

**Grand Gulf Unit 3**  
**COL Application Orientation**  
March 6, 2008



## Grand Gulf COLA Orientation

# Meeting Agenda

0830	Welcome/Introductions	NRC
0845	Staff Overview	NRC
0900	Grand Gulf COLA Description	Entergy/NuStart
▶	Application Development	Entergy/NuStart
▶	Basic Approaches	Entergy/NuStart
▶	Grand Gulf COLA Overview	Entergy/NuStart
▶	GG COLA Parts: Highlights	Entergy/NuStart
1000	BREAK	
1015	GG COLA Description (Continued)	Entergy/NuStart
▶	GG COLA Parts: Highlights	Entergy/NuStart
▶	Configuration Management Topics	Entergy/NuStart
▶	Near Term Activities	Entergy/NuStart
1115	Question/Answer Session	Entergy/NuStart
1145	Public Comments	NRC
1200	Adjourn	



## Grand Gulf COLA Orientation

# Meeting Goals

Facilitate Staff understanding of:

- ▶ COLA "Applicant"; licensing approach and development
- ▶ Standardization and Relationship to North Anna R-COLA, ESBWR DCD, GG ESP, ESBWR-DCWG
- ▶ GG S-COLA Content highlights
- ▶ Configuration Management Topics

Common Understanding of:

- ▶ Near-term activities, supporting the Acceptance Review
  - March 19 meeting – COLA Technical Discussion



## Application Development

# Applicant and Supporting Organizations

- ▶ Applicant: Entergy subsidiaries
- ▶ Entergy: NuStart Member
- ▶ Role of NuStart
  - Key Consultants: Enercon Services, William Lettis and Associates, MACTEC Engineering & Consulting, Burns and Roe
- ▶ ESBWR DCWG
- ▶ Collaboration w/Dominion and GEH
- ▶ Participation w/NEI and Industry



## Basic Approaches

- ▶ GG COLA (S-COLA) references:
  - ESBWR DCD Revision 4
  - GG Early Site Permit and Application
- ▶ GG S-COLA relationship to North Anna R-COLA
  - High degree of standardization
  - Coordination on “standard content”
  - Coordination on common areas
  - Coordination of DCD reviews
  - Close cooperation during North Anna acceptance review
- ▶ Minimize exemptions, departures from DCD, variances from ESP



## GG COLA Overview

- ▶ Electronic Submission
  - Public, Non-public DVDs
  - Links (Part 1, Part 2, Part 3, Part 9)
- ▶ Consistency with R-COLA
  - Format, Structure
    - Left margin annotation (LMA) – Part 2 and Part 11B
    - Table & Figure Convention
    - Incorporation by Reference (IBR) – ESP & DCD (Examples provided later)
    - COLA Part Structure
    - Navigation
  - Content
    - Standardization Matrix
- ▶ Differences from R-COLA



# COLA Parts Structure

Part	R-COLA	GG (S-COLA)
1	General and Administrative Information	
2	Final Safety Analysis Report	
3	Environmental Report	
4	Technical Specifications	
5	Emergency Plan	
6	<b>Not Used</b>	
7	Departures Report	
8	Safeguards/Security Plans	
9	<b>Not Used</b>	Withheld Information (Proprietary and Sensitive)
10	ITAAC	
11	<b>Not Used</b>	Enclosures (QAPD, Environmental Protection Plan)

# Standardization Matrix

- ▶ See handout of revised matrix
- ▶ Minor changes since R-COLA submittal

Part Chapter Section	Title	Standardization Assessment			
		Match DCD	Standard	Standard With Site- Specific	Site- Specific
	Geotechnical Engineering				
FSAR Chapter 3	Design of Structures, Components, Equipment, Systems				
3.1	Conformance with NRC General Design Criteria	X			
3.2	Classification of Structures, Systems, and Components		X		
3.3	Wind and Tornado Loadings	X			
3.4	Water Level (Flood) Design	X			
3.5	Missile Protection		X		
3.6	Protection Against Dynamic Effects		X		
3.7	Seismic Design				X
3.8	Seismic Category I Structures	X			
2.0	Mechanical Systems and Components			V/11	



## Overview of S-COLA Differences From R-COLA

- ▶ Site-specific information
  - GG ESP
  - Site-specific system designs
- ▶ Some specific content differences (discussed later)
- ▶ Changes from “standard” R-COLA content in GG COLA
  - Last pages of Standardization Matrix handout
  - Mostly minor administrative changes: site-specific wording, Quality Assurance Program Description (QAPD) preferences
  - For affected paragraphs, LMA changed in S-COLA to “GGNS” from “STD”



## Grand Gulf COLA Parts: Highlights

- ▶ Part 1: General and Administrative Information
- ▶ Part 2: Final Safety Analysis Report
- ▶ Part 3: Environmental Report
- ▶ Part 4: Technical Specifications
- ▶ Part 5: Emergency Plan
- ▶ Part 6: LWA/Site Redress (Not Used)
- ▶ Part 7: Departures Report
- ▶ Part 8: Safeguards/Security Plans
- ▶ Part 9: Withheld Information
- ▶ Part 10: ITAAC
- ▶ Part 11: COLA Enclosures



## GG COLA Parts: Highlights

# Part 1: General and Administrative Information

- ▶ General Information
  - Applicants: Entergy Operations, Inc., Entergy Mississippi, Inc, Entergy Louisiana LLC, Entergy Gulf States Louisiana LLC, System Energy Resources, Inc.
  - Requested Licenses
- ▶ Financial Information
  - Construction costs
  - Financial qualification
  - Decommissioning funding (per 10 CFR 52.75)
- ▶ Other Information



## GG COLA Parts: Highlights

### Part 2: FSAR

- ▶ Incorporated GE ESBWR DCD Tier 2 design information by reference
- ▶ Incorporated GG ESP Application SSAR by reference
- ▶ Added new information to address DCD Conceptual Design Information (CDI)
- ▶ Added new information to address DCD and ESP COL items and ESP Permit Conditions
- ▶ Added new information to address NRC guidance (RG 1.206, SRP)
- ▶ Departures, Variances and Exemptions described in Part 7



## GG COLA Parts: Highlights

# Part 2: FSAR (continued)

- ▶ DCD COL Items
  - DCD COL Items are either:
    - Applicant Item – information is provided in the COLA
    - Holder Item – information will be provided after license is issued. COLA contains commitment to provide information.
  - Consistent with RG 1.206
  - Same approach as R-COLA



## GG COLA Parts: Highlights

# Part 2: FSAR (continued)

Examples of FSAR sections

- ▶ Match DCD (IBR only)
- ▶ IBR DCD and add new information to address COL items or NRC guidance
- ▶ IBR DCD and replace Conceptual Design Information (CDI) from DCD with site-specific design information
- ▶ See handouts for examples of each section



## GG COLA Parts: Highlights

# Part 2: FSAR (continued)

## Helpful Tools – Similar to R-COLA

- ▶ Chapter 1
  - SRP, RG, and RG 1.206 conformance tables
  - COL Item tables (DCD & ESP)
  - Other tables (ESPA SSAR to FSAR cross reference, CDI, drawings, Topical Reports, departures, etc.)
  - DCD revision
  - General info (LMA table, numbering of figures & tables, etc.)
- ▶ See handout on helpful tables



## GG COLA Parts: Highlights

# Part 2: FSAR (continued)

### Chapter 2 – Site Characteristics

- ▶ Required demonstrations
  - Site characteristics and site-related design parameters specified in the ESP fall within site parameters and design characteristics specified in the DCD (SRP 2.0)
- ▶ FSAR 2.0: Incorporates by reference DCD w/Supplemental Information
- ▶ FSAR 2.1 – 2.5 sections: Incorporates by reference ESP Application SSAR w/supplemental information
- ▶ Addresses applicable COL Information/Action Items from DCD and ESP



## GG COLA Parts: Highlights

# Part 2: FSAR (continued)

Noteworthy Differences from R-COLA:

- ▶ Chapter 1 – Site-specific information
- ▶ Chapter 2 – Site-specific information
- ▶ Section 3.7 – Ground motion response spectra
- ▶ Section 6.4 – Control room toxic gas analysis
- ▶ Chapter 9 – Site-specific systems
  - Plant service water, station water, makeup water, potable and sanitary water systems, H<sub>2</sub> injection, yard fire protection system, FHA



## GG COLA Parts: Highlights

# Part 2: FSAR (continued)

Noteworthy Differences from R-COLA (continued):

- ▶ Section 10.4 – Circulating water and normal heat sink
- ▶ Sections 12.2/4 – Offsite and construction worker dose analysis
- ▶ Section 13.1 – Organizational structure
- ▶ Section 13.6 – ESP COL Action Item on security
- ▶ Chapter 17 – Quality Assurance Program Description (QAPD)



## GG COLA Parts: Highlights

# Part 4: Technical Specifications

- ▶ IBR DCD Generic Tech Specs (GTS) and Bases
- ▶ No changes to generic TS or Bases
- ▶ Addressed COL items similar to R-COLA
  - Only slight, site-specific differences (e.g., plant location)
- ▶ Ongoing discussions between GEH, NRC Staff, and applicants regarding other GTS open bracketed items



## GG COLA Parts: Highlights

# Part 3: Environmental Report

- ▶ Format: Guided by ESP Application ER and ESRP (NUREG-1555)
- ▶ Demonstration: facility falls within design parameters established at ESP (specified in permit)
- ▶ ESP unresolved issues
  - *Examples: Transmission land use impacts, water quality/use, dredge spoils*
- ▶ Deferred (not addressed at ESP)
  - *Examples: Need for power, decommissioning*



## GG COLA Parts: Highlights

# Part 3: Environmental Report (continued)

- ▶ New, significant process: ER Chapter 1
  - Results of review presented in appropriate ER locations, as supplemental information
  - Examples of information provided:
    - *Relocated cooling tower; revised plot plan/grading plan; cultural resources site survey; identification of new species of concern*
- ▶ Addresses Environmental ESP Terms & Conditions
  - Environmental Protection Plan (Part 11B)



## GG COLA Parts: Highlights

# Part 5: Emergency Plan

- ▶ Emergency Plan
  - Builds on Major Features approved at ESP; addresses NUREG-0654 evaluation criteria
  - Certification letters
  - Tables providing cross-reference between the Plan and requirements/guidance/plans
  - Part 52.79(b)(4): Describes (minor) updates, corrections to ESP Major Features
- ▶ Part 5: “Supplemental Information”
  - Evacuation Time Estimate Report
  - State/Local plans
- ▶ EP ITAAC (provided in Part 10)



## GG COLA Parts: Highlights

# Part 7: Departures Report

- ▶ Summary
  - Departure (1)
  - Variances (6)
  - Exemptions (2)
- ▶ Difference from R-COLA
  - R-COLA provided supplemental information locations



## GG COLA Parts: Highlights

# Part 7: Departures Report (continued)

- ▶ Departure from DCD (1)
  - DEP 2.0-1: Seismic Spectra Exceedance
- ▶ Variances from ESP Site Characteristics (4)
  - ESP VAR 2.0-1: Design Response Spectra
  - ESP VAR 2.0-2: Minimum Shear Wave Velocity of Soil at the Proposed Plant Foundation Level
  - ESP VAR 2.4.1-1: Distance to Closest Surface Water
  - ESP VAR 2.4.12-1: Highest Ground Water Elevation



## GG COLA Parts: Highlights

# Part 7: Departures Report (continued)

- ▶ Variance from ESP Application SSAR Method (1)
  - ESP VAR 2.3-1: Determination of Roof Loads Due to Extreme Winter Precipitation
- ▶ Variance from ESP Postulated Source Term (1)
  - ESP VAR 2.0-3: Accident Analyses
- ▶ Exemptions (2)
  - Seismic Spectra Exceedance (Departure from Tier 1)
  - Fitness for duty program description per expected rule



## GG COLA Parts: Highlights

# Part 8: Safeguards / Security Plans

- ▶ Security Plan
  - Followed NEI Template
- ▶ Submitted to NRC under separate cover



## GG COLA Parts: Highlights

# Part 9: Withheld Information

- ▶ FSAR
  - Contains Security related information
    - Withheld per 10 CFR 2.390(d)(1)
- ▶ ER
  - Contains Proprietary information
    - Withheld per 10 CFR 2.390(a)(4)



## GG COLA Parts: Highlights

### Part 10: ITAAC

- ▶ IBR DCD Rev 4 Tier 1 – No changes
- ▶ IBR DCD Rev 4 ITAAC – No changes
- ▶ IBR DCD Rev 4\* Security ITAAC – No changes
- ▶ Site-specific ITAAC
  - Soil ITAAC – Same as R-COLA
  - Emergency Planning ITAAC – Similar to R-COLA
    - Minor site-specific differences
  - Plant Service Water System ITAAC
    - Similar to R-COLA, except for site specific differences [e.g. acceptance criteria value (# of gal)]

\*GEH is planning to include revised security ITAAC in DCD Rev 5



## GG COLA Parts: Highlights

# Part 11: Enclosures

- ▶ Part 11A: Quality Assurance Program Description (QAPD)
- ▶ Part 11B: Environmental Protection Plan



## Configuration Management Topics

# Maintaining R-COLA, S-COLA, DCD Consistency

- ▶ Drivers to future GG COLA content changes
  - DCD changes (e.g., Rev 5)
  - R-COLA changes to “standard” content (NRC RAIs, other)
  - Plant specific S-COLA changes (NRC RAIs, other)
- ▶ Future GG COLA revisions to follow RG 1.206 and electronic submittal guidance

## Configuration Management Topics

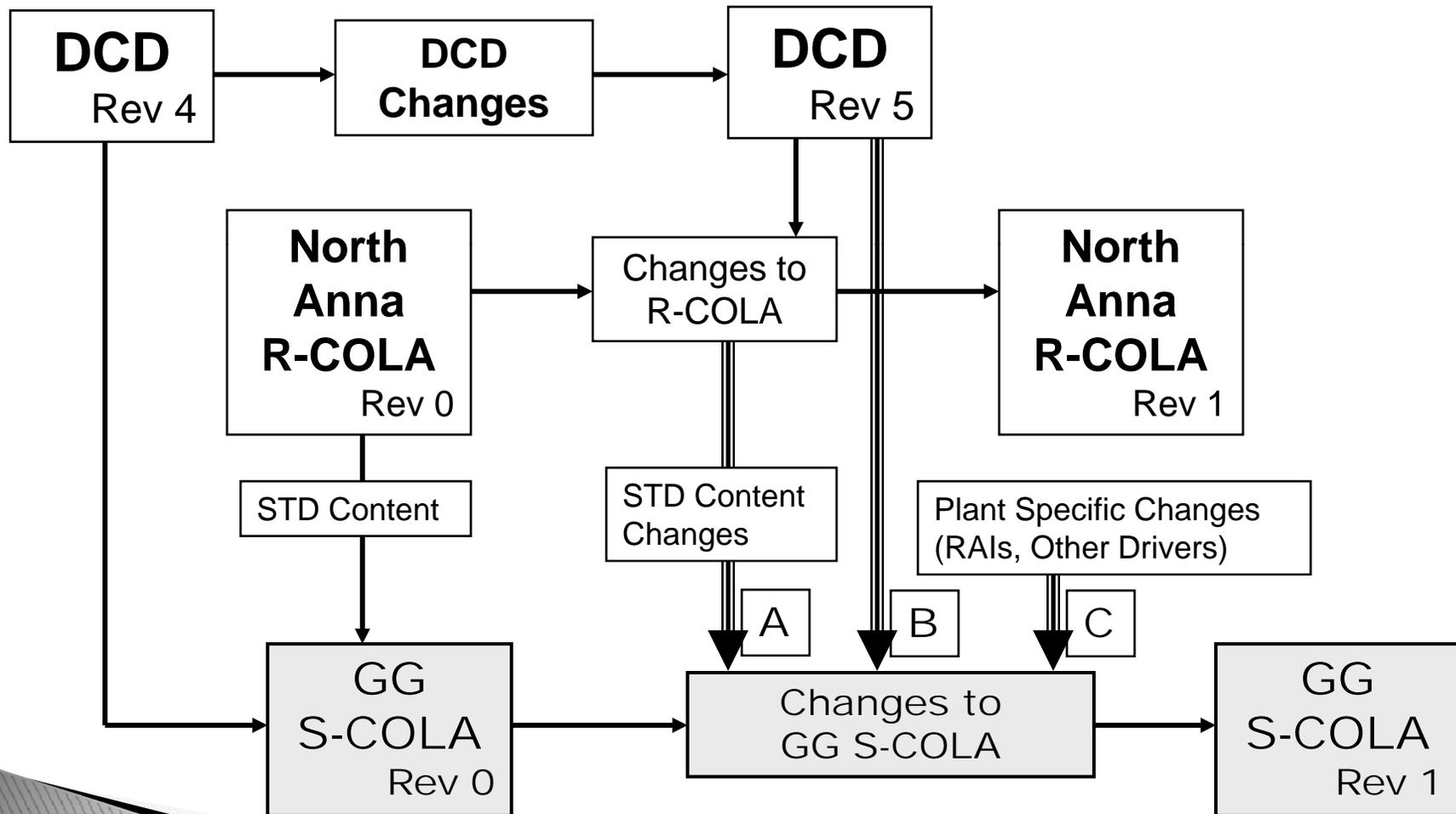


Figure 1: DCD, R-COLA, S-COLA Change Process



## Configuration Management Topics

# Maintaining R-COLA, S-COLA, DCD Consistency (continued)

- ▶ Change control process going forward
  - Coordinated through ESBWR DCWG representatives
  - S-COLA (GG) follows R-COLA for “standard” content changes
  - Applicant teams reviewing GEH DCD RAI responses and section revisions
  - S-COLA revision to follow DCD Rev 5
  - R-COLA and S-COLA submittals to be coordinated



## Supporting Successful NRC Acceptance Review Near-Term Activities

- ▶ Interface Routine
  - Standing routine teleconference calls
  - Calls and meetings, as needed
- ▶ Tracking of Issues
  - Common understanding of issues
- ▶ March 19: Technical content discussions
  - Prompt, appropriate attention on potential sufficiency issues
  - Additional near term planning and agenda development



## Conclusion

- ▶ High degree of standardization
- ▶ Continue to work closely with DCWG to maintain standardization
- ▶ Ready to support acceptance review

## Wrap-up & Action Items



# Question/Answer Session

