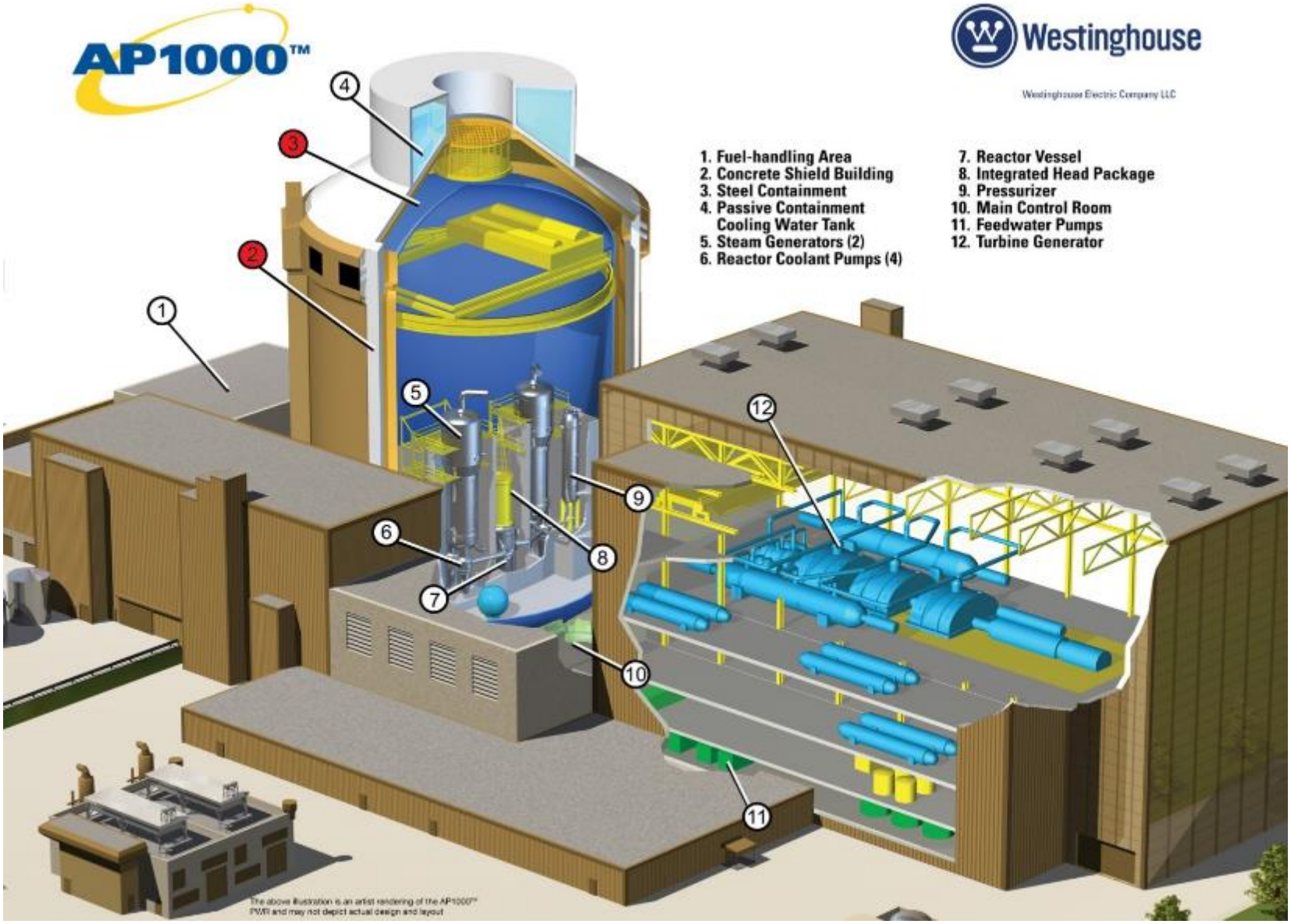
2015 Southeast Area Tripartite Conference

Vogtle and VC Summer Nuclear Projects

CBI Services, Inc.

AP1000 Nuclear



Vogtle Site Layout

Vogtle 3 and 4 construction site, with Vogtle 1 and 2 in background.

July 2014

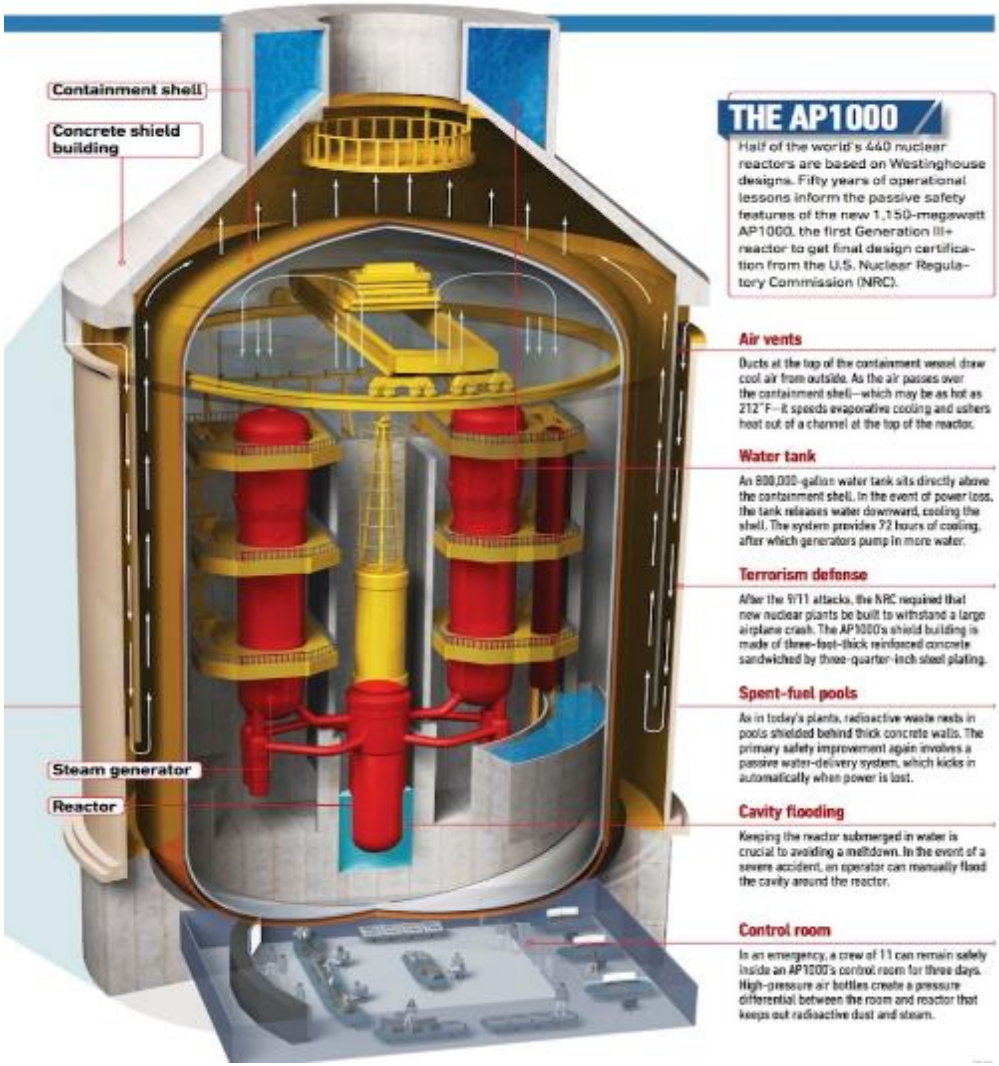
VC Summer Site Layout

- SAFETY STATISTICS

- VC Summer 533,909 hours worked through February 2015 with no loss time or recordable incidents.

- Vogtle 1,065,039 hours worked through February 2015 with 1 loss time and 1 recordable incidents.

VARIOUS CONTRACTS FOR AP1000 NUCLEAR PLANT
VC Summer & Waynesboro, GA USA



Overall Contract – CB&I Power in consortium with Westinghouse

<u>Existing Contracts</u>
Contain Vessel
Shield Wall
Modules
Outfitting

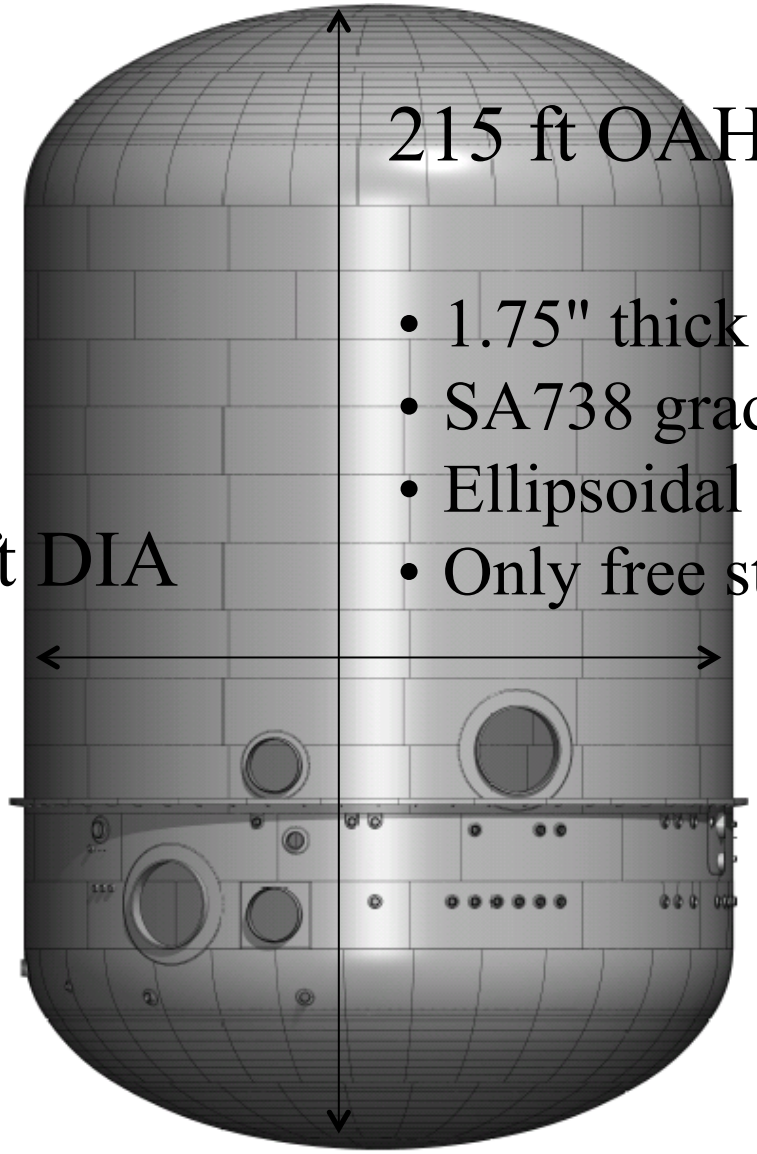
<u>Yet to Be Awarded</u>
Tanks (12)
Airlet / Tension Ring
Shield Building Roof/ PCS Tank

Vogtle and Summer Nuclear Projects

	CBI SERVICES EMPLOYEES	
AREA	VOGTLE	SUMMER
Containment Vessel	88	50
Module Assembly Building	145	26
Shield Wall	16	7
Outfitting	15	10
TOTAL	264	83


What Are We Building, Exactly?

AP1000 Nuclear – Containment Vessels



- 1.75" thick
- SA738 grade B shell material
- Ellipsoidal head top and bottom
- Only free standing containment

FIRST WELD IN A NEW NUCLEAR PLANT

Welding Quality

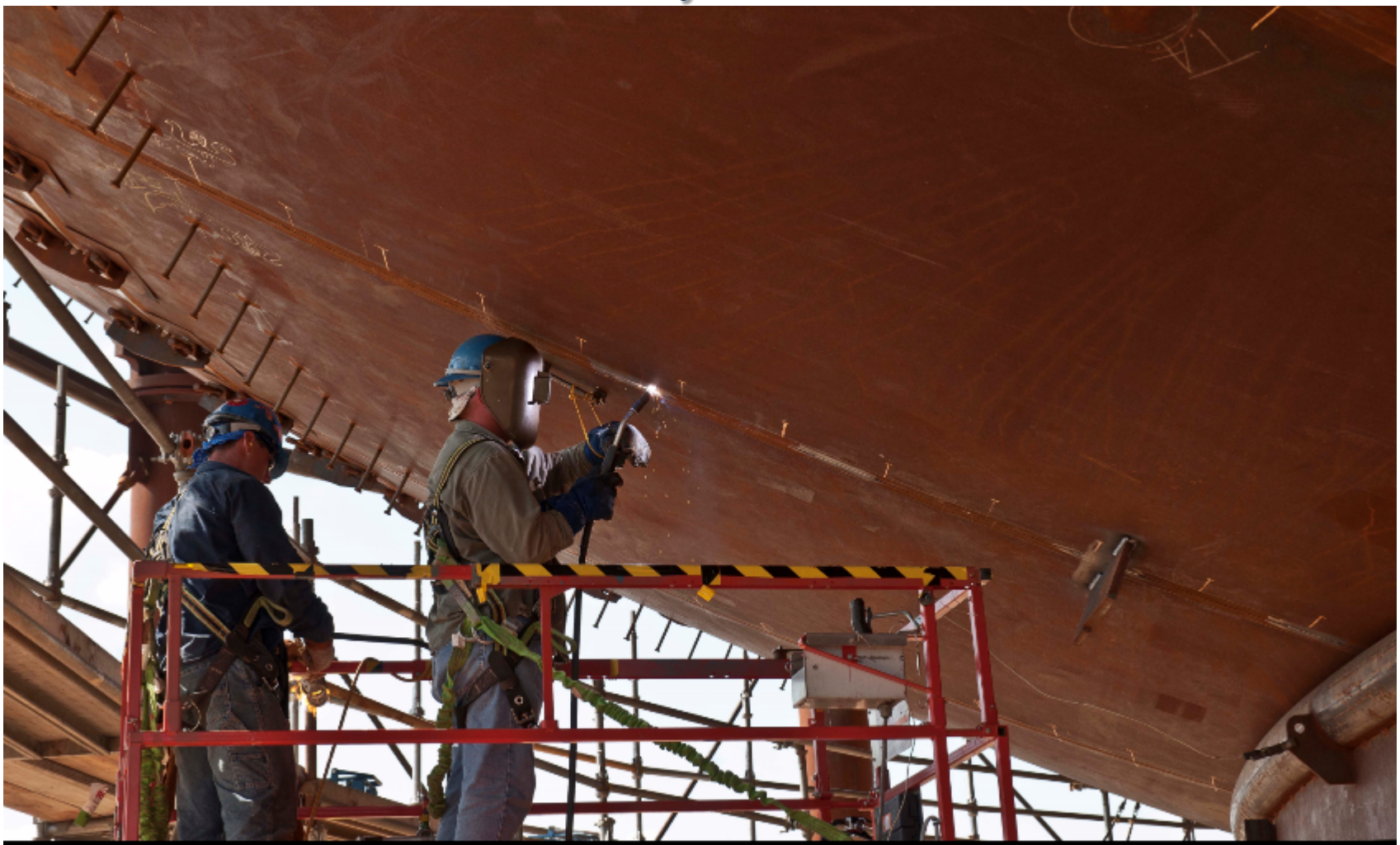
- Length of Seam vs. Indication Size – Acceptance Rate = 99.68%
- Acceptable Film vs. Rejects – Acceptance Rate = 98.3%
- Shots Taken – 18,070
- Total Expected – 31,744

Assembly Pad Area

Containment vessel fabrication area.

November 2014

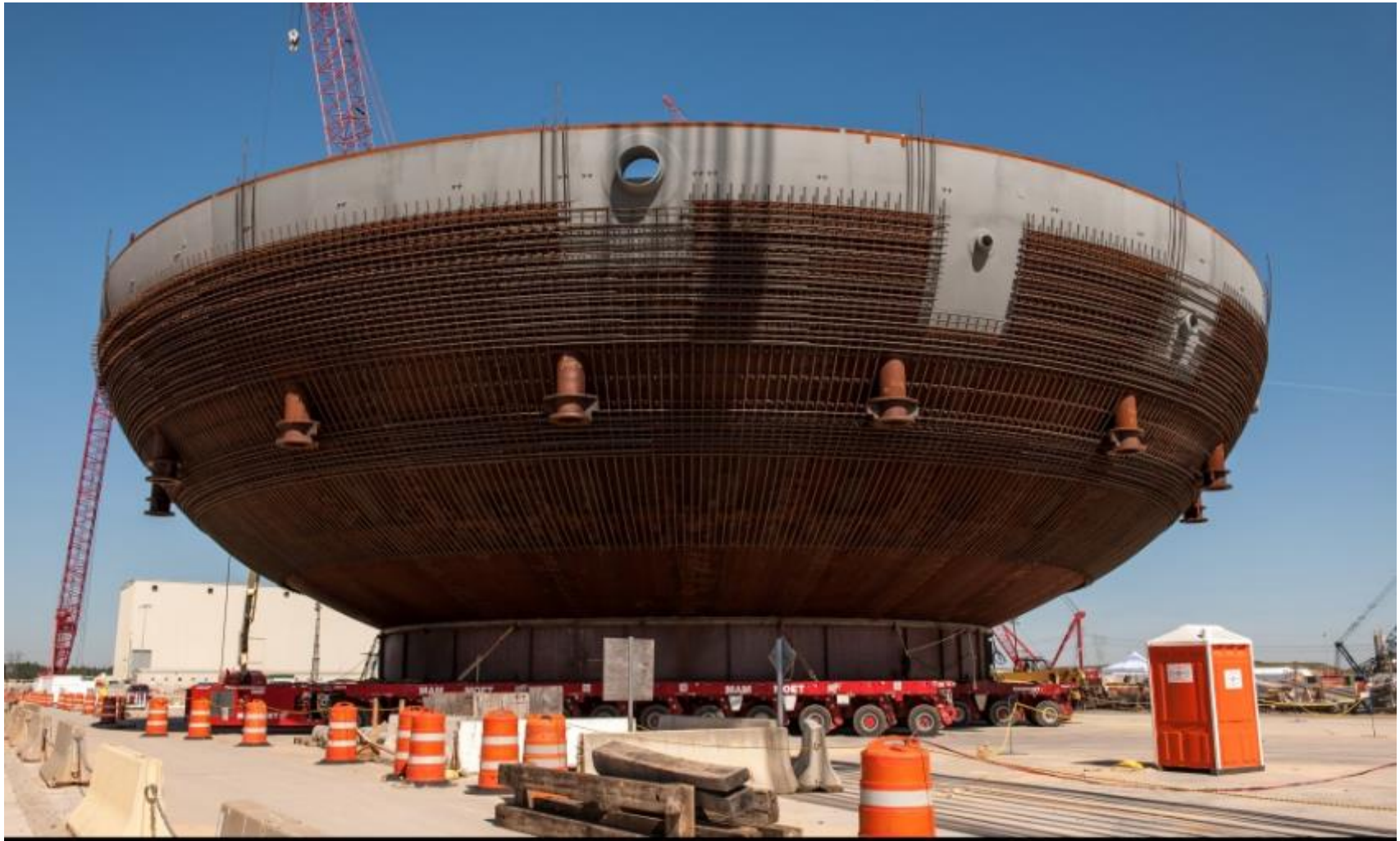
Assembly Pad Area



Welding of Vogtle unit 4 containment vessel bottom head plates

September 2012

Bottom Head Transport



The containment vessel bottom head for Vogtle Unit 4 is transported for placement in the nuclear island.

May 2014

Bottom Head Lift

Placement of the Vogtle Unit 4 containment vessel bottom head in the nuclear island.

May 2014

Heavy Lift Derrick (HLD)

Bigge Unveils World's Largest – 7,500 Ton Capacity Super Crane

Bigge Crane and Rigging Co. is manufacturing the world's largest capacity crane at a radius that will forever change large-scale modular construction. Bigge's Super Heavy Lift Cranes are set to be deployed at multiple nuclear power plant construction sites in 2011 and will revolutionize new plant construction.

Bigge's Super Heavy Lift Cranes have unequaled capabilities—Bigge offers the only machine in the world capable of sitting in a single location and making every large-scale super lift on a single or multi-unit nuclear power plant site.

Imagine the flexibility of having a crane hook capable of lifting any load, anywhere, at any time on your project.

With a Bigge Super Heavy Lift Crane...

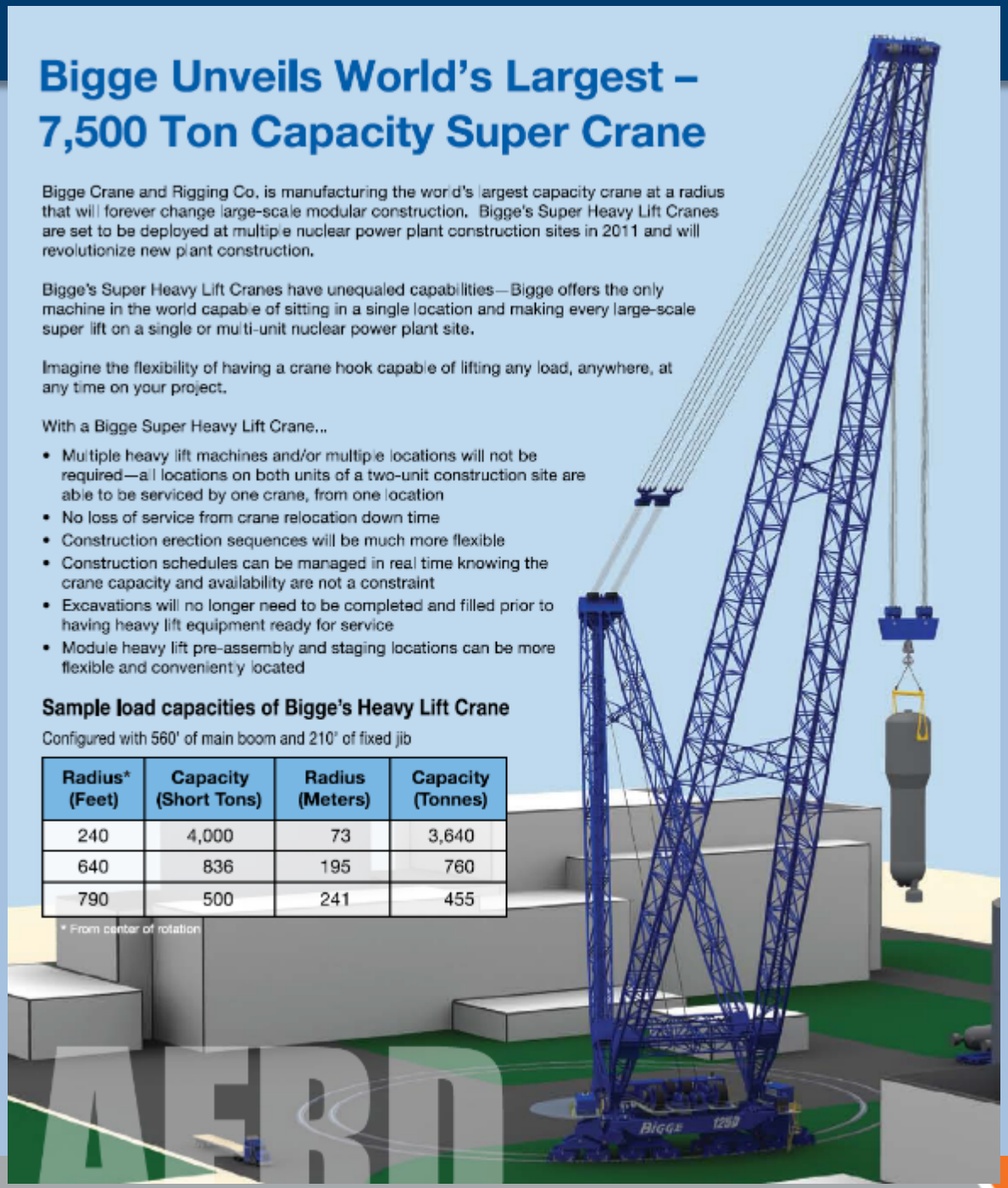
- Multiple heavy lift machines and/or multiple locations will not be required—all locations on both units of a two-unit construction site are able to be serviced by one crane, from one location
- No loss of service from crane relocation down time
- Construction erection sequences will be much more flexible
- Construction schedules can be managed in real time knowing the crane capacity and availability are not a constraint
- Excavations will no longer need to be completed and filled prior to having heavy lift equipment ready for service
- Module heavy lift pre-assembly and staging locations can be more flexible and conveniently located

Sample load capacities of Bigge's Heavy Lift Crane

Configured with 560' of main boom and 210' of fixed jib

Radius* (Feet)	Capacity (Short Tons)	Radius (Meters)	Capacity (Tonnes)
240	4,000	73	3,640
640	836	195	760
790	500	241	455

* From center of rotation



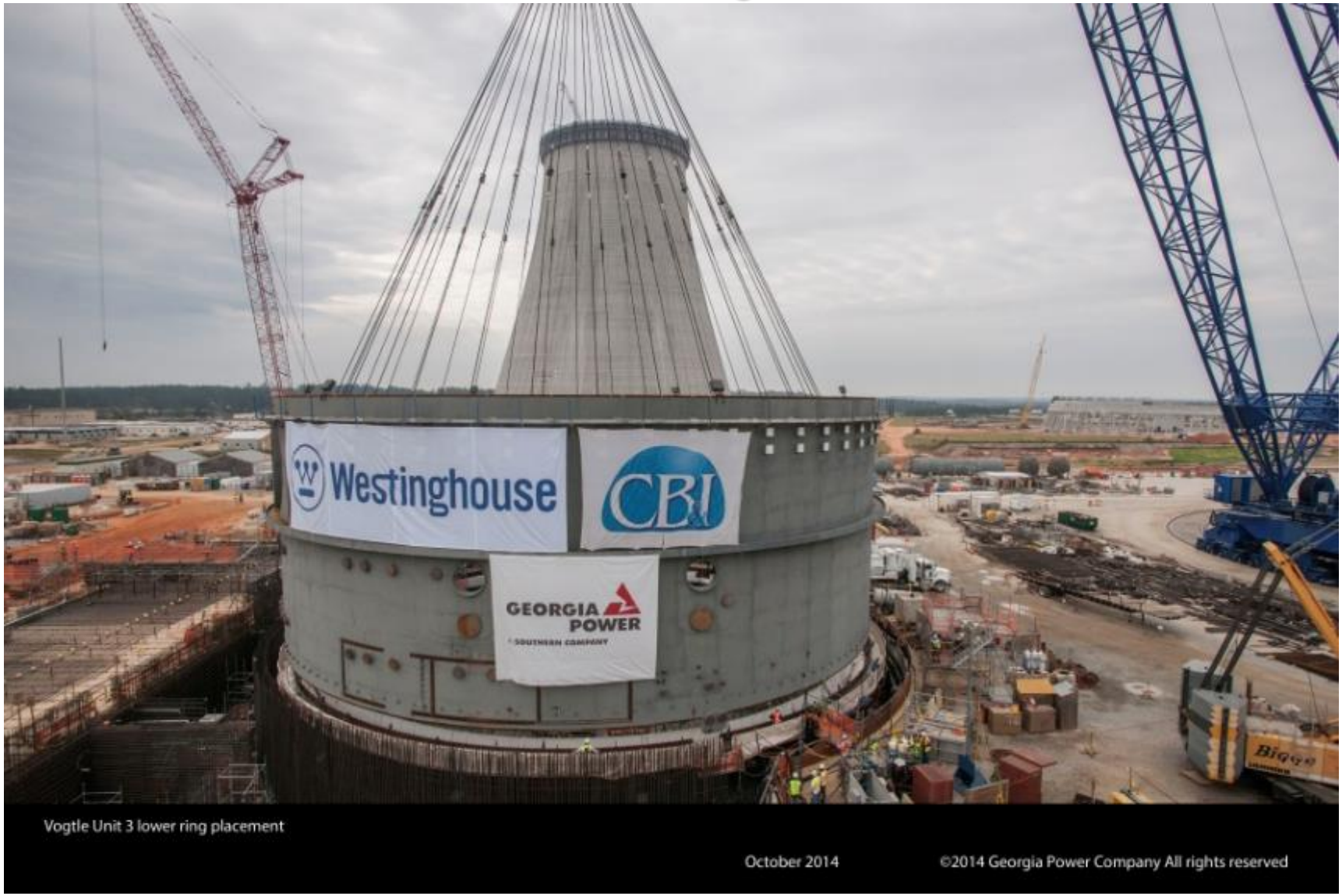
Lower Ring Transport

Lower Ring Lift

Vogtle Unit 3 lower ring placement

October 2014

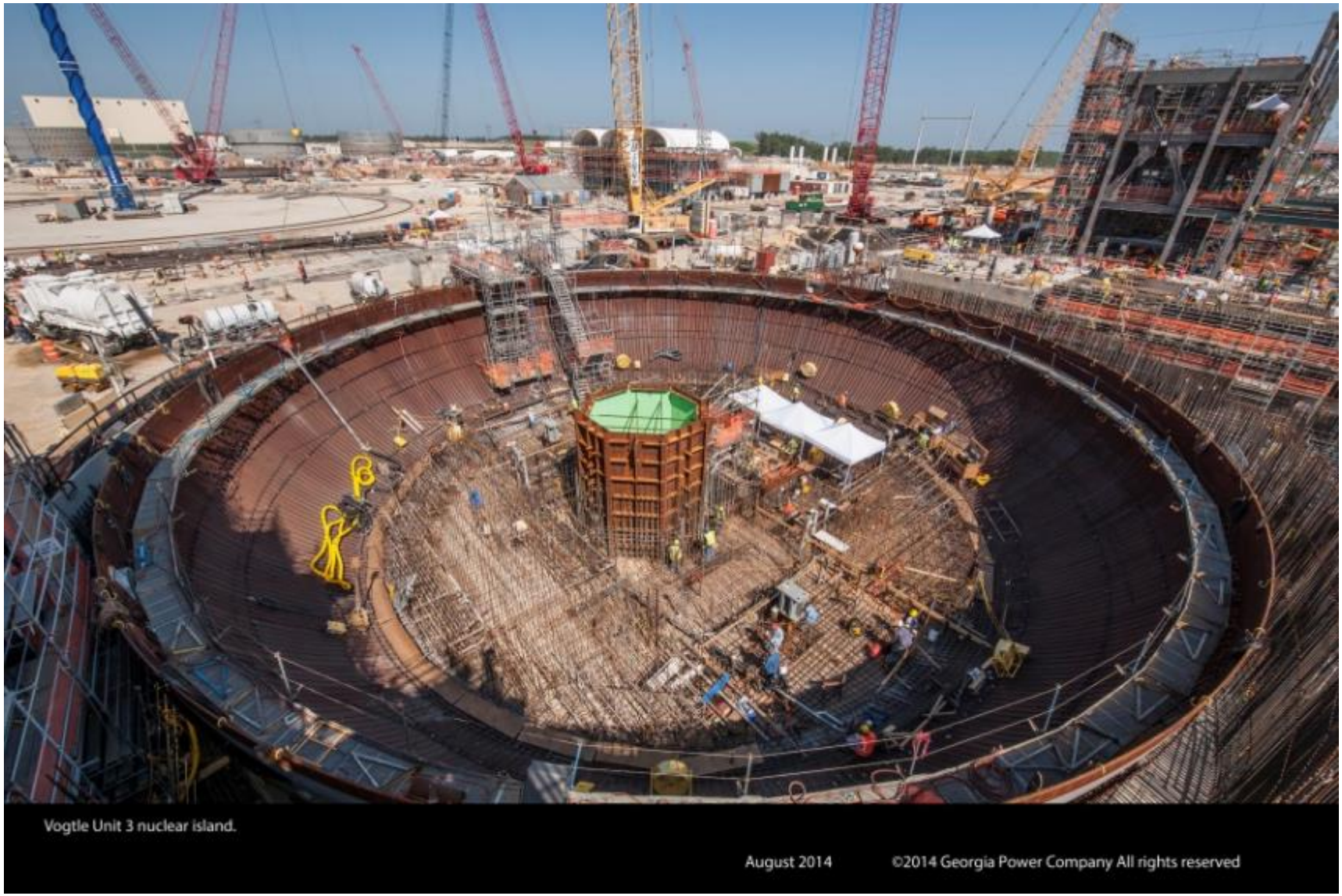
Lower Ring Lift



Lower Ring Lift

Erection at Nuclear Island

Erection at Nuclear Island

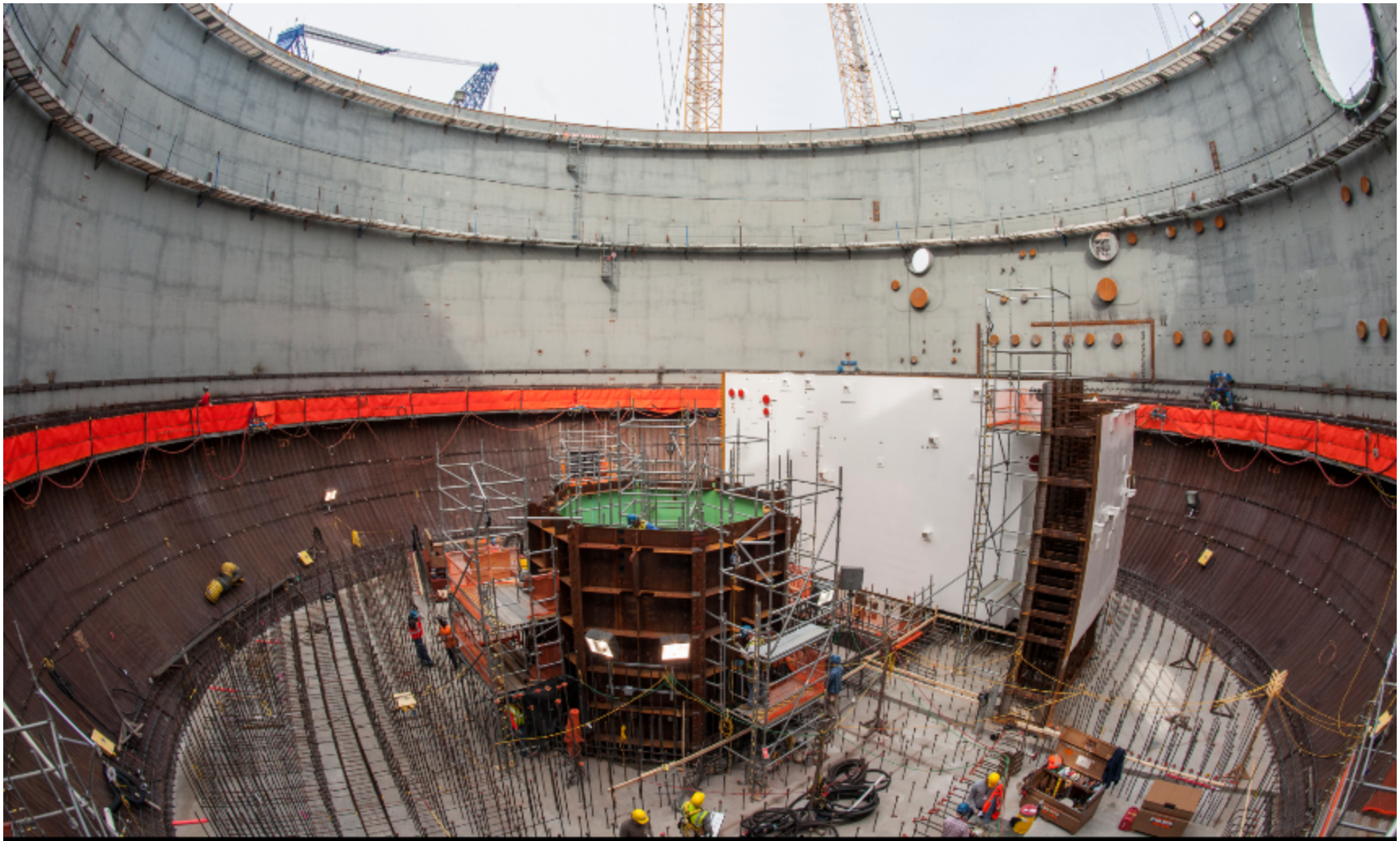


Erection at Nuclear Island

Vogtle Unit 3 containment vessel in the nuclear island.

January 2015

Erection at Nuclear Island

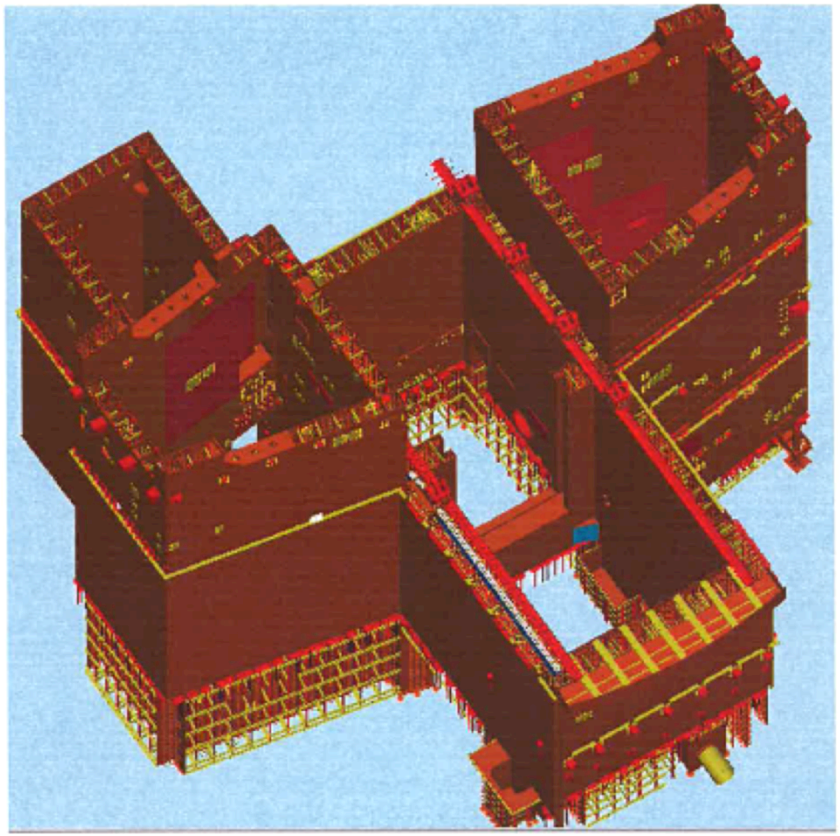


Modules CA-04 and CA-05 inside the Vogtle Unit 3 containment vessel lower ring.

November 2014

Modules CA-01 and CA-20

CA-01 800 Tons Approx 90’ X96’ X76’



CA-20 1000 Tons Approx 65’ X70’ X70’

CA-01 Submodule in Module Assembly Building

Vogtle Unit 3 CA01 sub-module inside the Module Assembly Building.

January 2015

Module CA-01 in Module Assembly Building

Assembly of part of the Vogtle Unit 3 CA-01 module.

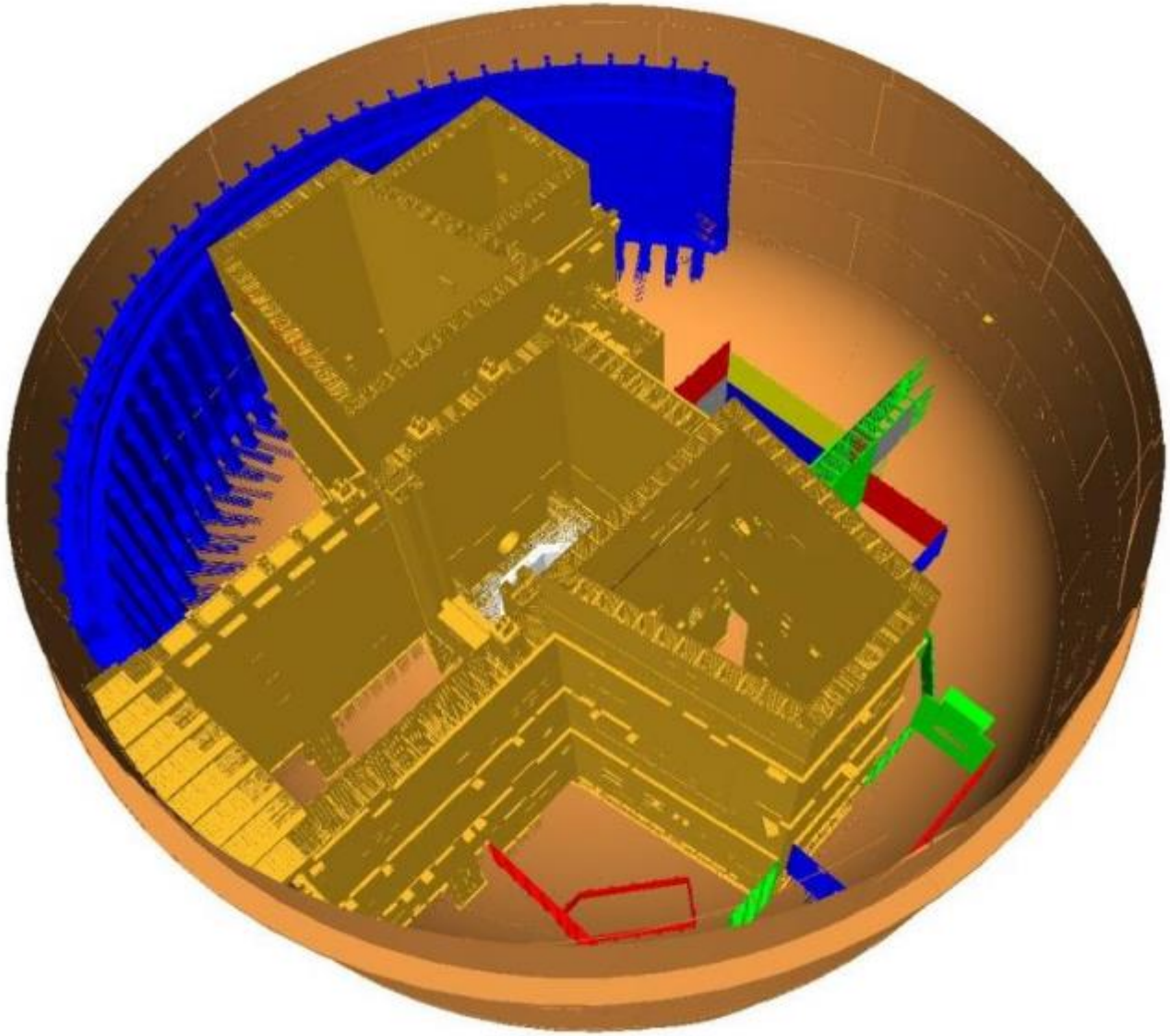
November 2014

Module CA-20 Set in Nuclear Island

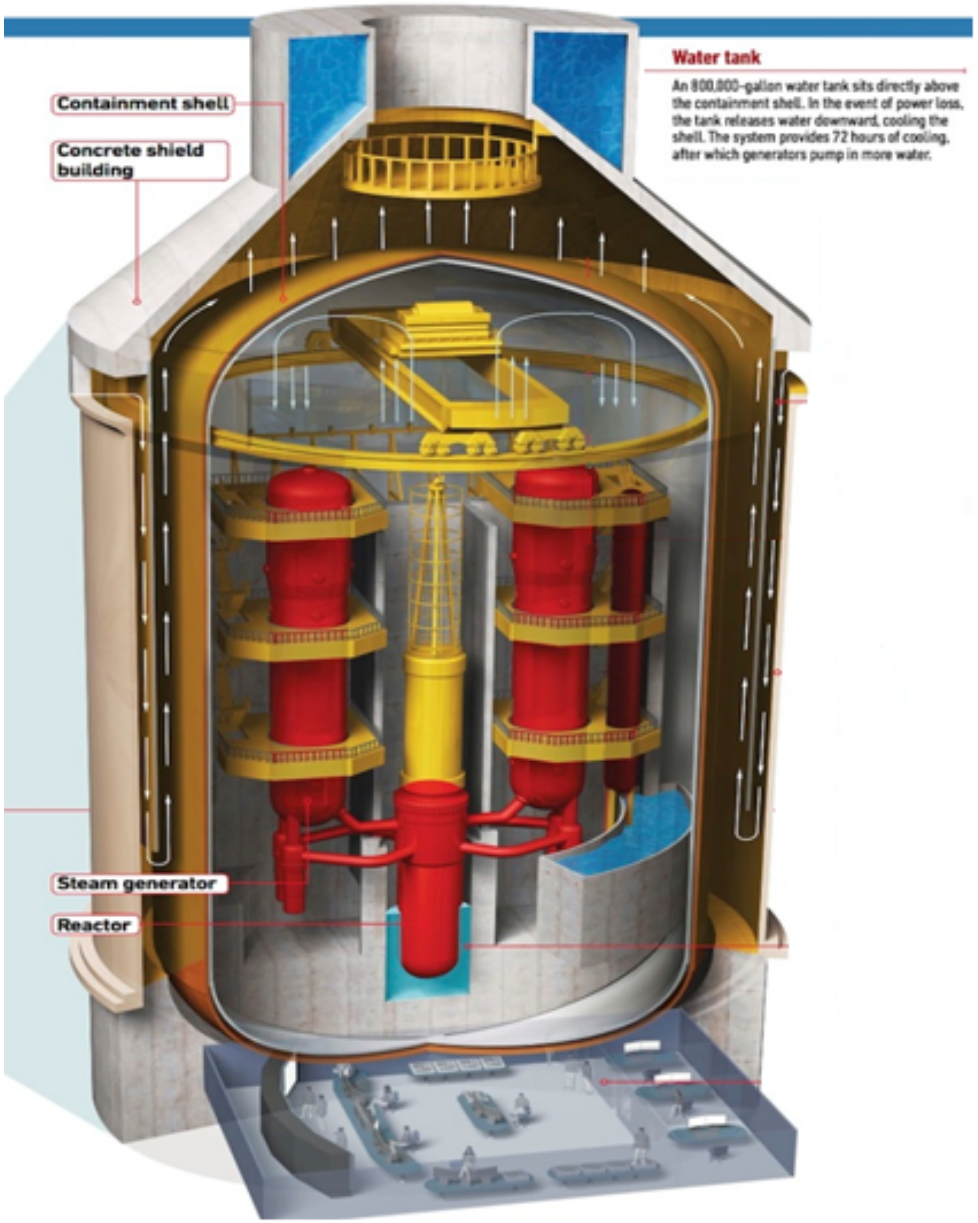
CA20 module inside Vogtle Unit 3 nuclear island.

August 2014

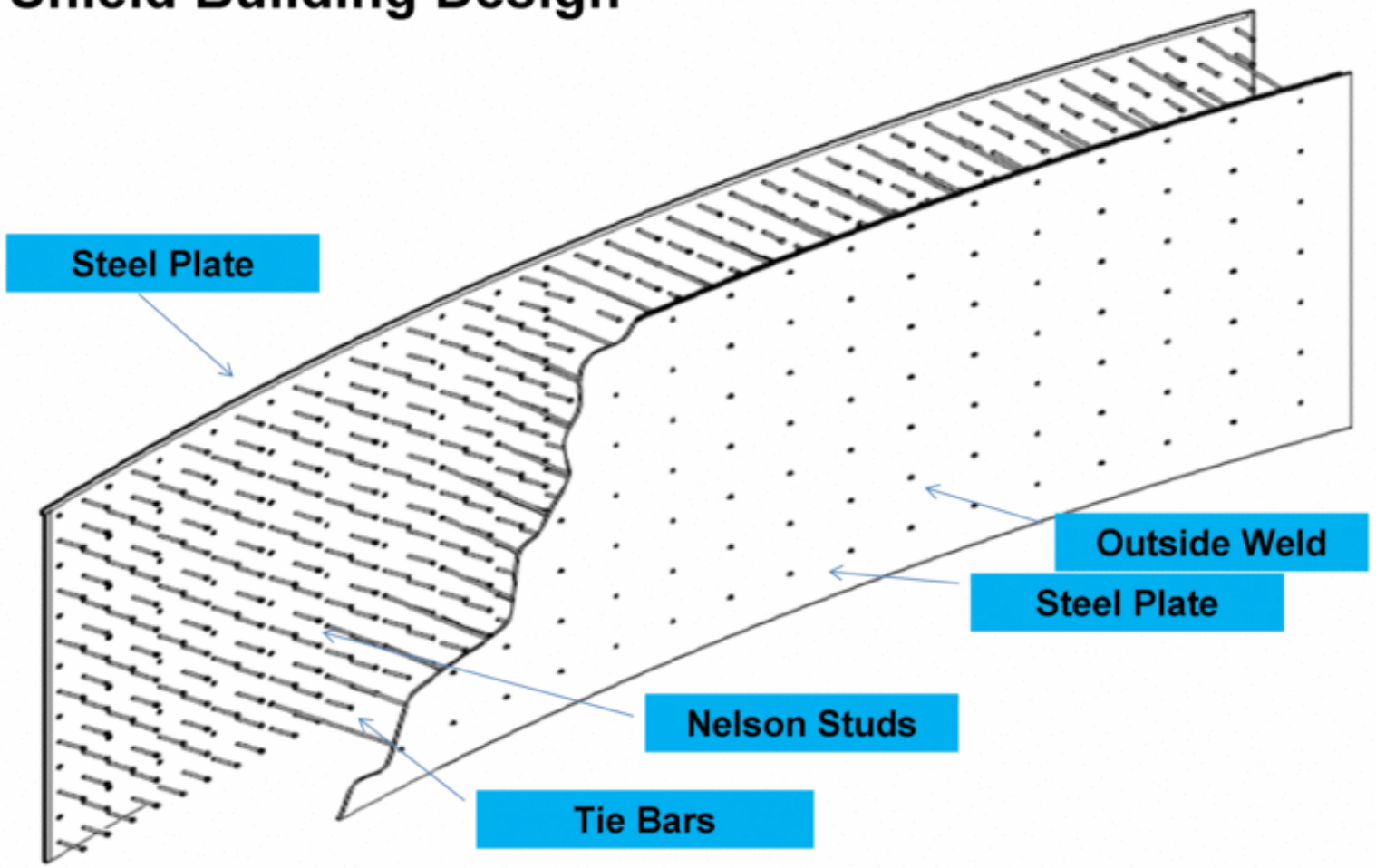
Modules inside Containment Vessel



AP1000 Nuclear – Shield Wall



Shield Building Design

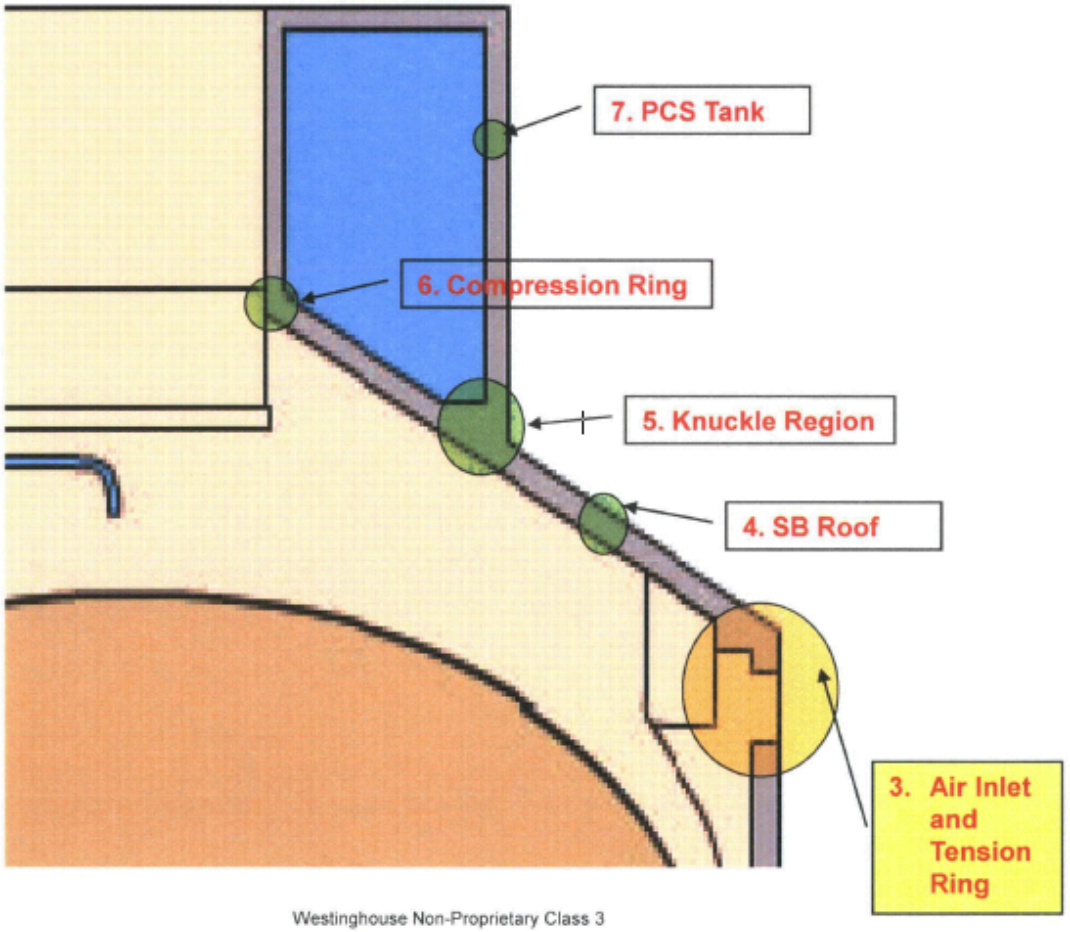


Typical Configuration of Enhanced Shield Building
Concrete Filled Steel Plate Wall

AP1000 Nuclear – Shield Wall

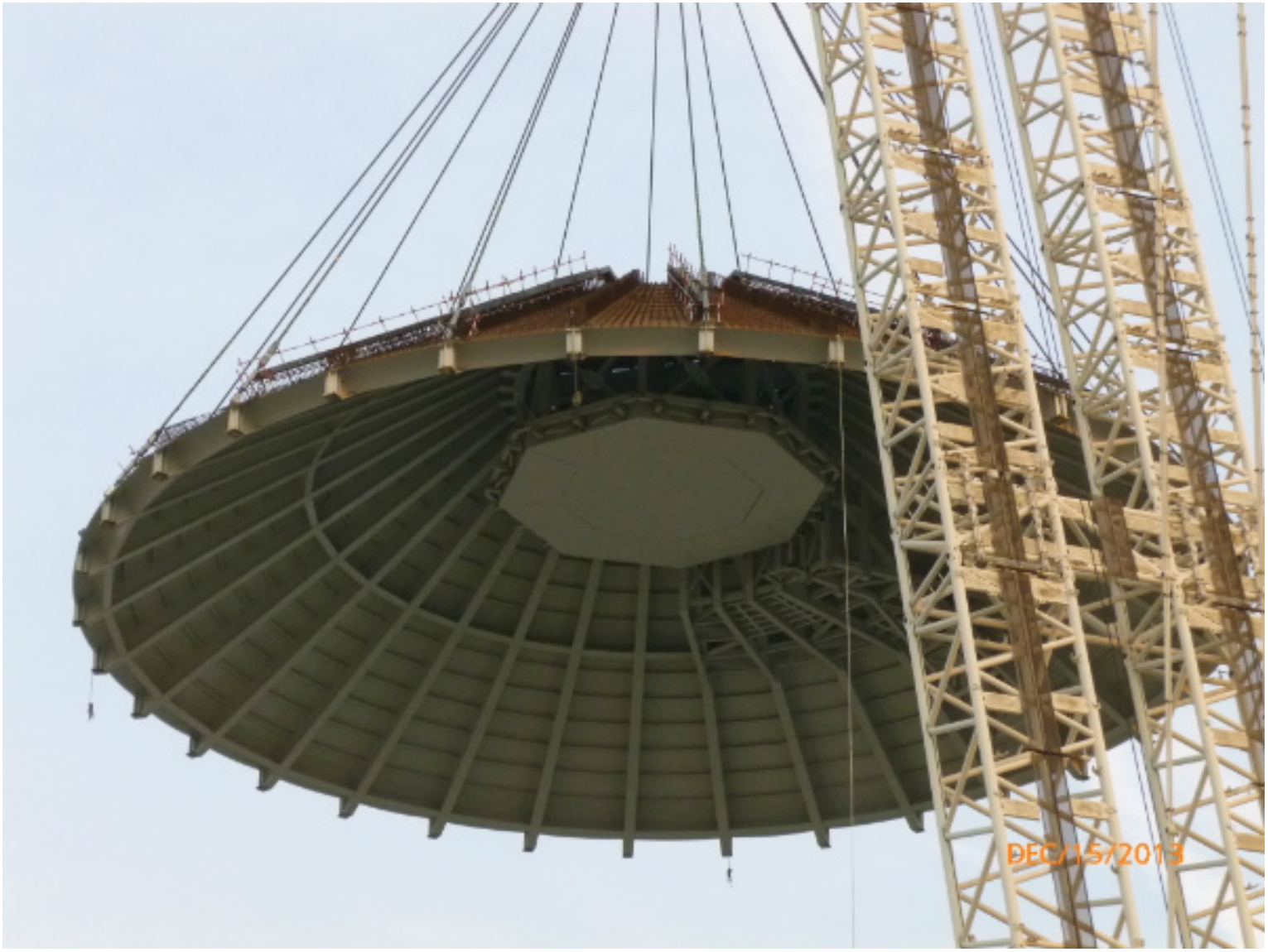
Possible Future Work

Shield Building Roof



Westinghouse

Possible Future Work



Possible Future Work

AP1000 Nuclear – Continuous Improvement

- Continue to recruit good quality craftsmen/women
- Continue to train on new equipment, tools and procedures
- Continue to push safety down to the worker level
- Continue to demand personal safety responsibility as a core value
- Continue to watch out for our fellow team member
- Continue to push Nuclear Safety Culture

QUESTIONS?