SOUTHERN COMPANY

Initial Test Program

(ITP)

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Topics

- **ITP Objectives**
- **Testing Phases** (how the program is organized)
- **Implementation Sequence**
- **Test Phase/Procedure Overview**
- **Construction Update**

ITP Objectives

The overall objective of the ITP is to demonstrate

- That the plant has been constructed as designed,
- That the systems perform consistent with the plant design, and
- That activities culminating in operation at full licensed power including initial fuel load, initial criticality, and power ascension are performed in a controlled and safe manner.

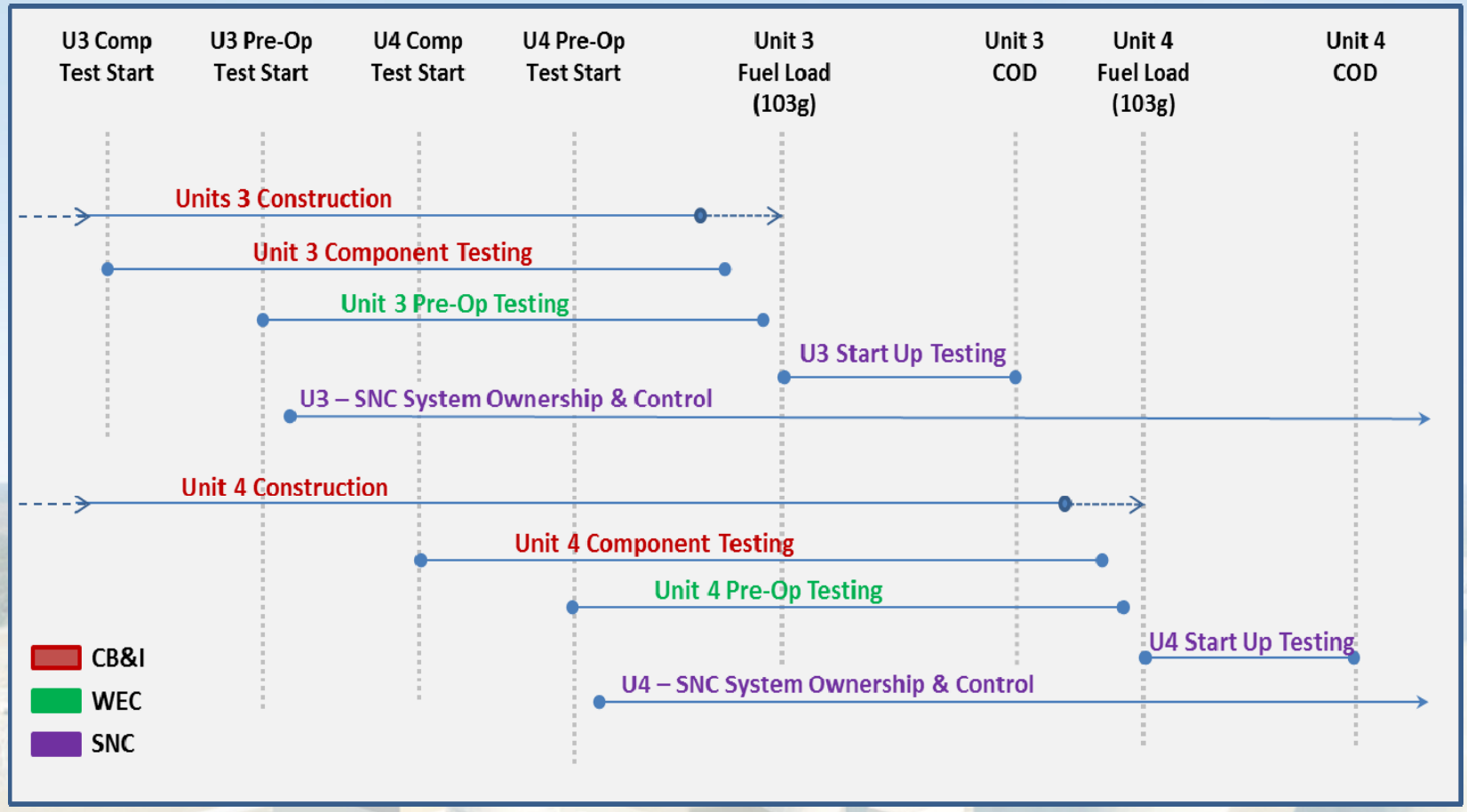
Source: VEG 3&4 Consolidated UFSAR Rev. 2.1, Section 14.2.1

Organization of the Initial Test Program

Three (3) Testing Phases

- Construction & Installation Testing
  - Construction Testing – Verifies adequacy of construction & installation process
  - Component Testing – Conducts initial equipment operation & functional checks
    - Projected to Satisfy ~170 of 277 ITP ITAAC
- Pre-Op Testing
  - System-level functional testing & integrated systems testing at normal operating conditions
  - SNC plant staff operates equipment during this testing phase
- Startup Testing (post 103g Finding, following completion of all 874 ITAAC)
  - Initial fuel load
  - Pre-critical tests
  - Initial Criticality
  - Low-power (<5%) testing
  - Power ascension sequence testing

Testing Sequence



Component Testing

Component testing focuses on the initial operation and functional testing of plant equipment at the component level

- Commences upon turnover of plant equipment (in sub-system testable scopes) from the Construction Organization

Test procedures are specific to the equipment "type" and govern activities such as

- Instrument checks/calibrations
- Instrument loop verifications
- Electrical wiring checks
- Control circuit checks/verifications
- Electrical breaker checks
- Battery tests
- Digital system input/output checks
- Functional valve testing
- Motor/pump (fan) alignments and performance verifications

Pre-Operational Testing

Pre-Operational Testing is performed at the system level

- This testing demonstrates the capability of plant systems to meet performance requirements
- Includes "Hot Functional Testing" – integrated plant testing at normal operating temperatures & pressures

Test procedures specify the following

- Test objectives
- Prerequisites that must be completed before the test can be performed
- Measurement & Test Equipment required
- Initial conditions necessary to start the test
- Special precautions required for the safety of personnel & equipment
- Instructions specifically delineating how the test is to be performed (step-by-step procedure)
- Required data to be obtained
- Acceptance Criteria

Startup Testing

Startup Testing is integrated plant testing

- This phase of the program encompasses the sequence of activities from initial fuel loading to power operations (pre-critical tests, initial criticality, testing, low power testing, and the power ascension sequence testing)

Startup Test Procedures specify

- Scope & Objectives
- Prerequisites & Initial Conditions
- Precautions & Limitations
- Test Method (step-by-step procedure)
- Test Results Evaluation
- Acceptance Criteria

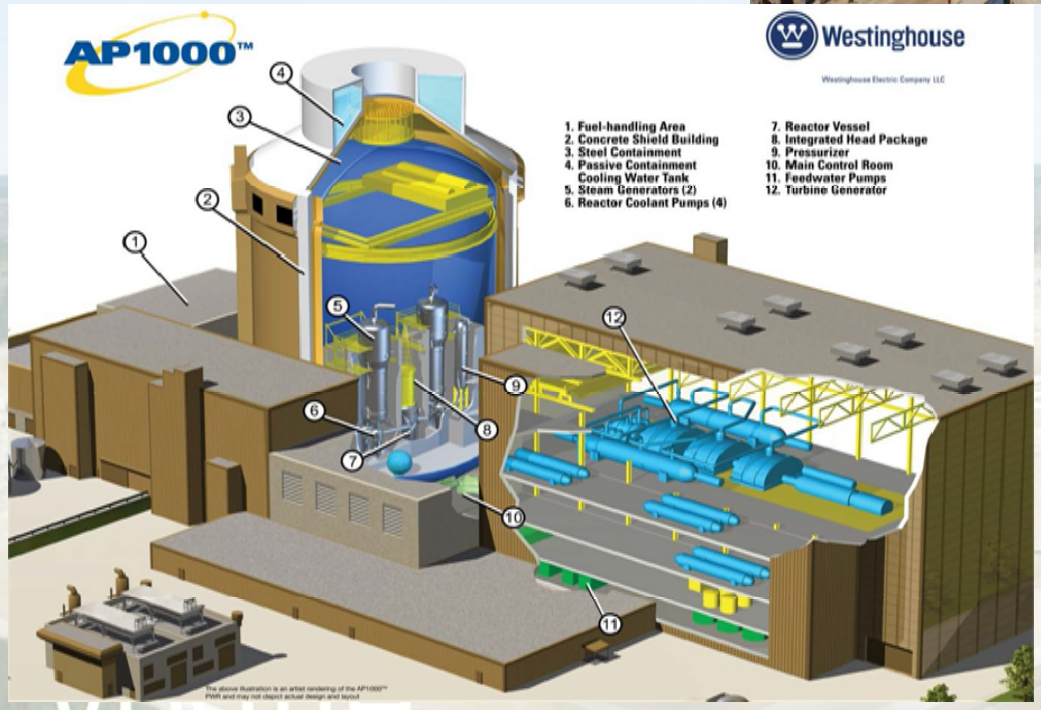
(Utilized in conjunction with normal plant operating procedures)

SOUTHERN COMPANY Westinghouse CB&I

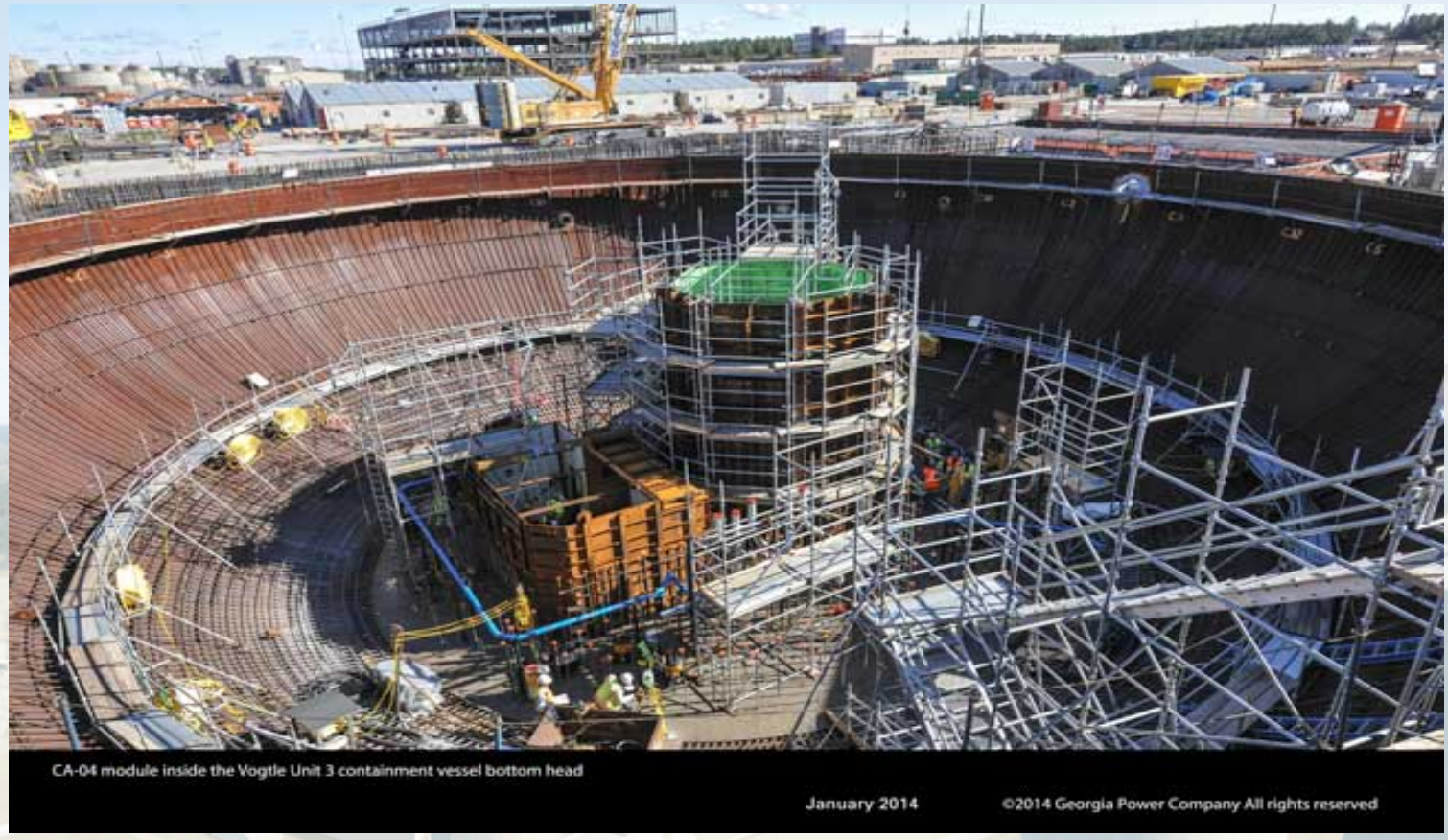
CONSTRUCTION UPDATE

Construction Update

Unit 3 Nuclear & Turbine Islands



CA-04 Module Inside Unit 3 Containment Vessel Bottom Head

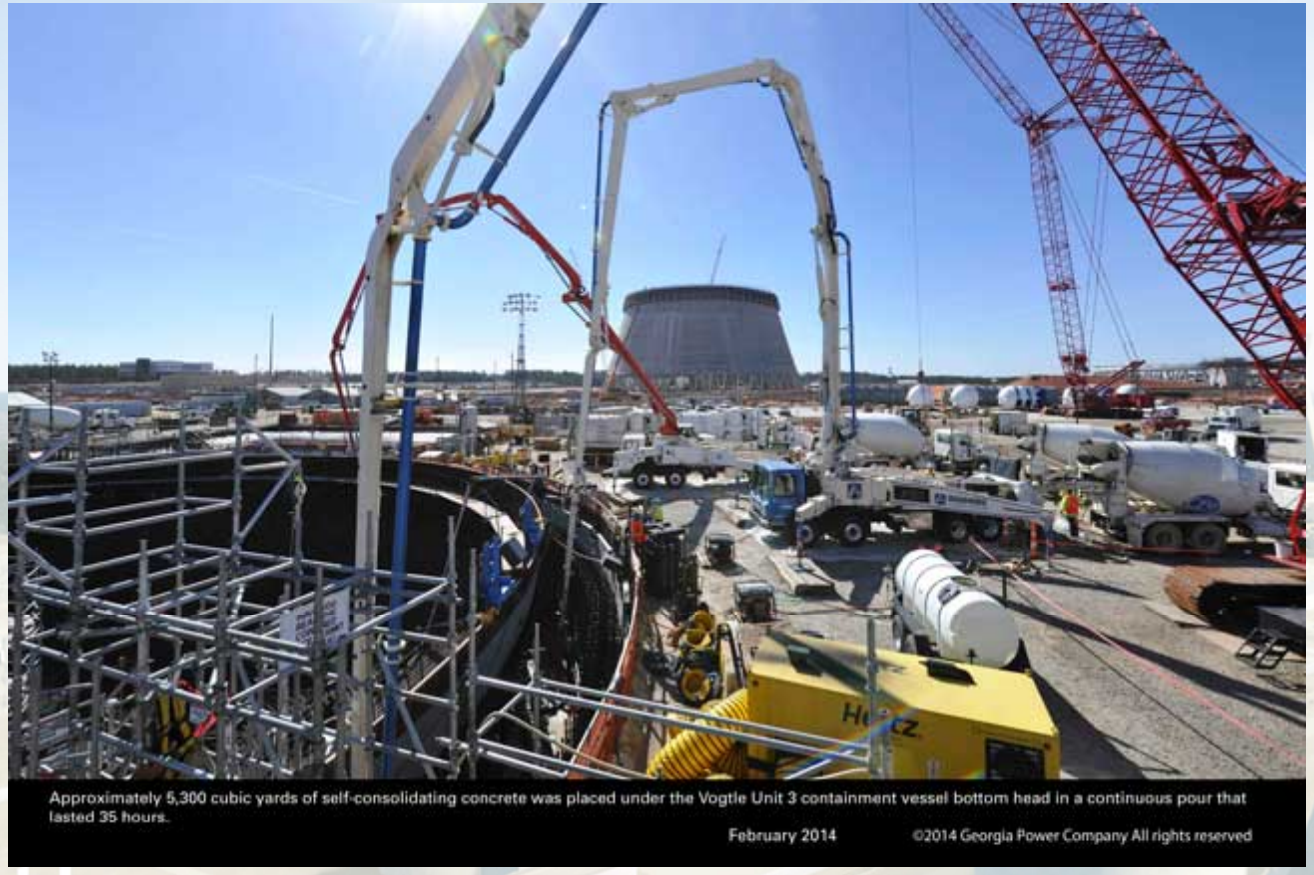


CA-04 module inside the Vogtle Unit 3 containment vessel bottom head

January 2014

December 4, 2013

Self Consolidating Concrete under Unit 3 Containment Vessel Bottom Head



Approximately 5,300 cubic yards of self-consolidating concrete was placed under the Vogtle Unit 3 containment vessel bottom head in a continuous pour that lasted 35 hours.

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CA20 Placement inside Nuclear Island

March 8, 2014