ESBWR FSAR Standardization Assessment		
Number of FSAR Sections	**Percent of FSAR Sections**	**Section Type**
100	52	Match DCD
46	24	Standard (identical)
9	5	Standard with a limited amount of site-specific information
9	5	Standard with a moderate amount of site-specific information
27	14	Site-specific
191	**100%**	**Total**

- Match DCD. These sections are identical to the corresponding section in ESBWR DCD Revision 4 with no additional text, tables, or figures needed in the COLA.

- Standard sections are identical in the R-COLA and S-COLAs.

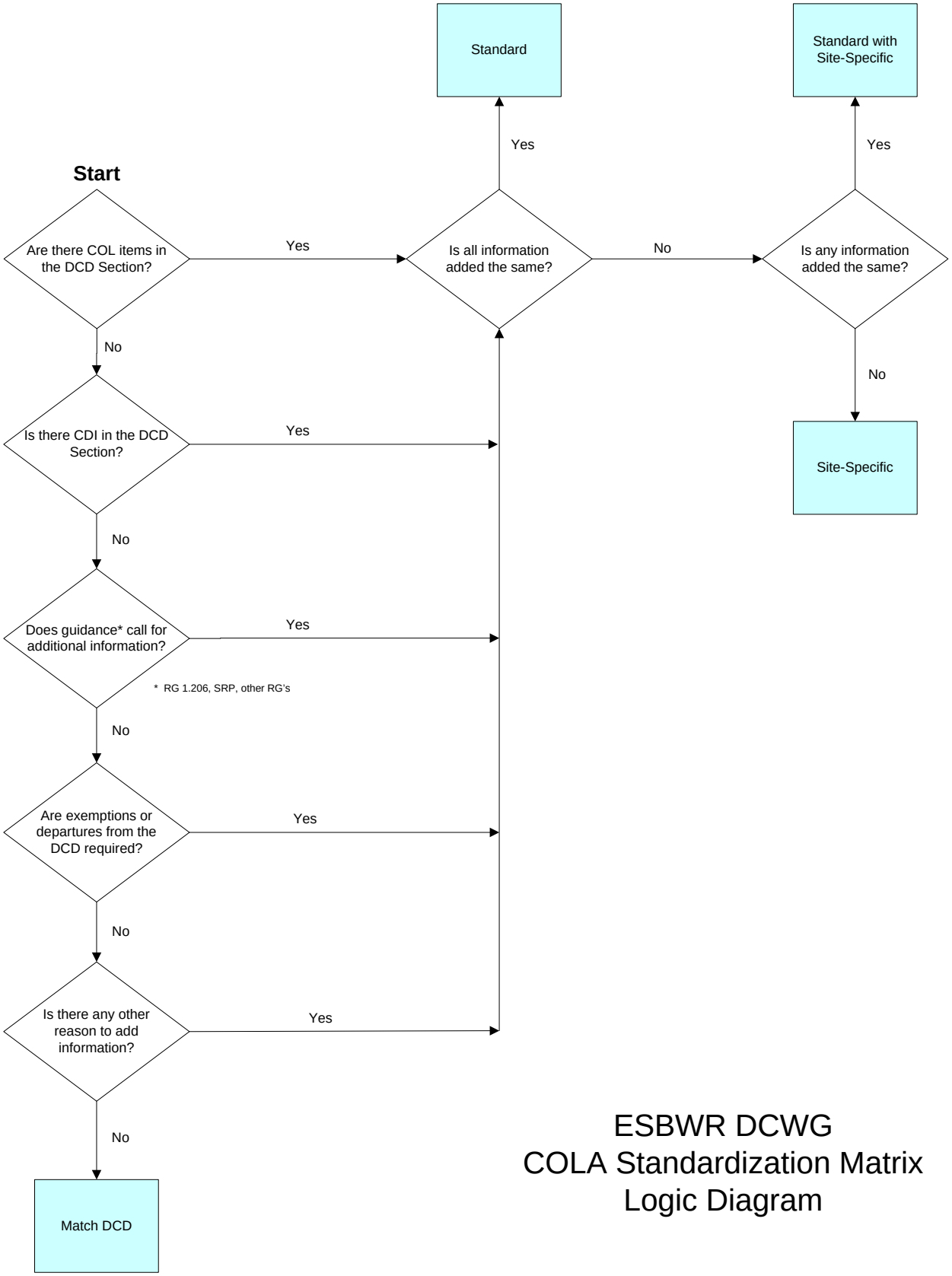
- Standard with site-specific. These sections are identical in the R-COLA and S-COLAs to the extent possible but also contain some site- and/or applicant-specific information. For the site/applicant-specific information, consistent wording and level-of-detail are used.

  (1) – Standard section that contains a limited amount of site/applicant-specific information.

  (2) – Standard section that contains a moderate amount of site/applicant-specific information.

- Site-specific sections are not standard and contain site/applicant-specific information.

A simple logic diagram, depicting how the FSAR sections were evaluated and assigned to the categories defined above, is shown on the following page.



ESBWR DCWG
COLA Standardization Matrix
Logic Diagram

ESBWR Standardization Matrix[1]						
Part Chapter Section	**Title**	**Lead Organization Preparing Section**	**Standardization Assessment**			
			Match DCD	**Standard**	**Standard With Site-Specific**	**Site-Specific**
Part 1	**General and Administrative Information**					
--	General Information	**Dominion NuStart Entergy**				**X**
--	Financial Information	**Dominion NuStart Entergy**				**X**
--	Other Information	**Dominion NuStart Entergy**				**X**
Part 2	**Final Safety Analysis Report**					
FSAR Chapter 1	Introduction and General Description					
1.1	Introduction	**Dominion NuStart Entergy**			**X (2)**	
1.2	General Plant Description	**GE**			**X(1)**	
1.3	Comparison Tables	**GE**			**X(1)**	
1.4	Identification of Agents and Contractors	**Dominion NuStart Entergy**				**X**
1.5	Requirements for Further Technical Information	**GE**	**X**			
1.6	Material Incorporated by Reference	**GE**				**X**
1.7	Drawings and Other Detailed Information	**GE**			**X (1)**	
1.8	Interfaces for Standard Design	**GE**			**X(2)**	
1.9	Conformance with SRP and Codes & Standards	**Dominion NuStart Entergy**			**X(2)**	
1.10	Summary of COL Items	**GE**				**X**
1.11	Technical Resolutions of Task Action Plan Items, New Generic Issues, New Generic Safety Issues and Chernobyl Issues	**GE**			**X(2)**	
1.12	Construction Impacts on Existing Units	**Dominion NuStart Entergy**				**X**
1A	Response to TMI Related Matters	**GE**		**X**		

ESBWR Standardization Matrix[1]						
Part Chapter Section	Title	Lead Organization Preparing Section	Standardization Assessment			
			Match DCD	Standard	Standard With Site-Specific	Site-Specific
1B	Plant Shielding to Provide Access to Vital Areas and Protective Safety Equipment for Post-Accident Operation	**GE**	**X**			
1C	Industry Operating Experience	**GE**		**X**		
FSAR Chapter 2	Site Characteristics					
2.0	Site Characteristics	**Dominion NuStart Entergy**				**X**
2.1	Geography and Demography	**Dominion NuStart Entergy**				**X**
2.2	Nearby Industrial, Transportation, and Military Facilities	**Dominion NuStart Entergy**				**X**
2.3	Meteorology	**Dominion NuStart Entergy**				**X**
2.4	Hydrology	**Dominion NuStart Entergy**				**X**
2.5	Geology, Seismology, and Geotechnical Engineering	**Dominion NuStart Entergy**				**X**
FSAR Chapter 3	Design of Structures, Components, Equipment, Systems					
3.1	Conformance with NRC General Design Criteria	**GE**	**X**			
3.2	Classification of Structures, Systems, and Components	**GE**		**X**		
3.3	Wind and Tornado Loadings	**GE**	**X**			
3.4	Water Level (Flood) Design	**GE**	**X**			
3.5	Missile Protection	**GE**		**X**		
3.6	Protection Against Dynamic Effects	**GE**		**X**		
3.7	Seismic Design	**GE**				**X**
3.8	Seismic Category I Structures	**GE**	**X**			
3.9	Mechanical Systems and Components	**GE**			**X(1)**	
3.10	Seismic and Dynamic Qualification	**GE**		**X**		
3.11	Environmental Qualification	**GE**		**X**		
3.12	Piping Design Review	**GE**		**X**		

ESBWR Standardization Matrix[1]						
Part Chapter Section	Title	Lead Organization Preparing Section	Standardization Assessment			
			Match DCD	Standard	Standard With Site-Specific	Site-Specific
3.13	Threaded Fasteners – ASME Code Class 1, 2, and 3	**GE**		**X**		
3A	Seismic Soil Structure Interaction Analysis	**GE**				**X**
3B	Containment Hydrodynamic Load Definitions	**GE**	**X**			
3C	Computer Programs Used in the Design and Analysis of Seismic Category I Structures	**GE**	**X**			
3D	Computer Programs Used in the Design of Components, Equipment and Structures	**GE**	**X**			
3E	Design Details and Evaluation Results of Seismic Category I Structures	**GE**	**X**			
3F	Response of Structures to Containment Loads	**GE**	**X**			
3G	Design Details and Evaluation Results of Seismic Category I Structures	**GE**	**X**			
3H	Equipment Qualification Design Environmental Conditions	**GE**	**X**			
3I	Designated NEDE-24326-1-P Material Which May Not Change Without Prior NRC Approval	**GE**	**X**			
3J	Evaluation of Postulated Ruptures in High Energy Pipes	**GE**	**X**			
3K	Resolution of Intersystem Loss of Coolant Accident	**GE**	**X**			
3L	Reactor Internals Flow Induced Vibration Program	**GE**	**X**			
FSAR Chapter 4	Reactor					
4.1	Summary Description	**GE**	**X**			
4.2	Fuel System Design	**GE**		**X**		
4.3	Nuclear Design	**GE**		**X**		
4.4	Thermal and Hydraulic Design	**GE**	**X**			
4.5	Reactor Materials	**GE**	**X**			
4.6	Functional Design of Reactivity Control System	**GE**	**X**			
4A	Typical Control Rod Patterns and Associated Power Distribution for ESBWR	**GE**		**X**		

ESBWR Standardization Matrix[1]						
Part Chapter Section	Title	Lead Organization Preparing Section	Standardization Assessment			
			Match DCD	Standard	Standard With Site-Specific	Site-Specific
4B	Fuel Licensing Acceptance Criteria	**GE**	**X**			
4C	Control Rod License Acceptance Criteria	**GE**	**X**			
4D	Stability Evaluation	**GE**	**X**			
FSAR Chapter 5	Reactor Coolant System and Connected Systems					
5.1	Summary Description	**GE**	**X**			
5.2	Integrity of Reactor Coolant Pressure Boundary	**GE**		**X**		
5.3	Reactor Vessels	**GE**		**X**		
5.4	Component and Subsystem Design	**GE**		**X**		
FSAR Chapter 6	Engineered Safety Features					
6.0	General		**X**			
6.1	Engineered Safety Feature Materials	**GE**		**X**		
6.2	Containment Systems	**GE**		**X**		
6.3	Emergency Core Cooling Systems	**GE**	**X**			
6.4	Control Room Habitability Systems	**GE**			**X(2)**	
6.5	Atmosphere Cleanup Systems	**GE**	**X**			
6.6	ISI of Class 2 and 3 Components	**GE**		**X**		
6A	TRACG Application for Containment Analysis	**GE**	**X**			
6B	Evaluation of the Tragg Nodalization For The ESBWR Licensing Analysis	**GE**	**X**			
6C	Evaluation of the Impact of Containment Back Pressure On the ECCS Performance	**GE**	**X**			
FSAR Chapter 7	Instrumentation and Controls					
7.1	Introduction	**GE**	**X**			
7.2	Reactor Trip System	**GE**	**X**			
7.3	Engineered Safety Features Systems	**GE**	**X**			
7.4	Safety-Related and Non-Safety Related Shutdown Systems	**GE**	**X**			
7.5	Safety-Related and Non-Safety Related Information Systems	**GE**	**X**			
7.6	Interlock Systems	**GE**	**X**			

ESBWR Standardization Matrix[1]						
Part Chapter Section	Title	Lead Organization Preparing Section	Standardization Assessment			
			Match DCD	Standard	Standard With Site-Specific	Site-Specific
7.7	Control Systems	**GE**	**X**			
7.8	Diverse Instrumentation and Control Systems	**GE**	**X**			
7A	Automated Fixed In-Core Probe Subsystem for the Neutron Monitoring System	**GE**	**X**			
7B	Software Quality Program for Hardware/Software Design and Development	**GE**	**X**			
FSAR Chapter 8	Electric Power					
8.1	Introduction	**GE**				**X**
8.2	Offsite Power System	**Dominion NuStart Entergy**				**X**
8.3	Onsite Power Systems	**GE**				**X**
8A	Miscellaneous Electrical Systems	**Dominion NuStart Entergy**				**X**
FSAR Chapter 9	Auxiliary Systems					
9.1	Fuel Storage and Handling	**GE**		**X**		
9.2.1	Plant Service Water System	**Dominion NuStart Entergy**				**X**
9.2.2	Reactor Component Cooling Water System	**GE**	**X**			
9.2.3	Makeup Water System	**Dominion NuStart Entergy**				**X**
9.2.4	Potable and Sanitary Water Systems	**Dominion NuStart Entergy**				**X**
9.2.5	Ultimate Heat Sink	**GE**		**X**		
9.2.6	Condensate Storage and Transfer System	**GE**		**X**		
9.2.7	Chilled Water System	**GE**	**X**			
9.2.8	Turbine Component Cooling Water System	**GE**	**X**			
9.2.9	Hot Water System	**GE**	**X**			
9.2.10	Station Water Systems	**Dominion NuStart**				**X**

ESBWR Standardization Matrix[1]						
Part Chapter Section	Title	Lead Organization Preparing Section	Standardization Assessment			
			Match DCD	Standard	Standard With Site-Specific	Site-Specific
		Entergy				
9.3.1	Compressed Air Systems	GE	X			
9.3.2	Process Sampling System	GE		X		
9.3.3	Equipment and Floor Drain System	GE	X			
9.3.4	Chemical and Volume Control System	GE	X			
9.3.5	Standby Liquid Control System	GE		X		
9.3.6	Instrument Air System	GE	X			
9.3.7	Service Air System	GE	X			
9.3.8	High Pressure Nitrogen Supply System	GE	X			
9.3.9	Hydrogen Water Chemistry System	GE			X(1)	
9.3.10	Oxygen Injection System	GE				X
9.3.11	Zinc Injection System	GE		X		
9.3.12	Auxiliary Boiler System	GE	X			
9.4.1	Control Room Area Ventilation System	GE	X			
9.4.2	Fuel Building HVAC System (FBHVS)	GE	X			
9.4.3	Radwaste Building Heating, Ventilation and Air Conditioning System	GE	X			
9.4.4	Turbine Building HVAC System	GE	X			
9.4.5	Engineered Safety Feature Ventilation System	GE	X			
9.4.6	Reactor Building HVAC System	GE	X			
9.4.7	Electrical Building HVAC System	GE	X			
9.4.8	Drywell Cooling System	GE	X			
9.4.9	Containment Inerting System	GE	X			
9.4.10	HVAC Component Information	GE	X			
9.5.1	Fire Protection System	GE			X (2)	
9.5.2	Communications Systems	GE				X
9.5.3	Lighting System	GE	X			
9.5.4	Diesel Generator Fuel Oil Storage and Transfer System	GE			X (1)	
9.5.5	Diesel Generator Jacket Cooling Water System	GE	X			
9.5.6	Diesel Generator Starting Air System	GE	X			
9.5.7	Diesel Generator Lubrication System	GE	X			
9.5.8	Diesel Generator Combustion Air	GE	X			

ESBWR Standardization Matrix[1]						
Part Chapter Section	Title	Lead Organization Preparing Section	Standardization Assessment			
			Match DCD	Standard	Standard With Site-Specific	Site-Specific
	Intake and Exhaust System					
9A	Fire Hazards Analysis	**GE**			**X (2)**	
9B	Summary of Analysis Supporting Fire Protection Design Requirements	**GE**	**X**			
FSAR Chapter 10	Steam and Power Conversion Systems					
10.1	Summary Description	**GE**	**X**			
10.2	Turbine Generator	**GE**		**X**		
10.3	Turbine Main Steam System	**GE**	**X**			
10.4	Other Features of Steam and Power Conversion System	**GE**			**X (2)**	
FSAR Chapter 11	Radioactive Waste Management					
11.1	Source Terms	**GE**	**X**			
11.2	Liquid Waste Management System	**GE**		**X**		
11.3	Gaseous Waste Management System	**GE**				**X**
11.4	Solid Waste Management System	**GE**		**X**		
11.5	Process Radiation Monitoring System	**GE**		**X**		
FSAR Chapter 12	Radiation Protection					
12.1	Ensuring That Occupational Radiation Exposures Are ALARA	**Dominion**		**X**		
12.2	Plant Sources	**GE**			**X (2)**	
12.3	Radiation Protection	**GE**		**X**		
12.4	Dose Assessment	**GE**				**X**
12.5	Operational Radiation Protection Program	**Dominion**		**X**		
12.6	Minimization of Contamination and Radwaste Generation	**GE**		**X**		
12A	Calculation of Airborne Radionuclides	**GE**	**X**			
FSAR Chapter 13	Conduct of Operations					

ESBWR Standardization Matrix[1]						
Part Chapter Section	Title	Lead Organization Preparing Section	Standardization Assessment			
			Match DCD	Standard	Standard With Site-Specific	Site-Specific
13.1	Organizational Structure of Applicant	**NuStart**				**X**
13.2	Training	**Dominion**		**X**		
13.3	Emergency Planning	**Dominion**		**X**		
13.4	Operational Program Implementation	**NuStart**		**X**		
13.5	Plant Procedures	**NuStart**		**X**		
13.6	Physical Security	**Dominion**			**X(1)**	
13.7	Fitness for Duty	**NuStart**		**X**		
FSAR Chapter 14	Initial Test Program					
14.1	Initial Test Program For Preliminary Safety Analysis Reports	**GE**	**X**			
14.2	Initial Plant Test Program For Final Safety Analysis Reports	**GE**			**X(1)**	
14.3	Selection Of Tier 1 Criteria and Processes	**GE**		**X**		
FSAR Chapter 15	Safety Analyses					
15.0	Analytical Approach	**GE**	**X**			
15.1	Nuclear Safety Operational Analysis	**GE**	**X**			
15.2	Analysis of Anticipated Operational Occurrences	**GE**	**X**			
15.3	Analysis of Infrequent Events	**GE**		**X**		
15.4	Analysis of Accidents	**GE**	**X**			
15.5	Special Event Evaluations	**GE**	**X**			
15A	Event Probability Analyses	**GE**	**X**			
15B	LOCA Inventory Curves	**GE**	**X**			
FSAR Chapter 16	Technical Specifications	**GE**		**X**		
FSAR Chapter 17	Quality Assurance					
17.0	Introduction	**Dominion**		**X**		
17.1	Quality Assurance During Design and Construction	**Dominion NuStart**				**X**

ESBWR Standardization Matrix[1]						
Part Chapter Section	Title	Lead Organization Preparing Section	Standardization Assessment			
			Match DCD	Standard	Standard With Site-Specific	Site-Specific
		Entergy				
17.2	Quality Assurance During the Operations Phase	**Dominion NuStart Entergy**		**X**		
17.3	Quality Assurance Program Document	**Dominion NuStart Entergy**		**X**		
17.4	Reliability Assurance Program During Design Phase	**NuStart**		**X**		
17.5	Quality Assurance Program Description	**Dominion NuStart Entergy**			**X (1)**	
17.6	Maintenance Rule Program	**NuStart**		**X**		
FSAR Chapter 18	Human Factors Engineering					
18.1	Overview	**GE**	**X**			
18.2	HFE Program Management	**GE**	**X**			
18.3	Operating Experience Review	**GE**	**X**			
18.4	Functional Requirements Analyses and Function Allocation	**GE**	**X**			
18.5	Task Analysis	**GE**	**X**			
18.6	Staffing and Qualifications	**GE**	**X**			
18.7	Human Reliability Analysis	**GE**	**X**			
18.8	Human-System Interface Design	**GE**	**X**			
18.9	Procedure Development	**GE**	**X**			
18.10	Training Program Development	**GE**	**X**			
18.11	Human Factors V&V	**GE**	**X**			
18.12	Design Implementation	**GE**	**X**			
18.13	Human Performance Monitoring	**GE**	**X**			
18.14	Inventory of Controls and Instrumentation	**GE**	**X**			
FSAR Chapter 19	Probabilistic Risk Assessment and Severe Accidents					
19.1	Introduction	**GE**	**X**			
19.2	PRA Results and Insights	**GE**		**X**		
19.3	Severe Accident Evaluations	**GE**	**X**			
19.4	PRA Maintenance	**GE**	**X**			
19.5	COL Information	**GE**				**X**

ESBWR Standardization Matrix[1]						
Part Chapter Section	Title	Lead Organization Preparing Section	Standardization Assessment			
			Match DCD	Standard	Standard With Site-Specific	Site-Specific
19A	Regulatory Treatment of Non Safety Systems (RTNSS)	**GE**	**X**			
19B	Deterministic Analysis for Containment Pressure Capability	**GE**	**X**			
19C	Probabilistic Analysis for Containment Pressure Fragility	**GE**	**X**			
Part 3	**Environmental Report**					
ER Chapter 1	Introduction	**Dominion NuStart Entergy**				**X**
ER Chapter 2	Environmental Description	**Dominion NuStart Entergy**				**X**
ER Chapter 3	Plant Description	**Dominion NuStart Entergy**				**X**
ER Chapter 4	Environmental Impacts of Construction (North Anna) Environmental Effects of Construction (Grand Gulf, River Bend)	**Dominion NuStart Entergy**				**X**
ER Chapter 5	Environmental Impacts of Station Operation (North Anna) Environmental Effects of Station Operations (Grand Gulf, River Bend)	**Dominion NuStart Entergy**				**X**
ER Chapter 6	Environmental Measurements and Monitoring Programs	**Dominion NuStart Entergy**				**X**
ER Chapter 7	Environmental Impacts of Postulated Accidents Involving Radioactive Materials	**Dominion NuStart Entergy**				**X**
ER Chapter 8	Need for Power	**Dominion NuStart Entergy**				**X**

ESBWR Standardization Matrix[1]						
Part Chapter Section	Title	Lead Organization Preparing Section	Standardization Assessment			
			Match DCD	Standard	Standard With Site-Specific	Site-Specific
ER Chapter 9	Alternatives to the Proposed Action	**Dominion NuStart Entergy**				**X**
ER Chapter 10	Environmental Consequences of the Proposed Action	**Dominion NuStart Entergy**				**X**
Part 4	**Technical Specifications**	**GE**			**X (1)**	
Part 5	**Emergency Plan**	**Dominion NuStart Entergy**				**X**
Part 6	**LWA/Site Redress Plan (Not used for North Anna)**	**Dominion NuStart Entergy**	**N/A**	**N/A**	**N/A**	**N/A**
Part 7	**Generic DCD Departures Report**	**Dominion NuStart Entergy**				**X**
Part 8	**Safeguards/Security Plans**					
--	Physical Security Plan	**Dominion NuStart Entergy**			**X (1)**	
--	Training and Qualification Plan	**Dominion NuStart Entergy**			**X (1)**	
--	Safeguards Contingency Plan	**Dominion NuStart Entergy**			**X (2)**	
Part 9	**Plant-Specific PRA (Not used for North Anna; may contain withheld information for Grand Gulf)**	**Dominion NuStart Entergy**				**X**
Part 10	**ITAAC**	**GE**			**X (1)**	