



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

August 7, 2015

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

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 1 - ISSUANCE OF AMENDMENT  
REGARDING CYBER SECURITY PLAN (TAC NO. MF6085)

Dear Mr. Shea:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 101 to Facility Operating License No. NPF-90 for the Watts Bar Nuclear Plant, Unit 1. This amendment consists of changes to the license in response to your application dated April 1, 2015.

The amendment revises the Cyber Security Plan (CSP) to clarify the demarcation point between assets under Nuclear Regulatory Commission jurisdiction, and those under the jurisdiction of the Federal Energy Regulatory Commission.

A copy of the safety evaluation is enclosed. The Notice of issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink, reading "Jeanne A. Dion".

Jeanne A. Dion, Project Manager  
Watts Bar Special Projects Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-390

Enclosures:

1. Amendment No. 101 to NPF-90
2. Safety Evaluation

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-390

WATTS BAR NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 101  
License No. NPF-90

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Tennessee Valley Authority (TVA or the licensee) dated April 1, 2015, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

Enclosure

2. Accordingly, the license is amended as indicated in the attachment to this license amendment.

Paragraph 2.C.(2) of Facility Operating License No. NPF-90 is hereby amended to read as follows:

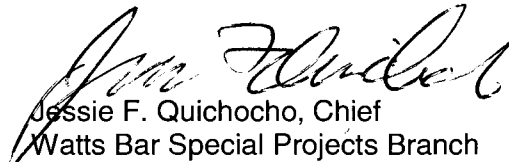
(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 101 and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. TVA shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

Paragraph 2.E.(2) of Facility Operating License NPF-90 is hereby amended to read as follows:

- (2) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The licensee CSP was approved by License Amendment No. 87, as amended by changes approved by License Amendment Nos. 97 and 101.
3. This license amendment is effective as of the date of its issuance, and shall be implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Jessie F. Quichocho, Chief  
Watts Bar Special Projects Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Operating License

Date of Issuance: August 7, 2015

ATTACHMENT TO LICENSE AMENDMENT NO. 101

FACILITY OPERATING LICENSE NO. NPF-90

DOCKET NO. 50-390

Replace the following page of Facility Operating License NPF-90 with the attached revised pages. The revised pages are identified by amendment number and contains a marginal line indicating the area of change.

Facility Operating License

REMOVE

3

5

INSERT

3

5

- (4) TVA, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required, any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis, instrument calibration, or other activity associated with radioactive apparatus or components; and
  - (5) TVA, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect, and is subject to the additional conditions specified or incorporated below.
- (1) Maximum Power Level

TVA is authorized to operate the facility at reactor core power levels not in excess of 3459 megawatts thermal.
  - (2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A as revised through Amendment No. 101 and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. TVA shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.
  - (3) Safety Parameter Display System (SPDS) (Section 18.2 of SER Supplements 5 and 15)

Prior to startup following the first refueling outage, TVA shall accomplish the necessary activities, provide acceptable responses, and implement all proposed corrective actions related to having the Watts Bar Unit 1 SPDS operational.
  - (4) Vehicle Bomb Control Program (Section 13.6.9 of SSER 20)

During the period of the exemption granted in paragraph 2.D.(3) of this license, in implementing the power ascension phase of the approved initial test program, TVA shall not exceed 50% power until the requirements of 10 CFR 73.55(c)(7) and (8) are fully implemented. TVA shall submit a letter under oath or affirmation when the requirements of 73.55(c)(7) and (8) have been fully implemented.

- (2) The facility was previously granted an exemption from the criticality monitoring requirements of 10 CFR 70.24 (see Special Nuclear Material License No. SNM-1861 dated September 5, 1979). The technical justification is contained in Section 9.1 of Supplement 5 to the Safety Evaluation Report, and the staff's environmental assessment was published on April 18, 1985 (50 FR 15516). The facility is hereby exempted from the criticality alarm system provisions of 10 CFR 70.24 so far as this section applies to the storage of fuel assemblies held under this license.
  - (3) The facility requires an exemption from 10 CFR 73.55(c)(10). The justification for this exemption is contained in Section 13.6.9 of Supplement 15 and 20 to the Safety Evaluation Report. The staff's environmental assessment was published on April 25, 1995 (60 FR 20291). Pursuant to 10 CFR 73.5, the facility is exempted from the stated implementation schedule of the surface vehicle bomb rule, and may implement the same as late as February 17, 1996.
  - (4) The facility was previously granted an exemption from certain requirements of 10 CFR 73.55(d)(5) relating to the returning of picture badges upon exit from the protected areas, such that individuals not employed by TVA who are authorized unescorted access into protected areas can take their badges offsite (see 59 FR 66061, December 22, 1994). The granting of this exemption is hereby affirmed.
  - (5) The facility was previously granted an exemption from certain requirements of 10 CFR 50, Appendix E, such that the State of Tennessee, which is within the ingestion exposure pathway emergency planning zone, need not participate in the November 1995 full-participation exercise (see 60 FR 54526, October 24, 1995). The granting of this exemption is hereby affirmed.
- E.
- (1) TVA shall fully implement and maintain in effect all provisions of the Commission approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Watts Bar Nuclear Plant Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 3," submitted by letter dated May 16, 2006.
  - (2) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The licensee CSP was approved by License Amendment No. 87, as amended by changes approved by License Amendment Nos. 97 and 101.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 101 TO FACILITY OPERATING LICENSE NO. NPF-90  
TENNESSEE VALLEY AUTHORITY  
WATTS BAR NUCLEAR PLANT, UNIT 1  
DOCKET NO. 50-390

1.0 INTRODUCTION

By application dated April 1, 2015, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15096A151) the Tennessee Valley Authority (TVA), (the licensee) requested a change to the operating license for Watts Bar Nuclear Plant (WBN), Unit 1. The proposed change would revise the Cyber Security Plan (CSP). The CSP is also applicable to WBN, Unit 2

Enclosures 1 and 2 to the letter dated April 1, 2015, contain sensitive unclassified non-safeguards information and, those enclosures are withheld from public disclosure in accordance with the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 2.390(d)(1).

2.0 REGULATORY EVALUATION

The Nuclear Regulatory Commission (NRC) staff reviewed and approved the licensee's existing CSP by License Amendment No. 87 to operating license NPF-90 for the WBN, Unit 1. The NRC staff also approved the CSP for WBN, Unit 2. The NRC staff considered the following regulatory requirements and guidance in its review of the April 1, 2015 license amendment request to modify the existing WBN CSP.

- As stated in 10 CFR 73.54: "... each licensee currently licensed to operate a nuclear power plant under part 50 of this chapter shall submit, as specified in § 50.4 and § 50.90 of this chapter, a cyber security plan that satisfies the requirements of this section for Commission review and approval." The requirements in 10 CFR 73.54 also state: "Current applicants for an operating license or combined license who have submitted their applications to the Commission prior to the effective date of this rule must amend their applications to include a cyber security plan consistent with this section."
- As stated in 10 CFR 73.55(a)(5): "The Tennessee Valley Authority Watts Bar Nuclear Plant, Unit 2, holding a current construction permit under the provisions of part 50 of this chapter, shall meet the revised requirements in paragraphs (a) through (r) of this section

as applicable to operating nuclear power reactor facilities.” Paragraph 73.55(b)(8) states: “The licensee shall establish, maintain, and implement a cyber security program in accordance with § 73.54.”

- The licensee’s facility operating license includes a license condition E.(2) which requires the licensee to fully implement and maintain in effect all provisions of the Commission-approved CSP, including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p).
- NRC Staff Requirements Memorandum (SRM) COMWCO-10-0001, *Regulation of Cyber Security at Nuclear Power Plants* (ADAMS Accession No. ML102940009), states: “the NRC’s cyber security rule at 10 CFR § 73.54 should be interpreted to include structures, systems, and components in the Balance of Plant that have a nexus to radiological health and safety at NRC-licensed nuclear power plants.”
- NRC SECY-10-0153 *Cyber Security – Implementation of the Commission’s Determination of Systems and Equipment Within the Scope of Title 10 of the Code of Federal Regulations, Section 73.54* (ADAMS Accession No. ML103000016) states: “The staff determined that SSCs [systems, structures, and components] in the BOP [balance of plant] that have a nexus to radiological health and safety are those that could directly or indirectly affect reactivity of an NPP, and are therefore within the scope of important-to-safety functions described in 10 CFR 73.54(a)(1). The staff also determined that SSCs in the BOP are under licensee control and could be in the protected area or in the owner controlled area. The electrical distribution equipment out to the first inter-tie with the offsite distribution system would be subject to the NRC’s cyber security regulations.”

### 3.0 TECHNICAL EVALUATION

#### 3.1 Licensee’s Requested Change

Amendment number 87 to operating license NPF-90 for WBN, Unit 1 was issued on August 30, 2011 (ADAMS Accession No. ML11200A229). The NRC staff approved the licensee’s CSP, as discussed in the safety evaluation issued with that amendment. The CSP had been submitted by the licensee based on a template prepared by the Nuclear Energy Institute (NEI), which the NRC staff found acceptable for licensees to use to develop their CSPs (ADAMS Accession No. ML101190371). In the licensee’s current amendment request, TVA requested approval for revising the CSP to include site specific details about electrical components out to the first inter-tie with the “offsite distribution system” (as described in SECY-10-0153). Inclusion of these components in the scope of the CSP is in accordance with the Commission’s policy in SRM-CMWCO-10-0001.

#### 3.2 NRC Staff Evaluation



The NRC and the Federal Energy Regulatory Commission (FERC) previously identified an issue associated with the demarcation point (Bright-Line) between critical digital assets under NRC jurisdiction and those under FERC jurisdiction.

COMWCO-10-001 states that, “[t]he Commission has determined as a matter of policy that the NRC’s cyber security rule at 10 CFR § 73.54 should be interpreted to include structures, systems, and components (SSC) in the Balance of Plant (BOP) that have a nexus to radiological health and safety at NRC-licensed nuclear power plants.” In SECY-10-0153, the staff informed the Commission of its determination that “SSCs in the BOP that have a nexus to radiological health and safety are those that could directly or indirectly affect reactivity of[a nuclear power plant].” On this basis, these SSCs were determined to be “within the scope of important-to-safety functions described in 10 CFR 73.54(a)(1),” and as such, they are required to be included in the licensee’s CSP.

WBN submitted a license amendment to revise their CSP. The licensee states that the proposed amendment would revise the CSP to include site specific details about electrical components out to the first inter-tie with the “offsite distribution system.”

The NRC staff has evaluated the licensee’s amendment request using the regulatory requirements and the guidance as described in Section 2.0 of this safety evaluation. The NRC staff reviewed the revised portion of the WBN CSP including text describing the physical arrangement and component locations and schematic drawings. Based on the foregoing, the NRC staff determined that the site specific details added to the CSP address the Commission’s policy in COMWCO-10-0001 and conform to the information in SECY-10-0153. These items are within the BOP and have a nexus to radiological health and safety. The NRC staff has further determined that these items constitute digital assets that could either directly or indirectly affect reactivity of the WBN, Unit 1, and are thus properly subject to the regulations in 10 CFR 73.54.

### 3.3 Staff Conclusion

The NRC staff concludes that TVA’s amendment request is reasonable because the licensee’s proposed revision to the CSP adds site specific information indicating that the digital assets to be included in the plan fall within the scope of the NRC’s jurisdiction and are therefore subject to the requirements of 10 CFR 73.54 and 10 CFR 73.55(b)(8). Accordingly, the NRC staff has determined that the digital assets, discussed in the license amendment request, must be included in the licensee’s CSP.

### 3.4 Summary

Based on its review of the licensee’s submission, the NRC staff concludes that the licensee’s revised CSP is consistent with Commission policy and meets the requirements of 10 CFR 73.54. Therefore, the NRC staff finds the proposed change acceptable.

## 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the appropriate Tennessee State official was notified of the proposed issuance of the amendment. The State official had no comments.

#### 5.0 ENVIRONMENTAL CONSIDERATION

This amendment relates solely to safeguards matters and does not involve any significant construction impacts. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(12). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

#### 8.0 CONCLUSION

The NRC staff reviewed the licensee's application and has concluded that (1) there is a reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's Regulations and (3) the issuance of the amendment will not be inimical to the common defense and security or the health and safety of the public.

Contributors: J. Rycyna, NSIR

Date: August 7, 2015

August 7, 2015

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

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 1 - ISSUANCE OF AMENDMENT  
REGARDING CYBER SECURITY PLAN (TAC NO. MF6085)

Dear Mr. Shea:

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A copy of the safety evaluation is enclosed. The Notice of issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,  
**/RA/**

Jeanne A. Dion, Project Manager  
Watts Bar Special Projects Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-390

Enclosures:

1. Amendment No. 101 to NPF-90
2. Safety Evaluation

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ADAMS Accession No.: **ML15177A334**

**\*by email**

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DATE	07/06/15	07/6/15	06/10/15
OFFICE	OGC - NLO	NRR/DORL/LPWB/BC	NRR/DORL/LPWB/PM
NAME	DLenahan	JQuichocho	JDion
DATE	07/29/2015	8/4/2015	8/7/2015

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