unit
HRA	human reliability analysis
HSI	human system interfaces

HTP	heat transfer plate
HTP™	High Temperature Performance
HVAC	heating, ventilation, and air conditioning
HWM	hard-wired module
Hz	Hertz
HZP	hot zero power
I	iodine
I&C	instrumentation and control
IAB	inadvertent actuation block
IAEA	International Atomic Energy Agency
IAS	instrument air system
IASCC	irradiation-assisted stress corrosion cracking
ICC	inadequate core cooling
ICI	in-core instrumentation
ICIGT	in core instrumentation guide tube
ICIS	in-core instrumentation system
ICSBEP	International Handbook of Evaluated Criticality Safety Benchmark Experiments
IDDS	interface design descriptions
IE	infrequent event
IE	inspection and enforcement
IEEE	Institute of Electrical and Electronic Engineers
IFPRA	internal flooding probabilistic risk assessment
IGSCC	intergranular stress-corrosion cracking
IHAS	identify important human action
ILRT	integrated leakage rate testing
IN	information notice
in.	inch(es)
INL	Idaho National Laboratory
I/O	input/output
IODHRS	inadvertent operation of the DHRS
IP	implementation plan
IP	inspection procedure
iPWR	integral pressurized-water reactor
IRM	information and records management
IRPI	individual rod position indicator system
ISG	interim staff guidance
ISI	inservice inspection
ISLOCA	interfacing system loss-of-coolant accident
ISM	independent support motion
ISRS	in-structure response spectra
ISS	in structure shock
IST	inservice testing
ISV	integrated system validation

ITA	inspections, tests, and analyses
ITAAC	Inspections, tests, analyses, and acceptance criteria
ITP	initial test program
IV&V	independent verification and validation
K	Kelvin
KA	knowledge and abilities
kg/s	kilograms per second
km	kilometer(s)
kPa	kilopascals
KSA	knowledge, skills, and abilities/aptitude
ksf	kilopound per square foot
ksi	kilopound per square inch
kV	kilovolt
LAR	large release frequency
LBB	leak-before-break
lbm	pound-mass
lbs	pounds
lb/ft	pounds per square-foot
LCO	limiting condition for operation
LCS	local control station
LCW	low-conductivity waste
LFI	leakage flow instability
LHGR	linear heat generation rate
l/m	liters per minute
LLRT	local leak-rate test
LLRW	low-level radioactive waste
LOCA	loss-of-coolant accident
LOCV	loss of condenser vacuum
LOEL	loss of external load
LOFW	limiting loss of feedwater
LOOP	loss-of-offsite power
LPMS	loose parts monitoring system
LPSD	low power shutdown operations
LPZ	low population zone
LRF	large release frequency
LRWS	liquid radioactive waste system
LSSS	limiting safety system setting
LTOP	low temperature overpressure protection
LTSD	long-term shutdown
LTSP	limiting trip setpoint
LUHS	loss of normal access to the normal heat sink
LWA	limited work authorization
LWR	light-water reactor

m	meter(s)
MACCS	MELCOR Accident Consequence Code System
MC	Main condenser
MCHFR	minimum critical heat flux ratio
MCNP	Monte Carlo N-Particle Transport Code
MCR	main control room
MCS	module control system
MG	main generator
MHS	module heatup system
MIB	monitoring and indication bus
MIP	Measurement and Inspection Plan
MIR	module inspection rack
MLA	module lift adapter
MLA	module lifting adapter
MLD	master logic diagram
mm	millimeters
MMAF	multi-module adjustment factor
MMBtu	million British Thermal Units
MOC	middle of cycle
MOV	motor-operated valve
MPa	megapascals
mph	miles per hour
MPS	module protection system
MPT	main power transformer
MR	maintenance rule
Mrem	millirem
MRP	materials reliability program
MRRS	minimum required response spectrum
m/s	meters per second
MS	main steam
MSLB	main steam line break
MSIBV	main steam isolation bypass valves
MSIV	main steam isolation valve
MSL	main steam lines
MSO	multiple spurious operation
MSPB	main steam pipe break
MSS	main steam system
MSSD	minimum safe standoff distance
MSSV	main steam safety valve
mSv	milliSievert
MTC	moderator temperature coefficient
MW	megawatt
MWS	maintenance work station
MWt	megawatts thermal

N	neutron
N-16	Nitrogen-16
NDE	nondestructive examination
NDS	nitrogen distribution system
NDT	nil ductility temperature
NEI	Nuclear Energy Institute
NEMA	National Electrical Manufacturers Association
NFJC	new fuel jib crane
NFPA	National Fire Protection Association
NiCrFe	Nickel-chromium-ion
NIST	NuScale Integral System Test Facility
NMS	neutron monitoring system
NOPD	normal operating pressure differential
NPM	nuclear power modules
NPM	NuScale Power Module
NPP	nuclear power plant
NPS	nominal pipe size
NQA	nuclear quality assurance
NRC	Nuclear Regulatory Commission
NRELAP5	NuScale Reactor Excursion and Leak Analysis Program, Version 5
NRR	Office of Nuclear Reactor Regulation
N-S	north-south
NSIR	Nuclear Security and Incident Response
NSSS	nuclear steam supply system
NTSP	nominal trip setpoint
NuFuel	NuScale fuel assembly
NUMARC	Nuclear Utilities Management and Resources Council
NUSCALE	NuScale Power, LLC
O_2	oxygen
OBE	operating-basis earthquake
ODCM	offsite dose calculation manual
OER	operating experience review
OHLHS	overhead heavy-load handling systems
OI	open items
OL	operating license
OM	Operation and Maintenance Code
OPV	Over-pressurization Vent
ORE	occupational radiation exposure
ORIGEN	Oak Ridge Isotope GENeration
ORNL	Oak Ridge National Laboratory’s
OSC	operational support center
OSHA	Occupational Safety and Health Administration

OT□T	overtemperature □T
P&ID	piping and instrumentation diagram
P_a	psia
PA	protected area
PA	postulated accident
PAM	Post-accident monitoring
PASS	post-accident sampling system
PAT	performance assessment testing
pcm/s	percent millirho per second
PCP	process control program
PCS	plant control system
PCT	peak cladding temperature
PCUS	pool cleanup system
PDC	principal design criterion
PDILs	power-dependent insertion limits
PERMISS	process and effluent radiation monitoring instrumentation and sampling system
PGA	peak ground acceleration
PHT	pressurizer heater trip
PIRT	phenomena identification and ranking table
PIV	pressure isolation valve
PLDS	pool leakage detection system
PLS	plant lighting system
PMF	probable maximum flood
PMWP	probable maximum winter precipitation
PNNL	Pacific Northwest National Laboratory
POC	proof of concept
POS	plant operating state
POV	power-operated valve
ppm	parts per million
PPS	plant protection system
PRA	probabilistic risk assessment
PRHA	pipe rupture hazards analysis
P-STG	plant specific technical guideline
PSCIV	primary system containment isolation valve
PSCS	pool surge control system
psf	pounds per square-foot
PSI	preservice inspection
psi	pounds per square inch
psia	pounds per square-inch absolute
psig	pound per square inch gauge
PSS	physical security system
PSS	process sampling system
PST	phase separator tanks

PST	preservice testing
PSWS	potable and sanitary water system
PTAC	performance and test acceptance criteria
PTLR	pressure and temperature limits report
P-T	pressure-temperature
PTS	pressurized thermal shock
PWR	pressurized-water reactors
PWS	potable water system
PWSCC	primary water stress-corrosion cracking
PZR	pressurizer
QA	quality assurance
QAP	quality assurance program
QAPD	quality assurance program description
QG	quality group
QHO	quantitative health objective
QMP	quality management plan
QPTR	Quadrant Power Tilt Ratio
rad/h	radiation absorbed doses per hour
RADTRAD	RADionuclide Transport, Removal And Dose
RAI	request for additional information
RAMP	Radiation Protection Computer Code Analysis and Maintenance Program
RAP	reliability assurance program
RBC	reactor building crane
RBVS	reactor building heating ventilation and air conditioning system
RBVS	reactor building HVAC system
RBVS	reactor building ventilation system
RBVS	RXB ventilation system
RCCW	reactor component cooling water
RCCWS	reactor component cooling water system
RCPB	reactor coolant pressure boundary
RCS	reactor coolant system
RCSB	reactor coolant pressure boundary
REA	rod ejection accident
rem	roentgen equivalent man (a unit of radiation dose)
REMP	radiological environmental monitoring program
RETS	radiological effluent technical specification
RFFF	realistic failed fuel fraction
RFI	radio frequency interference
RFP	reactor pool and refueling pool
RFT	reactor flange tool
RFT	reactor vessel flange tool
RG	regulatory guide

RHR	residual heat removal
RIS	regulatory issue summary
RITSTF	Risk-Informed TSTF
RMS	root mean square
RO	reactor operator
RPCS	reactor pool cooling system
RPI	rod position indication
RPS	reactor protection system
RPV	reactor pressure vessel
RRS	required response spectrum
RRV	reactor recirculation valve
RSR	results summary report
RSS	remote shutdown station
RSV	reactor safety valves
RTB	reactor trip breaker
RTF	reactor flange tool
RTM	requirement traceability matrix
RT_{NDT}	reference temperature nil ductility temperature
RTNSS	regulatory treatment of non-safety systems
RTP	rated thermal power
RTS	reactor trip system
RV	reactor vessel
RVI	reactor vessel internal
RVV	reactor vent valve
RWB	radwaste building
RWBVS	RWB HVAC system
RWDS	radioactive waste drain system
RWS	radioactive waste building
RXB	reactor building
s	second
SA	situation awareness
SAFDL	specified acceptable fuel design limit
SAM	seismic anchor motion
SAPHIRE	Systems Analysis Programs for Hands-on Integrated Reliability Evaluations
SAR	safety analysis report
SAS	service air system
SASSI	system for analysis of soil-structure interaction
SAT	site acceptance test
SBAC	smooth bounding analysis curve
SBEDS	single degree of freedom blast design spreadsheet
SBM	scheduling and bypass module
SBO	station blackout

SBT	scenario-based testing
SC-1	Seismic Category I
SCALE	Standardized Computer Analyses for Licensing Evaluation
SCC	stress corrosion cracking
SCWS	site cooling water system
SBM	safety data bus
SDA	standard design approval
SDAA	standard design approval application
SDD	software design description
SDIS	safety display and indication system
SDIS	safety display and information system
SDM	shutdown margin
SMA	seismic margins analysis
SDOE	secure development and operational environment
SE	safety evaluation
SEI	Structural Engineering Institute
SER	safety evaluation report
SFC	single failure criterion
SFCP	Surveillance Frequency Control Program
SFDP	Safety Function Determination Program
SFM	safety function module
SFP	spent fuel pool
SFPC	spent fuel pool cooling
SG	safety group
SG	steam generator
SGI	safeguards information
SGIFR	steam generator tube inlet flow restrictor
SGS	steam generator system
SGTF	steam generator tube failure
SGTR	SG tube rupture
SGTR	steam generator tube rupture
SI	International System
SIL	software integrity level
SL	safety limit
SLB	steam line break
SM	shift manager
SMA	seismic margin analysis
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SME	subject matter expert
SMR	small modular reactor
SNAP	Symbolic Nuclear Analysis Package
SOARCA	State-of-the-Art Reactor Consequence Analyses
SOC	sampling of operational condition
SOV	solenoid-operated valve
SP	setpoint program
SPDS	safety parameter display system
SPND	self-powered neutron detectors

SPV	staffing plan validation
SR	surveillance requirement
S&Q	staffing and qualifications
SRM	staff requirements memorandum
SRWS	solid radioactive waste system
SRO	senior reactor operator
SRP	Standard Review Plan
SRS	software requirements specification
SRSS	square-root-sum-of-square
SRST	spent resin storage tank
SRST	spent resin storage tanks
SSC	structure, system, and component
SSCIV	secondary system containment isolation valve
SSE	safe-shutdown earthquake
SSI	secondary system isolation
SSI	soil-structure interaction
SSSI	structure-soil-structure interaction
Std	Standard
STS	standard technical specifications
Sv	sievert
SVM	scheduling and voting module
TA	task analysis
TADOT	TRIP ACTUATING DEVICE OPERATIONAL TEST
TASCS	thermal stratification, cycling, and striping
TB	turbulent buffeting
TBS	turbine bypass system
TBVS	turbine building ventilation system
Tc	technetium
TCV	turbine control valve
TEDE	total effective dose equivalent
TeR	technical report
TF	transfer function
TGB	turbine generator building
TGS	turbine generator system
TGSS	turbine gland seal system
TH	thermal-hydraulic
TID	total integrated dose
TIHA	treatment of important human actions
TLX	task load index
TMI	Three Mile Island
TNT	Trinitrotoluene
TOM	top of module
TP	typical
TR	technical report

TRACE	TRAC/RELAP Advanced Computational Engine
TRITON	Time-dependent Operation for Neutronic depletion
TRS	test response spectrum
TRU	Transuranic
TS	technical specifications
TSC	technical support center
TSS	top support structure
TSTF	Technical Specifications Task Force
TSV	turbine stop valve
TT	thermally treated
TT	turbine trip
UAT	unit auxiliary transformer
UFC	Uniform Facility Code
UHS	ultimate heat sink
UL	Underwriters Laboratories
UO_2	uranium dioxide
URA	upper riser assembly
URD	Utility Requirements Document
URS	uniform response spectrum
US	United States
USE	upper shelf energy
USNRC	United States Nuclear Regulatory Commission
USM	uniform support motion
V	volt
VBS	vehicle barrier system
V/H	vertical to horizontal
VHRA	very high radiation area
VLA	vented lead-acid
VRLA	valve-regulated lead-acid
VS	vortex shedding
VT	visual testing
V&V	verification & validation
WRC	Welding Research Council
WSW	wet solid waste
Wt%	weight percent
Xe	xenon
χ/Q	atmospheric dispersion factor
ZOI	zone of influence
ZPA	zero period acceleration