



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
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ATLANTA, GEORGIA 30303-1257**

November 21, 2016

Mr. Joseph W. Shea
Vice President, Nuclear Licensing
Tennessee Valley Authority
1101 Market Street, LP 3D-C
Chattanooga, TN 37402-2801

**SUBJECT: WATTS BAR NUCLEAR PLANT UNIT 2 CONSTRUCTION - NRC INTEGRATED
INSPECTION REPORT 05000391/2016609**

Dear Mr. Shea:

On October 31, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection of construction and testing activities at your Watts Bar Unit 2 reactor facility. The enclosed integrated inspection report documents the inspection results, which were discussed on November 4, 2016, with Mr. Delson Erb and other members of the Watts Bar staff.

This inspection examined activities conducted under your Watts Bar Unit 2 operating license as they relate to safety and compliance with the Commission's rules and regulations, the conditions of your operating license, and fulfillment of Watts Bar Unit 2 regulatory framework commitments. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings were identified. Additionally, this report will be the last standalone inspection report documenting Watts Bar Unit 2 construction activities and serves as basis for closure of Inspection Manual Chapter (IMC) 2517, "Watts Bar Unit 2 Construction Inspection Program." Transition of Watts Bar Unit 2 to the NRC's Reactor Oversight Process is documented in Watts Bar Nuclear Plant, Unit 2 – Full Transition to the Reactor Oversight Process and Assessment Letter – Docket No. 50-0391 (ADAMS Accession No. ML16326A210).

In accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's Rules of Practice, a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of NRC's Agencywide Documents Access and Management 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 questions concerning this letter, please contact us.

Sincerely,

/RA/

Alan Blamey, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Docket No. 50-391
License No. NPF-96

Enclosure: Integrated Inspection Report 05000391/2016609
w/ Attachment

cc: Distribution via ListServ

Should you have questions concerning this letter, please contact us.

Sincerely,

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Alan Blamey, Chief
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Letter to Joseph Shea from Alan Blamey dated November 21, 2016

SUBJECT: WATTS BAR NUCLEAR PLANT UNIT 2 CONSTRUCTION - NRC INTEGRATED
INSPECTION REPORT 05000391/2016609

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 50-391

License No.: NPF-96

Report No.: 05000391/2016609

Licensee: Tennessee Valley Authority (TVA)

Facility: Watts Bar Nuclear Plant, Unit 2

Location: Spring City, TN 37381

Dates: August 1, 2016 – October 31, 2016

Inspectors: J. Jandovitz, Senior Resident Inspector, Reactor Projects Branch (RPB) 8, Division of Reactor Projects (DRP), Region II (RII)
J. Baptist, Senior Construction Inspector, RPB 8, DRP, RII
C. Even, Senior Construction Inspector, RPB 8, DRP, RII

Approved by: Alan Blamey, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

Watts Bar Nuclear Plant, Unit 2

This integrated inspection included aspects of engineering and testing activities performed by Tennessee Valley Authority (TVA) associated with the Watts Bar Nuclear Plant (WBN) Unit 2 construction project. This report covered a three month period of inspections in the areas of quality assurance (QA), startup testing, and follow-up of other activities. The inspection program for Unit 2 construction activities is described in Nuclear Regulatory Commission (NRC) Inspection Manual Chapter (IMC) 2517, "Watts Bar Unit 2 Construction Inspection Program." Information regarding the WBN Unit 2 Construction Project and NRC inspections can be found at <http://www.nrc.gov/info-finder/reactors/wb2.html>.

Inspection Results

- The inspectors concluded that the objectives of IMC 2517 that describe the policies and requirements for the WBN Unit 2 preoperational inspection program have been completed. Therefore, Inspection Manual Chapter 2513, "Light Water Reactor Inspection Program - Preoperational Testing and Operational Preparedness Phase," has been completed and is closed.
- The inspectors concluded that the objectives of IMC 2517 that describe the policies and requirements for the WBN Unit 2 startup and power ascension inspection program have been completed. Therefore, Inspection Manual Chapter 2514, "Light Water Reactor Inspection Program – Startup Testing Phase," has been completed and is closed.
- The inspectors concluded that all aspects of IMC 2517 that describe the policies and requirements for the WBN Unit 2 construction inspection program have been completed. Therefore, Inspection Manual Chapter 2517, "Watts Bar Unit 2 Construction Inspection Program," has been completed and is closed.
- Other areas inspected were adequate with no findings identified. These areas included startup testing activities and NRC inspection program procedures.

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REPORT DETAILS

Summary of Plant Status

During the inspection period covered by this report, Tennessee Valley Authority (TVA) performed startup testing activities on safety-related systems and continued engineering design activities of the Watts Bar Nuclear Plant (WBN), Unit 2.

I. QUALITY ASSURANCE PROGRAM

Q.1.1 Identification and Resolution of Construction Problems (Inspection Procedure 35007)

a. Inspection Scope

The inspectors continued to review condition reports (CRs), as part of the licensee's corrective action program, to verify that issues being identified under the corrective action program were being properly identified, addressed, and resolved by the licensee.

b. Observations and Findings:

No findings were identified.

c. Conclusion

The issues identified in the CRs reviewed were adequately identified, addressed, and resolved.

II. MANAGEMENT OVERSIGHT AND CONTROLS

SU.1 Startup Testing Activities

SU.1.1 Startup Test Witnessing and Observation (Inspection Procedure 72302)

a. Inspection Scope

Background: The purpose of Inspection Manual Chapter (IMC) 2514, "Light Water Reactor Inspection Program – Startup Testing Phase," issue date August 21, 1989, is to verify that the licensee is meeting the requirements and conditions of the facility license for precritical tests, initial fuel loading, initial criticality, low-power testing, and power ascension tests. This verification is to be achieved through reviewing procedures and records, direct observation, witnessing tests, reviewing test data, and evaluating test results.

Inspection Activities: The inspectors observed activities associated with the performance of power ascension test procedure 2-PAT-1.2, "Load Swing Test," Revision (Rev.) 4 (Work Order (WO) 1159228639). The inspectors observed the test to verify that the test was conducted in accordance with the approved procedure, to observe operating staff performance, and to ascertain the adequacy of test program records and preliminary evaluation of test results. The inspectors verified the following:

- current revision of the appropriate procedure was available and in use by the operating staff;
- minimum crew requirements were met;
- test prerequisites and initial conditions were met and those that were waived were reviewed/approved in accordance with procedure and Technical Specifications (TS) requirements;
- required test equipment or data collection equipment was calibrated and in service;
- the test was performed as required by procedure;
- crew actions appeared to be timely during the performance of the test and coordination was adequate;
- all data were collected for final analysis by proper personnel;
- overall acceptance criteria was met;
- the licensee's preliminary test evaluation was consistent with the inspector's observation; and
- adherence to TS limiting conditions of operation (LCOs) was maintained during testing.

Additionally, the inspectors reviewed the test sequencing document and applicable changes, test directors log, control room log, and plant information report daily.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's power ascension test was performed in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear Plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the witnessing of startup test procedure 2-PAT-1.2.

SU.1.2 Startup Test Witnessing and Observation (Inspection Procedure 72302)

a. Inspection Scope

Background: The background for this startup test procedure observation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors observed activities associated with the performance of power ascension test procedure 2-PAT-1.3, "Large Load Reduction Test," Rev. 3 (WO 115928656). The inspectors observed the test to verify that the test was conducted in accordance with the approved procedure, to observe operating staff performance, and to ascertain the adequacy of test program records and preliminary evaluation of test results. The inspectors verified the following:

- current revision of the appropriate procedure was available and in use by the operating staff;
- minimum crew requirements were met;
- test prerequisites and initial conditions were met and those that were waived were reviewed/approved in accordance with procedure and TS requirements;

- required test equipment or data collection equipment was calibrated and in service;
- the test was performed as required by procedure;
- crew actions appeared to be timely during the performance of the test and coordination was adequate;
- all data were collected for final analysis by proper personnel;
- overall acceptance criteria was met;
- the licensee's preliminary test evaluation was consistent with the inspector's observation; and
- adherence to TS LCOs was maintained during testing.

Additionally, the inspectors reviewed the test sequencing document and applicable changes, test directors log, control room log, and plant information report daily.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's power ascension test was performed in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear Plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the witnessing of startup test procedure 2-PAT-1.3.

SU.1.3 Startup Test Witnessing and Observation (Inspection Procedure 72302)

a. Inspection Scope

Background: The background for this startup test procedure observation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors observed activities associated with the performance of power ascension test procedure 2-PAT-8.5, "Shutdown From Outside the Control Room," Rev. 3 (WO 115931162). The inspectors observed the test to verify that the test was conducted in accordance with the approved procedure, to observe operating staff performance, and to ascertain the adequacy of test program records and preliminary evaluation of test results. The inspectors verified the following:

- current revision of the appropriate procedure was available and in use by the operating staff;
- minimum crew requirements were met;
- test prerequisites and initial conditions were met and those that were waived were reviewed/approved in accordance with procedure and TS requirements;
- required test equipment or data collection equipment was calibrated and in service;
- the test was performed as required by procedure;
- crew actions appeared to be timely during the performance of the test and coordination was adequate;
- all data were collected for final analysis by proper personnel;
- overall acceptance criteria was met;

- the licensee's preliminary test evaluation was consistent with the inspector's observation; and
- adherence to TS LCOs was maintained during testing.

Additionally, the inspectors reviewed the test sequencing document and applicable changes, test directors log, control room log, and plant information report daily.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's power ascension test was performed in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear Plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the witnessing of startup test procedure 2-PAT-8.5.

SU.1.4 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PET-301, "Core Power Distribution Factors," Rev. 1 (WO 117670835) to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedures to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear Plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PET-301.

SU.1.5 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PET-304, "Operational Alignment of NIS," Rev. 0 (WO 117670827) to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedures to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear Plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PET-304.

SU.1.6 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-1.2, "Load Swing Test," Rev. 3, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear Plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-1.2.

SU.1.7 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-1.3, "Large Load Reduction Test," Rev. 3, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-1.3.

SU.1.8 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-1.4, "Pipe Vibration Monitoring," Rev. 2, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-1.4

SU.1.9 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-1.6, "Startup Adjustments of Reactor Control System," Rev. 3, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-1.6.

SU.1.10 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT- 1.7, "Operational Alignment of Process Temperature Instrumentation," Rev. 2, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;

- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-1.7

SU.1.11 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-1.9, "Automatic Steam Generator Level Control," Rev. 4, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and

- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-1.9

SU.1.12 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT- 1.10, "Integrated Computer System (ICS)," Rev. 4, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-1.10.

SU.1.13 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-1.11, "RVLIS Performance Testing," Rev.4, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-1.11.

SU.1.14 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-1.12, "Common Q Post Accident Monitoring System," Rev. 4, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures.
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted.
- Reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted.
- Reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria.
- The approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-1.12

SU.1.15 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-3.3, "RCS Flow Measurement," Rev. 3, (through the 75% power plateau) to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-3.3.

SU.1.16 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-3.7, "Reactor Coolant Flow Coastdown Test," Rev. 3, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-3.7.

SU.1.17 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-5.2, "Turbine Generator Trip With Coincident Loss of Offsite Power Test," Rev. 3, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies

were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- Reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- Reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- Reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- The approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-5.2.

SU.1.18 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-6.1, "Automatic Reactor Control System," Rev.1, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;

- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-6.1.

SU.1.19 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-6.2, "Automatic Steam Generator Level Control Transients at 50% Power," Rev. 3, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;

- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-6.2.

SU.1.20Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-6.3, "Calibration of Steam and Feedwater Flow Instruments at 50% Power," Rev. 2, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-6.3.

SU.1.21 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-7.0, "Test Sequence for 75% Plateau," Rev. 5, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-7.0.

SU.1.22Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-7.1, "Calibration of Steam and Feedwater Flow Instruments at 75% Power," Rev.2, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-

438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-7.1.

SU.1.23 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-8.0, "Test Sequence for 100% Plateau," Rev. 6, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-8.0.

SU.1.24 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-8.4, "Calibration of Steam and Feedwater Flow Instruments at 100% Power," Rev. 2, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-8.4.

SU.1.25 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-8.5, "Shutdown From Outside the Main Control Room," Rev. 3, to verify that the licensee's evaluation of the procedure performance and results

was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-8.5.

SU.1.26 Startup Test Results Evaluation (Inspection Procedure 72301)

a. Inspection Scope

Background: The background for this startup test procedure results evaluation is the same as that in the background of Section SU.1.1 above.

Inspection Activities: The inspectors performed a detailed review of the results for power ascension test procedure 2-PAT-8.6, "Plant Trip from 100% Power," Rev. 4, to verify that the licensee's evaluation of the procedure performance and results was conducted in accordance with approved procedures. This review was performed to provide assurance that the test data was within the established acceptance criteria and the licensee's methods for identifying and correcting deficiencies were adequate. The inspectors performed the following activities associated with this test results review:

- reviewed all changes made to the test procedure to verify they were properly annotated, did not affect the objective of the test, and were performed in accordance with administrative procedures;
- reviewed all documented test deficiencies to verify they had been properly resolved, reviewed, and accepted;
- reviewed the original 'as-run' copy of the test procedure to verify that data sheets were completed and properly initialed and dated (25% sample), data was recorded within acceptance tolerances (25% sample), and test deficiencies that were identified were noted;
- reviewed the test summary and evaluation to verify that the system was evaluated to meet design requirements and acceptance criteria; and
- the approval of the test results was reviewed for completeness with respect to the acceptance of the test results.

The inspectors reviewed the test results to verify that the overall test acceptance was met. The inspectors conducted a review with the responsible test engineer to assure that the test evaluation was performed in accordance with established procedures.

b. Observations and Findings

No findings were identified. At approximately 2100 on August 30, 2016, Unit 2 was operating at approximately 98% power when the turbine tripped due to a fire in the Main Bank "B" transformer followed immediately by a reactor trip. This event is documented in condition report 1208823. Since the plant was operating at a power level that would satisfy the criteria for the planned trip for the PAT-8.6 test, the licensee performed an evaluation to credit the unplanned trip for performance of PAT-8.6. The licensee determined the unplanned turbine trip was equivalent to the Regulatory Guide 1.68 requirements to initiate the planned test by opening the output breakers from the control room. In particular, the unplanned trip satisfied the RG 1.68 requirement that the turbine-generator be subject to the maximum credible overspeed conditions. The licensee also completed the required change to the final safety analysis report (FSAR)-specific requirement that the test be initiated by opening the output breakers from the control room. The inspectors reviewed the evaluation, the FSAR change request 01-15, and associated 50.59 screening.

The license completed the planned PAT-8.6 test procedure, annotating the procedure steps that could not be performed with explanation provided in the procedure test log, and used data from the plant process computer to ensure plant performance met the FSAR acceptance criteria. The inspectors reviewed the completed procedure.

c. Conclusions

The inspectors determined that the licensee's test procedure results were reviewed, evaluated, and accepted in a manner consistent with the guidance of procedure 2-TI-438, "Watts Bar Nuclear plant Unit 2 Power Ascension Test Program," Rev. 5. This completes the test results evaluation of startup test procedure 2-PAT-8.6.

IV. **OTHER ACTIVITIES**

OA.1.1 (Closed) Inspection Manual Chapter 2513: "Light Water Reactor Inspection Program - Preoperational Testing and Operational Preparedness Phase"

a. Inspection Scope

Background: The NRC construction inspection program for WBN Unit 2 consists of IMCs 2517, "Watts Bar 2 Inspection Program"; 2512, "Light Water Reactor Inspection Program - Construction Phase"; 2513, "Light Water Reactor Inspection Program - Preoperational Testing And Operational Preparedness Phase"; and 2514, "Light Water Reactor Inspection Program -- Startup Testing Phase." The purpose of IMC 2513, "Light Water Reactor Inspection Program - Preoperational Testing and Operational Preparedness Phase," issue date January 1, 1984, is to:

- verify through direct observation, personnel interviews, and review of facility records that systems and components important to the safety of the plant are fully tested to demonstrate that they satisfy their design requirements; and
- verify that management controls and procedures, including QA programs, necessary for operation of the facility have been documented and implemented.

IMC 2513 defines the minimum inspection program for a finding of readiness for license issuance. Inspection Procedure (IP) 94302, "Status of Watts Bar Unit 2 Readiness for an Operating License," (Agencywide Documents Access and Management System [ADAMS] Accession Number [No.] ML15029A735) was issued on January 30, 2015, and outlined specific requirements of IMC 2513 to support a finding of readiness. Two required appendices (A and B) of IMC 2513 provide the specific required inspection efforts. Appendix A lists those procedures applicable to verifying that systems and components important to safety of the plant are fully tested to demonstrate that they satisfy their design requirements. Appendix B lists those procedures applicable to verifying that management controls and procedures, including QA programs, necessary for operation of the facility, are documented and implemented.

One category of tests of Appendix A is Construction Verification Tests. These tests are performed under the direction of construction management personnel before system or component turnover to the operating group for preoperational testing. These tests included those activities such as chemical cleaning, flushing, continuity testing, and initial calibration of instrumentation necessary to prepare a system for operation. They also include baseline inservice inspection and tests verifying the integrity of piping systems necessary to demonstrate component, system, or structure design and construction adequacy.

Another category of tests of Appendix A is Preoperational Tests. These tests are performed by, or under, the direction of the applicant's operations staff to demonstrate the proper functioning and conformance to design requirements of components, systems and structures. Containment leak rate tests fall in this category and are combined with the containment integrity leak test.

To accomplish the inspection intent for IMC 2513, Appendix A contains a list of required IPs and three sub-categories of tests. These tests are Mandatory, Primal, and all preoperational tests required by the FSAR, except those designated as mandatory tests and those selected from the primal test list. For each sub-category of Preoperational Tests, the inspection efforts typically included procedure review, test witnessing, and results reviews.

Appendix B focuses on the Operational Preparedness Phase and lists IPs for all areas in support of plant operations including operations, maintenance, refueling, fire protection, surveillance, plant water chemistry, radiological controls, security, and QA. This planned inspection effort was outlined in a letter from the NRC to TVA on November 8, 2013 (ADAMS Accession No. ML13312A082). Due to the presence of programs already established to support the operations of Unit 1, certain inspections were only partially performed.

Inspection Activities: The NRC has conducted a number of inspections to verify the acceptable establishment of operational programs and the proper execution of necessary preoperational testing. The results of these inspections are documented at <http://www.nrc.gov/info-finder/reactors/wb/watts-bar/construction-insp-info.html> and outline the specific elements inspected to satisfy the requirements of IMC 2513.

b. Conclusion:

On October 15, 2015, a memo was issued from Leonard D. Wert, Jr., Acting Regional Administrator, Region II, to William M. Dean, Director, Office of Nuclear Reactor Regulation, titled, "Readiness of Watts Bar Unit 2 to Receive an Operating License" (ADAMS Accession No. ML15288A305). This memo identified the satisfactory completion of necessary inspection efforts and programs to support the requirements of IP 94302. This memo also listed the programs and inspections that were outstanding and the rationale for the readiness to receive an operating license, despite their incomplete status. Since the issuance of this memo, numerous inspections have occurred to finalize these outstanding program requirements and the final two were captured in Sections P.1.2 and P.1.3 of IIR 05000391/2016608 (ADAMS Accession No. ML16258A203). These items document the closure of the last remaining IPs required by IMC 2513 and support program closure. Based on the closure of all outstanding items, the parts of IMC 2513 that describe the policies and requirements for the WBN Unit 2 testing program have been completed. Therefore, IMC 2513 has been completed and is closed.

OA.1.2(Closed) Inspection Manual Chapter 2514: "Light Water Reactor Inspection Program – Startup Testing Phase"

a. Inspection Scope

Background: The NRC construction inspection program for WBN Unit 2 consists of IMC 2517, "Watts Bar 2 Inspection Program"; 2512, "Light Water Reactor Inspection Program - Construction Phase"; 2513, "Light Water Reactor Inspection Program - Preoperational Testing And Operational Preparedness Phase"; and 2514, "Light Water Reactor Inspection Program -- Startup Testing Phase." The purpose of IMC 2514, "Light Water Reactor Inspection Program - Startup Testing Phase," issue date August 21, 1989, is to:

- verify that the licensee is meeting the requirements and conditions of the facility license for precritical tests, initial fuel loading, initial criticality, low-power testing, and power ascension tests.

This phase of the inspection program became effective several months before the issuance of the operating license and continued approximately one month after the

facility completed the full-power testing program and all results have been reviewed and accepted.

The program was accomplished by several types of inspections: reviewing procedures and records, direct observation, witnessing tests, reviewing test data, and evaluating test results. The tests were divided into four categories with different requirements for each category.

- Category I tests required procedure review, test witnessing, and results review inspections, and included those tests from either of two tables called Group A tests or Group B tests. These groups are shown in Table II of IMC 2514. The NRC chose to inspect the Group B tests.
- Category II tests required confirmation that procedures exist, evaluation of 50% of the test results, and confirmation that the remaining tests indicated satisfactory results.
- Category III tests required confirmation that approved procedures exist and evaluation by the licensee indicate satisfactory results.
- Category IV tests did not require review.

Inspection Activities: The NRC has conducted a number of inspections to verify the proper execution of necessary startup testing. The results of these inspections are documented at <http://www.nrc.gov/info-finder/reactors/wb/watts-bar/construction-insp-info.html> and outline the specific elements inspected to satisfy the requirements of IMC 2514.

b. Conclusion:

On September 30, 2016, TVA completed the final power ascension test. The successful performance of this test completed the testing phase that was required by Chapter 14 of the FSAR. Since the issuance of the last NRC inspection report, 05000391/2016608 (ADAMS Accession No. ML16258A203), numerous inspections have occurred to finalize the outstanding program requirements and have been documented in the previous sections of this report. Based on the closure of all outstanding items, the parts of IMC 2514 that describe the policies and requirements for the WBN Unit 2 startup testing program have been completed. Therefore, IMC 2514 has been completed and is closed.

OA.1.3 (Closed) Inspection Manual Chapter 2517: Watts Bar Unit 2 Construction Inspection Program

a. Inspection Scope

Background: TVA was the NRC-regulated applicant for the WBN located in southeastern Tennessee. The WBN site has two Westinghouse-designed pressurized-water reactors. WBN has a unique licensing history and regulatory framework. TVA received construction permits for the units in 1973 under 10 CFR Part 50. Construction proceeded until 1985, when WBN Unit 1 was thought to be essentially complete and nearly ready to receive an operating license, as documented in NUREG-0847, "Safety Evaluation Report Related to the Operation of WBN, Units 1 and 2," through Supplement 4.

As a consequence of the identification of a large number of deficiencies shortly before the WBN Unit 1 license was expected to be issued, the Nuclear Regulatory Commission (NRC) sent a letter to TVA on September 17, 1985, requesting information under 10 CFR 50.54(f), on TVA's plans to address the deficiencies for its operating and construction activities at Watts Bar and TVA's other nuclear facilities. In response to this letter, TVA developed a Nuclear Performance Plan (NPP) to address corporate and site-specific issues, establishing programs to address a wide variety of material, design, and programmatic deficiencies. WBN Unit 2 construction was suspended at about that time, with major structures in place and equipment, such as reactor coolant system piping, installed.

The NRC staff reviewed components of the NPP for WBN Unit 1 and, as documented in NUREG-1232, Volume 4, "Safety Evaluation Report on Tennessee Valley Authority: Watts Bar Nuclear Performance Plan, Watts Bar Unit 1" (January 1990), endorsed the general approaches of various corrective actions. The staff determined that when implemented thoroughly, the proposed corrective actions should address the identified deficiencies for WBN Unit 1; however, no final conclusions were stated for WBN Unit 2.

TVA addressed WBN Unit 1 construction quality issues as part of the implementation of its NPP. IMC 2512 was used to ensure that WBN Unit 1 was constructed in accordance with NRC-approved design and construction standards. In 1985, the NRC had completed its initial IMC 2512 inspection program for the construction of WBN Unit 1. However, the initial WBN inspection program was found to have some weaknesses, which were identified and corrected after the construction inspection program was completed for Unit 1, but before the facility was licensed. Because of the complexity of the rework activities under the NPP, the NRC implemented a "reconstitution" of the construction inspection program to verify that construction-related inspections conducted after 1985 met the requirements of the IMC 2512 program. The results of this program were published in NUREG-1528, "Reconstitution of the IMC 2512 Construction Inspection Program for Watts Bar Unit 1." The staff had completed a substantial number of IMC 2512 inspections for WBN Unit 2, as well; however, TVA suspended WBN Unit 2 construction before the inspection program was completed, and the staff then suspended its licensing and inspection activities.

In a Staff Requirements Memorandum dated July 25, 2007 (ADAMS Accession No. ML072060688), the Commission stated that it "supports a licensing review approach that employs the current licensing basis for Unit 1 as the reference basis for the review and licensing of Unit 2," and that "Significant changes to that licensing basis would be allowed only where the existing backfit rule would be met as necessary to support dual unit operation." Licensing review guidance documents reflected this guidance.

IMC 2517 established the policy for the conduct of the WBN Unit 2 inspection program covering WBN Unit 2's construction and startup processes. The NRC construction inspection program for WBN Unit 2 consisted primarily of IMC 2512, "Light Water Reactor Inspection Program - Construction Phase", IMC 2513, "Light Water Reactor Inspection Program - Preoperational Testing And Operational Preparedness Phase", and 2514, "Light Water Reactor Inspection Program -- Startup Testing Phase." The purpose of IMC 2517, "Watts Bar Unit 2 Construction Inspection Program" was to:

- provide the policies and requirements for the WBN Unit 2 construction inspection program during the resumption of construction;

- establish a record of the inspection activities, applicant actions taken, and technical issues resolved to support the decision for issuing an operating license;
- verify that the WBN Unit 2 inspection status for IMC 2512, “Light Water Reactor Inspection Program – Construction Phase,” is understood through a reconstitution of the inspection program;
- confirm the readiness of structures, systems, and components at WBN Unit 2 to transition to IMC 2513 and IMC 2514 activities based on inspections of the applicant's programs;
- verify the proper implementation of the applicant's design control programs, the installation and testing of modifications, the Corrective Action Programs and Special Programs, and the completion of any required actions for outstanding generic-communication issues;
- provide guidance for implementation, planning and scheduling completion of IMCs 2512; 2513, “Light Water Reactor Inspection Program – Preoperational Testing and Operational Preparedness Phase;” and 2514, “Light Water Reactor Inspection Program Startup Testing Phase”;
- provide WBN Unit 2-specific requirements for the training and qualification of construction and post-construction inspectors to ensure that they have the necessary knowledge and skills to successfully implement the WBN Unit 2 construction and post construction inspection program;
- provide guidance on disposition and documentation of inspection findings;
- provide guidance on a WBN Unit 2-specific assessment program to identify performance trends and determine if an expansion of NRC inspections is necessary based on inspection findings;
- verify the operational readiness of WBN Unit 2 based on inspections during its construction, preoperational testing and operational preparedness, and startup testing phases;
- provide an objective and documented basis for recommendations on the issuance of an operating license for WBN Unit 2;
- provide guidance for the process to transition WBN Unit 2 into the IMC 2515 reactor oversight process; and
- provide a mechanism for communicating the status of NRC’s inspection activities, issues and corrective actions to the public and other external stakeholders.

Inspection Activities: The NRC staff identified specific items necessary to accomplish the inspection requirements set forth in IMC 2517. Programmatic development and completion of IMC’s 2512, 2513, and 2514 requirements accomplished a majority of these goals. Each of these programs was individually closed and document the conclusion that the inspection requirements of the IMC were successfully implemented. Specifically, IMC 2512 was closed in IIR 05000391/2016608 (ADAMS Accession No. ML16258A203) and IMCs 2513 and 2514 are closed in this IIR in Sections OA.1.1 and OA.1.2 respectively. In addition, several components of IMC 2517 were implemented in support of IMC 2512, 2513, and 2514 closure. Specifically, issuance of an operating license (ADAMS Accession No. ML15251A587) after WBN Unit 2 Reactivation Assessment Group endorsement, closure of the Corrective Action Programs and Special Programs (ADAMS Accession No. ML16258A203), completion of the operational readiness assessment team inspection (ADAMS Accession No. ML15226A212), resolution of all open violations, and inspection of historic site-specific (i.e., licensee event reports, unresolved items, and inspector follow-up items) and generic (i.e., generic

letters and bulletins) items. Additionally, periodic assessments (mid-cycle and end-of-cycle) have consistently concluded that WBN Unit 2 construction and testing activities were generally conducted in a manner that complied with the Commission's rules and regulations, the conditions of the WBN Unit 2 construction permit, operating license, and the WBN Unit 2 regulatory framework commitments. NRC inspections concluded that WBN Unit 2 construction and testing programs were sufficiently implemented to support ongoing construction and testing activities and that management and QA oversight effectively monitored and assessed these activities. As a result, project performance has historically been acceptable.

b. Conclusion:

Based on the aforementioned inspection activities, the NRC has satisfied the inspection program requirements of IMC 2517. Therefore, this concludes the inspection program requirements for the Watts Bar Unit 2 construction project and closes IMC 2517. WBN Unit 2 has now transitioned into the IMC 2515 "Light Water Reactor Inspection Program – Operations Phase" reactor oversight process as outlined in the Watts Bar Nuclear Plant Unit 2 ROP Transition Plan (ADAMS Accession No. ML15096A204).

OA.1.4 (Closed) Initial Startup Report Review (Inspection Procedure 72301)

a. Inspection Scope

Background: Chapter 14 of the WBN Unit 2 FSAR identifies that a Initial Startup Report will be submitted to the NRC for review. This report was submitted on November 10, 2016, from Mr. Paul Simmons to the NRC. The Initial Startup Report addressed each of the power ascension tests identified in the FSAR and included a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation were to be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

Inspection Activities: The inspectors reviewed the Initial Startup Report to verify the report contained the following:

- a description of the test method and objectives for each test;
- a comparison of applicable test data with the acceptance criteria, including the response of the systems to major plant transients such as scram and turbine trip;
- deficiencies relating to design and construction found during conduct of the tests, system modifications and corrective actions required to correct these deficiencies, and the schedule for implementing these modifications and corrective actions unless previously reported;
- justification for acceptance of systems or components not in conformance with design predictions or performance requirements; and
- conclusions regarding system or component adequacy.

b. Observations and Findings

No findings were identified.

c. Conclusions

The inspectors determined that the licensee's startup test report contained the required information and the identified deficiencies and discrepancies were appropriately dispositioned. This completes the review of the WBN Unit 2 Initial Startup Report.

V. MANAGEMENT MEETINGS

X1 Exit Meeting Summary

An exit meeting was conducted on November 4, 2016, to present the inspection results to Mr. Delson Erb and other members of the Watts Bar staff. The inspectors identified that no proprietary information had been received during the inspection and none would be used in the inspection report. The licensee acknowledged the observations and provided no dissenting comments.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

P. Simmons, TVA – Site Vice President
M. Skaggs, TVA – Senior Vice President
G. Arent, TVA – Licensing Manager
Ben Kennedy, TVA Engineering
Cindy Abidi, TVA Engineering
Rusty Stroud, TVA Licensing

INSPECTION PROCEDURES USED

IP 35007	Quality Assurance Program Implementation During Construction and Pre-Construction Activities
IP 72302	Startup Test Witnessing and Observation
IP 72301	Startup Test Results Evaluation

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSEDOpened

None

Closed

2513	IMC	Light Water Reactor Inspection Program - Preoperational Testing and Operational Preparedness Phase (Section OA.1.1)
2514	IMC	Light Water Reactor Inspection Program – Startup Testing Phase (Section OA.1.2)
2517	IMC	Watts Bar Unit 2 Construction Inspection Program (Section OA.1.3)
72301	IP	Startup Test Report Review (Section OA.1.4)

Discussed

None

LIST OF DOCUMENTS REVIEWED

SU.1 STARTUP TESTING ACTIVITIES

Procedures

2-SI-92-2, NIS Monthly Recalibration, Rev. 0
2-SI-0-20, Hot Channel Factors Determination, Rev. 3
2-TI-41, Incore Flux Mapping, Rev. 0
2-TI-7.020, PDMS Calibration, Rev. 1
2-TI-7.023, PDMS Power Distribution Measurement, Rev. 1
2-TRI-0-22, PDMS Operability, Rev. 0

Condition Reports

CR 1152119, Step Completion Not Documented
CR 1169224, Low Flow Trip Status Lights Remained Locked-in
CR 1174334, RCP #3 Lower Radial Bearing Temperature Difference Above Max Expected Value,
CR 1182246, OTΔT MCR Indication Inconsistent with Written Acceptance Criteria
CR 118291, QA Identified Equipment Tagging Discrepancies
CR 1190719, Two Procedure Deficiencies Identified During Conduct of 2-PAT-6.1
CR 1192287, RCS Tcold reduced below 547F During 2-PAT-5.2
CR 1193637, Steam Header Pressure Response on Load Increase Requires Evaluation
CR 1195476, Regen HX Letdown Temp Temp Failed PAT Acceptance
CR 1195665; Excessive Pipe Vibration on Unit 2 Steam Line Moisture Traps
CR 1198756, Incore Flux Detector Indications for L-08 Failed at 5 Elevations
CR 1198808; Evaluate Deleting MFPT Condenser Drain Pump 2A and 2B from 2-PAT-1.4
CR 1198895, 2-PCV-3-132 Found 50% Open Following Reactor Trip
CR 1199077, QA Identified Procedure Enhancement
CR 1201702, Hydrogen Leak Rate Change on WBN U2 Main Generator
CR 1203282, 2-PCV-1-5 Showing Dual Indication with No Demand
CR 1208178, 2-PT-1-81 Unavailable for 2-PAT-1.6 90% Testing
CR 1208694; Excessive Pipe Vibration on U2 Main Steam Line Moisture Trap Drains
CR 1208754, 2-PAT-1.10 Indicator Failed Acceptance Criteria T0181A Vs 2-TI-62-4
CR 1208771, Unit 2 Tripped Due to Fire on Main Bank Transformer
CR 1208805, One or More Heater Reliefs Lifter and Failed to Seat During Plant Transient
CR 1208808, 135-E Annunciator Ground Fault Locked In
CR 1208823, U2 Automatic Turbine and Reactor Trip Due to Fire on MBT 2B
CR 1208875, 2-PAT-8.4 Section 6.2 Steam Flow Transmitter Respins
CR 1208940, WBN NOUE Declaration 8-30-2016
CR 1209770, Evaluate Adequacy of 8/30/16 Plant Trip to Take Credit for Performance of 2-PAT-8.6, Plant Trip
CR 1211015, Review Failure Criteria in 2-PAT-1.6, 100% Performance
CR 1211018, Review Criteria Failure in 2-PAT-1.7, 100% Performance
CR 1211196; Evaluate 2-PAT 1.4, Pipe Vibration Monitoring, Section 6.6.19, 100 % Turbine Trip to Take Credit for 8/30/16 Trip
CR 1212836, M&TE E52444 Digital Thermometere Out of Tolerance
CR 1213232, Request Procedure Change to 2-TI-438 for PAT Program
CR 1217904, 2-PET-301 Failed Review Criteria: CETC Mixing Factors
CR 1217909, 2-PET-301 Failed Review Criteria: HFP Reactivity Balance
CR 1218746, 2-PAT-1.2, Load Swing Test Failed Review Criteria
CR 1218761, PAT 1.3 Large Load Reduction #3 HDT Pumps Trip/Stop
CR 1218746, 2-PAT-1.4 M&TE Beyond Calibration Due Date
CR 1218746, 2-PAT-1.3, Large Load Reduction Test
CR 1218799; 2-PAT-1.4 M&TE Beyond Calibaration Due Date

Miscellaneous

Watts Bar Fire Protection Report, Vol. 1, Rev. 52

SAR Change Request 01-015, Table 14.2-2 - Plant Trip from 100% Power Test Summary, September 16, 2016

WO 118011792; Excessive Vibrations on U2 Main Steam Line Moisture Trap Drains, July 25, 2016

WO118023436; Main Steam Loop1 Header Flow, completed September 2, 2016

WO118023436; SG 3 Main Steam Header Flow Channel 2, completed September 2, 2016

WO118023436; Main Steam Loop 4 Header Flow, completed September 1, 2016

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
CFR	<i>Code of Federal Regulations</i>
CR	Condition Report
FSAR	Final Safety Analysis Report
IIR	integrated inspection report
IMC	inspection manual chapter (NRC)
IP	inspection procedure
LCO	Limiting Condition of Operation
No.	number
NPP	Nuclear Performance Plan
NRC	Nuclear Regulatory Commission
QA	quality assurance
Rev.	revision
TS	Technical Specification
TVA	Tennessee Valley Authority
WBN	Watts Bar Nuclear Plant
WO	work order