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

August 28, 2014

APPLICANT: Tennessee Valley Authority

FACILITY: Watts Bar Nuclear Power Plant, Unit 2

SUBJECT: SUMMARY OF JULY 22, 2014, MEETING WITH TENNESSEE VALLEY AUTHORITY REGARDING THE WATTS BAR NUCLEAR PLANT, UNIT 2 OPERATING LICENSE APPLICATION

On July 22, 2014, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of the Tennessee Valley Authority (TVA) at the NRC Headquarters 11555 Rockville Pike, Rockville, Maryland. The purpose of this meeting was for TVA to present the status of construction and licensing efforts for the Watts Bar Nuclear Plant (WBN), Unit 2 project. The meeting notice and agenda, dated July 16, 2014, is available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML14167A244. A list of attendees is enclosed.

TVA made a presentation to the NRC staff, which is included as an enclosure to this summary. This presentation covered the following topics: WBN Unit 2 construction status; the overall project timeline; project risks; the status of licensing related documents; hydrology; TVA's Fukushima Response as it relates to WBN Unit 2; Fire Protection at WBN Unit 2; TVA's strategy to address questions on Title 10 of the *Code of Federal Regulations* Appendix A to Part 50 General Design Criterion 5; the substantially complete process and related notifications; as well as public outreach. Also during their presentation TVA stated that while the schedule identifies license issuance and fuel load in June of 2015, TVA's more aggressive schedule had originally planned for the license to be issued and fuel to be loaded in February of 2015. However due to various delays in construction and other licensing issues TVA now believes a date of March 29, 2015 is more appropriate for their internal schedule. TVA noted that a fuel load date of June 2015 would be needed to begin commercial operation by December 2015, which is the date that TVA has commited to the TVA board of directors.

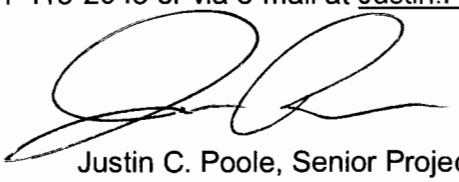
Throughout TVA's presentation the staff asked clarifying questions, especially in regards to the issue of hydrology. The staff made it clear to TVA that at this point in the process of the project, timeliness in submittals, and completeness of submittals is of the utmost importance to ensure the NRC can make as efficient a review as possible. The NRC made it clear that their review will take as much time as necessary to ensure the safety of the public.

No regulatory decisions were made at this meeting.

A few members of the public were in attendance at this meeting and asked several questions of the NRC. A few of the questions were related to hydrology issues at the Watts Bar site. Members of the public expressed concern at TVA identifying this issue as a moderate risk despite requiring substantial changes to be made by the end of August, TVA voluntarily

responded to these comments by stating that the schedule risks may change but they are doing their best to meet the current dates. Another question from the public related to how the issues related to Fukushima were resolved at the WBN Unit 2 site and a better understanding of the staff's priority list associated with seismic review that was released in May 2014 (ML14111A147). The staff explained that the current hydrology issues were for design basis type events, whereas Fukushima is recognized as a beyond design basis event, additionally the staff clarified that the priority list had to do with resource availability and staff availability, rather than with risks associated with seismic events. For these reasons WBN Unit 2 is following similar implementation milestones related to Fuksuhima as operating plants in accordance with the Orders that were issued. Additional questions were asked about how TVA planned on addressing any effects from the staff's rulemaking effort on Waste Confidence and fuel storage in general. TVA voluntarily responded that the rulemaking is out of their control, and as such they can only react to the final result. Finally, some additional concerns were raised by a member of the public on dam safety referencing the Kingston Coal Ash dam failure, which occurred even when the dam was constructed and inspected according to certain standards.

Please direct any inquiries to me at 301-415-2048 or via e-mail at Justin.Poole@nrc.gov



Justin C. Poole, Senior Project Manager
Watts Bar Special Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-391

Enclosures:
1. List of Attendees
2. TVA Handouts

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MEETING ATTENDANCE LIST

Applicant: Tennessee Valley Authority **Plant:** Watts Bar Nuclear Plant, Unit 2

Subject: Watts Bar Unit 2 Project Status **Date:** July 22, 2014

Location: U.S. Nuclear Regulatory Commission Headquarters, Room O-4B6 **Time:** 2:00 p.m. – 4:00 p.m.

NAME	TITLE	ORGANIZATION
Michele Evans	Acting Deputy Director of NRR and Chairwoman of WRAG	NRC/NRR
Louise Lund	Acting Director of Division of Operating Reactor Licensing	NRC/NRR/DORL
Fred Brown	Deputy Regional Administrator for Construction	NRC/RII
William Jones	Director of Division of Construction Projects	NRC/RII/DCP
Robert Haag	Branch Chief	NRC/RII/DCP/CPB3
Jessie Quichocho	Branch Chief	NRC/NRR/DORL/LPWB
Tomy Nazario	Senior Resident Inspector, Watts Bar Unit 2	NRC/RII/DCP/CPB3
Justin Poole	Senior Project Manager	NRC/NRR/DORL/LPWB
Christopher Even	Senior Construction Project Inspector	NRC/RII/DCP/CPB3

NAME	TITLE	ORGANIZATION
Siva Lingam	Project Manager	NRC/NRR/DORL/LPWB
Jeanne Dion	Project Manager	NRC/NRR/DORL/LPWB
Anthony Minarik	Project Manager	NRC/NRR/DORL/LPWB
Michael Miernicki	Project Manager	NRC/NRR/DORL/LPWB
Andrew Hon	Project Manager	NRC/NRR/DORL/LPII-2
Gordon Arent	Director of Licensing	Watts Bar, Tennessee Valley Authority (TVA)
Steven A. Hilmes	I&C/Electrical Manager	Watts Bar, TVA
Ray Hruby	General Manager	Watts Bar 2, TVA
Robert C. Williams	WBN Fukushima Project Manager	Watts Bar, TVA
Bill Crouch	WBN 2 Mechanical/Nuclear Manager	Watts Bar, TVA
Frank Koontz	Engineering Specialist	Watts Bar, TVA

NAME	TITLE	ORGANIZATION
Mary-Jane Ross-Lee	Deputy Director	NRC/NRR/DE
Yuan Chen	Hydrologist	NRC/NRR/DE/EMCB
Yong Li	Branch Chief	NRC/NRR/DE/EMCB
Stephanie Coffin	Deputy Director	NRO/DARR
Sara Barczak	Program Director	Southern Alliance for Clean Energy (SACE)
Diane Curan	Counsel to SACE	Harmon, Curran, Spulberg and Eisenberg
*William Freebairn	Managing Editor	Platts Nucleonics Week
*Don Safer	Member of Public	Tennessee Environmental Council
*Steven Sondheim	Member of Public	Sierra Club
*Gary Morgan	Member of Public	Bellefonte Efficiency and Sustainability Team, MATRR

*participated via teleconference

Watts Bar Nuclear Plant

WRAG

July 22, 2014

Enclosure 2

Agenda

- Introductions
- Watts Bar Unit 2 Completion Status
- Project Timeline
- Project Risks
- Licensing
- Special Topics
  - Hydrology
  - Fukushima
  - Fire Protection
  - GDC - 5
  - Substantially Complete Process
  - Outreach
- Closing Remarks

Watts Bar 2 Guiding Principles

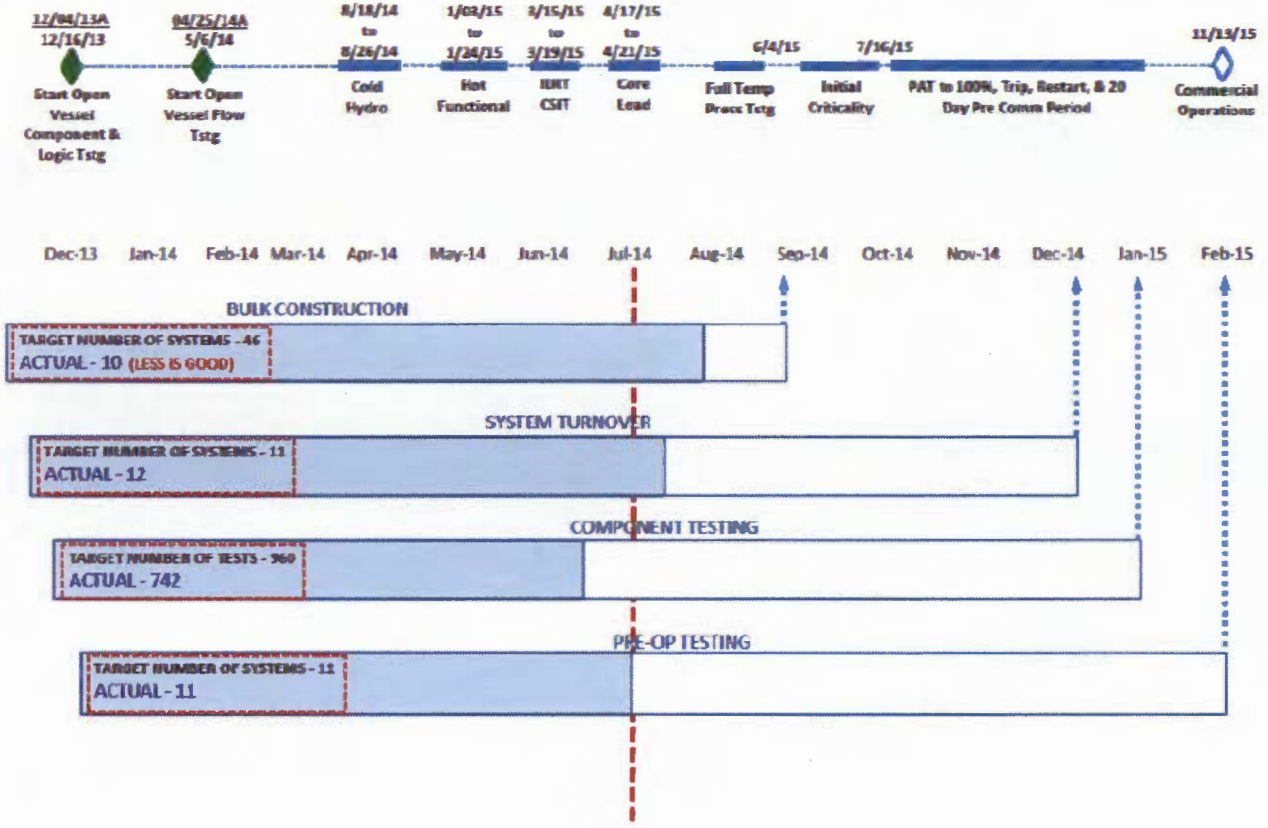
- Safe and High Quality
- Design Basis Fidelity with Watts Bar 1
- Systems, Structures, and Components – Made Like New

Watts Bar 2 Construction Summary

- Safety
  - Over 28 million hours without lost-time incident
  - Fiscal year-to-date Recordable Injury Rate at 0.33
- Quality
  - Project Quality Control (QC) Acceptance Rate >98%
- Cost & schedule
  - Cost and schedule adherence meeting expectations

Project Timeline

Watts Bar 2 System Completion Status



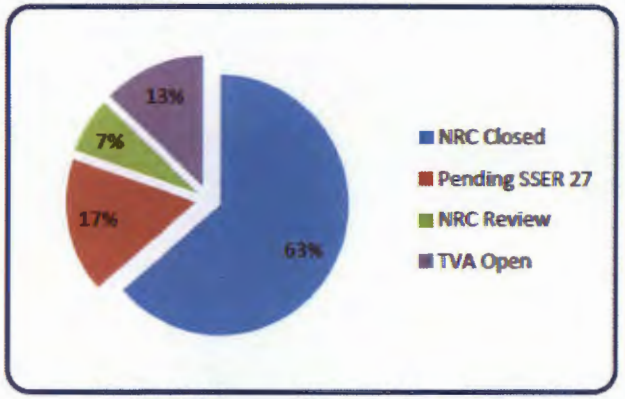
Project Risks

Project Risks	Risk Level
Waste Confidence (Licensing)	High
Start-up Testing Delays	High
Dual-Unit Operational Readiness	High
Closure of Licensing Issues (Licensing)	Moderate
Hydrology (Licensing)	Moderate
Paper Closure	Moderate
Productivity	Moderate
Critical Equipment Failure During Start-up	Moderate
Employee Concerns	Moderate
Cyber Security (Licensing)	Moderate

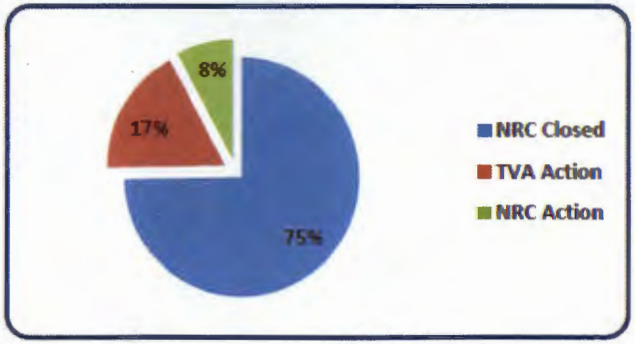
Licensing Status

- Final Environmental Statement – Complete
- Safety Evaluation – Nearing Completion
- Closure of Regulatory Commitments Accelerating
- No Watts Bar 2 Specific Contentions Remain Open

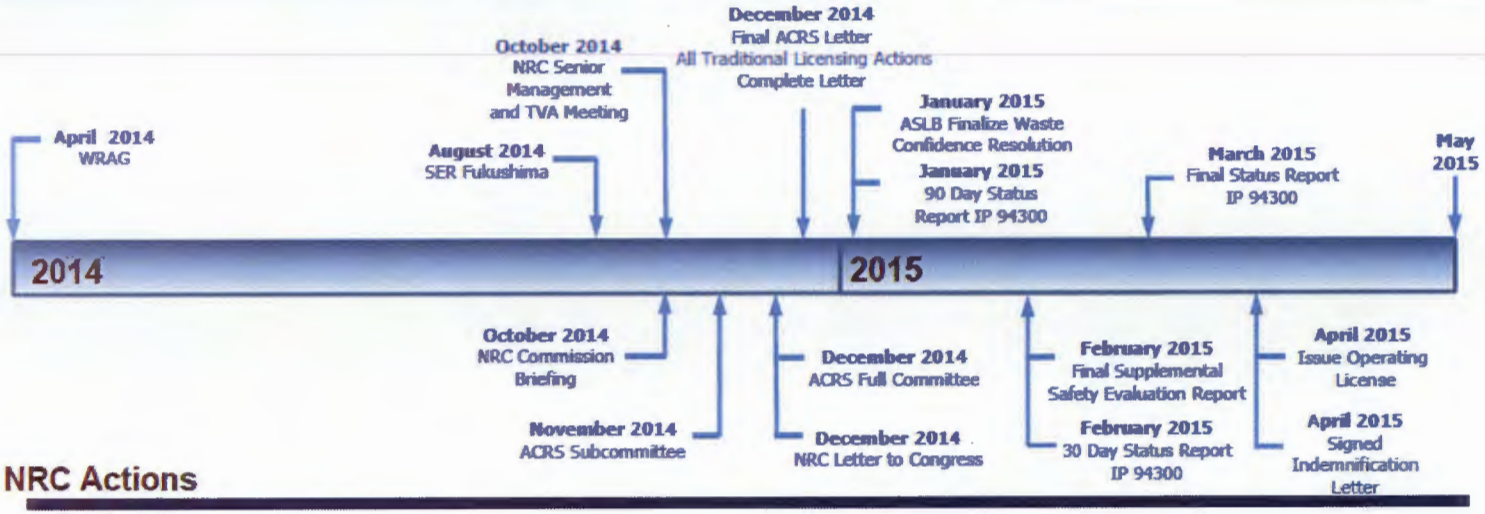
Supplemental Safety Evaluation Report Open Item Status



Inspection Planning and Scheduling Item Status

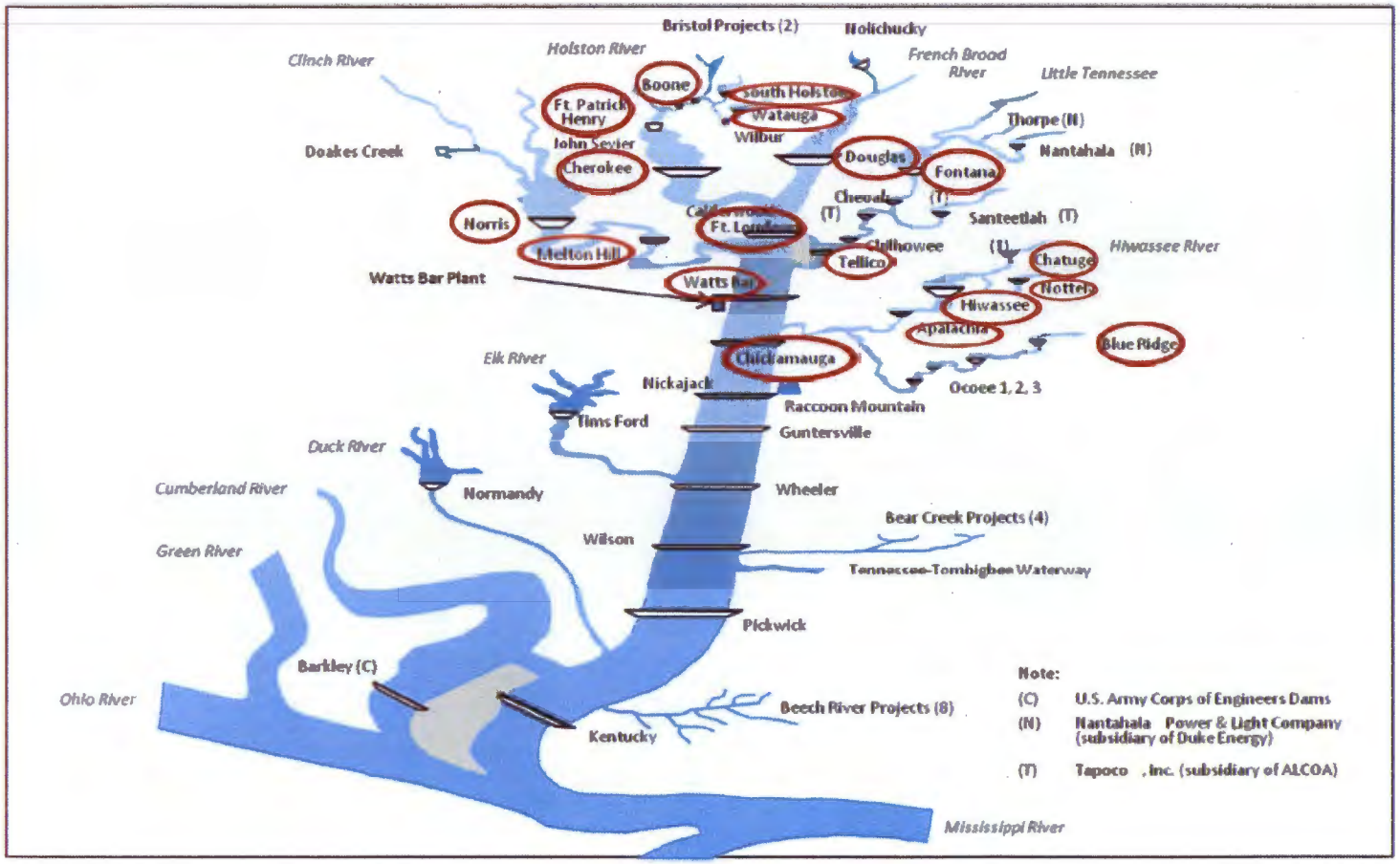


Watts Bar 2 Licensing Fuel Load Schedule



Special Topics

TVA Tennessee River System Overview



Hydrology

- Assumption
  - SOCH probable maximum flood (PMF) Level from 7/2012 submittal
- Actions
  - Evaluate 18 dams upstream of WBN/SQN against TVA Series 27 procedures (Federal Energy Regulatory Commission (FERC) Implementation at TVA) acceptance criteria
  - Determine dams with reduced margin
  - For dams that do not meet criteria, perform additional evaluations by TVA River Operations (RO) to show dams with reduced margin are stable
  - Confirm combination events are not affected (flood level, warning time)
  - Perform 3rd party evaluation to confirm TVA results – recognized industry expert
  - Revise FSAR Section 2.4.3 with new information

Hydrology

- Examples
  - Changes in RO Operating Guides
  - Additional site modifications that improve margin
  - Use HEC – RAS as sensitivity to support margin element

- Provide License condition to address dams with reduced margin by analysis or physical modifications to TVA system 27 (FERC) criteria

Fukushima Response

- Spent Fuel Pool Level Instrumentation complete
- Construction of Flexible Equipment Storage Building complete
- Construction of new auxiliary feedwater storage tank approximately 90% complete
- Dominator, Triton &Transfer pumps, 480 volt diesel generators, and 6900 volt diesel generators delivered
- Construction of FLEX modifications 90% complete





Fukushima Response

- Interim Staff Evaluation for Mitigating Strategies – Received
  - Two open items
    - Alternate Strategy for 3 megawatt DGs – submitted and accepted by NRC
    - Boron Injection to ensure shutdown margin (WCAP 17601) – resolved with NRC staff May 15, 2014 – revised calculation June 30, 2014
  - 23 confirmatory items
- Mitigating Strategies Audit – Complete
- Spent Fuel Pool Instrumentation Audit – Complete
- FLEX procedures - 90% complete
- Programming changes to simulator – Complete
- Drafting of training modules for updated procedures – Complete
- Full compliance expected early fall 2014

Fire Protection

- As-Designed Fire Protection Report (FPR) Submitted March 13, 2013
- Partial Submittal of As-Constructed FPR Submitted June 30, 2014
- Remaining portion of As-Constructed FPR to be Submitted August 15, 2014
  - Dual Unit Fire Safe Shutdown Analysis
  - Unit 2 and Common Feasibility and Reliability Evaluations
  - Unit 2 Multiple Spurious Operation Evaluation Report
  - Resolution of NRC Comments on June 30, 2014 Submittal
- Completed Walkdowns of Operator Manual Action (OMA) times – Met NUREG-1852 time margin guidance
- Conducting Integrated Demonstration of two Appendix R Response Procedures on August 11, 2014
- Final confirmation of construction completion via Substantially Complete letter

GDC - 5

- Sharing of Structures, systems, and components (SSC). SSCs important to safety shall not be shared among nuclear power units unless it can be shown that such sharing will not significantly impair their ability to perform their safety functions, including, in the event of an accident in one unit, an orderly shutdown and cooldown of the remaining units.
- Component Cooling System (CCS) is shared between two WBN units
- WBN 1/2 is hot standby design plant (mode 3). Considered safe to remain in Mode 3 until decay heat allows further cooldown.
- Limiting event is LOCA in one unit and reactor shutdown in other unit with loss of train A power. One B train heat exchanger remains to cooldown both units. Flow shared between units.
- Within system capacity to handle accident unit and cooldown non-accident unit, provided non-accident unit cooldown can be delayed.

GDC - 5

- If non-accident unit is in Mode 1-3, remain in Mode 3 for 48 hours with cooling by steam generators. (Safe Shutdown)
- If non-accident unit is in mode 5, prior to venting of RCS (48 hours), allow RCS to return to mode 4 or 3 and steam from steam generators.
- Technical Specification prohibition TS 3.0.4
- Potential solutions being examined:
  - Technical Specification revision
  - Credit 3 out of 4 diesels (loss of both A or B train diesels not possible by active single failure)

Substantially Complete Process

- Readiness Program Assessment Methodology
- Project Approach for Watts Bar 2
- Plant Completion Verification (examples)
  - Original Design and Construction Documentation
  - Refurbishment
  - N-Stamp
  - New Design Change Alterations
  - Preoperational Test Program
  - NRC Open Items/commitments
  - Appendix B Program audits
  - Design Basis Verification Procedures
  - Appendix R

Substantially Complete Process

- Readiness Program Assessment Results
  - Licensing
  - QA/QC
  - Engineering
  - Construction and start-up
  - Organizational readiness
- Plant Completion (summary level conclusions)
- Transition to operating organization
- CAP and Special Program Closure

Substantially Complete Process

- Schedule
  - Substantially Complete Letter with open items – December 2014
  - Readiness for Fuel Load with open items – January 2015
  - Open item closure update – February 2015
  - Final update – March 2015

Outreach Key Objectives

- Visits/tours by key stakeholders
  - Commissioners with the NRC
  - Clean and Safe Energy Coalition
  - Nuclear Energy Institute's Washington International Representative Committee
  - Elected officials
  - National Nuclear Security Administration
  - Customers
- Community Action Panel in place
- Speeches
- Public meetings
- Proactive media strategy
- Updated website and increased social media presence
- Family & friends and community events

Closing Remarks

Conclusion

- Work to complete Watts Bar 2 is being done safely, in a quality manner, and in accordance with stringent standards.
- The combination of construction, refurbishment, improvements, and ongoing pre-startup testing will demonstrate systems, structures, and components have achieved "like new" condition.
- Startup testing and system turnovers support a March 2015 fuel load date.
- Project challenges are being identified and addressed.
- Regulatory and licensing issues including waste confidence remain a risk to receipt of the operating license.
- Fukushima response, hydrology, and cyber security actions continue to progress in support of the operating license schedule.
- A comprehensive outreach plan is being implemented.

Questions

responded to these comments by stating that the schedule risks may change but they are doing their best to meet the current dates. Another question from the public related to how the issues related to Fukushima were resolved at the WBN Unit 2 site and a better understanding of the staff's priority list associated with seismic review that was released in May 2014 (ML14111A147). The staff explained that the current hydrology issues were for design basis type events, whereas Fukushima is recognized as a beyond design basis event, additionally the staff clarified that the priority list had to do with resource availability and staff availability, rather than with risks associated with seismic events. For these reasons WBN Unit 2 is following similar implementation milestones related to Fuksuhima as operating plants in accordance with the Orders that were issued. Additional questions were asked about how TVA planned on addressing any effects from the staff's rulemaking effort on Waste Confidence and fuel storage in general. TVA voluntarily responded that the rulemaking is out of their control, and as such they can only react to the final result. Finally, some additional concerns were raised by a member of the public on dam safety referencing the Kingston Coal Ash dam failure, which occurred even when the dam was constructed and inspected according to certain standards.

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/RA/

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ADAMS Accession No. PKG ML14223A503
Meeting Notice: ML14167A244 Meeting Summary: ML14223A453

OFFICE	DORL/LPWB/PMiT	DORL/LPWB/PM	DORL/LPWB/LA	DORL/LPWB/BC	DORL/LPWB/PM
NAME	AMinarik	JPoole	BClayton	JQuichocho	JPoole
DATE	8/26/14	8/22/14	8/19/14	8/26/14	8/28/14

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