Greg Gibson Vice President, Regulatory Affairs 750 East Pratt Street, Suite 1600 Baltimore, Maryland 21202



10 CFR 50.4 10 CFR 52.79

July 10, 2009

UN#09-195

ATTN: Document Control Desk U.S. Nuclear Regulatory Commission Washington, DC 20555-0001

Subject: UniStar Nuclear Energy, NRC Docket No. 52-016 Calvert Cliffs Nuclear Power Plant, Unit 3 U.S. EPR RCOLA/SCOLA Standardization Matrix

As requested by Mr. Joseph Colaccino, Chief, U.S. EPR Projects Branch, this letter provides the U.S. EPR RCOLA/SCOLA Standardization Matrix. This matrix lists the COLA documents by subsection, and identifies whether the content of each subsection is generic for the U.S. EPR COLAs, site specific to individual applicants, or is a combination of both generic and site specific items. This letter does not generate any new regulatory commitments.

If there are any questions regarding this transmittal, please contact me at (410) 470-4205, or Mr. Michael J. Yox at (410) 495-2436.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on July 10, 2009

Greg Gibson

Enclosure: U.S. EPR RCOLA/SCOLA Standardization Matrix



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 cc: Joseph. Colaccino, Chief, EPR Projects Branch, Division of New Reactor Licensing John Rycyna, NRC Project Manager, U.S. EPR COL Application Laura Quinn, NRC Environmental Project Manager, U.S. EPR COL Application Getachew Tesfaye, NRC Project Manager, U.S. EPR DC Application (w/o enclosure) Loren Plisco, Deputy Regional Administrator, NRC Region II (w/o enclosure) Silas Kennedy, U.S. NRC Resident Inspector, CCNPP, Units 1 and 2 U.S. NRC Region I Office

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Enclosure

COLA Part	Subsection	TTUe	Informe Type	
1		General Information		
	All	All		S
2		Final Safety Analysis Report		
	1.0	Introduction and General Description of the Plant	G	
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	1.1.1	Plant Location		Sc
	1.1.2	Containment Type	G	
	1.1.3	Reactor Type	G	
	1.1.4	Power Output	G	
	1.1.5	Schedule		Sc
	1.1.6	Format and Content	Gn	
	1.1.7	References		S
	1.2	General Plant Description		Sc
	1.2.1	Principal Design Criteria, Operating Characteristics, and Safety Considerations	G	
	1.2.2	Site Description	M	
	1.2.3	Plant Description	M	
	1.3	Comparisons with Similar Facility Designs	G	
	1.4	Identification of Agents and Contractors	G	
	1.4.1	Applicant – Program Manager		S
	1.4.2	Other Contractors and Participants	M	
	1.5	Requirements for Further Technical Information	G	
	1.6	Material Referenced		Sc
	1.7	Drawings and Other Detailed Information	G	
	1.7.1	Electrical and Instrumentation and Control Drawings		Sc
	1.7.2	Piping and Instrumentation Diagrams		Sc
	1.8	Interfaces with Standard Designs and Early Site Permits	G	
	1.8.1	COL Information Items	G	
	1.8.2	Departures		Sc
	1.9	Conformance with Regulatory Criteria	Gn	
	1.9.1	Conformance with Regulatory Guides		S
	1.9.2	Conformance with the Standard Review Plan	G	
	1.9.3	Generic Issues	Gn	
	1.9.4	Operational Experience (Generic Communications)	M	
	1.9.5	Advanced and Evolutionary Light-Water Reactor Design Issues	Gn	
	1.9.6	References		S
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	2.1	Geography and Demography		Sc
	2.1.1	Site Location and Description		<u> </u>
	2.1.2	Exclusion Area Authority and Control		s
	2.1.3	Population Distribution		s
	2.1.4	References		s
	2.2	Nearby Industrial, Transportation and Military Facilities		Sc
	2.2.1	Location and Routes		<u> </u>

¹ Explanation of abbreviations:

G – Generic

- Gn Generic except the name of the Applicant/Plant is in the text (in braces)
- M Mixture of Generic and Site specific

S – Site specific

Sc – Site specific except the restatement of the COL item which is generic

COLA Part	Subscallon	THE .		oine Myre	
	2.2.2	Descriptions			S
	2.2.3	Evaluation of Potential Accidents			Sc
	2.2.4	References			S
	2.3	Meteorology			Sc
	2.3.1	Regional Climatology			Sc
	2.3.2	Local Meteorology			Sc
	2.3.3	Onsite Meteorological Measurement Program			Sc
	2.3.4	Short Term Atmospheric Dispersion Estimates for Accident Releases			Sc
	2.3.5	Long-Term Atmospheric Dispersion Estimates for Routine Releases			Sc
	2.3.6	References			S
	2.4	Hydrologic Engineering	G		
	2.4.1	Hydrologic Description	-		Sc
	2.4.2	Floods			Sc
	2.4.3	Probable Maximum Flood (PMF) on Streams and Rivers			Sc
	2.4.4	Potential Dam Failures, Seismically Induced	1		Sc
	2.4.5	Probable Maximum Surge and Seiche Flooding	1		Sc
	2.4.6	Probable Maximum Tsunami Flooding			Sc
	2.4.7	Ice Effects			Sc
	2.4.8	Cooling Water Canals and Reservoirs			Sc
	2.4.9	Channel Diversions			Sc
	2.4.10	Flooding Protection Requirements			Sc
	2.4.11	Low Water Considerations			Sc
	2.4.12	Ground Water			Sc
	2.4.13	Pathways of Liquid Effluents in Ground and Surface Waters			Sc
	2.4.14	Technical Specification and Emergency Operation Requirements			Sc
	2.5	Geology, Seismology, and Geotechnical Engineering			S
	2.5.0 ²	Summary			S
	2.5.1	Basic Geologic and Seismic Information			Sc
	2.5.2	Vibratory Ground Motion			Sc
	2.5.3	Surface Faulting			Sc
	2.5.4	Stability of Subsurface Materials and Foundations			Sc
	2.5.5	Stability of Slopes		· · · · · · · · · · · · · · · · · · ·	Sc
	2.5.6	References	G	M ³	
	3.0	Design of Structures, Components, Equipment and Systems	G		
	3.1	Compliance with Nuclear Regulatory Commission General Design Criteria	G		
	3.1.1	Overall Requirements		М	
	3.1.2	Protection by Multiple Fission Product Barriers	G		
	3.1.3	Protection and Reactivity Control Systems	G		
	3.1.4	Fluid Systems	G	·	
· · · ·	3.1.5	Reactor Containment	G		
	3.1.6	Fuel and Reactivity Control	G		
	3.1.7	References	<u> </u>		S
	3.2	Classification of Structures, Systems, and Components	G		0
	3.2.1	Seismic Classification	<u>ال</u>	М	
	3.2.1	System Quality Group Classification	┼──	141	Sc

 $^{^2}$ FSAR Section 2.5.0 is unique to the Callaway Plant Unit 2 COLA 3 Callaway Plant Unit 2 COLA includes site specific text

XOLA Part	Subsection	THE		onne Type	
	3.2.3	References			S
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	3.3.1	Wind Loadings		Μ	
	3.3.2	Tornado Loadings		М	
	3.3.3	References			S
	3.4	Water Level (Flood) Design		М	
	3.4.1	Internal Flood Protection	G		
	3.4.2	External Flood Protection	-		S
	3.4.3	Analysis of Flooding Events		M	
	3.4.4	Analysis Procedures	G		
	3.4.5	References	<u> </u>		S
	3.5	Missile Protection	G		
	3.5.1		6	м	
	3.3.1	Missile Selection and Description		IVI	
	3.5.2	Structures, Systems, and Components to be Protected from Externally Generated Missiles	G		
	3.5.3	Barrier Design Procedures	G		
	3.5.4	References			S
	3.6	Protection Against Dynamic Effects Associated with Postulated Rupture of Piping	G		
	3.6.1	Plant Design for Protection Against Postulated Piping Failures in Fluid Systems Outside of Containment	Gn		
	3.6.2	Determination of Rupture Locations and Dynamic Effects	Gn		
		Associated with the Postulated Rupture of Piping			
	3.6.3	Leak-Before-Break Evaluation Procedures	Gn		
	3.7	Seismic Design	G	-	
	3.7.1	Seismic Design Parameters	<u> </u>		S
	3.7.2	Seismic System Analysis		M	
	3.7.3	Seismic Subsystem Analysis		М	
	3.7.4	Seismic Instrumentation		М	
	3.8	Design of Category I Structures	G		
	3.8.1	Concrete Containment		М	
	3.8.2	Steel Containment	G		
	3.8.3	Concrete and Steel Internal Structures of Concrete Containment		М	
	3.8.4	Other Seismic Category I Structures		Μ	
	3.8.5	Foundations		М	
	3.8.6	References			S
	3.9	Mechanical Systems and Components	G		
	3.9.1	Special Topics for Mechanical Components	Gn		
	3.9.2	Dynamic Testing and Analysis of Systems, Components, and		М	
	3.9.3	Equipment ASME Code Class 1, 2, and 3 Components, Component Supports,		М	
		and Core Support Structures			
	3.9.4	Control Rod Drive System	G		
	3.9.5	Reactor Pressure Vessel Internals	G		
	3.9.6	Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints		М	
	3.10	Seismic and Dynamic Qualification of Mechanical And Electrical Equipment			s
	3.10.1	Seismic Qualification Criteria		М	
		Methods and Procedures for Qualifying Mechanical, Electrical and	~		
	3.10.2	I&C Equipment	Gn		

OLA Part	Subsection		lnforma Type	
	3.10.3	Methods and Procedures for Qualifying Supports of Mechanical and Electrical Equipment and Instrumentation	G	
	3.10.4	Test and Analysis Results and Experience Database	Gn	
	3.10.5	References		S
	3.11	Environmental Qualification of Mechanical and Electrical Equipment	Gn	
	3.11.1	Equipment Identification and Environmental Conditions	M	
	3.11.2	Qualification Tests and Analysis	G	
	3.11.3	Qualification Test Results	Gn	
	3.11.4	Loss of Ventilation	G	
	3.11.5	Estimated Chemical and Radiation Environment	G	
	3.11.6	Qualification of Mechanical Equipment	G	
	3.11.7	References		S
	2.40	ASME Code Class 1, 2, And 3 Piping Systems, Piping	6	
	3.12	Components, and Their Associated Supports	G	
	3.12.1	Introduction	G	
	3.12.2	Codes and Standards	G	
	3.12.3	Piping Analysis Methods	G	
	3.12.4	Piping Modeling Techniques	Gn	
	3.12.5	Piping Stress Analysis Criteria	M	
	3.12.6	Piping Support Design Criteria	G	
	3.12.7	References	–	S
	3.13	Threaded Fasteners (ASME Code Class 1, 2, and 3)	G	0
	3.13.1	Design Considerations	G	
	3.13.2	Inservice Inspection Requirements	Gn	
	3A	Criteria for Distribution System Analysis and Support	G	
	3B	Dimensional Arrangement Drawings	G	
	3C	Reactor Coolant System Structural Analysis Methods	<u> </u>	S
	50	Methodology for Qualifying Safety-Related Electrical and		0
	3D	Mechanical Equipment		S
	3E	Critical Sections for Safety-Related Category I Structures		S
	3E.1	Nuclear Island Structures	G	
	3E.2	Emergency Power Generating Buildings	G	
	3E.3	Essential Service Water Buildings	G	
	3E.4	UHS Makeup Water Intake Structure and UHS Electrical Building ⁴		S
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	4.2	Fuel System Design	G	
	4.3	Nuclear Design	G	
	4.4	Thermal-Hydraulic Design	G	
	4.5	Reactor Materials	G	
	4.6	Functional Design of Reactivity Control Systems	G	
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	5.2.1	Compliance with Codes and Code Cases	G	
	5.2.2	Overpressure Protection	G	
	5.2.3	Reactor Coolant Pressure Boundary Materials	G	
	5.2.4	Inservice Inspection and Testing of the RCPB	G	

⁴ This section is named differently for each COLA to reflect site specific design differences

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Rann		PCPP Lockage Detection		
	5.2.5	RCPB Leakage Detection	G	
	5.2.6	References	0	S
	5.3	Reactor Vessel	G	
	5.3.1	Reactor Vessel Materials	G	
	5.3.2	Pressure-Temperature Limits, Pressurized Thermal Shock, and Charpy Upper-Shelf Energy Data and Analyses	Gn	
	5.3.3	Reactor Vessel Integrity	G	
	5.3.4	References		S
	5.4	Component and Subsystem Design	G	
	5.4.1	Reactor Coolant Pumps	G	
·	5.4.2	Steam Generators (PWR)	G	
	5.4.3	Reactor Coolant Piping	G	
	5.4.4	Not Used in U.S. EPR Design	G	
	5.4.5	Not Used in U.S. EPR Design	G	
	5.4.6	Not Used in U.S. EPR Design	G	
	5.4.7	Residual Heat Removal System	G	
	5.4.8	Not Used in U.S. EPR Design	G	
	5.4.9	Not Used in U.S. EPR Design	G	
	5.4.10	Pressurizer	G	
	5.4.11	Pressurizer Relief Tank	G	
	5.4.12	Reactor Coolant System High Point Vents	G	
	5.4.13	Safety and Relief Valves	G	
	5.4.14	Component Supports	G	
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	6.1.2	Organic Materials	Gn	
	6.1.3	References		S
	6.2	Containment Systems	G	
	6.2.1	Containment Functional Design	G	
	6.2.2	Containment Heat Removal Systems	G	
	6.2.3	Secondary Containment Functional Design	G	
	6.2.4	Containment Isolation System	G	
	6.2.5	Combustible Gas Control in Containment	G	
	6.2.6	Containment Leakage Testing	G	
	6.2.7	Fracture Prevention of Containment Pressure Vessel	G	
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	6.3.3	Performance Evaluation	G	
	6.3.4	Tests and Inspections	G	
	6.3.5		G	
	6.3.6	Instrumentation Requirements References	<u>.</u>	S
	6.4			
		Habitability Systems		<u> </u>
	6.4.1	Design Basis		<u> </u>
	6.4.2	System Design	N 4	3
	6.4.3	System Operational Procedures	M	<u></u>
1	6.4.4	Design Evaluations	1	Sc

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COLA Part	Subsection		Sinf	orma Type	tion
	6.4.6	Instrumentation Requirements			Sc
	6.4.7	References			S
	6.5	Fission Product Removal and Control Systems	G		
	6.6	Inservice Inspection of Class 2 and 3 Components	G		
	6.6.1	Components Subject to Examination			S
	6.6.2	Accessibility	G		
	6.6.3	Examination Techniques and Procedures	G		
	6.6.4	Inspection Intervals			S
	6.6.5	Examination Categories and Requirements	G		
	6.6.6	Evaluation of Examination Results	G		
	6.6.7	System Pressure Tests	G	•	
	6.6.8	Augmented ISI to Protect Against Postulated Piping Failures			S
	6.6.9	References		*	S
	6.7	Main Steamline Isolation Valve Leakage Control System (BWRS)	G		
	6.8	Extra Borating System	G		
	7.0	Instrumentation and Controls	G		
	7.0	Introduction	G		
	7.1	Reactor Trip System	G		
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		Engineered Safety Features Systems	G		
	7.4	Systems Required for Safe Shutdown	G		
	7.5	Information Systems Important to Safety			
	7.6	Interlock Systems Important to Safety	G		
	7.7	Control Systems Not Required For Safety	G		
	7.8	Diverse I&C Systems	G		
	7.9	Data Communication Systems	G		
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	8.1	Introduction	G		
	8.1.1	Offsite Power Description	_	М	
	8.1.2	Onsite Power System Description	G		
	8.1.3	Safety-Related Loads			Sc
	8.1.4	Design Bases	G		
	8.1.5	References			S
	8.2	Offsite Power System	G		
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	8.2.2	Analysis		М	
	8.2.3	References			S
	8.3	Onsite Power System	G	•	
	8.3.1	Alternating Current Power Systems	-	М	
	8.3.2	DC Power Systems	G		· · ·
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	8.4.1	Description	+ -	M	
	8.4.2	Analysis	Gn		
	8.4.3	References			S
	9.0	Auxiliary Systems	G		
	9.1	Fuel Storage and Handling	G		
	9.1.1	Criticality Safety of New and Spent Fuel Storage and Handling		M	
	9.1.1		+	M	
		New and Spent Fuel Storage	G	IVI	
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COLA Part	Subsection	Title	្រុំព្រៃ	forma Type	
	9.2	Water Systems	G		
	9.2.1	Essential Service Water System	_	M	
	9.2.2	Component Cooling Water System	G		
	9.2.3	Demineralized Water Distribution System	G		
	9.2.4	Potable and Sanitary Water Systems (PSWS)			Sc
	9.2.5	Ultimate Heat Sink		М	
	9.2.6	Condensate Storage Facilities	G		
	9.2.7	Seal Water Supply System	G		
	9.2.8	Safety Chilled Water System	G		
	9.2.9	Raw Water Supply System			Sc
	9.3	Process Auxiliaries	G		
	9.4	Air Conditioning, Heating, Cooling and Ventilation Systems	G	M⁵	
	9.4.1	Main Control Room Air Conditioning System		M	
	9.4.2	Fuel Building Ventilation System	G		
	9.4.3	Nuclear Auxiliary Building Ventilation System	G		
	9.4.4	Turbine Building Ventilation System	G		
	9.4.5	Safeguard Building Controlled-Area Ventilation System	G	· · · ·	
		Electrical Division of Safeguard Building Ventilation System			
	9.4.6	(SBVSE)	G		
	9.4.7	Containment Building Ventilation System	G		
	9.4.8	Radioactive Waste Building Ventilation System	G		
	9.4.9	Emergency Power Generating Building Ventilation System	G		
	9.4.10	Switchgear Building Ventilation System	G		
	9.4.11	Essential Service Water Pump Building Ventilation System	G		
	9.4.12	Main Steam and Feedwater Valve Room Ventilation System	G		
	9.4.13	Smoke Confinement System	G		
	9.4.14	Access Building Ventilation System	G		
	9.4.15	UHS Makeup Water Intake Structure Ventilation System ⁶			S
	9.5	Other Auxiliary Systems	G		
	9.5.1	Fire Protection System	-	М	
	9.5.2	Communication System		M	
	9.5.3	Lighting System	G		
	9.5.4	Diesel Generator Fuel Oil Storage and Transfer System	G		·
	9.5.5	Diesel Generator Cooling Water System	G		
	9.5.6	Diesel Generator Starting Air System	G		
	9.5.7	Diesel Generator Lubricating System	G		
	9.5.8	Diesel Generator Air Intake and Exhaust System	G		
	9A	Fire Protection Analysis	G		
	9B	Fire Protection Analysis - Plant Specific Supplement	. G ⁷	•	
	9B.1	Introduction	G		
	9B.1.1	Regulatory Bases	Gn		
	9B.1.1	Defense-In-Depth	G		
	9B.1.3	Scope		M	
	9B.2	Fire Protection Analysis Methodology	G ⁷	141	
	9B.2.1	General Design Criteria	G		
	9B.2.1 9B.2.2	Specific Elements	G		
	9B.2.2 9B.2.3	Assumptions	G		

 ⁵ Callaway Plant Unit 2 and Nine Mile Point 3 Nuclear Power Plant COLAs include site specific text
 ⁶ This section is named differently for each COLA to reflect site specific design differences
 ⁷ There is no text in this section, only the heading

COLA Part	Subsection	Title		orma Type	
	9B.3	Fire Area-by-Fire Area Evaluation		M	
	9B.3.1	Turbine Building	G		
	9B.3.2	Switchgear Building	G		
	9B.3.3	Auxiliary Power Transformer Area	G		
	9B.3.4	Generator Transformer Area	G		
	9B.3.5	Warehouse Building ⁸	1		S
	9B.3.6	Security Access Facility		М	
	9B.3.7	Central Gas Supply Building		M	
	9B.3.8	Grid Systems Control Building ⁸			S
	9B.3.9	Fire Protection Building	G		
	9B.3.10	Circulating Water System Cooling Water Structure ⁸			S
	9B.3.11	Circulating Water System Pump Building			S
	9B.3.12	Essential Service Water Emergency Makeup System (ESWEMS) Pumphouse ⁸			S
	9B.3.13	Circulating Water System Makeup Water Intake Structure	1		S
	9B.3.14	Desalinization/ Water Treatment Building ⁹			S
	9B.4	References	1		S
	10.0	Steam and Power Conversion System	G		
	10.1	Summary Description	G		
	10.2	Turbine-Generator	G		
	10.2.1	Design Bases	G		
	10.2.2	General Description	G		
	10.2.3	Turbine Rotor Integrity	Gn		
	10.2.4	Safety Evaluation	G		
-	10.2.5	References	G		
	10.3	Main Steam Supply System	G		
	10.3.1	Design Bases	G		
	10.3.2	System Description	G		
	10.3.3	Safety Evaluation	G		
	10.3.4	Inspection and Testing Requirements	G		
	10.3.5	Secondary Side Water Chemistry Program	 	M	
	10.3.6	Steam and Feedwater System Materials	Gn		
	10.3.7	References			S
	10.4	Other Features of Steam and Power Conversion System	G		-
	10.4.1	Main Condensers	<u> </u>	М	
	10.4.2	Main Condenser Evacuation System	G		
	10.4.3	Turbine Gland Sealing System	G		
	10.4.4	Turbine Bypass System	G		
	10.4.5	Circulating Water System	<u> </u>	М	
	10.4.6	Condensate Polishing System	G	111	
	10.4.7	Condensate and Feedwater System	G		
	10.4.7	Steam Generator Blowdown System (PWR)	G		
	10.4.8	Emergency Feedwater System	G		
	10.4.9	Radioactive Waste Management	G		
	11.1	Source Terms	<u> </u>		0
	11.2	Liquid Waste Management System			<u>s</u>
	11.2	Gaseous Waste Management Systems			<u> </u>
	11.4	Solid Waste Management Systems	G		3

⁸ This section is named differently for each COLA to reflect site specific design differences ⁹ FSAR Section 9B.3.14 is unique to the Calvert Cliffs Nuclear Power Plant Unit 3 COLA

Subsection	Title		matior /pe
11.4.1	Design Basis	G	
11.4.2	System Description	G	
11.4.3	Radioactive Effluent Releases	Gn	
11.4.4	Solid Waste Management System Cost-Benefit Analysis	G	
11.4.5	Failure Tolerance	G	
11.4.6	References	G	
11.5	Process and Effluent Radiological Monitoring and Sampling Systems	G	
11.5.1	Design Basis	G	
11.5.2	System Description	Gn	
11.5.3	Effluent Monitoring and Sampling	G	
11.5.4	Process Monitoring and Sampling	G	
11.5.5	References		S
12.0	Radiation Protection	G	
12.1	Ensuring that Occupational Radiation Exposures are as Low as is Reasonably Achievable (ALARA)	G	
12.1.1	Policy Considerations	G	
12.1.2	Design Considerations	G	
12.1.3	Operational Considerations	G	
12.1.4	References	-	S
12.2	Radiation Sources	G	
12.2.1	Contained Sources	Ň	Λ
12.2.2	Airborne Radioactive Material Sources	G	
12.2.3	References	G	
12.3.	Radiation Protection Design Features	G	
12.3.1	Facility Design Features	G	
12.3.1	Shielding	G	
12.3.3	Ventilation	G	
12.3.4	Area Radiation and Airborne Radioactivity Monitoring	G	
12.3.5	Dose Assessment	Ň	Λ
12.3.6	Minimization of Contamination	G	
12.3.7	References		S
12.4	Dose Assessment	G	
12.5	Operational Radiation Protection Program	G	
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 ¹⁰ Callaway Plant Unit 2 COLA includes site specific text
 ¹¹ FSAR Section 13.3.1 is unique to the Callaway Plant Unit 2 COLA

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¹² Callaway Plant Unit 2 COLA includes site specific text

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	18.9	Training Program Development	G	
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4		Technical Specifications		
	All	All	1	N
5		Emergency Plan		
	All	All	1	M S ¹³
6		LWA		e transition a
	All	All		S
7		DCD Departures		
	All	All		S
.8		Safeguards		· · · · ·
	All	All		S
9		Proprietary & SUNSI		
	All	All		S
10		ITAAC		
	All	All	ľ	V
11		Supporting Documents		
	All	All		S

¹³ Callaway Plant Unit 2 COLA includes site specific text