V C Summer Construction Status and Lesson Learned

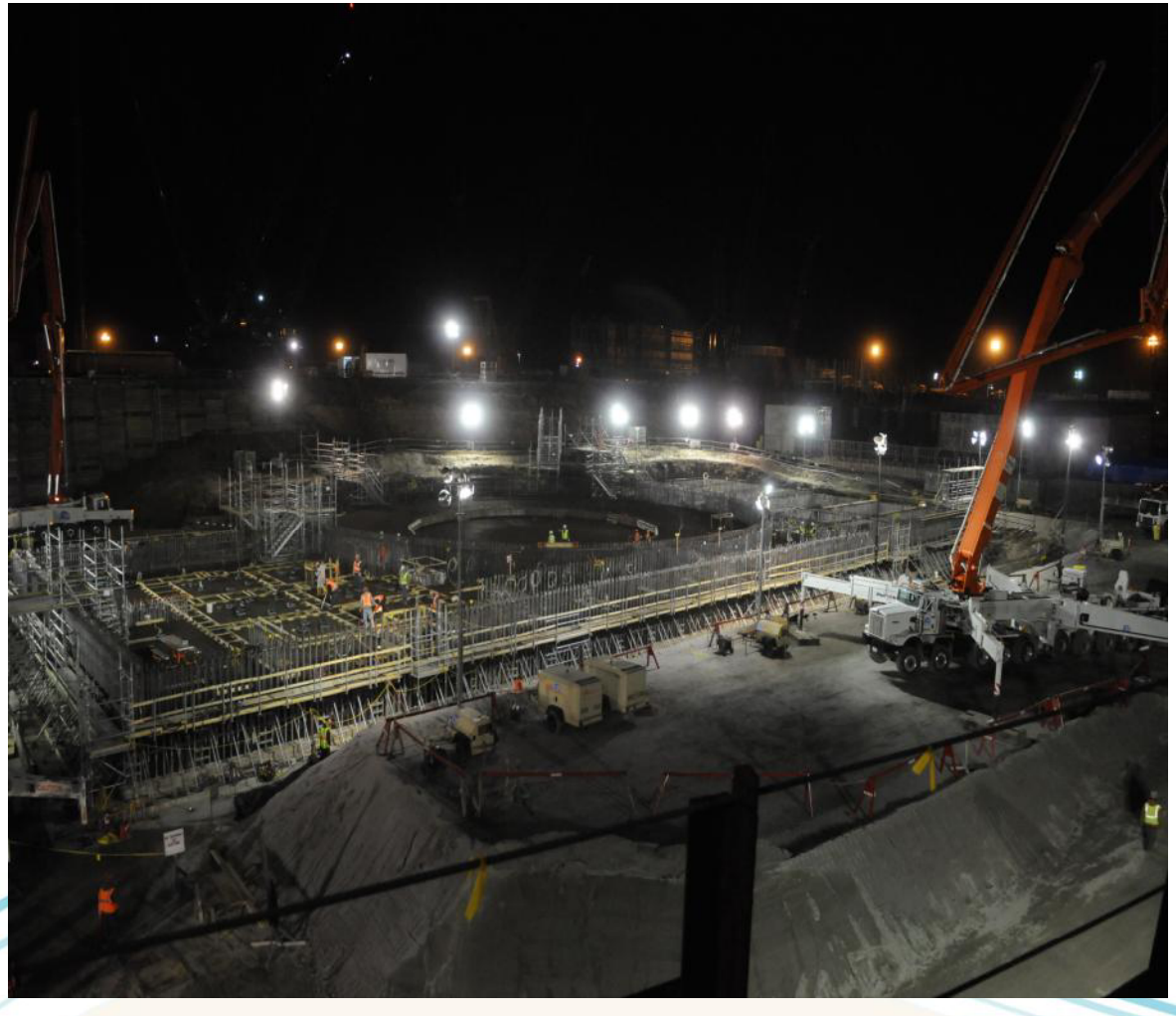
AD Torres

Unit 2 & 3 Construction Status

Major Milestones

- Completed Unit 2 Concrete Basemat
- Unit 2 Pouring of Major Auxiliary Building Walls
- Set U2 containment vessel bottom head
- Fabricated and Set U2 Condensers and Turbine Bld Steel
- Fabricated and Set Reactor Cavity Module
- Received Unit 2 Reactor vessel on site
- Installed Unit 3 basemat rebar and completed Basemat Pour

Unit 2 First Nuclear Concrete (FNC)



- First safety-related nuclear concrete placed in over 30 years
- 7,000 yds^3 of continuously placed concrete
- Placement began on March 9, 2011 and lasted approximately 52 hours

Setting of U2 CR10

Setting of Unit2 Containment Vessel Bottom Head (CVBH)

- Set Date: 05/22/13
- Design Weight: 936 Tons
- Linear Feet of Weld: 2,253
- Linear Feet of Repaired Weld: 22
- Weld Acceptance Rate: 99.02%

Setting of U2 CVBH

U2 Containment Vessel (CV) Rings

CV Lower Ring

CV Lower Ring is made up of:

- Four Courses
- A lower and an Upper Equipment Hatch
- A lower and an Upper Personnel Hatch
- An external Stiffener

CV Middle Ring

CV Middle Ring is made up of:

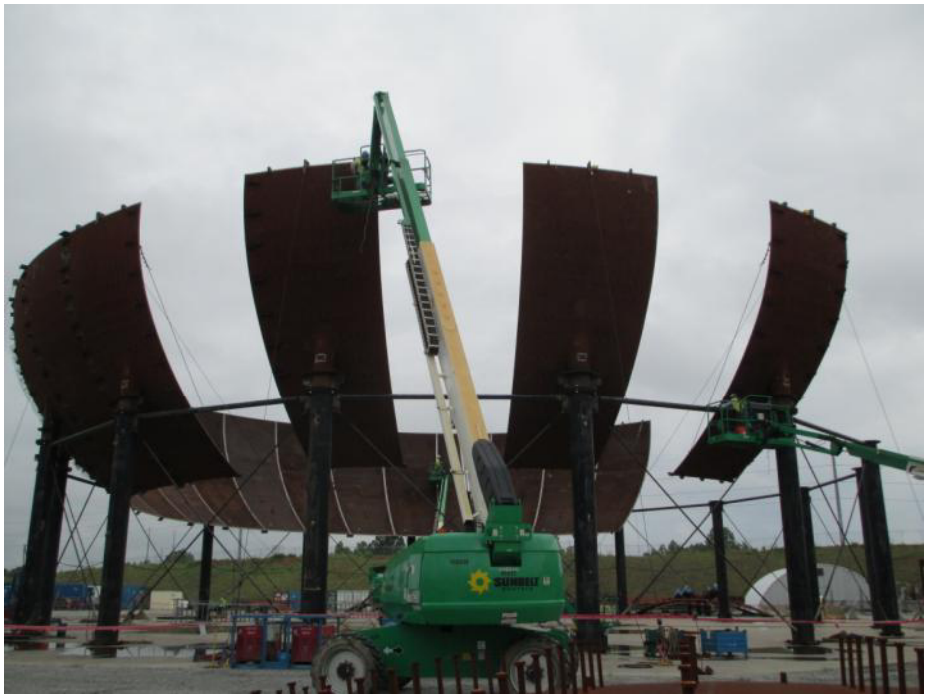
- Four Courses
- An internal Stiffener

U2 Containment Vessel Ring 1 Coatings

Steel surface preparation for inorganic zinc application

Inorganic zinc application in progress on U2 CV Ring 1

Unit 3 Containment Vessel Bottom Head (CVBH)



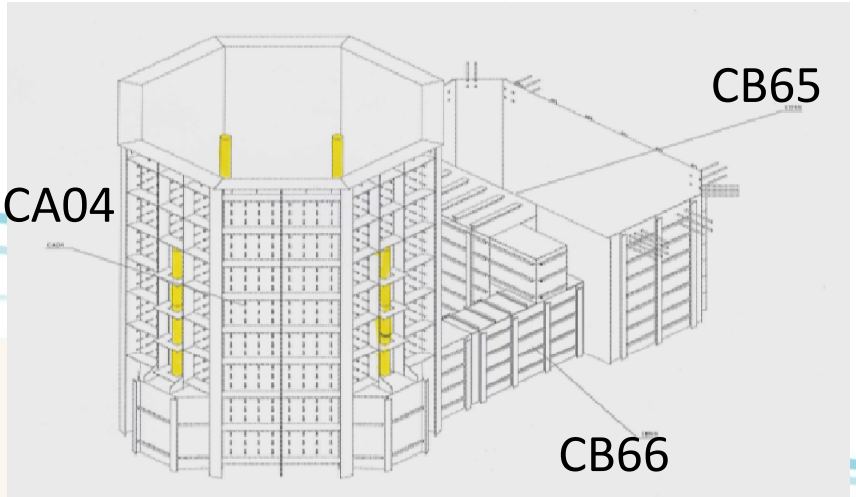
June 2013

October 2013

Inside Containment

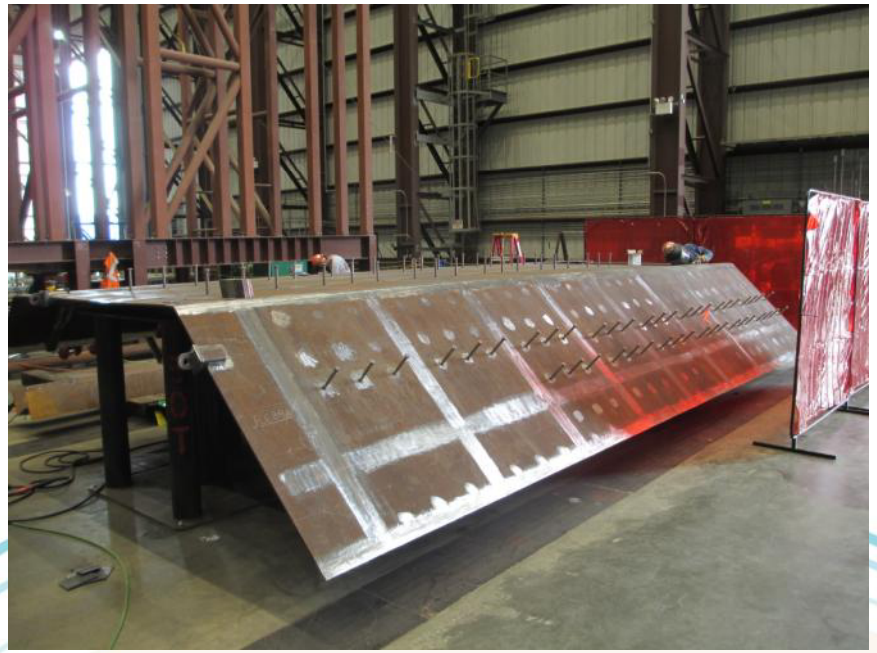
CB65 – Reactor Coolant Drain Tank Room

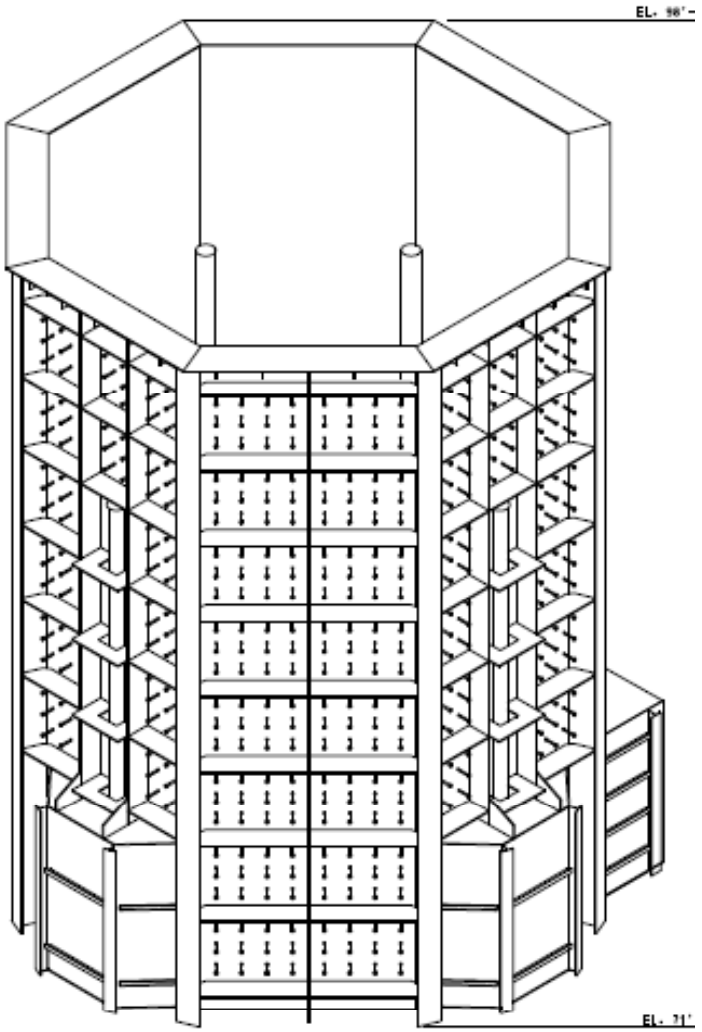
CB66 – RCDT/ Reactor Compartment Passageway



Unit 2 CA04 Module

- Reactor Vessel Cavity
- Dimensions: 21’-0” W x 26’-6” H
- Approx. Design Weight: 90,000 lbs.
- Approx. 7,661 linear feet of weld
- Installed 1,436 shear studs





Unit 2 CA04 Module

- Lift and set with the Heavy Lift Derrick (HLD)
- Date: 09/27/13

Unit 2 Auxiliary Wall Placements

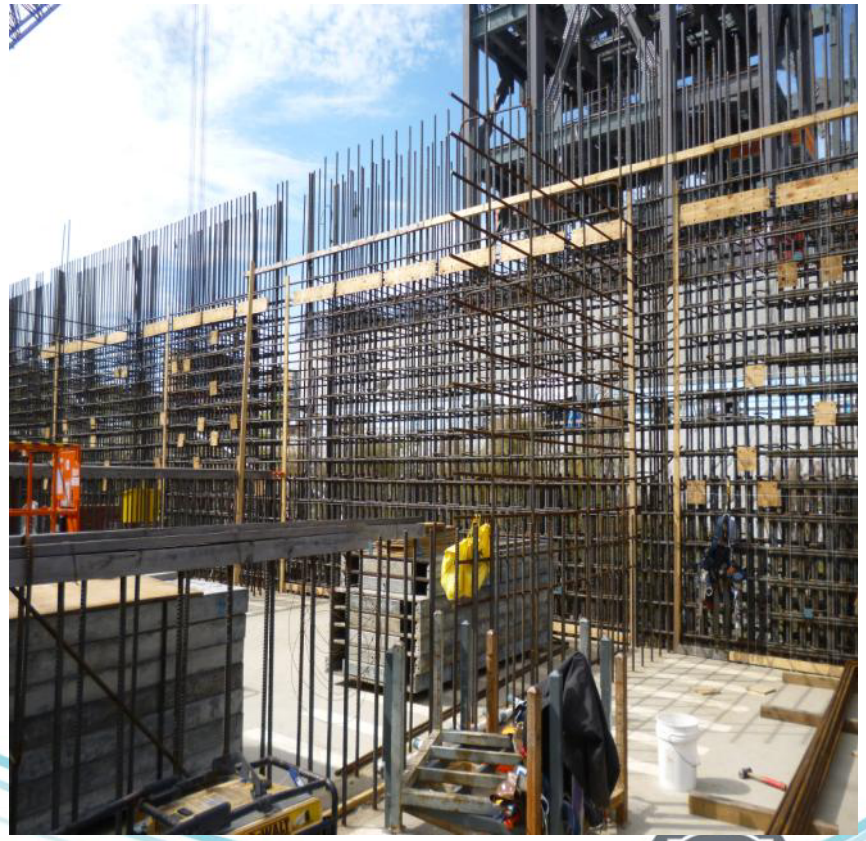
- 16 feet tall, 3 feet thick
- Top Elevation is 82’6”
- Line I, Area 5 completed 8/24/13
- Line I, Area 2-3 completed 9/28/13
- Line I, Area 4-7 completed 10/17/13

Unit 2 Aux Building Rebar Installation

Column Lines I, 2, 4, 5, 11, and Q, up to El 82’ 6” is substantially complete

Column Line Q

Column Line 11, looking east to west.



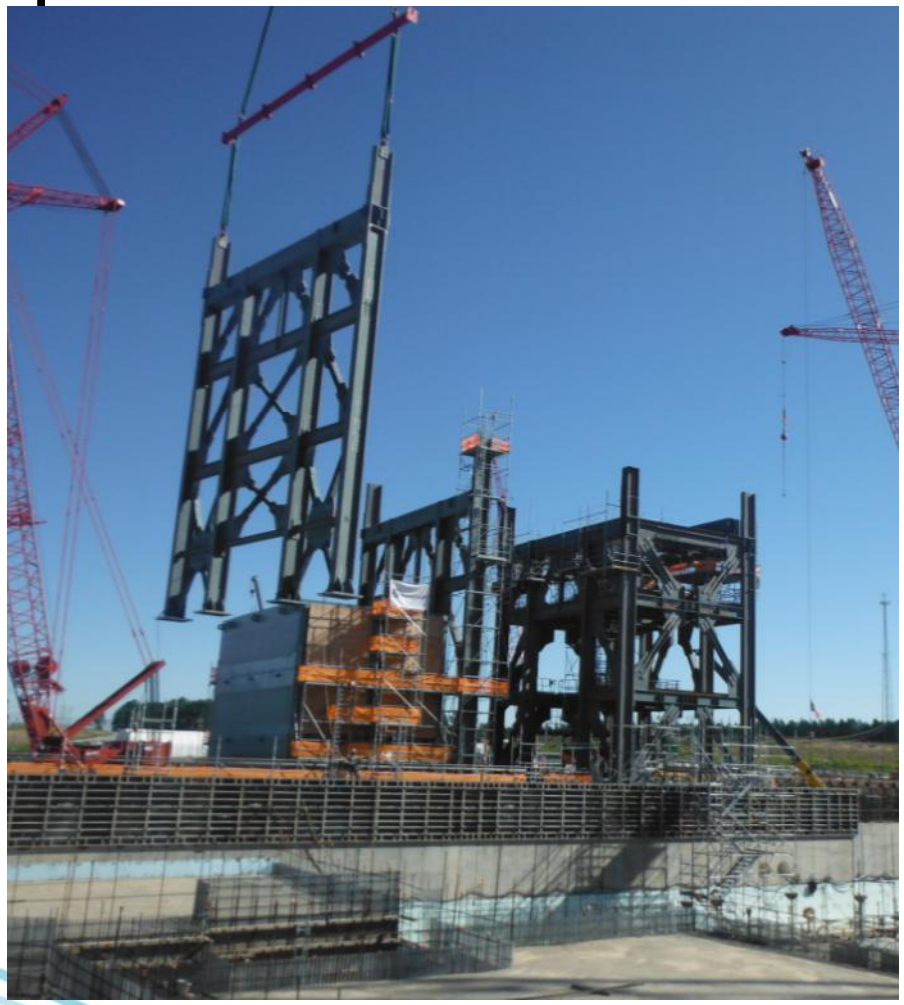
U2 TB Major Component Installation

Condenser B Lower Shell July 2013
700 Tons

South TG Support CH80 August 2013
650 Tons

U2 TB Major Component Installation

Center TG Support CH81A
October 2013
220 Tons



Center TG Support CH81B
October 2013
220 Tons

U2 TB Major Equipment Deliveries

Deaerator

MSR

LP Turbine Rotor

Unit 3 Basemat

Unit 3 Basemat in June 2013

Unit 3 Basemat in Oct 2013

Unit 3 Basemat Rebar Installation

Shield Building Rebar, looking North to South

Battery Room Rebar , looking west to east

Unit 3 Base mat pour

Unit 2 CA20 Module

- Approx. 85% of sub-modules have been delivered
- Assembly is ongoing within the Module Assembly Building (MAB)
- To date 11 wall sub-modules have been erected on the platen

Toshiba Main Step Up Transformers - 230/26kV
Assembly weight with oil - 529,800lbs each

Main Tanks
- 3 in service, 1 spare
- 12,720 gallons each
- Stored Air Filled

Conservator Tanks
- Oil reservoir
- 730 gallons each
- Stored Air Filled

VC Summer Units 2 and 3 Switchyard

- Online February 12, 2013
- Connection of 230kV transmission lines for SCE&G, and Santee Cooper
- Largest switchyard in the SCE&G System

Lesson Learned

- Coordination of groups to help understand ITAAC
- Strengthening the procedural controls of ITAAC programs
  - Roles and responsibilities for groups
  - Stakeholder buy in
- Review of corrective action programs

Lesson Learned

- Understanding and coordination of ITAAC issues away from site.
  - Vendor inspections(NRC and Consortium)
  - Vendor corrective actions that have a material effect ITAAC
- Development of a common understanding of what is meant by material effects on an ITAAC's acceptance criteria.