



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

April 9, 2014

Mr. B. L. Ivey
Vice President, Regulatory Affairs
Southern Nuclear Operating Company
P.O. Box 1295
Bin B022
Birmingham, AL 35201

**SUBJECT: PUBLIC MEETING SUMMARY – TESTING OF AP1000 DIGITAL INSTRUMENT
AND CONTROL SYSTEMS VOGTLE ELECTRIC GENERATING PLANT,
DOCKET NOS. 52-025 & 52-026**

Dear Mr. Ivey:

This refers to the meeting conducted at your request at the Vogtle Electric Generating Plant Training Center on March 27, 2014, at 9:00 A.M. The purpose of the meeting was to allow Southern Nuclear Operating Company (SNC) to present details about their planned methods for testing digital control systems to be installed on Vogtle Units 3 and 4.

During the meeting SNC presented information concerning the scope to be covered by the initial test program for digital control systems, the implementation sequence for testing, and the methodologies to be used for testing. The presentation included an update on overall progress of construction at Vogtle Units 3 and 4.

A closed session was conducted for SNC to present information of a proprietary nature to the NRC. During the closed session, the licensee and members of the construction project consortium provided more substantive technical details regarding how progressive stages of testing of the AP1000 Protection and Safety Monitoring System and plant control systems will be implemented. A number of action items were identified for discussion at a follow on meeting.

Enclosed are a list of attendees and the presentation handouts for the public presentation.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this meeting, please contact me at (404) 997-4465.

Sincerely,

/RA/

Anthony D. Masters, Chief
Construction Inspection Branch 1
Division of Construction Inspection

Docket Nos. 52-025 and 52-026
License Nos. NPF-91 and NPF-92

Enclosures:

1. List of attendees
2. NRC public meeting slides

Should you have any questions concerning this meeting, please contact me at (404) 997-4465.

Sincerely,

/RA/

Anthony D. Masters, Chief
Construction Inspection Branch 1
Division of Construction Inspection

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1. List of attendees
2. NRC public meeting slides

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☐ • NON-PUBLICLY AVAILABLE • SENSITIVE

☐ NON-SENSITIVE

ADAMS: ☐ Yes ACCESSION NUMBER: ML1400A300 ☐ SUNSI REVIEW COMPLETE ☐ FORM 665 ATTACHED

OFFICE	RII:DCI	RII:DCI			-		
SIGNATURE	ADM2	CTJ1					
NAME	A. Masters	C. Jones					
DATE	4/ /2014	4/ /2014	4/ /2014	4/ /2014	4/ /2014	4/ /2014	4/ /2014
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

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MEETING - SUMMARY LETTER (2014-03-27) (3).DOCX

cc w/encl:

Resident Manager
Oglethorpe Power Corporation
Alvin W. Vogtle Road
7821 River Road
Waynesboro, GA 30830

Rita Kilpatrick
250 Arizona Ave
Atlanta, GA 30307

Office of the Attorney General
40 Capital Square SW
Atlanta, GA 30334

Anne F. Appleby
Oglethorpe Power Corporation
2100 East Exchange Place
Tucker, GA 30084

Stephen E. Kuczynski
Chairman, President and CEO
Southern Nuclear
P.O. Box 1295
Birmingham, AL 35201

Mr. Reece McAlister
Executive Secretary
Georgia Public Service Commission
Atlanta, GA 30334

Mr. Joseph A. (Buzz) Miller
Executive Vice President
Southern Nuclear Operating Company
241 Ralph McGill Blvd
BIN 10240
Atlanta, GA 30308-3374

Resident Inspector
Plant Vogtle 3 and 4
7825 River Road
Waynesboro, GA 30830

County Commissioner
Office of the County Commissioner
Burke County Commission
Waynesboro, GA 30830

Mr. James C. Hardeman
Environmental Radiation Program Manager
Environmental Protection Division
Georgia Dept. of Natural Resources
4220 International Pkwy, Suite 100
Atlanta, GA 30354-3906

Elaine Sikes
Burke County Library
130 Highway 24 South
Waynesboro, GA 30830

Mr. Jerry Smith
Commissioner
District 8
Augusta-Richmond County Commission
1332 Brown Road
Hephzibah, GA 30815

Paul Mothena
Manager
Nuclear Training – SN
Virgil C. Summer Units 2 and 3
Nuclear Station Bradham Blvd
Highway 215
P.O. Box 88
Jenkinsville, South Carolina 19065

Southern Nuclear Op. Co.
Document Control Coordinator
42 Inverness Center Parkway
Attn: B236
Birmingham, AL 35242

Andy Barbee
Director
Nuclear Training – SN
Virgil C. Summer Units 2 and 3
Nuclear Station Bradham Blvd
Highway 215
P.O. Box 88
Jenkinsville, SC 19065

Ronald Jones
Vice President
New Nuclear Operations
Virgil C. Summer Units 2 and 3
Nuclear Station Bradham Blvd
Highway 215
P. O. Box 88
Jenkinsville, SC 19065

Gene Stilp
1550 Fishing Creek Valley Road
Harrisburg, PA 17112

Mr. Robert Sweeney
IBEX ESI
4641 Montgomery Avenue
Suite 350
Bethesda, MD 20814

George B. Taylor, Jr.
2100 East Exchange Pl.
Atlanta, GA 30084-533

Email

agaughtm@southernco.com (Amy Aughtman)
awc@nei.org (Anne W. Cottingham)
bhwhitle@southernco.com (Brian Whitley)
Bill.Jacobs@gdsassociates.com (Bill Jacobs)
blivey@southernco.com (Pete Ivey)
bob.masse@opc.com (Resident Manager)
bwwaites@southernco.com (Brandon Waites)
chmahan@southernco.com (Howard Mahan)
cmeadors@southernco.com (Brian Meadors)
collinlj@westinghouse.com (Leslie Collins)
courtney@georgiawand.org (Courtney Hanson)
couturgf@westinghouse.com (Gerald Couture)
crpierce@southernco.com (C.R. Pierce)
csguinn@southernco.com (Candace Guinn)
cwaltman@roe.com (C. Waltman)
dahjones@southernco.com (David Jones)
danawill@southernco.com (Dana Williams)
david.hinds@ge.com (David Hinds)
david.lewis@pillsburylaw.com (David Lewis)
david.siefken@hq.doe.gov (David Siefken)
delongra@westinghouse.com (Rich DeLong)
dgbost@southernco.com (Danny Bost)
dlfulton@southernco.com (Dale Fulton)
drculver@southernco.com (Randy Culver)
ed.burns@earthlink.net (Ed Burns)
edavis@pegasusgroup.us (Ed David)
erg-xl@cox.net (Eddie R. Grant)
G2NDRMDC@southernco.com (SNC Document Control)
james1.beard@ge.com (James Beard)
jamiller@southernco.com (Buzz Miller)
jbtomase@southernco.com (Janice Tomasello)
jenmorri@southernco.com (Jennifer Buettner)
jim@ncwarn.org (Jim Warren)
jlhall@southernco.com (Jennifer Hall)
Joseph_Hegner@dom.com (Joseph Hegner)
jranalli@meagpower.org (Jerry Ranalli)
jrjohnso@southernco.com (Randy Johnson)
jtgasser@southernco.com (Jeff Gasser)
karen.patterson@ttnus.com (Karen Patterson)
karlg@att.net (Karl Gross)
Katherine.Janik@Hq.Doe.Gov (Katherine Janik)
kim.haynes@opc.com (Kim Haynes)

kmseiber@southernco.com (Kristin Seibert)
KSutton@morganlewis.com (Kathryn M. Sutton)
kwaugh@impact-net.org (Kenneth O. Waugh)
lchandler@morganlewis.com (Lawrence J. Chandler)
ldperry@southernco.com (Leigh D. Perry)
maria.webb@pillsburylaw.com (Maria Webb)
markus.popa@hq.doe.gov (Markus Popa)
matias.travieso-diaz@pillsburylaw.com (Matias Travieso-Diaz)
mcintyba@westinghouse.com (Brian McIntyre)
mdrauckh@southernco.com (Mark Rauckhorst)
media@nei.org (Scott Peterson)
Melissa.Smith@Hq.Doe.Gov (Melissa Smith)
mike.price@opc.com (M.W. Price)
MSF@nei.org (Marvin Fertel)
nirsnet@nirs.org (Michael Mariotte)
nlhender@southernco.com (Nancy Henderson)
Nuclaw@mindspring.com (Robert Temple)
patriciaL.campbell@ge.com (Patricia L. Campbell)
Paul@beyondnuclear.org (Paul Gunter)
pbessette@morganlewis.com (Paul Bessette)
randall@nexusamllc.com (Randall Li)
rhenry@ap.org (Ray Henry)
rjarrett@southernco.com (Robyn Jarrett)
RJB@NEI.org (Russell Bell)
russpa@westinghouse.com (Paul Russ)
rwink@ameren.com (Roger Wink)
sabinski@suddenlink.net (Steve A. Bennett)
sblanton@balch.com (Stanford Blanton)
sfrantz@morganlewis.com (Stephen P. Frantz)
sjackson@meagpower.org (Steven Jackson)
skauffman@mpr.com (Storm Kauffman)
skuczyns@southernco.com (Steve Kuczynski)
sroetger@psc.state.ga.us (Steve Roetger)
stephan.moen@ge.com (Stephan Moen)
taterrel@southernco.com (Todd Terrell)
tlubnow@mpr.com (Tom Lubnow)
Tom.Bilik@nrc.gov (Thomas Bilik)
TomClements329@cs.com (Tom Clements)
Vanessa.quinn@dhs.gov (Vanessa Quinn)
Wanda.K.Marshall@dom.com (Wanda K. Marshall)
wasparkm@southernco.com (Wesley A. Sparkman)
wayne.marquino@ge.com (Wayne Marquino)
weave1dw@westinghouse.com (Doug Weaver)

Attendance List
Category 2 Public Meeting
DISCUSSION OF AP1000 TESTING STRATEGY
Vogtle 3&4 Plant Training Center
7821 River Road
Waynesboro, Georgia
March 27, 2014

NAME	ORGANIZATION	E-MAIL
K. Kavanagh	USNRC	kerri.kavanagh@nrc.gov
T. Fredette	USNRC	thomas.fredette@nrc.gov
T. Jackson	USNRC	terry.jackson@nrc.gov
G. Koucheravy	Westinghouse	koucheqm@westinghouse.com
T. Messersmith	Westinghouse	messertc@westinghouse.com
B. Hirmanpour	Southern Company	x2bhirma@southernco.com
J. Lightner	Westinghouse	lizhtnjw@westinghouse.com
J. Aufdenkampe	Southern Company	jaufden@southernco.com
D. Lavigne	SCANA	dlavigne@scana.com
R. Steffy	SCANA	rsteffy@scana.com
B. Barwick	SCANA	bryan.barwick@scana.com
S. DiTommaso	Westinghouse	ditomms@westinghouse.com
M. Junge	USNRC	michael.junge@nrc.gov
M. Williams	Southern Company	x2mbwill@southernco.com
W. Sparkman	Southern Company	wasparkm@southernco.com
R. Lane	Westinghouse	lanerw@westinghouse.com
S. Radomski	Westinghouse	radomss@westinghouse.com
B. Bedford	Westinghouse	bedforbj@westinghouse.com
R. Connolly	Southern Company	rrconnol@southernco.com
A. Tiwari	SCANA	ajay.tiwari@scana.com
Z. Sultan	Southern Company	zsultan@southernco.com
R. Mathis III	USNRC	robert.mathis@nrc.gov
C. Jones	USNRC	carl.jones@nrc.gov
P. Porco	Westinghouse	porcopg@westinghouse.com
M. Verbeck	Southern Company	mverbeck@southernco.com
D. Harmon	Westinghouse	harmond1@westinghouse.com
W. Pipkins	Westinghouse	pipkinwg@westinghouse.com

NAME	ORGANIZATION	E-MAIL
J. Klecha	Southern Company	jbklecha@southernco.com
D. Nilius	Westinghouse	niliusdr@westinghouse.com
R. Piluso	Westinghouse	pilusorf@westinghouse.com
K. Honomichy	Southern Company	kmhonomi@southernco.com
J. DeMarshall	USNRC	joseph.demarshall@nrc.gov
J. Money	SCANA	jerry.money@scana.com
R. Thompson	SCANA	ryder.thompson@scana.com
G. Larson	Southern Company	x2gdlars@southernco.com
S. Erick	Southern Company	sgerick@southernco.com
S. Thomason	Southern Company	sthomaso@southernco.com
W. Vaughn	Southern Company	wrvaughn@southernco.com
B. Wilbanks	Southern Company	twilban@southernco.com
A. Neal	Southern Company	amneal@southernco.com
D. LeMaster	Southern Company	cdlemast@southernco.com
S. Adams	Southern Company	sladams@southernco.com
W. Matejek	Chicago Bridge & Iron	william.matejek@cbi.com
J. Duggan	Chicago Bridge & Iron	johnduggan@cbi.com
S. Melancon	Southern Company	x2smelanco@southernco.com

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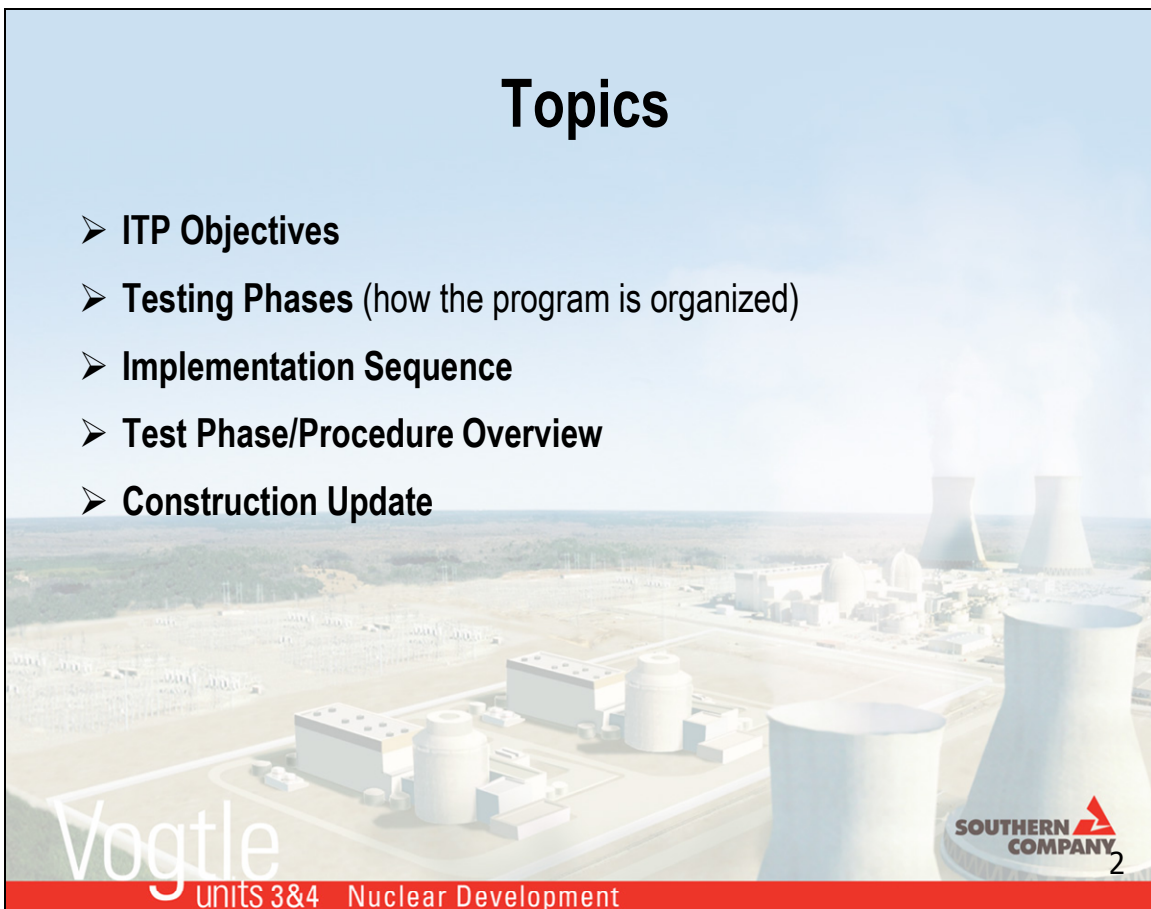
Initial Test Program (ITP)

Joe Klecha
SNC ITP Director

March 27, 2014

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

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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

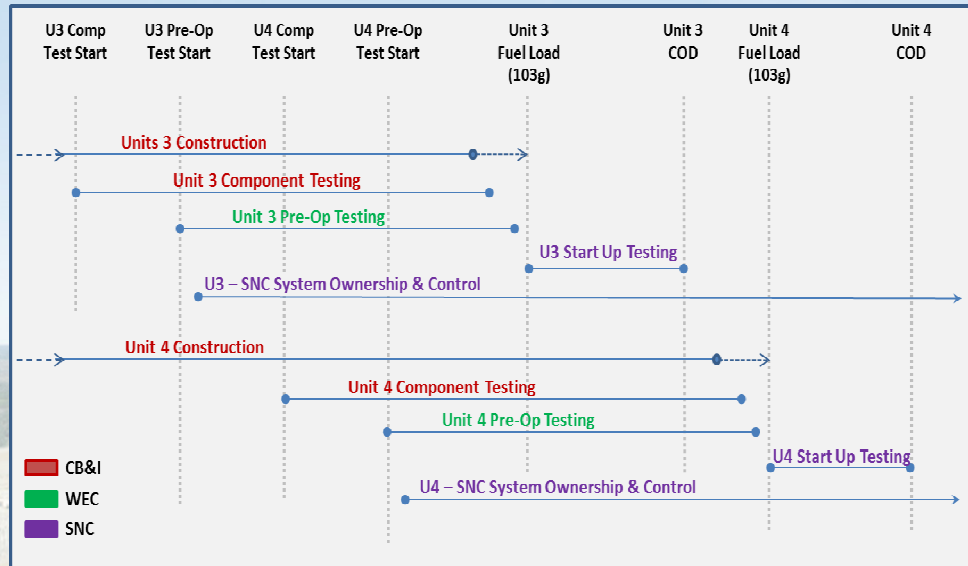
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Testing Sequence



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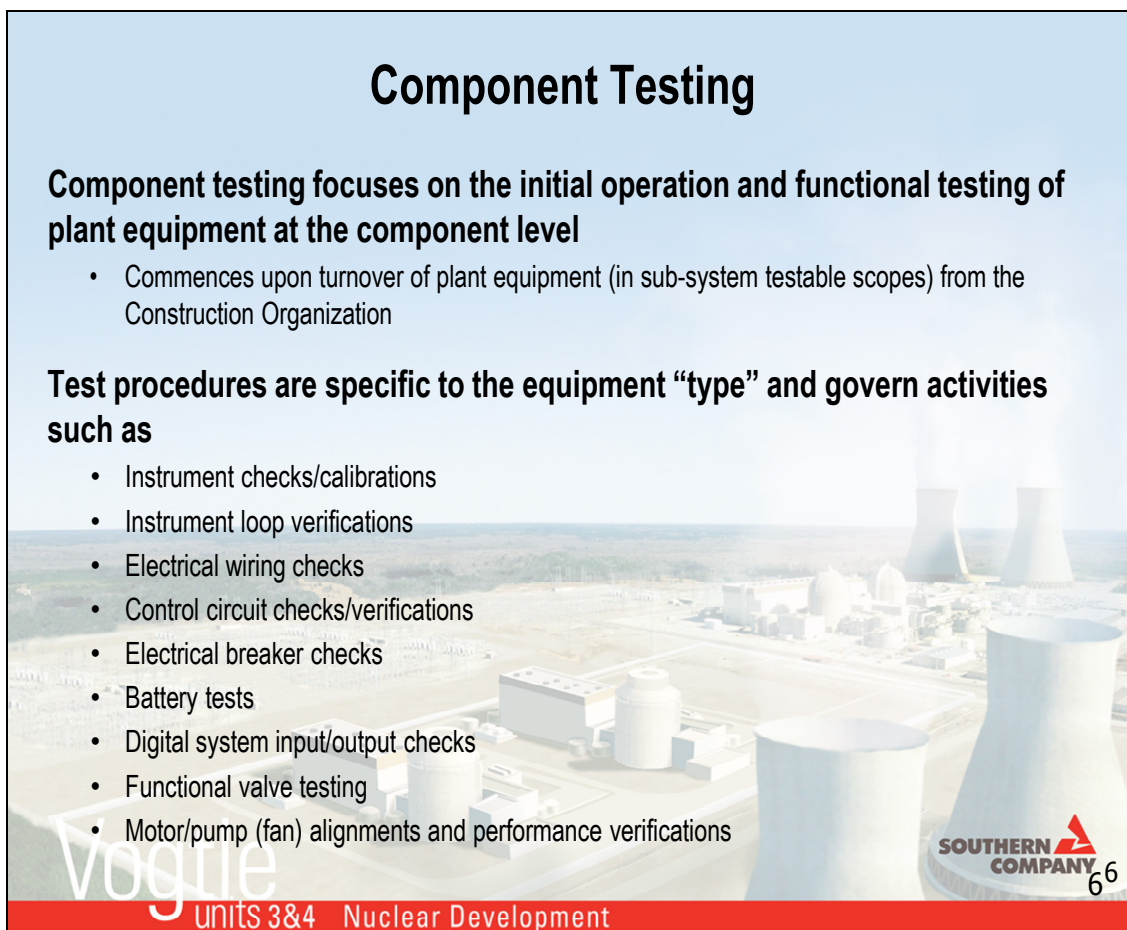
Component Testing

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



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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

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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)

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Construction Update

Vogtle 3&4 - Construction, February 18, 2014



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AP1000™

Westinghouse
Westinghouse Electric Company LLC

1. Fuel-handling Area
2. Concrete Shield Building
3. Steam Generator
4. Pressurizer
5. Main Control Room
6. Feedwater Pumps
7. Turbine Generator
8. Reactor Vessel
9. Integrated Head Package
10. Pressurizer
11. Feedwater Pumps
12. Turbine Generator

Unit 3 Nuclear & Turbine Islands

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CA-04 Module Inside Unit 3 Containment Vessel Bottom Head



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

January 2014

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Vogtle

December 4, 2013

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Self Consolidating Concrete under Unit 3 Containment Vessel Bottom Head



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February 2014

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CA20 Placement inside Nuclear Island



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March 8, 2014

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