





**Certified by: Harold Ray**

**Issued: June 2, 2009**

**Certified on: June 1, 2009**

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
MINUTES OF THE MEETING OF THE SUBCOMMITTEE ON PLANT OPERATIONS  
AND FIRE PROTECTION REGARDING WATTS BAR UNIT 2 OPERATION  
ON MARCH 31, 2009,  
IN ROCKVILLE, MARYLAND

On March 31, 2009, the ACRS Subcommittee on Plant Operations and Fire Protection held a meeting in Room T-2B3, 11545 Rockville Pike, Rockville, Maryland. The purpose of the meeting was to receive a briefing from the NRC staff and Tennessee Valley Authority (TVA) (Watts Bar Unit 1 licensee and Unit 2 operating license applicant) regarding the scope of the remaining NRC review of the Watts Bar Unit 2 (Unit 2 or WBN2) operating license (OL) application. NUREG-0847, Supplement 21, "Safety Evaluation Report Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2" contains staff determination regarding the status of issues remaining for resolution, which were outstanding at the time TVA deferred construction of Unit 2, and also issues that were not evaluated and resolved as part of Unit 1 licensing. The staff intended the Safety Evaluation Report (SER) Supplement 21 to provide a regulatory framework for the remaining Unit 2 OL review. The meeting was convened at 8:30 a.m. and adjourned around 4:40 p.m. The meeting was open to the public.

**Attendees:**

**ACRS Members**

Harold Ray (Chairman)  
Said Abdel-Khalik  
Otto Maynard  
Mario Bonaca  
John Stetkar  
Charlie Brown  
Jack Sieber

**ACRS Staff**

Maitri Banerjee (DFO)

**NRC Staff Presenters**

Joseph Giitter, NRR  
Patrick Milano, NRR  
Robert Haag, RII

**TVA Presenters**

Masoud Bajestani  
Ed Freeman  
Gordon P. Arent

**NRC Staff**

L. Raghavan, NRR  
John Lamb, NRR  
Allen Howe, NRR  
Bob Nelson, NRR  
Matthew McConnell, NRR  
Greg Tutak, NRR  
Roy Mathew, NRR  
V. Sreenivas, NRR

**TVA**

Ashok Bhatnagar  
William D. Crouch  
P. David Osborne  
Steve Smith  
Steven A. Hilmes  
Frank A. Koontz  
Edward J. Vigluicci  
Robert S. Moll  
Zackary Rad  
Andrea Sterdis  
**Westinghouse**  
Mark Marscher

The presentation slides and handouts used during the meeting are attached to the Office Copy of these minutes. The presentation to the Subcommittee is summarized below.

Mr. Harold Ray, the Subcommittee Chairman for Watts Bar OL review, convened the meeting by introducing the ACRS members present and noted the history of Watts Bar OL review. In early 1980s, the OL review of both Watts Bar units was continuing with the NRC. However, a large number of deficiencies were identified shortly before the Unit 1 OL was expected to be issued. As a result, the NRC sent a letter to TVA on September 17, 1985, requesting information under 10 CFR 50.54(f) on TVA's plans for addressing the deficiencies. In response to this letter, TVA developed a nuclear performance plan to address corporate and site specific issues relating to a wide variety of material, design and programmatic deficiencies. At about the same time TVA suspended construction of Unit 2 with major structures in place and equipment installed. The OL review of Unit 2 was deferred, while completion of Unit 1 continued.

Chairman Ray stated his expectations for the meeting was to be able to understand if the staff and TVA are starting at the right point from the regulatory review perspective given over 20 years of lag time in Unit 2 construction and OL review. ACRS Chairman Mario Bonaca and member Maynard stated that they wanted to hear both from the NRC staff and TVA about the adequacy of construction to date and quality of the layup and maintenance of the plant for the intervening years before TVA decided to lift Unit 2 from the deferred status.

#### NRR Staff Presentation on Development of Licensing Basis for Unit 2

Mr. Joe Giitter, Director, Division of Operating Reactor Licensing in NRR provided the scope of the staff briefing. Pat Milano, the NRR Project Manager for Unit 2, described the overall plant design, a short history of Watts Bar licensing, and Commission direction regarding the licensing basis of Unit 2 contained in a July 25, 2007 SRM. TVA has performed a reconstitution of the Unit 2 licensing framework, and identified issues that had been closed in previous supplements of NUREG-0847 (SER). TVA would specifically identify and resolve any impact to already closed items as it resumes the design and construction work.

Mr. Raghavan, NRR Branch Chief for Watts Bar, noted that staff has reviewed the SER and its existing supplements (1 to 20). This review identified issues that were specifically reviewed and closed for Unit 2. Outstanding issues are ones which could be affected by later developments in addition to the issues that were only closed for Unit 1 and not for Unit 2. This list of previously reviewed SER items constituted the bulk of the Unit 2 licensing framework in Supplement 21, followed by the elements of TVA's corrective action program (CAP) and special programs (SPs) (legacy of the TVA's organizational deficiency in 1980s) and NRC generic communication. The staff noted that their goal for the ACRS briefing was to obtain Committee agreement regarding adequacy of the staff established baseline licensing framework for Unit 2 OL review in SER Supplement 21.

The staff has prepared an NRR Office Instruction LIC-110 to establish the organizational roles and responsibilities for Unit 2 OL review. The scope of NRC Region II inspection activities is separately addressed. The staff is establishing a Unit 2 reactivation assessment group, the charter of which is under preparation. Based on the project schedule presented by TVA, some members felt that the group should be established without further delay.

TVA intends to align the licensing and design basis of Units 1 and 2 to the fullest extent possible. It was noted however, that in order to resolve some generic issues, TVA decided to use an approach different from Unit 1 in certain areas. TVA is using different cable wraps to reduce the fibrous loading to the containment sump, and is redesigning reactor bottom head insulation to allow improved access for ISI purposes. This follows Commission direction (SRM mentioned before) that during the OL review the staff and TVA should look for opportunities to resolve such issues where the un-irradiated state of WBN2 makes it easier to implement. There are a few other areas (e.g., electrical, cables) where TVA selected an approach different from Unit 1, these areas require staff review and are noted as outstanding items in SER Supplement 21. Also, as directed by the SRM, the NRR staff is considering implementation of more recent codes in the area of electrical design where feasible. See discussion below regarding electrical cables.

Chairman Ray and other members asked if applying the Unit 1 approach of design and construction to Unit 2 would be adequate given the impact of over 20 years of layup with potential existing problems e.g., installation deficiency in some cases. Some of these deficiencies may not become apparent during the startup or preoperational tests. Some members noted the need for adequate records identifying in detail what was actually done over 20 years ago.

Discussion went into identified construction deficiencies related to electrical cable supports in that in some cases existing vertical cable supports may not have been adequate. Mr. McConnell from NRR explained that staff review of cables for Unit 2 would be different from that for Unit 1 not only because of the effect of aging in-situ (in potentially degrading conditions, e.g., inadequate support, in some cases), but also the improvements in code requirements that need to be addressed. The staff has reviewed the overall TVA program for cables and found it acceptable although specific issues like the one discussed above may still be open. Also, implementation of TVA's program would have to be verified by inspections. Therefore, electrical issues, like cable support in vertical trays and conduits, are open pending completion of staff review of the Unit 2 configuration.

The ACRS members wanted to hear about the staff assessment of the impact of over 20 years of layup on the 40 year design life of equipment and the adequacy of TVA's programs in maintaining and preserving the equipment. Chairman Ray wanted to know if any part of Unit 2 is being accepted without inspection to re-validate compliance and the basis behind such decision, if any. Mr. Ray was concerned about such equipment that is not tested under startup or preoperational test program but may be required for beyond design-basis accidents. The staff noted these aspects of the Commission policy for deferred plant were addressed in RII's construction readiness inspection. Additionally, TVA is doing complete refurbishment of major equipment (e.g., main turbine generator), while the systems shared between the two units (e.g., emergency diesels) continue to be maintained under Unit 1.

One common theme that came out in repeated questioning from the ACRS members was the impact of over 20 plus years of time lag to the installed Unit 2 equipment, and how to make sure this impact is addressed adequately. Some members pointed out that following the Unit 1 approach in design/construction/startup of Unit 2 may not be adequate for that reason. Additional monitoring may be required to ensure system components susceptible to in-situ environmental impact are performing adequately.

Mr. Raghavan pointed out that staff is reviewing previous (licensing and inspection) records to verify closure of issues and if the basis for closure is still adequate. Upon member Stetkar's question, the staff noted that the word "closed" in the Supplement 21 tables indicates the status of staff's program review; not if the program has been adequately implemented.

#### Construction Reactivation and Licensing Basis Review by TVA

Mr. Bajestani, Unit 2 Site Vice President for TVA introduced his team, many of whom were transferred from the Browns Ferry plant to provide the benefit of the lessons-learned from its licensing review restart after a period of suspension. Mr. Bajestani indicated at the time Unit 2 construction was stopped in the 1980s, it was 80 percent complete. However, major equipment, removed over the years for use at other TVA units, needs to be replaced. Also, TVA decided to refurbish and replace much equipment without taking credit for layup. As a result, Unit 2 is more like 65 percent complete from the standpoint of remaining work that needs to be performed.

Mr. Bajestani stated that TVA had walked down every piece of equipment and piping (to establish a configuration control baseline), reviewed past QA records, and identified equipment condition and needed work on a master equipment list such that equipment could be brought back to its original qualified condition. TVA recognizes that for some equipment establishing a limited qualified life of less than 40 years may be the desired approach. Upon member Stetkar's question on buried piping, TVA indicated that most of such piping for Unit 2 is in the shared systems and has been turned over and managed under the Unit 1 maintenance programs. However, TVA had found some piping dead legs which needed to be pressure washed to remove corrosion.

TVA is using Unit 1 operating experience to make changes to Unit 2 design to remove operational limitations (e.g., impact of backpressure on turbine rating), make operational improvements (e.g., digital I&C for pressurizer controls which would not require operator action to switch trains if one in operation fails), and has prepared a list of improvements to consider installing on clean systems before operation of Unit 2 starts.

Mr. Arent of TVA discussed the licensing history of the Watts Bar plant and noted that Unit 2 would utilize the Unit 1 licensing basis and follow the proven technology of Unit 1 and the Sequoyah units. Fidelity between Watts Bar Unit 1 and Unit 2 design basis, physical layout and operation will be maintained, and changes incorporated in Unit 1 since its initial startup will also be implemented at Unit 2. There are, however, a few areas where certain Unit 2 systems will be different from Unit 1 (e.g., RVLIS system, fixed in-core probe system, non-safety-related pressurizer control discussed above), although TVA will make them similar regarding the operator interface. These constitute some of the open items in the Unit 2 licensing basis in Supplement 21 that NRR has to review and agree with, followed by Region II inspection upon implementation. TVA has implemented a licensing basis preservation program to ensure plant modifications do not change the licensing basis without adequate review and the required process.

Mr. Arent discussed the process TVA used to document the licensing basis for Unit 2 that is in Supplement 21. It started with review of the SER and its supplements which indicates that about 70% of Unit 2 design has already been approved by the NRC, and hence closed for the purpose of licensing. Next were the changes that TVA was planning to install in Unit 2, followed by items in Unit 1 that changed since its initial licensing (under 50.59 or license

amendment process). These items need to be reviewed by the NRC for Unit 2 implementation and were designated as open items in Supplement 21. While TVA will implement in Unit 2 the most recent version of its generic communication responses, thus eliminating the successive changes Unit 1 might have gone through, some of the latest generic communications are being addressed simultaneously at both units. In general, the existing SER supplements do not address resolution of the CAPs and SPs for Unit 2. TVA will follow the same Unit 1 process at Unit 2 with two exceptions (cable and electrical issues).

At the time of the ACRS briefing, TVA had submitted the final Supplemental Environmental Impact Statement with a Severe Accident Mitigation Alternatives evaluation, and the Safety Analysis Report, Amendment 92, reflecting two units. TVA will continue with design and engineering, and submit additional amendments to complete validation of the design basis of the plant. TVA has developed a set of templates for Unit 2 technical specifications and a technical requirements manual, and updated the emergency plan in a draft form to include NUMARC-style emergency action levels for Watts Bar Unit 2. TVA has completed a review of the Watts Bar security plan and determined that no plan changes would be required. However, TVA will adopt the cyber security standards as part of the new security rule.

Member Stetkar wanted to know if TVA is using the current understanding of the seismicity in the Tennessee area to update the original licensing basis before application to Unit 2. Mr. Osborne of TVA explained that Unit 2 will be evaluated for the site specific response spectra (set B) that is higher than the original site response spectra (set A). He also noted that TVA made a commitment to use response spectra (set C) that encompasses both the site specific response spectra (set B) and the original spectra (set A) updated by the latest modeling techniques (terminated at 33 hertz) for any modifications at Unit 2.

After the lunch recess, the meeting started with Mr. Bajestani describing the process that TVA undertook to come to a decision on reactivation of Unit 2 construction. TVA will implement capital improvements in both units to ensure they are alike, through their five year improvement plans (e.g., digital FW controls, Freon in chillers etc). Mr. Bajestani explained that the roles and responsibilities are defined and documented in TVA's EPC (engineering, procurement, construction) contract. Under this contract Bechtel is providing the overall lead for engineering, design and construction, while Westinghouse is the lead NSSS vendor. Siemens is responsible for the turbine generator and auxiliary work. All three vendors are working under the TVA approved Bechtel Quality Assurance Manual.

Regarding project oversight, the members were interested to learn about the organizational control TVA is implementing over the contractors and vendors and for minimizing impact of Unit 2 construction on Unit 1 operation. TVA has created a parallel management organization to address Bechtel interfaces (unlike Unit 1 where TVA was their own EPC). Upon Chairman Ray's questions, TVA discussed the turnover process to Bechtel, and the baseline verification program under which Bechtel is reviewing Unit 1 calculations for applicability to Unit 2. Approximately 700 Bechtel staff are providing engineering and design support under a much smaller number of TVA staff providing management/QA oversight and problem resolution. Bechtel is also providing quality assurance oversight of Appendix B activities by implementing the TVA approved QA program.

TVA plans to implement the CAPs and SPs following Unit 1 precedence with a review to identify if any changes are needed, for example, due to new regulations, historic lessons-learned etc. TVA has also reviewed about 43,000 historic documents for Unit 1 (inspection reports, correction action program write-ups, employee concerns, field reports that are mostly closed) for applicability to Unit 2. TVA had done independent assessment of employee issues and concluded that the safety conscious work environment program is working well. Mr. Bajestani also discussed lessons learned from the Browns Ferry Unit 1 construction and licensing restart effort incorporated in Watts Bar Unit 2. TVA is also incorporating applicable quality and construction lessons learned documents from the industry, INPO and NRC.

To ensure safe uninterrupted operation of Unit 1, TVA implemented operational and physical separation programs at Watts Bar. This includes design changes (e.g., cutting a hole into Unit 2 containment) to provide construction access control for Unit 2 craft personnel. Upon member Abdel-Khalik's questions, Mr. Bajestani described the shared control room configuration and controls in place to minimize distraction to Unit 1 operation while work is being performed at the Unit 2 side. As Unit 1 operation currently uses some equipment on the Unit 2 side of the control room, a total separation is not considered possible. Upon members' questions, TVA stated that the Unit 1 simulator would be used for Unit 2 operator training which would address the differences between the units. Member Sieber pointed out the importance of positioning components at same or similar location on control room panels for both units.

Mr. Bajestani also described the controls in place, including review and approval by Unit 1 operations management, before work could be performed in areas (primarily involving shared systems and existing Unit 2 components that are being used by Unit 1) that could impact operation of Unit 1. Additionally, experienced operations personnel are required to review work-orders and problem evaluation reports to ensure Unit 1 operation is not impacted.

Ed Freeman from TVA then presented the integrated schedule for construction and licensing activities for full-power operation of Unit 2. This schedule includes time allocated for licensing hearing. Recovery of the shared essential raw cooling water (RCW) system is a critical path item due to major component replacement to improve capacity and operational margin, needed design upgrades to improve maintenance capability, and to balance the system between the two units. Because of delivery dates, the following items are also on the critical path: installation of higher efficiency moisture separator reheaters; procurement and installation of ice condenser parts; and Westinghouse Eagle 21 reactor protection system. TVA's refurbishment program includes rework or replacement of installed components, and changing out commodity items like elastomer seats, gaskets and packing. For example, TVA decided to replace entire Limitorque operators instead of cleaning and replacing parts. Component refurbishment will be followed by testing to ensure design requirements are met.

A long discussion ensued on equipment layup, with Committee Chairman Bonaca noting that until EPRI guidelines came out in 1990s, the industry did not have very good layup programs. TVA explained the inspections they have done so far to establish post layup equipment condition and how they are using the Browns Ferry Unit 1 experience. Upon member Maynard's questions, TVA described the surface inspection of major reactor coolant system components, and assessment and cleanup of the surface contamination if any is found. Although the steam generators were not in a special layup program, TVA

expects increased steam generator life (compared to Unit 1) due to an improved water quality program to be implemented at Unit 2.

Member Stetkar wanted to learn more about the systems shared between the two units, and a discussion ensued on how the four emergency diesels are shared by the two units given the design and licensing basis. Member Maynard pointed out that Unit 2 start-up and pre-operational testing of the shared systems would require special attention to ensure such tests do not impact Unit 1 operation adversely. Upon members' questions discussion ensued on the licensing basis for the diesel capacity. The topic of shared electrical systems at Watts Bar is an area of staff review.

TVA has developed a computer flow model for the shared systems (like RCW, ERCW, component cooling) to ensure adequate flow will be provided by the shared systems for all normal operating and accident conditions of the two units including one unit in accident condition and one unit in safe shutdown. TVA is replacing the ERCW pumps and using the computer model to ensure adequate capacity.

#### Development of NRC Construction Inspection Program for Unit 2

The meeting reconvened after a short break with Bob Haag, NRC Region II Branch Chief for WBN2, presenting the NRC construction inspection program at WBN2. The inspection program is implemented on a sample basis. Mr. Haag described the Region II organization related to construction inspection, the process of developing the inspection program, and the current and planned staffing levels. Prior to TVA reactivating construction of Unit 2, the region was doing inspections required for deferred plants. The inspection scope included TVA's preventive maintenance, corrective actions and QA programs. The inspection results indicated that TVA was doing an acceptable job for the most part, although some problems were identified. As part of the construction readiness inspection at Watts Bar Unit 2 in 2008, RII performed inspections to satisfy the Commission policy statement on deferred plants regarding staff actions required upon reactivation of construction. This inspection reviewed the history of equipment lay-up and maintenance activities to establish a baseline as to equipment condition and the needed scope of future inspections. This established the TVA's refurbishment program as a critical inspection activity.

The staff developed a new inspection manual chapter (IMC) 2517 specifically for the Unit 2 construction inspection effort. RII will complete inspections of the QA and engineering programs required by IMC 2512 (existing NRC inspection program for construction phase) without taking credit for past inspections. RII has developed desk top guidance for completion of inspection procedures (IPs) in IMC 2512.

Review of old inspection reports was performed as a reconstitution effort to determine the status of previously performed inspections as compared to the requirements contained in the IMC 2512 IPs. Results of the reconstitution identified inspections that are needed to complete individual IP requirements. Future inspections will also be performed for new construction work, licensing issues identified by NRR, generic communication, historical inspection open items, construction deficiency reports, historical allegations, and refurbishment of plant equipment. In addition CAPs and SPs will be inspected to ensure TVA has properly implemented these programs for Unit 2. The staff developed a new assessment process to replace the SALP process that was used for previous construction projects. The first assessment for Watts Bar Unit 2 was

completed in February 2009. The assessment results will be presented to the public in a meeting scheduled for April 2009.

Upon Chairman Ray's question, Mr. Haag explained that for areas like concrete, where the inspections were essentially complete during original construction, RII is reviewing the historic inspection documents. The purpose of this review is to establish a baseline regarding completion of the inspection requirements, and how identified deficiencies were resolved through TVA's corrective action program.

Member Abdel-Khalik asked if the unique aspect of Unit 2 construction delay for over 20 years and the shared systems with Unit 1 that is operating is reflected in IMC 2514 (startup testing) requirements. The staff is not planning to revise any of the generic construction program IMCs including 2514 as WBN2 is most likely the last plant to be licensed under 10 CFR Part 50 (new reactors will be licensed under 10 CFR Part 52 process, and thus requiring a new inspection program). However, the staff noted they would consider the need for updating IMC 2517 to address the unique history of Unit 2 as part of the preparation and implementation of IMC 2514.

The RII resident inspectors at Watts Bar Unit 2 have been in place for over one year performing construction inspections and following TVA activities, in addition to regional inspectors dedicated to Watts Bar. Mr. Haag discussed the accomplishments in 2008 that included completing reconstitution review for 35 IPs under IMC 2512, identifying allegations and generic communications for further action, and performing the 2008 end-of-cycle assessment mentioned before.

Chairman Ray asked if the staff's effort was timely and adequate to match TVA's activities related to restart of Unit 2 construction and licensing such that staff can verify the adequacy of TVA's programs for Unit 2, and whether Unit 2 met the Commission policy statement on deferred plants. Mr. Ray was concerned that given the ongoing TVA activities and apparent status of staff's plan, the latter may not meet the timeliness standard. He noted that the reactivation assessment group was not yet established, the charter being in a draft form. This group is supposed to recommend on the need for independent design verification. Given TVA's schedule (completion of major engineering by December 2009), Mr. Ray was wondering about timeliness of this effort. However, given the very preliminary nature of the ACRS review, he noted it was not possible for the Committee to draw any conclusion one way or the other.

The staff pointed out that the purpose of the briefing was to provide ACRS with an overview of how the licensing approach and the inspection program are being developed, and that staff is at an initial stage of licensing review and construction inspection. A letter report from the ACRS was not necessary at this time, and the staff plans to continue meeting with ACRS on a regular basis.

Several members wanted to know about the operational interface and sharing of information between the NRC resident inspectors at Unit 1 and Unit 2, and were told that it was on an informal basis. Upon member Abdel-Khalik's questions, Mr. Bajestani noted (with an example) that the past 12 years of lessons learned from Unit 1 operation, in addition to the industry operating experience, were incorporated into Unit 2 processes. Mr. Haag pointed out that RII inspects TVA's program for addressing industry operating experience. Also Mr. Milano, the NRR PM for Unit 2, noted that NRR staff's design review process identifies applicable industry operating experience to ensure they are addressed.

Upcoming activities and challenges were the last area Mr. Haag addressed before completing his presentation. He mentioned that RII plans to perform a detailed inspection activity regarding the TVA's problem identification and resolution (corrective action) program at Unit 2.

### Integrated Schedule

Mr. Milano started the last presentation which was on the integrated schedule for licensing review for a full power license. As a response to Mr. Ray's concern regarding the reactivation assessment group, Mr. Milano noted that although the group was not formally established, an ad-hoc group, whose membership would most likely be incorporated into the reactivation assessment group, has been meeting periodically to provide similar review. Mr. Raghavan pointed out that based on Browns Ferry experience, the staff believes the best time to start this assessment is after design/engineering is complete and the major construction inspection has begun.

In conclusion Mr. Milano iterated the staff objective of receiving a letter report with recommendations from ACRS regarding the adequacy of the licensing review framework established in Supplement 21 and the staff's inspection plan. The staff plans to brief the ACRS on a yearly interval followed by more frequent briefings after the March 2011 briefing. The staff envisions an ACRS briefing in September 2011 to obtain a committee decision that supports the reasonable assurance determination before an OL can be issued. Mr. Milano also asked the Subcommittee to provide some directions regarding areas to be addressed at the (then planned) Full Committee meeting in May 2009.

Upon Member Stetkar's questions regarding scheduling of inspections in 2008 and going forwards, Mr. Haag pointed out that 2008 inspections primarily addressed the adequacy of TVA's programs and procedures at WBN2. As most safety-related construction work begins, per schedule, in mid to late-2009, the RII will inspect that work. Some ACRS members noted that although staff presentation addressed development of inspection programs and the scope of the licensing review, the members did not hear much about the results of NRC activities undertaken to determine adequacy of existing system components at WBN2. Mr. Raghavan noted that the staff had specifically asked TVA to make a submittal addressing the aging phenomena. NRR will review the submittal for program adequacy and RII will inspect its implementation. The staff intends to brief ACRS about this subject at a later date. Mr. Bajestani indicated TVA would be willing to provide a specific briefing on the subject if the Committee so desires.

### Members Discussion

After verifying that no members of the public were present at the meeting or on the phone line who wanted to make statements, Chairman Ray opened the meeting to the ACRS members soliciting their comments. Mr. Ray asked the members to consider if there was anything that would warrant an ACRS letter at the time, given the staff request for such a letter.

Mr. Sieber, in his member's feedback, opined that construction schedule appears aggressive, and there would be challenges in construction given the existence of an operating unit and shared facilities and systems. Although the licensing basis for Unit 2 has been established, the additional modifications required to implement NRC generic

communications and other improvements will add to the challenge. Mr. Sieber did not think the ACRS had enough information to provide any comments other than a very high level one, although he felt that TVA and staff were moving in the right direction. He stated that the members would need to review TVA's application (FSAR) and staff SERs, and do more work before making any detailed comments.

Member Stetkar agreed with Mr. Sieber in that given the limited ACRS review, it would be premature to accept or comment on the list of open items in SER Supplement 21. ACRS Chairman Bonaca echoed the previous comments and added that a schedule of annual briefings proposed by the staff may not be adequate. He suggested another Subcommittee briefing in a few months. Member Abdel-Khalik stated that a clear explanation of the current status of Unit 2 did not come out in today's briefing. He felt that the Committee would be very interested to see the plant, and was not in a position to make detailed comments or concur with Supplement 21.

Member Maynard found the meeting very informative as a starting point for the ACRS engagement with TVA and the staff. However, he did not think the Committee was in a position to write a letter report based on the meeting. He did not think the briefing went into sufficient detail to allow the ACRS to endorse Supplement 21 or staff's inspection approach. Member Brown agreed with what was stated by the members before him and did not think a letter from the Committee would be appropriate at the time.

Mr. Raghavan of NRR pointed out that the staff would consider providing another briefing to the Subcommittee a couple of months after the scheduled ACRS visit to Watts Bar in July. He noted that the baseline for the licensing review as established in Supplement 21 followed the Commission directions, and that Supplement 21 does not reflect the vast amount of work performed by the staff. He recognized the members' reservation regarding writing a letter. He thanked the members for the comments and noted the staff would address member' comments at a future briefing. Mr. Giitter reflected Mr. Raghavan's comments and stated that the staff would like to provide another briefing sometime in the fall. Chairman Ray indicated that there may not be a need for a Full Committee presentation in May 2009, pending agreement by the Full Committee.

Member Sieber wanted to concentrate on the Unit 2 side of Watts Bar rather than spending more time at Unit 1 during the July visit. He also wanted to hear from RII as to the results of the inspections and how RII will be keeping up with TVA's efforts. Chairman Ray concluded the meeting at 4:42 pm.

#### Background Materials Provided to the Subcommittee

1. NUREG-0847, Supplement 21, "Safety Evaluation Report Related to the Operation of Watts Bar Nuclear Plant, Unit 2"
2. TVA Letter W. R. McCollum, Jr. to NRC, dated August 3, 2007 (ML072190047)
3. TVA letter M. Bajestani to NRC, dated December 9, 2008 (ML083460177)
4. ACRS Letter Report, T. S. Kress to S. A. Jackson, dated November 8, 1995, "Application for Operating License for Watts Bar Nuclear Plant, Unit 1"

5. ACRS Letter Report, W. Kerr to L.W. Zech, Jr., dated September 13, 1988, "NRC Staff's TVA Lessons Learned Effort"
6. ACRS Letter Report, W. Kerr to L.W. Zech, Jr., dated February 19, 1988, "ACRS Report on the Tennessee Valley Authority's Management Reorganization"
7. ACRS Letter Report, D. A. Ward to L.W. Zech, Jr., dated August 12, 1986, "ACRS Report on the Tennessee Valley Authority's Management Reorganization and Shutdown of TVA's Nuclear Power Plants"
8. ACRS Letter Report, P. Shewmon to N. J. Palladino, dated August 16, 1982, "ACRS Report on Watts Bar Nuclear Plant, Units 1 and 2"
9. ACRS Letter Report, C. P. Siess to J. R. Schlesinger, dated September 21, 1972, "Report on Watts Bar Nuclear Plant, Units 1 and 2"
10. Commission Policy Statement on Deferred Plants, 52FR38077, October 14, 1987
11. Staff Requirements - SECY-07-0096 - Possible Reactivation of Construction and Licensing Activities for the Watts Bar Nuclear Plant Unit 2, July 25, 2007

\*\*\*\*\*

NOTE:

Additional details of this meeting can be obtained from a transcript of this meeting available in the NRC Public Document Room, One White Flint North, 11555 Rockville Pike, Rockville, MD, (301) 415-7000, downloading or view on the Internet at <http://www.nrc.gov/reading-rm/doc-collections/acrs/> can be purchased from Neal R. Gross and Co., 1323 Rhode Island Avenue, NW, Washington, D.C. 20005, (202) 234-4433 (voice), (202) 387-7330 (fax), [nrgross@nealgross.com](mailto:nrgross@nealgross.com) (e-mail).

\*\*\*\*\*