

# **POLICY ISSUE INFORMATION**

February 1, 2012

SECY-12-0020

FOR: The Commissioners

FROM: Eric J. Leeds, Director  
Office of Nuclear Reactor Regulation

SUBJECT: FIFTH REPORT ON THE STATUS OF REACTIVATION OF  
CONSTRUCTION AND LICENSING FOR WATTS BAR NUCLEAR  
PLANT, UNIT 2

PURPOSE:

This paper is the fifth status report informing the Commission about the U.S. Nuclear Regulatory Commission (NRC) staff's activities, accomplishments, and challenges related to the reactivation of construction, licensing, and inspection for Watts Bar Nuclear Plant (WBN), Unit 2. This paper updates the status information in SECY-11-0102, "Fourth Report on the Status of Reactivation of Construction and Licensing for Watts Bar Nuclear Plant, Unit 2," dated July 28, 2011. This paper does not address any new commitments or resource implications.

SUMMARY:

The WBN site has two Westinghouse-designed pressurized-water reactors. Unit 1 has been in operation since the NRC issued a full-power license in 1996. On March 4, 2009, the Tennessee Valley Authority (TVA) submitted an updated operating license (OL) application for the unfinished WBN Unit 2. The NRC staff has completed a major portion of its safety and environmental review of the OL application. Dedicated resident inspectors (RIs), with assistance from other regional inspectors, are inspecting TVA's construction activities. The staff has met periodically with the Advisory Committee on Reactor Safeguards (ACRS) Subcommittee on Plant Operations and Fire Protection to discuss the results of the staff's ongoing review. In addition, the OL application proceeding has been contested, but the Atomic Safety and Licensing Board (ASLB) panel has not yet held a hearing. TVA originally expected to complete Unit 2 by April 2012, but it recently announced that, because of several technical

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and scheduling challenges, completion will be delayed until sometime in 2013. In this regard, TVA is conducting an "estimate to completion," which it will be presenting to its Board of Directors in late April 2012. Upon acceptance by its Board, TVA will inform the NRC about any additional revisions to the project schedule.

The Watts Bar Unit 2 Reactivation Assessment Group meets periodically to provide management oversight and direction for the staff's review of the OL application and inspection of construction activities.

The sections below discuss the status of the staff's review, including inspection activities and critical issues.

### DISCUSSION:

As discussed in the fourth status report, NUREG-0847, "Safety Evaluation Report Related to the Operation of Watts Bar Nuclear Plant, Unit 1 and 2," Supplemental Safety Evaluation Report 21 (SSER 21), issued February 2009, identifies open items that the applicant must resolve before the issuance of an OL. Since then, the staff has made significant progress in its review of these issues and documented the results in SSER 22 (issued February 2010); SSER 23 (issued July 2011); SSER 24 (issued September 2011); and SSER 25 (issued December 2011). The staff continues to review the remaining open and confirmatory items for closure.

Enclosure 1 provides a statistical summary of the major work activities associated with the licensing of WBN Unit 2. In addition, it describes the relative contribution of the various causes for delays in accomplishing work activities as originally planned. NRC management has used this information to identify actions that could be taken to minimize further impacts to the schedule.

### Licensing Activities

The following information summarizes the NRC staff's licensing activities:

- As of the completion of SSER 25, the review of the final safety analysis report (FSAR) topics is 95 percent complete. SSER 25 documents the status of the staff's review and identifies some open items related to FSAR topics that will require confirmation, inspection verification, receipt of final technical specification information, or submission of additional information for the staff's evaluation. TVA is addressing the remaining open issues as the construction progresses.
- With regard to post-1995 generic communications (i.e., bulletins, generic letters, or orders), the staff has completed the review of TVA's responses to all but two generic communications.
- The staff is addressing its review of responses to pre-1995 generic communications, including Three Mile Island Action Plan items, as part of the FSAR review. This effort is still in progress and includes evaluation of certain changes to the proposed Technical Specifications.

- TVA established its nuclear performance plan, which included corrective action programs (CAPs), and special programs (SPs), to resolve certain concerns about the quality of construction at WBN in the 1970s and early 1980s. The staff completed its review of TVA's approach for implementing the CAPs and SPs at WBN Unit 2. The Region II inspection of TVA's implementation of CAPs and SPs is still in progress.
- As part of its updated OL application, TVA submitted a supplement to its final environmental impact statement for the completion and operation of WBN Unit 2. The staff completed its review and published draft Supplement 2 of the final environmental statement for public comment in October 2011. On December 8, 2011, a public meeting (two sessions) was held between the NRC and interested members of the public at the Magnuson Hotel, in Sweetwater, Tennessee, in order to obtain comments on the document. A group of concerned citizens made short presentations, asked questions, and provided comments with several individuals requesting that the NRC grant an extension to the 45-day comment period. A revised comment period was subsequently extended by staff until January 24, 2012. The staff still expects to issue the final supplement by May 2012.
- On October 19, 2011, the NRC and the Federal Emergency Management Agency (FEMA) evaluated TVA's WBN Unit 1 emergency preparedness exercise. The NRC inspection team examined activities as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of the license. The inspectors also reviewed selected procedures and records, observed activities, and interviewed personnel. Based on the results of this inspection, no findings were identified. FEMA's evaluation of the offsite portion of the response found no areas requiring corrective actions. FEMA's exercise report is expected by February 2012.
- By letter dated June 10, 2011, TVA updated its cyber-security implementation plan and schedule, which takes into account common systems that are shared between WBN Units 1 and 2. Based on the current schedule provided by TVA, the staff plans to conduct a cyber-security inspection at WBN Unit 2 in late fall of 2012.
- On June 14, 2011, the Office of Nuclear Material Safety and Safeguards issued a license to TVA under 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material," to receive, possess, inspect, and store special nuclear material in the form of fresh nuclear fuel assemblies at WBN Unit 2. As of August 2011, TVA is in receipt of all 193 fuel assemblies that will comprise the complete core for WBN Unit 2.
- As part of its statutory responsibilities, ACRS reviews and reports on applications for construction permits and facility OLs and advises the Commission on the hazards of proposed reactor facilities. The staff has met periodically with the ACRS Subcommittee on Plant Operations and Fire Protection to discuss significant topics as the staff completes its reviews. Recent meetings with the ACRS subcommittee took place on October 5 and December 15, 2011; with a first of two future ACRS Full Committee meetings tentatively scheduled for the second quarter of calendar year 2012.

- As directed by the Commission, the staff published on May 1, 2009, in the *Federal Register* (FR) a “Notice of Receipt of Update to Application for Facility Operating License and Notice of Opportunity for Hearing and Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information and Safeguards Information for Contention Preparation” (74 FR 20350). In response to the FR notice, the NRC received a petition to intervene and a request for hearing filed jointly by five organizations. On November 19, 2009, the ASLB issued its memorandum and order that granted the request for hearing on behalf of Southern Alliance for Clean Energy. The proceeding is ongoing.

### Construction Inspection Activities

#### *Construction Inspection Resources and Planning Activities*

Region II construction inspections for WBN Unit 2 continued at the same pace for the second half of 2011. Four dedicated WBN Unit 2 construction RIs, many construction inspectors from the Region II office, and a new team leader who was recently added to the WBN Unit 2 inspection branch performed the inspections. The construction resident staff continues to comprise one senior RI and one RI stationed at the site, and two long-term rotational assignment RIs. NRC Region II plans to continue to use this strategy until the completion of the construction inspection program. The team leader is focused on planning and scheduling inspections of system and component preoperational testing as well as inspections of management controls and procedures as specified by Inspection Manual Chapter 2513, “Light Water Reactor Inspection Program-Preoperational Testing and Operational Preparedness Phase.” The planning effort includes estimating the required inspection resources, identifying options to obtain the inspection resources, and using TVA’s construction schedule to assist in scheduling NRC preoperational testing inspections.

The Region II construction inspection management team has placed increased emphasis on capturing upcoming WBN Unit 2 inspection items in the integrated construction inspection plan used by the Region II Center for Construction Inspection.

Based on continuing planning and resource estimation for the remaining open WBN construction inspections, Region II has sufficient inspection resources (full-time equivalent and contract support) to accomplish inspection of the construction phase of WBN Unit 2. Region II resource needs for inspection of activities beyond the construction phase will be influenced by applicant performance and may vary from the current level.

#### *Communication with Stakeholders*

Region II has begun to hold periodic (approximately quarterly) Category 1 public meetings with TVA in the vicinity of WBN Unit 2. At these meetings, TVA typically provides the status of its construction activities and the NRC describes the status of the construction inspection program at WBN Unit 2. Technical topics related to inspections are also discussed as appropriate. The last meeting took place on November 8, 2011, in Athens, Tennessee. These meetings have been attended by a variety of external stakeholders.

*Construction Inspection Program Completion Progress*

The NRC continues to use the Region II Inspection Planning and Scheduling (IP&S) database to track the completion of construction inspection items for WBN Unit 2. As of December 2011, approximately 149 of the 532 items in the IP&S database have been closed.

Schedule Risks

Although the staff is continuing to advance the licensing review, the following previously identified challenges still pose schedule concerns:

- In a letter dated August 15, 2011, TVA provided its revised Unit 1 and Unit 2 as designed Fire Protection Plan. The NRC staff reviewed this version and generated several requests for additional information. On October 24–27, 2011, the staff performed a fire protection audit at the WBN Unit 2 site and resolved many of the open items. On November 30, 2011, TVA submitted a revision to the WBN Units 1 and 2 as designed Fire Protection Plan. As with the revision previously submitted in August 2011, the report incorporates TVA's responses on staff comments provided in a number of requests for additional information during the past year. The staff while reviewing the updated plan found they had additional questions and made them known to TVA during a public meeting on December 21, 2011. TVA's resolution of these questions is due in an updated version of the plan in late February 2012. This update is essential to the completion of the staff's evaluation of TVA's Fire Protection Program, which will be documented in the next supplement to the SER. Pending satisfactory completion of the review, the staff currently plans to present its findings to the ACRS subcommittee in June 2012.
- In accordance with Commission direction, on November 7, 2011, the Japan Lessons-Learned Project Directorate was formed to begin the process of implementing the lessons-learned from Fukushima to the U.S. nuclear reactor fleet. As this process continues, the impact on the OL for WBN Unit 2 will be evaluated and the schedule will be adjusted if required.
- The staff's evaluation of probabilistic seismic hazard analyses for nuclear facilities is incomplete pending resolution of Generic Safety Issue 199, "Implications of Seismic Hazard for Nuclear Power Plants in Central and Eastern United States," for WBN Unit 2. With this issue open for all operating reactors in the United States the resolution for WBN Unit 2 will be dependent on the resolution for WBN Unit 1.
- The staff's review of TVA's revised hydrologic engineering analysis and plant specific results for WBN are still in progress.

Emergent issues that may arise between now and issuing the OL for WBN Unit 2 will be evaluated individually by the staff, but should be resolved for WBN Unit 2 consistent with other operating reactors and commensurate with the safety significance of the issues.

Future Actions and Milestones

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

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections.

***/RA/ (Bruce A Boger for)***

Eric J. Leeds, Director  
Office of Nuclear Reactor Regulation

Enclosures:

1. [Statistical Status Report](#)
2. [Future Activities](#)

## Statistical Status Report

(Status as of Issuance of SSER 25 in December 2011)

<u>Project Milestones:</u>	<u>Total Items Identified</u>	<u>Items Completed to Date</u>	<u>Completed vs. Total</u>
FSAR Review Sections	309	307	99%
Corrective Actions Program	29	29	100%
Generic Communications*	57	55	96%
TMI Action Items	42	42	100%
Open Items Requiring Confirmation	71	31	44%

<u>Special Programs:</u>	<u>Total Items Identified</u>	<u>Items Completed to Date</u>	<u>Completed vs. Total</u>
Emergency Preparedness	1	1	100%
Cyber Security Plan	1	1	100%
IPE/IPEEE	2	2	100%
Financial Qualifications	1	1	100%
Anti-Trust	1	1	100%

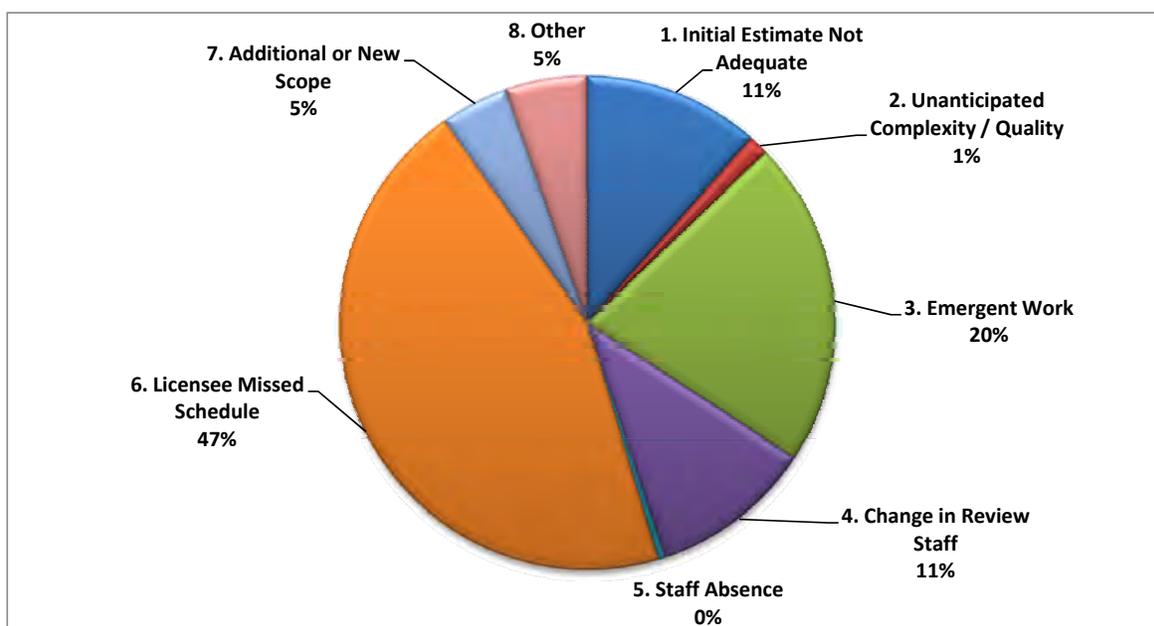
<u>Other Licenses:</u>	<u>Total Items Identified</u>	<u>Items Completed to Date</u>	<u>Completed vs. Total</u>
Part 30/40 Byproduct and Source Material	1	1	100%
Part 70 Special Nuclear Material	1	1	100%

### Region II Inspection Program:

Inspection Items In Progress

**Notes:** \* GL-2004-02 and BL 2011-01 remain open.

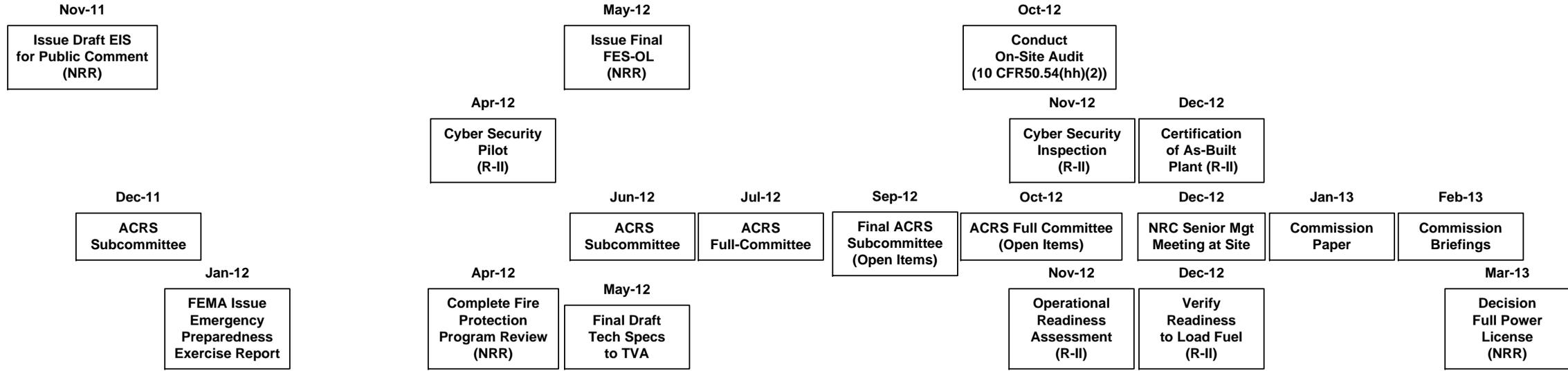
### Past Project Influences On Today's Schedule





2011

2013



**PHASE II**

**PHASE III**

**PHASE IV**

**WATTS BAR UNIT 2 REACTIVATION PROJECT PLAN**  
**U.S. Nuclear Regulatory Commission**  
**Office of Nuclear Reactor Regulation**

*As of **January 18, 2012***  
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