

**POLICY ISSUE**  
**(Notation Vote)**

May 4, 2015

SECY-15-0068

FOR: The Commissioners

FROM: Mark A. Satorius  
Executive Director for Operations

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 2—REVIEW STATUS AND  
AUTHORITY OF THE DIRECTOR OF THE OFFICE OF NUCLEAR  
REACTOR REGULATION FOR OPERATING LICENSE ISSUANCE

PURPOSE:

The purpose of this paper is to inform the Commission of the status of activities at Watts Bar Nuclear Plant (WBN) Unit 2 since the October 30, 2014, Commission meeting and to request Commission approval for the Director of the Office of Nuclear Reactor Regulation (NRR) to issue a full-power operating license (OL), that is effective upon issuance, upon finding that the applicable regulatory requirements have been met.

BACKGROUND:

In 2007, the Tennessee Valley Authority (TVA) informed the U.S. Nuclear Regulatory Commission (NRC) of its plan to complete construction activities at WBN Unit 2 under the existing construction permit. In staff requirements memorandum (SRM) SECY-07-0096, "Possible Reactivation of Construction and Licensing Activities for the Watts Bar Nuclear Plant, Unit 2" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML071220492), the Commission directed the NRC staff to employ the current licensing basis for WBN Unit 1 as the reference basis for the licensing review of WBN Unit 2.

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In 2008 the NRC staff developed a licensing process, documented in Office Instruction LIC-110, "Watts Bar Unit 2 License Application Review," that describes the overall approach to perform the OL review in accordance with Commission direction in SRM-SECY-07-0096. The licensing approach in LIC-110 describes how the NRC staff should conduct the review to meet all of the regulatory requirements, including the findings needed to issue an OL as listed in Title 10 of the *Code of Federal Regulations* (10 CFR) 50.57, "Issuance of operating license."

In 2008 the NRC staff developed Inspection Manual Chapter (IMC) 2517, "Watts Bar Unit 2 Construction Inspection Program," to provide overall inspection program direction specifically for WBN Unit 2. If WBN Unit 2 is licensed, the inspection program of IMC 2517 will remain in effect after the OL is issued and until commercial operation begins. In 2009 the NRC established the WBN Unit 2 Reactivation Assessment Group (WRAG), led by division-level management from Region II and NRR. The WRAG has the responsibility to inform the Director of NRR and the Region II Regional Administrator when the activities identified in LIC-110 and the inspections required in IMC 2517 to support an OL decision have been completed. To identify any new safety concerns from the NRC staff, the WRAG developed a process by which the NRC staff members involved in the project can bring forth potential safety concerns for review. These processes will provide sufficient information to enable the Director of NRR to make the findings in 10 CFR 50.57 and to include in any operating license appropriate provisions with respect to any uncompleted items of construction.

For allegations the NRC staff will continue to follow the processes in Management Directive and Handbook 8.8, "Management of Allegations," as updated by Allegation Guidance Memorandum 2011-001, "Late-Filed Allegations," (ADAMS Accession No. ML11227A241), that modifies Handbook Section II.P "Handling Allegations That May Impact Licensing, Certification, or Operational Decisions or Allegations That Are Filed Late."

Currently, the NRC inspection and licensing activities will support an OL decision in July 2015. TVA could load fuel immediately after receiving an OL that is effective upon issuance, at which point startup testing and associated NRC inspections would 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.

## DISCUSSION:

### Recently Completed Actions

Since 2009 the NRC staff has provided the Commission with updates of the licensing activities for WBN Unit 2 (see Enclosure 1, "List of SECY Information Papers on Watts Bar Nuclear Plant, Unit 2"). In the most recent paper, SECY-14-0102, the NRC staff informed the Commission of the ongoing application review and inspections and presented a summary of the WBN regulatory history. During a Commission meeting on October 30, 2014, the NRC staff reported on the status of the WBN Unit 2 OL application review. During this meeting, the NRC staff described that once the application review and construction inspections are near completion,

the NRC staff would request the authority to issue a full-power OL.<sup>1</sup> Once vested with this authority, the NRC staff would still need to make the requisite regulatory findings before issuing any license.

The NRC staff also presented its review of selected topics to the Advisory Committee for Reactor Safeguards (ACRS) Plant Operations and Fire Protection Subcommittee on January 13, 2015 and to the ACRS Full Committee on February 5, 2015. The ACRS documented its recommendation to the Commission, endorsing the approval of issuing an OL to WBN Unit 2, by letter dated February 12, 2015 (ADAMS Accession No. ML15039A005). The ACRS concluded that there is reasonable assurance that WBN Unit 2 can operate without undue risk to the health and safety of the public and that the OL should be approved after completion of remaining inspections and licensing open items.

On March 26, 2015, the Director of NRR, the Region II Regional Administrator, and other senior management from NRR and Region II visited the site to assess the status of construction activities and held a public meeting near the WBN site with TVA representatives to discuss the WBN Unit 2 project (ADAMS Accession No. ML15104A298). During this meeting, TVA representatives described their plans to support the transition from construction of Unit 2 to dual unit operations at WBN. The NRC staff and TVA representatives discussed the status and schedule for completing the remaining licensing and inspection items. Representatives from TVA presented their assessment for the plant's readiness for operation and informed the NRC that their fuel load date is dependent on a large number of construction and testing activities. At the meeting, TVA stated that while their fuel load date is currently scheduled for July 2015, it could potentially change as work is completed.

A new inspection procedure, 94302 (IP 94302), "Status of Watts Bar Unit 2 Readiness for an Operating License," was recently issued to update the inspections and activities listed in IP 94300, "Status of Plant Readiness for an Operating License," to reflect those items specific to WBN Unit 2. IP 94302 provides updated requirements for Region II to report the status of WBN Unit 2 readiness for an OL to the Director of NRR. The process outlined in IP 94302 takes into consideration the role of the WRAG in coordinating efforts between NRR and Region II and to provide the information needed to make the findings in 10 CFR 50.57 required for the NRC to issue an OL.

TVA informed the NRC that it was in compliance with the requirements of the Fukushima Order EA-12-051 regarding reliable spent fuel pool instrumentation by letters dated October 29 and December 19, 2014 (ADAMS Accession Nos. ML14303A561 and ML15002A202, respectively). On March 12, 2015, TVA informed the NRC that it was in compliance with the Fukushima Order EA-12-049 regarding mitigating strategies for beyond-design-basis events (ADAMS Accession No. ML15072A116). The NRC staff reviewed TVA's strategies for the WBN site and issued a safety evaluation on March 27, 2015, describing that the integrated plans at the WBN site, if implemented appropriately, would adequately address the requirements of both Fukushima Orders, EA-12-049 and EA-12-051 (ADAMS Accession No. ML15078A193). On

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<sup>1</sup> In its Statement of Policy on Issuance of Uncontested Fuel Loading and Low Power Testing Operating Licenses, 46 FR 47906, Sept. 30, 1981, the Commission announced that in uncontested cases, full power operation will be authorized by the Commission, and the Director of NRR shall authorize fuel loading and low power testing without the need to obtain prior Commission approval.

March 30, 2015, the NRC staff began verifying the implementation of TVA's integrated plans through inspections; the inspection results will be documented in future inspection reports.

### Licensing Activities

The NRC staff is nearing completion of its safety review of the OL application for WBN Unit 2. The NRC staff documented the closure of several open items in Supplemental Safety Evaluation Report, dated January 31, 2015 (ADAMS Accession No. ML15033A041). The following are the significant items remaining to complete the NRC staff's safety review:

- Evaluation of essential raw cooling water performance when shared between units;
- Evaluation of TVA's as-built fire protection report (submittal expected in May 2015); and
- Evaluation of TVA's Cyber Security Plan implementation schedule.

The NRC staff expects to complete its review and document the significant licensing items above in the Site Safety Evaluation Report (SSER) 28. The NRC staff will document any final remaining licensing reviews in SSER 29 that will be issued concurrently with the decision on the application. If issued, the OL will include appropriate provisions with respect to any uncompleted items of construction and such limitations or conditions as are required to assure that operation during the period of the completion of such items will not endanger public health and safety.

### Inspection Activities

Region II inspection staff continues to perform construction, pre-operational testing, and operational preparedness inspections. Inspection activities required to support an OL decision are well defined and good progress has been made in completing these inspections. Ongoing construction inspection activities for WBN Unit 2 are captured in the Inspection Planning and Scheduling (IP&S) database. The IP&S database reflects the customized inspection program that the NRC staff developed for WBN Unit 2. It contains a variety of construction-related inspection items such as the inspection procedures listed in IMC 2512, "Light Water Reactor Inspection Program – Construction Phase," corrective action programs and special programs TVA developed to address historical quality assurance problems, generic communications, historical inspection open items, allegations, and refurbishment activities. As of March 31, 2015, inspections for 471 of 553 IP&S items have been completed and closed. Inspections for the majority of the remaining 82 open IP&S items have been scheduled and depend on TVA completing related construction activities before the inspection activities can be conducted.

Pre-operational testing inspections are being performed as corresponding testing activities are completed by TVA. As allowed by IMC 2513, "Light Water Reactor Inspection Program—Preoperational Testing and Operational Preparedness Phase," the NRC staff has selected "smart samples" of preoperational tests for inspection at WBN Unit 2. The NRC staff is closely coordinating its inspection activities with TVA's testing schedule to ensure that remaining required inspections are performed. Operational preparedness inspections have also been selected, planned, and implemented using the guidance in IMC 2513. As of March 31, 2015, 22 of 36 operational preparedness inspections have been completed.

### Major Milestones Remaining

Region II is preparing for an operational readiness assessment team (ORAT) inspection of WBN Unit 2 to provide an independent assessment of Unit 2's operational readiness. The ORAT inspection will be performed once a sufficient sample of completed safety related systems and supporting activities are available for ORAT assessment.

The Region II Administrator will issue a memorandum to the Director of NRR on the status of construction inspection activities as described in IP 94302. The WRAG recommendation resulting from its oversight and assessment of open IP&S items, other inspection activities, TVA's substantially complete letter, and any open allegations will be key contributors for the Region II Administrator to consider in issuing the memorandum. The memorandum will provide significant inspection insights, a listing of inspection items that remain open, and the Region II Administrator's recommendations regarding issuance of an OL.

To determine if the findings in 10 CFR 50.57 may be made, the Director of NRR will consider the following items before rendering a decision on the WBN Unit 2 OL application:

- Region II's IP 94302 memorandum stating the readiness of the facility to receive a full-power OL;
- ACRS's recommendation letter;
- Closure of all licensing open items as documented in SSER 29 (issued concurrently with the OL); and
- WRAG recommendation resulting from its oversight of licensing activities to issue the OL.

Enclosure 2 provides a pictorial depiction of future activities and milestones, along with the expected schedule for accomplishment. The representation of these activities and milestones should not be taken as any predisposition of findings or conclusions by the NRC staff.

### Pending Request For Hearings

On February 5, 2015, Southern Alliance for Clean Energy (SACE) filed a motion to reopen the record along with a new contention concerning TVA's December 30, 2014, Expedited Seismic Evaluation Process Report. The Atomic Safety and Licensing Board denied the motion to reopen the record on April 22, 2015. The Board's order provided that a petition to review may be filed within 25 days.

On April 21, 2015, SACE filed a hearing request and petition to intervene, along with a motion to reopen the record to admit a "place-holder" contention challenging the NRC staff's reliance on the Continued Spent Fuel Storage Rule and Continued Spent Fuel Storage Generic Environmental Impact Statement as part of the licensing proceeding for WBN Unit 2. These requests are currently pending before the Commission.<sup>2</sup>

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<sup>2</sup> Also of note is that, in filings to the Federal Appeals Court for the District of Columbia Circuit, SACE and other groups petitioned for review of the NRC's Continued Storage Rule, the associated Generic Environmental Impact Statement (GEIS), and the Commission's related order CLI-14-08, in which, among other things, the Commission directed the Board to reject SACE's pending contention on the issue of temporary storage and ultimate disposal of nuclear waste. The petitioners ask the court to review and vacate the continued storage rule and the GEIS.

Notification of this SECY will be served on the participants in all of these proceedings with pending requests for hearing.

Conclusion

WBN Unit 2 construction and testing activities are drawing to a close and the NRC's construction inspection and licensing work is nearly complete. Therefore, in the near future, the agency will be in a position to make a decision on the request from TVA for an OL for WBN Unit 2.

Historically, a low-power OL was issued to allow fuel loading and some low-power physics testing. After the applicant had demonstrated its ability to operate the facility within the design and licensing basis, a full-power OL was granted. However, this two-step process is not required by the regulations, nor has the applicant requested a low-power OL. Given TVA has operated WBN Unit 1 for almost 20 years; that, per SRM SECY-07-0096, WBN Units 1 and 2 share a similar design and licensing basis; and that a number of systems are shared between the two units, the NRC staff believes that a full-power OL is appropriate. As noted previously, under the Commission's policy statement for an uncontested license, full-power operation will be authorized by the Commission. The NRC staff is seeking that authority to issue a full-power OL, provided the requisite findings are made, and to have that license be effective upon issuance. In contested cases, the regulations of 10 CFR Part 2 will control and may require the Director to issue, deny, or appropriately condition the license in accordance with the presiding officer's initial decision once that decision becomes effective.

RECOMMENDATION:

The NRC staff recommends that the Commission grant the Director of NRR the authority to issue a full-power OL, which is effective upon issuance, to TVA for WBN Unit 2 if the Director of NRR determines that the applicable findings may be made.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection.

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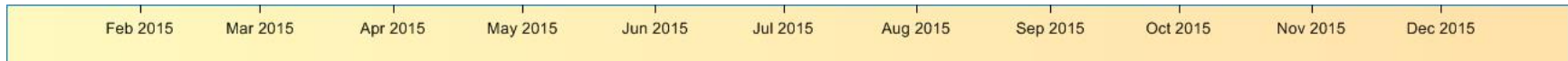
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Enclosures:

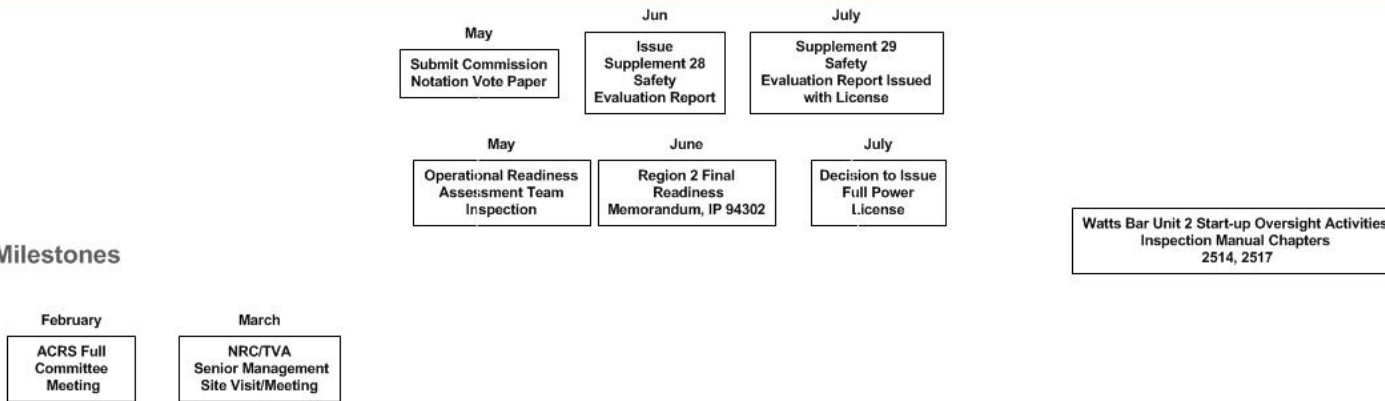
1. List of SECY Information Papers on Watts Bar Nuclear Plant, Unit 2
2. WBN Unit 2 Licensing Timeline

## **List of SECY Information Papers on Watts Bar Nuclear Plant, Unit 2**

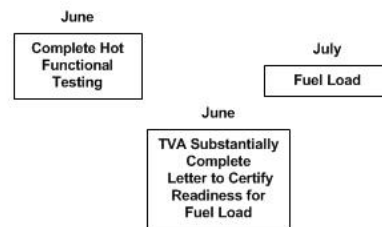
- [SECY-09-0012, "Status of Reactivation of Construction and Licensing Activities for the Watts Bar Nuclear Plant, Unit 2"](#)
- [SECY-10-0015, "Second Annual Status of Reactivation of Construction and Licensing for the Watts Bar Nuclear Plant, Unit 2"](#)
- [SECY-10-0166, "Third Report on Status of Licensing for the Watts Bar Nuclear Plant, Unit 2"](#)
- [SECY-11-0102, "Fourth Report on Status of Reactivation of Construction and Licensing for the Watts Bar Nuclear Plant, Unit 2"](#)
- [SECY-12-0020, "Fifth Report on the Status of Reactivation of Construction and Licensing for Watts Bar Nuclear Plant, Unit 2"](#)
- [SECY-12-0103, "Sixth Report on the Status of Reactivation of Construction and Licensing for Watts Bar Nuclear Plant, Unit 2"](#)
- [SECY-14-0102, "Construction and Licensing for Watts Bar Nuclear Plant, Unit 2"](#)



**NRC Milestones**



**TVA Milestones**



**Watts Bar Nuclear Plant Unit 2 Licensing Timeline**  
**U.S. Nuclear Regulatory Commission**  
**Office of Nuclear Reactor Regulation**

*As of April 16, 2015*  
*Dates are subject to change*