

Vogtle Units 3&4 Project Update

February 8, 2012



Agenda

Time	Description	Presenter
1:00 pm	Introductions	Mark Rauckhorst
1:15 pm	Recent Nuclear Development Organization Changes	Mark Rauckhorst
	Vogtle Interface Relationships with Region II	David Jones
1:30 pm	Special Topics	
	• Vogtle 2012 Integrated Projects Schedule Activities	David Clem
	• 2012 License Amendment Activities	Chuck Pierce
	• ITAAC Management/Execution Experience	Clint Medlock
	• Project Oversight	Mark Rauckhorst Tom Dent Monty Glover
2:30 pm	Vogtle Site Development	David Clem
2:45 pm	Summary/Discussion and Closing Remarks	All

Nuclear Development Recent Organization Changes

Mark Rauckhorst
Vice President, Construction



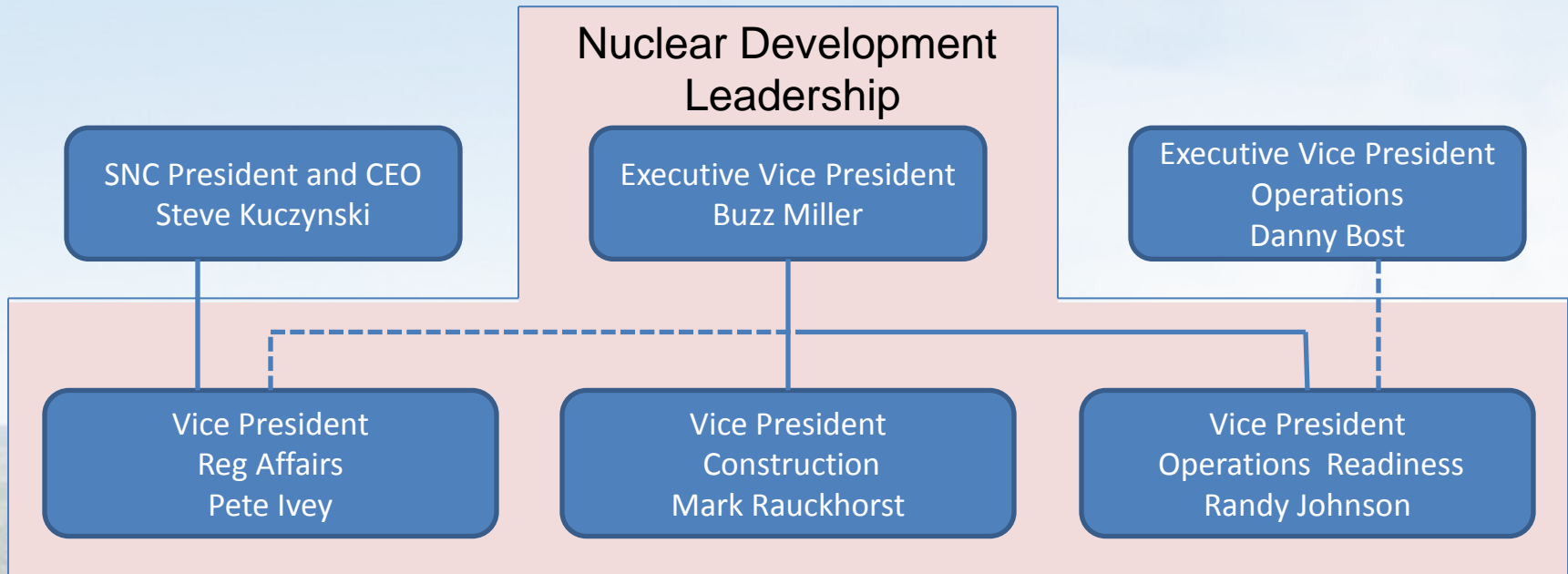
Recent Organization Changes

- SNC is continually assessing the Nuclear Development Organization
- Looking forward to COLs receipt, on December 24, 2011, organization changes were implemented to improve:
 - Construction oversight
 - Regulatory effectiveness
 - Operations support effectiveness

Vogtle

units 3&4 Nuclear Development

Recent Organization Changes



Licensing and Compliance
Arm with Integration with
Fleet

Project Management Arm
with Focus on Construction
Oversight

Operations Arm
with Integration with
Fleet

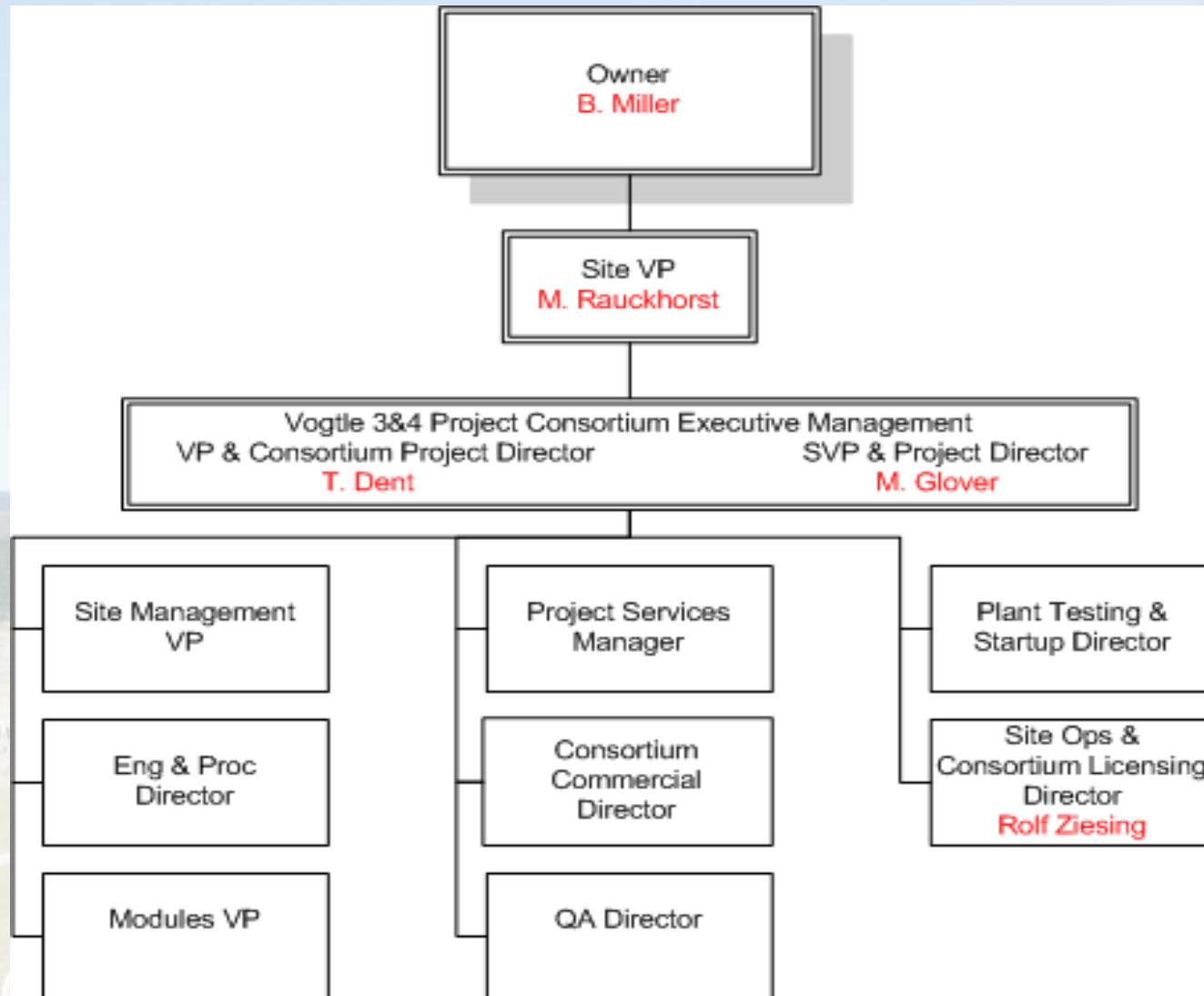
Vogtle

units 3&4 Nuclear Development

Other Key Management Positions

- **Vogtle 3&4 Regulatory Affairs VP - David Jones**
Reports to Pete Ivey and is responsible for the key areas of Licensing and Compliance, Corrective Actions Program, and ITAAC
- **Vogtle 3&4 Construction Support VP - David McKinney**
Reports to Buzz Miller and is responsible for commercial elements
- **QA Manager – Jim Davis**
Reports to Buzz Miller and is responsible for the SNC QA Program

Contractor Organization Elements



NRC Interface Protocols

David Jones
VP, Vogtle 3&4 Regulatory Affairs



NRC Interface Protocols

Title/Individual	Alignment
Regional Administrator Victor McCree	Principal: David Jones Others: Buzz Miller, Pete Ivey, Mark Rauckhorst
Deputy Administrator For Construction Darrell Roberts (Acting)	Principal: David Jones Others: Pete Ivey, Mark Rauckhorst
Director/Deputy Director Projects James Moorman/Terrance Reis	Principal: Chuck Pierce Others: David Jones
Branch Chief Construction Projects Alan Blamey (Branch 2), Mike Ernstes (Branch 4)	Principal: Howard Mahan Others: David Jones, Chuck Pierce
Director/Deputy Director Division of Construction Inspection Chuck Ogle/Jimi Yerokun	Principal: Chuck Pierce Others: David Jones
Branch Chiefs – Construction Inspection Mark Lessor (Branch 1), Marvin Freeman (Branch 3)	Principal: Howard Mahan Others: David Jones, Chuck Pierce
Project Manager George Khouri	Principal: Howard Mahan Others: David Jones, Chuck Pierce
Senior Resident Inspector Justin Fuller	Principal: Howard Mahan Others: Mark Rauckhorst, David Jones, Chuck Pierce
Resident Inspectors Abbot Coleman, Chad Huffman	Principal: Dan Mickinac Others: Howard Mahan
Operations Center	Principal: Howard Mahan Others: David Jones, Chuck Pierce

License Amendment Activities

Chuck Pierce
Regulatory Affairs Director



License Amendment Activities

- Design changes deferred consistent ISG-11 provisions.
- Under ISG-25, deferred changes to be incorporated into the licensing basis before in-place construction begins.
 - Departures and 10 CFR 50.59 evaluations
 - Amendments
- When possible, license amendments to be submitted at least one year ahead of in-place construction. Three amendments under one year:
 - Module design clarification
 - Piping fatigue software
 - Containment vessel spare electrical penetrations
- Technical Specifications upgrade amendment planned for February 2012.

2012 Construction Activities

David Clem

Construction Oversight and Quality Manager



U3 2012 Significant Activities

2012

2013

Arrival of Turbine Building Condenser
(1-30-2012 Actual)



Install Rebar



Turbine Building Foundation



1st Nuclear Concrete



Set CR10



Set CV Bottom Head



Arrival of reactor vessel



Set CA20



Set CA04



Set CA05



Set CA01



Set CV Ring 1



Set CA03



Set CA02



Module Legend

CR10	Rebar supporting CV BH
CA01	SG / Refueling Canal
CA02	IRWST / Pressurizer Wall
CA03	IRWST Southwest Walls
CA04	RV Cavity / RCDT
CA05	CVS / Access Tunnel / PXS-B Walls
CA20	Auxiliary Building

Receipt of COL
(Mid February 2012)



Vogtle

13

units 3&4 Nuclear Development

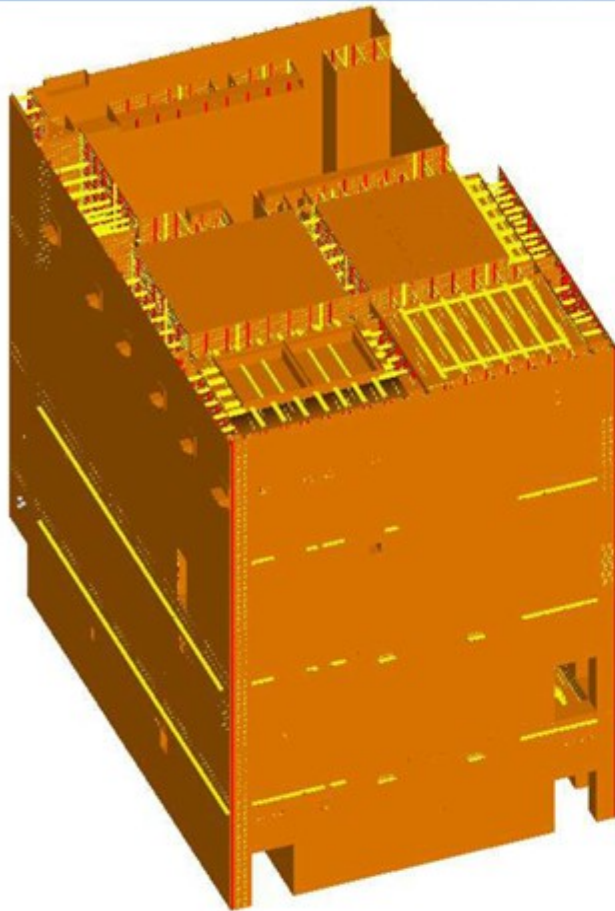


Examples of Modular Construction for Westinghouse AP1000™



2052009M

CA20 – Auxiliary Bldg Area 5 and 6

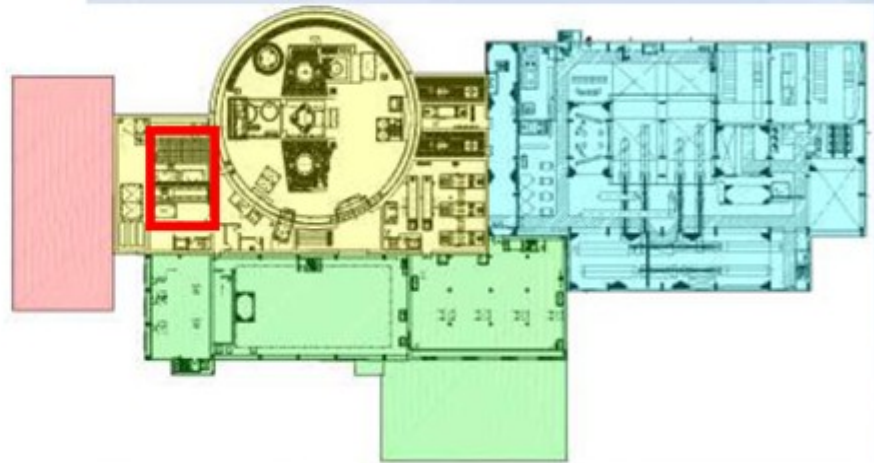


CA20 comprised of 72
Sub-Modules:

Size (N x E x Height):
44'-0" x 68'-9" x 68'-0"

[13mx21mx20.7m]

Dry Weight:
1,712,000 lbs. [777 Mg]



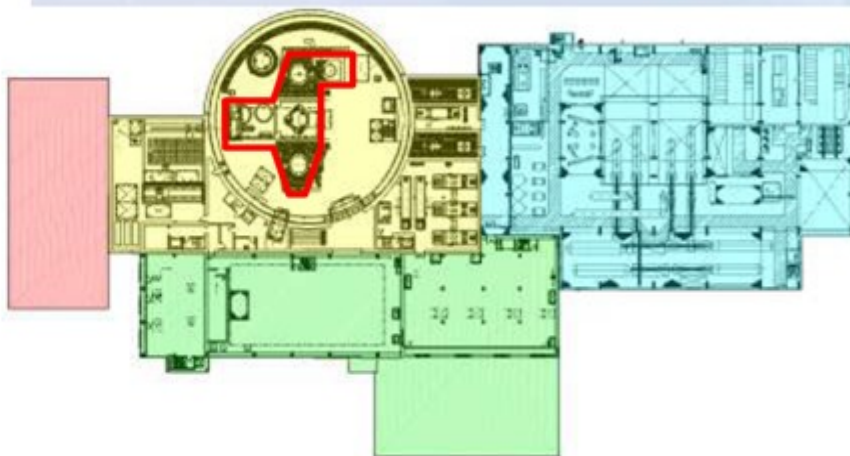
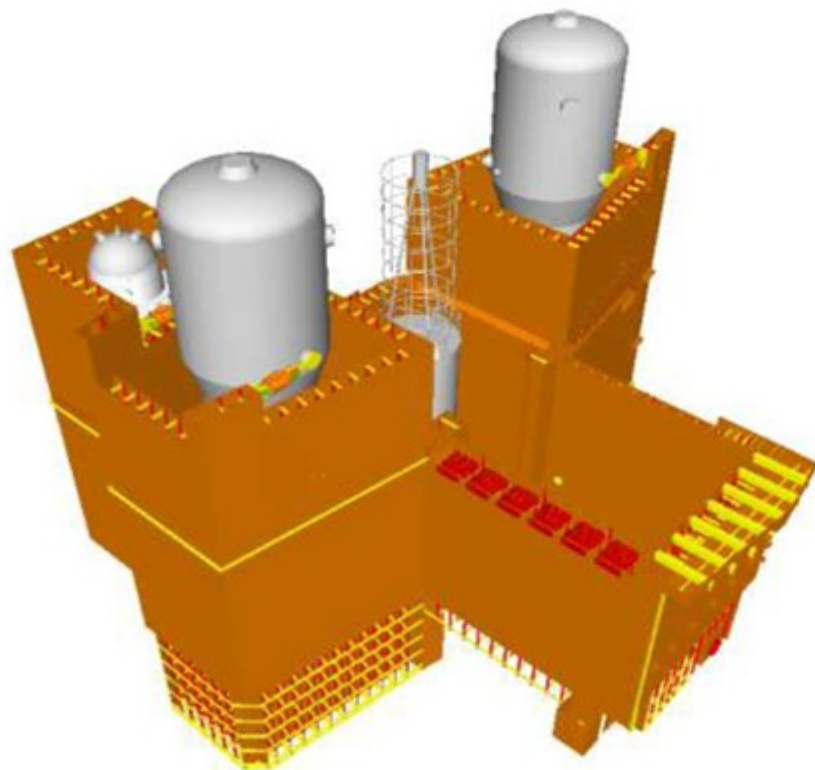
CA01 – Steam Generator and Refueling Canal Module

CA01 comprised of 47 Sub-Modules:

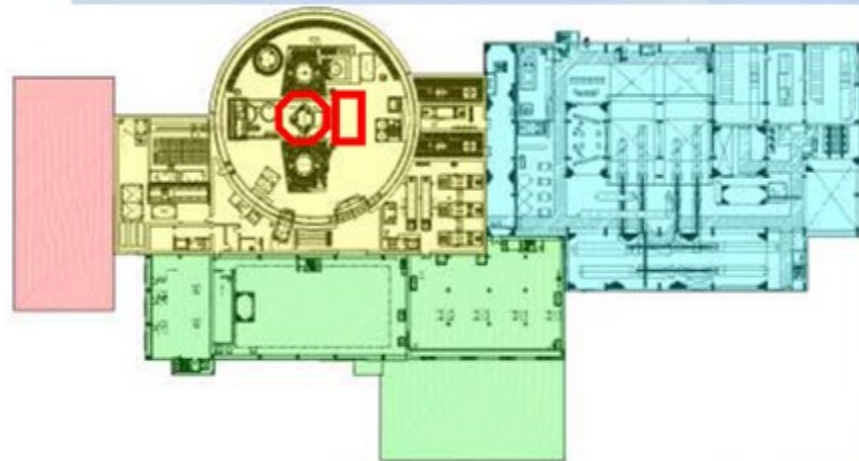
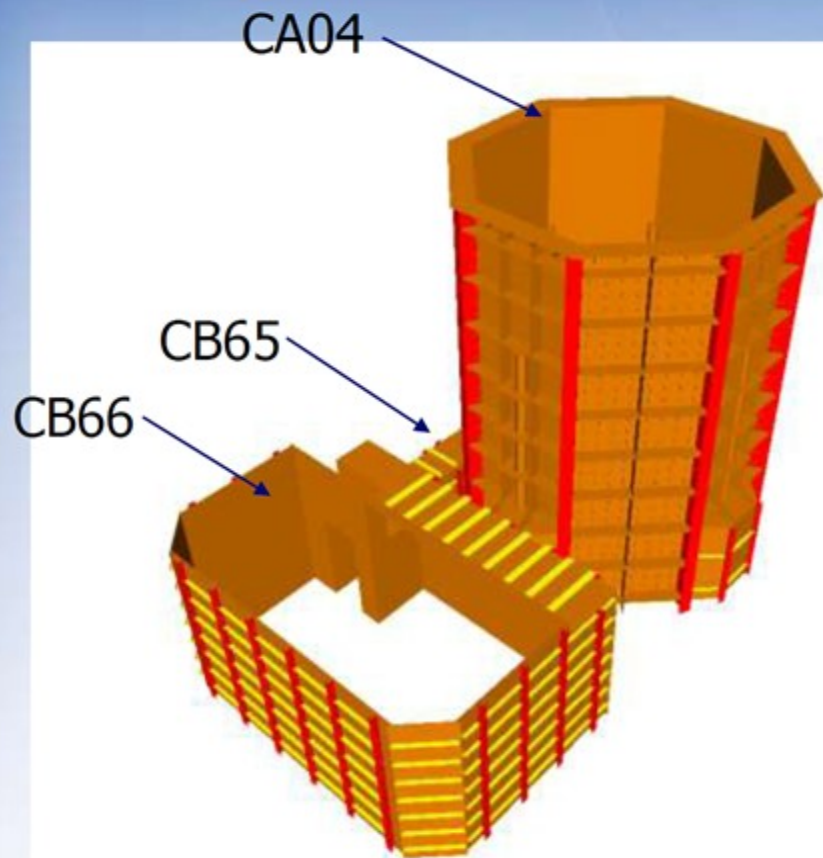
Size (N x E x Height):
92'-0" x 96'-0" x 76'-0"

[28mx29mx23m]

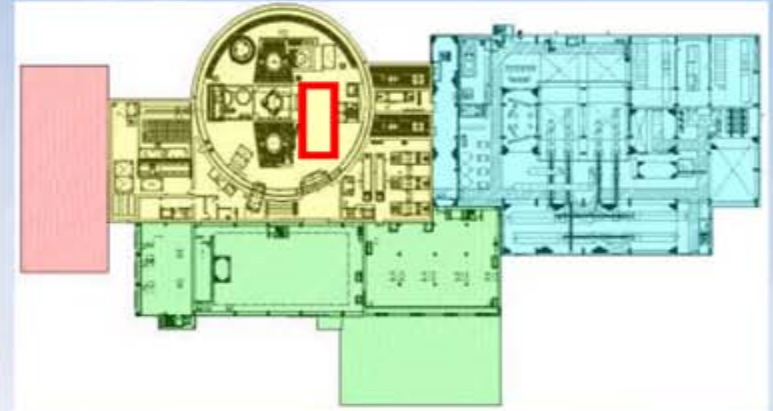
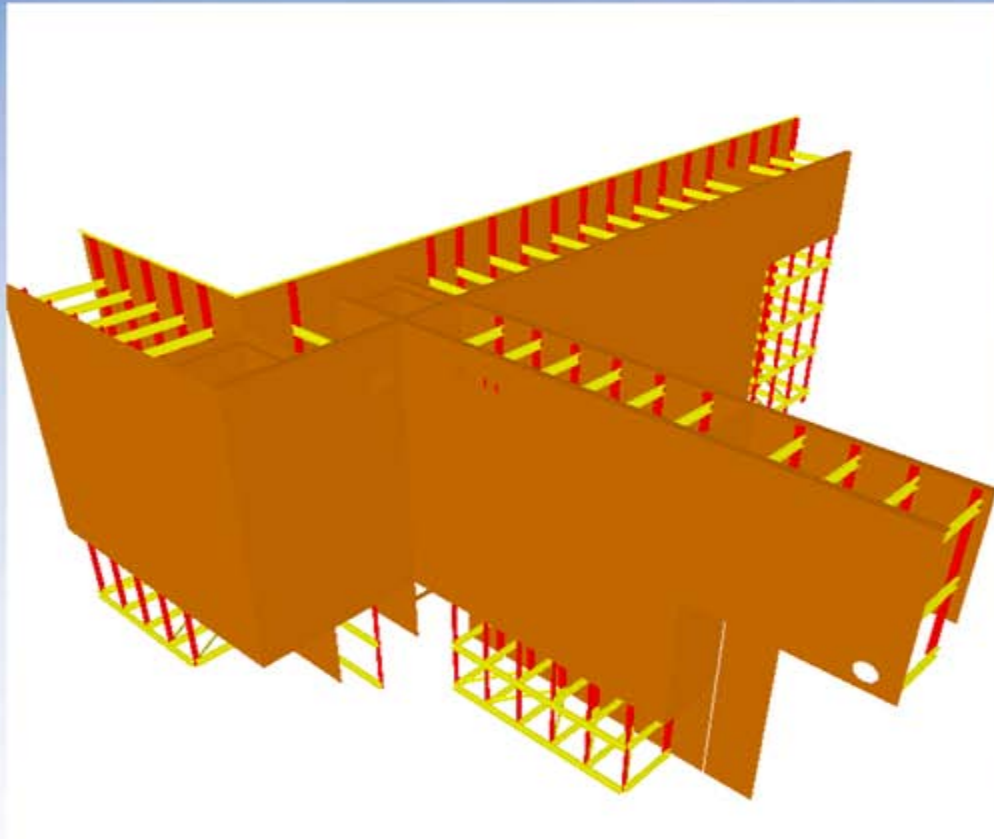
Dry Weight:
1,600,000 lbs. [725 Mg]



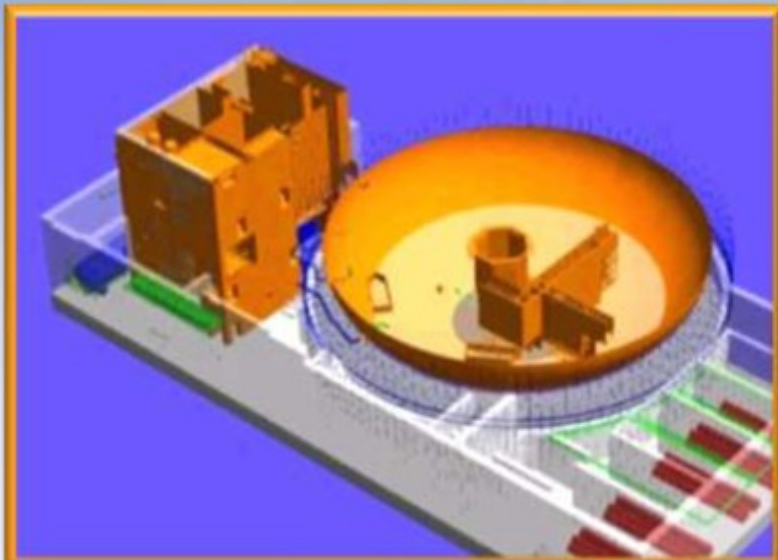
CA04 – Reactor Vessel Cavity / RCDT



CA05 – CVS / Access Tunnel / PXS-B Walls



CA01-CA05 Installation Sequence



CA20-CA04,05



CA01 set on top

Sanmen Structural Module Assembly

December 2009

CA-20 Module



Vogtle 3&4 ITAAC Management/Lessons Learned

Clint Medlock
ITAAC Manager



ITAAC (ESP) 3.8.05.1.1 States:

Waterproof Membrane ITAAC

NRC concluded that there was not a material qualification testing report that duplicates the as-built waterproof system, primarily due to an insignificant amount of as-built area that was not explicitly tested in the lab (i.e., the construction joints configuration.)

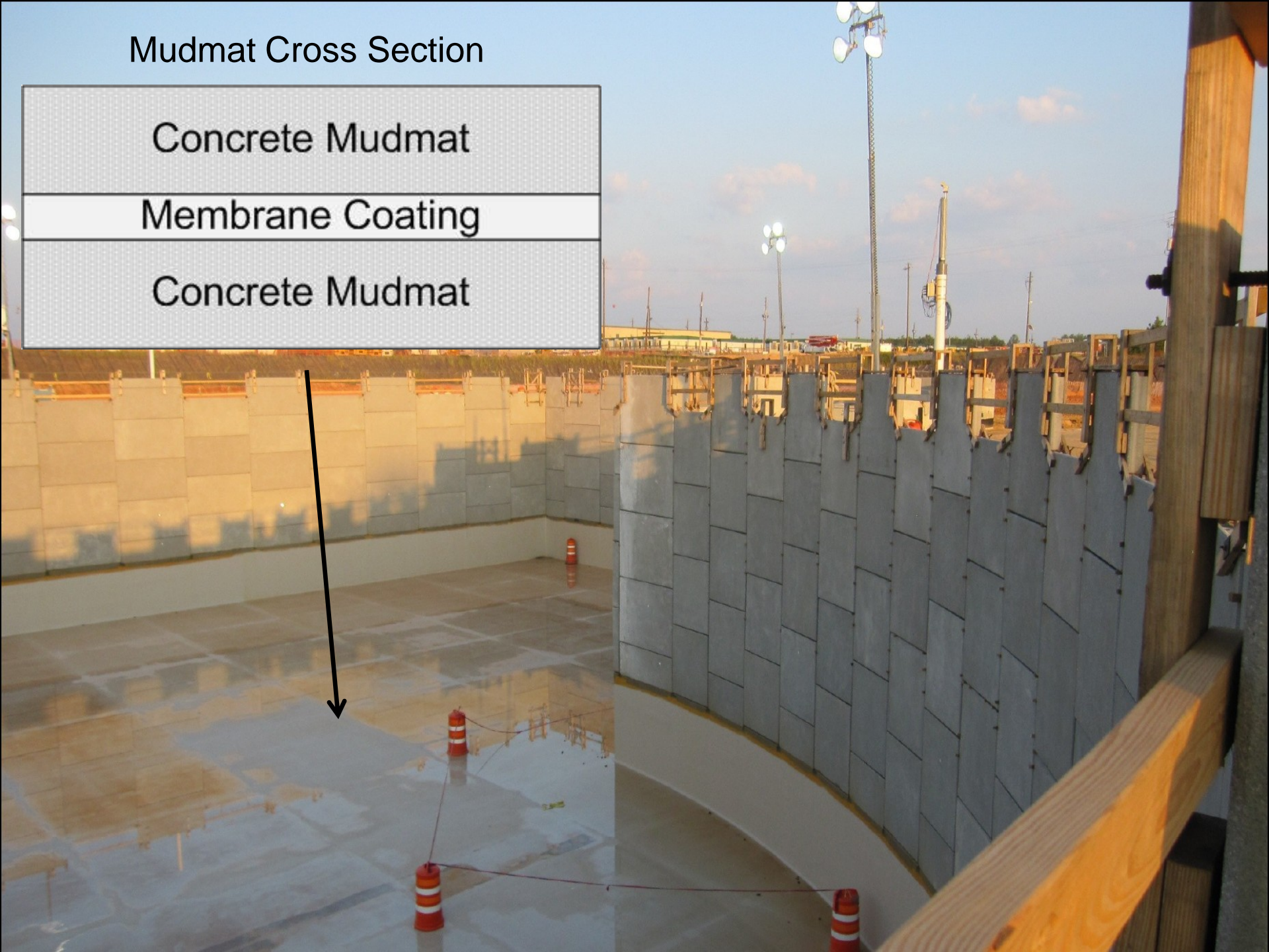
Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
The friction coefficient to resist sliding is 0.7 or higher	Testing will be performed to confirm that the mudmat-waterproof-mudmat interface beneath the Nuclear Island basemat has a minimum coefficient of friction to resist sliding of 0.7	A report exists and documents that the as-built waterproof system (mudmat-waterproofing-mudmat interface) has a minimum coefficient of friction of 0.7 as demonstrated through material qualification testing .

Mudmat Cross Section

Concrete Mudmat

Membrane Coating

Concrete Mudmat



WPM Notice of Violation

NOV cited WPM ITAAC deficiencies:

- As-built conditions did not match lab test (i.e., joint cracks)
- Lack of control of special processes related to membrane material
- Failure to consider environmental effects that were not tested in the lab
- Failure to consider the aging of material prior to placement of second layer of mudmat
- Cited SNC for non-conservative decision making

WPM ITAAC Re-Test Plan

Three tiers of WPM Testing Agreed to...

- **Tier 1A** – test 16 samples on Unit 4 mudmat after 1 day of exposure
 - Joint configuration (scrim, stripe coats, sealant)
 - Construction weathering (1 - 3 days)
- **Tier 1B** – test 8 samples on Unit 4 mudmat after 34 day of exposure
 - Joint configuration (scrim, stripe coats, sealant)
 - Construction weathering (34 days)
- **Tier 2** – tests on separate onsite concrete pad
 - Mix variations (N&Ds on Perkaset)
 - Excess scrim and stripe coat layers
- **Tier 3** – laboratory tests
 - Aging - bound Unit 3 UV, temperature and humidity conditions
 - Variable loading - Propose to delete – not relevant to ITAAC

Lessons Learned

- Contractual Alignment vs. Licensee is Responsible
 - There is a contractual obligation to perform and deliver acceptable ITAAC to the Licensee. As such the Licensee assumed an oversight role only for ITAAC performance.
- Role of licensing basis was not completely identified.
- SNC and the Consortium has formed an integrated team to manage the ITAAC process throughout construction of Vogtle 3 and 4.

Vogtle
units 3&4

Nuclear Development

Corrective Actions Based on Lessons Learned

- Follow specifications and procedures
 - Mixing of materials (Perkadox and Primer/Metaset/Integritank)
 - Storage of Materials
 - Pull-off test (M&TE of equipment and ASTM adherence)
- Housekeeping during application
- Identified deviations and report promptly
- Bound application and conditions and ensure equivalency to how Unit 3 waterproofing was installed

ITAAC Management Program

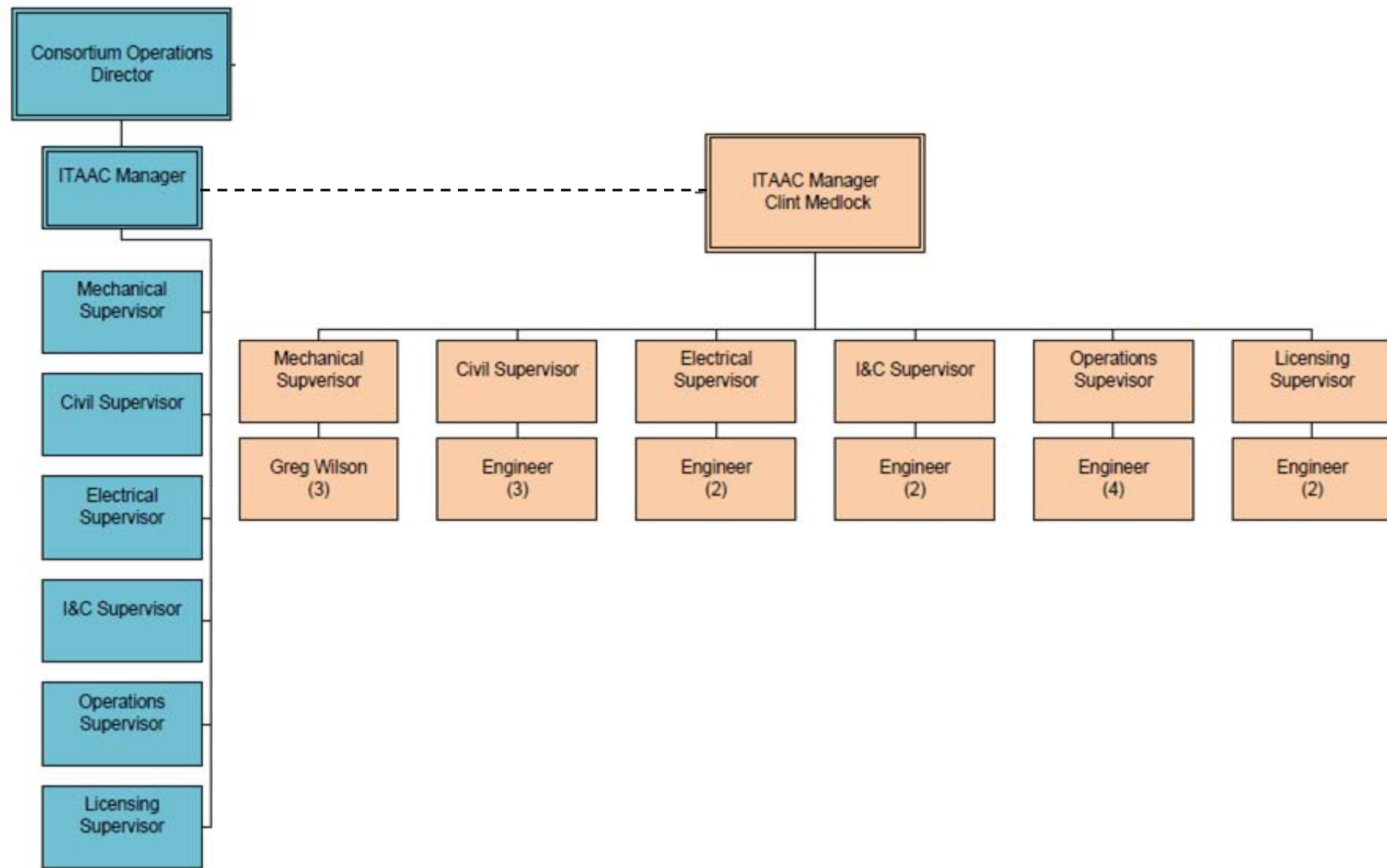
- Created ITAAC team of Consortium and SNC to work activities through closure and maintenance
 - Includes SNC and Consortium personnel working closely together
 - Involves all facets of organization including Construction, Licensing, Engineering, and Operational Readiness
- Developing planning documents for ITAAC (DWCG activity)
- Loading management and tracking tool
- Finalizing procedures

Vogtle

units 3&4

Nuclear Development

ITAAC Management Team (Draft)



Vogtle 3&4 Project Oversight

Mark Rauckhorst
Vice President, Construction



Project Oversight

- SNC is the Licensee---We Understand the Responsibility Lies with Us
 - Commitment and active involvement of Southern Nuclear executive management
- Oversight is on all Phases of the Project
 - Engineering
 - Fabrication
 - Procurement
 - Construction
- SNC Oversight is in Addition to Consortium Quality Assurance & Quality Control Efforts
- Focus of all Parties
 - Quality of the Physical Work
 - Complete Documentation which Supports the Licensing Basis
 - Establish and Maintain Excellent Regulatory Performance

Vogtle

Supporting Activities

- Readiness Reviews for Key Project Activities
 - Utilize Construction Experience Program
 - Ongoing Interactions with SCANA
- Ongoing Review of Project Metrics
 - Safety
 - Quality & Compliance
 - Schedule
 - Corrective Action
- Use of Mock-ups to Confirm/Validate Construction Procedures, Processes, Training and Equipment
 - NI Basemat
 - Shield Building
 - Structural Modules
- Implementation of an Integrated Corrective Action Program

Vogtle

units 3&4 Nuclear Development

Current Areas of Focus

- Mechanical Modules
- Supplier and Subsupplier Performance

Vogtle

units 3&4 Nuclear Development

Vogtle 3&4 Site Development

David Clem

Construction Oversight and Quality Manager



Overall View of Site – December 1, 2008



Overall View of Site – February 2, 2012



**Unit 3 Nuclear
Island**

**Cooling Tower
Foundations**

Heavy Lift Derrick

**Unit 4 Nuclear
Island**

**Unit 4 Circulating
Water Pipes**

Unit 4 Turbine Building

August 2009

Containment Vessel – January 2012



Turbine Building – January 2012



Heavy Lift Derrick – January 2012



Nuclear Island – January 2012



CA20 Submodules Onsite



CA20-06

CA20-07A

CA20-07B

CA20-02

01/28/2012 05:50

New Training Building



Vogtle Unit 3 Simulator Control Room



Vogtle

units 3&4

Nuclear Development

Summary

target
ZERO 
Every day, every job, safely.