



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 – 0001**

September 10, 2009

MEMORANDUM TO: ACRS Members

FROM: Maitri Banerjee, Senior Staff Engineer */RA/*
Reactor Safety Branch – A
ACRS

SUBJECT: CERTIFICATION OF THE MINUTES OF THE PLANT OPERATIONS
AND FIRE PROTECTION SUBCOMMITTEE — JULY 30, 2009

The minutes for the subject meeting were certified on September 10, 2009 as the official record of the proceedings of that meeting. A copy of the certified minutes is attached.

Attachment: As stated

cc: C. Santos
A. Dias

Certified by: Jack Sieber
Certified: September 10, 2009

Issued on: September 11, 2009

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
MINUTES OF THE MEETING OF THE SUBCOMMITTEE ON
PLANT OPERATIONS AND FIRE PROTECTION ON JULY 30, 2009,
AT NRC REGION II, ATLANTA, GEORGIA

On July 30, 2009, the ACRS Subcommittee on Plant Operations and Fire Protection held a meeting at the NRC Region II (RII) office in Atlanta, Georgia. The purpose of the meeting was to receive a briefing from the RII staff regarding the inspection activities related to Watts Bar Unit 2 (WBN2 or Unit 2) construction and operating license (OL) review. Significant operating and other construction inspection experience were also covered. The meeting convened at 8:00 a.m. and adjourned at around 2:45 p.m. The meeting was open to the public, and a telephone bridge line was provided to the public for listening in and making comments/questions at the end of the meeting.

Attendees

ACRS Members

Jack Sieber
(Chairman)

Said Abdel-Khalik

Otto Maynard

Charlie Brown

John Stetkar

ACRS Staff

Maitri Banerjee (DFO)

Edwin Hackett

John Flack

Hossein Nourbakhsh

Sherry Meador

Peter Wen

Girija Shukla

Neil Coleman

Patrick A. Azorbarzin

Thomas S. D'Agostino

Gabrielle Fuller

RII Presenters

L. Reyes, RII Administrator

L. Plisco, RII Deputy
Administrator

Robert Haag, RII

David Ayres, RII

NRC Staff

Victor McCree, RII Deputy
Administrator

Kriss Kennedy, RII

Andrea Valentin, RII

Alfred Issa, RII

Candice Clemons, FSME

Alan Blamey, RII

Members of the Public

Bobbie Paul, GA WAND (Georgia
Women's Action for New Direction)

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

Mr. Jack Sieber, the Chairman of the Operations and Fire Protection Subcommittee, convened the meeting by introducing the ACRS members present and noted the purpose of the meeting was to discuss regional inspection and operational activities, with special emphasis on Watts Bar Unit 2 construction and support of its operating license review. He noted that the ACRS members have toured the Watts Bar plant earlier in the week, met with the resident inspectors, and received a briefing from the Tennessee Valley Authority (TVA). He noted, the purpose of the tour was to get an overall view of the material condition, state of construction and preservation, and TVA's plan going forward. He stated the members were interested to hear about RII's understanding of the material conditions of WBN2 and the quality and safety aspects of TVA's

construction activities. With an added note that the Subcommittee would gather information, analyze relevant issues and facts, and formulate proposed positions and future actions, as appropriate, for deliberation by the Full Committee, Chairman Sieber invited RII to begin their presentation.

RII Presentation

Introduction

Mr. Louis Reyes, Regional Administrator for RII, introduced David Ayres of his staff who provided a safety briefing for building occupation. Mr. Reyes noted that the Center for Construction Inspection established in Region II in 2006 upon a commission decision, is now fully staffed, and introduced Lauren Plisco, the Deputy Regional Administrator for Construction at Region II, to discuss it further.

Organization, Staffing & Responsibilities

Mr. Plisco presented the RII organization, and noted that unlike other regions, RII has additional oversight responsibility for two national programs, one is for fuel cycle facilities in the nation and the other is for construction inspection of any new reactor or fuel cycle facilities. Two organizational units, the Division of Fuel Facilities Inspection and the Center for Construction Inspection, address these additional responsibilities respectively. In order to eliminate distraction of the oversight of the operating facilities, organizational separation is maintained at the highest level by having two Deputy Regional Administrators, one responsible for operating facilities including the operating fuel cycle facilities and the other for construction.

Mr. Plisco described the structure and functional responsibilities of the Center for Construction Inspection. He noted that in order to provide for regulatory bases for agency decision, RII has an inspection arm and an assessment arm providing for an oversight process for construction performance. He noted, the FTE allocated for WBN 2 inspection and assessment (developed from a review of historic Unit 1 information), although sufficient at this time, would need to be increased before the pre-operational and start-up testing. The members were interested to know about the extent of information and knowledge sharing between the resident inspectors at the operating Unit 1 and Unit 2 being constructed.

Mr. Plisco discussed the challenges encountered by RII in developing the inspection program for Watts Bar Unit 2 given a very short time available to develop the program after TVA's announcement of construction restart at WBN2, and that the existing program (Inspection Manual Chapter (IMC) 2512) was obsolete. Additionally, the long term construction suspension at WBN2 added new elements to be considered. The staff developed a new inspection program in IMC 2517, applicable to WBN2, incorporating many of the lessons-learned and the elements of Part 52 new reactor inspection program under development. RII is using many of the existing inspection procedures under IMC 2512.

RII developed a process to reconstitute the acceptability and applicability of past inspections done at Unit 2. Based on lessons-learned from earlier experience, RII made a decision to keep the construction inspectors involved for a longer time period. This would provide for the needed overlap between the construction and operating unit inspectors, once Unit 2 transitions into an operating unit status.

WBN2 Current Status and Site Activities

Staffing

Mr. Bob Haag, Construction Projects Branch Chief for Watts Bar, discussed the current branch staffing. His branch is responsible for implementing the overall construction inspection program at WBN2. In response to member Brown's question on potential problems of having inspection requirements spread out in two program documents (IMCs 2512 and 2517), Mr. Haag noted that the inspectors implementing the inspection program are responsible for following inspection procedures under IMC 2512 for their respective inspection areas. The project management staff (including him) is responsible for ensuring that the needed program elements get completed, and hence they are the ones who need to understand the interface between IMC 2512 and 2517.

RII started staffing the Unit 2 construction Project Branch once TVA informed NRC about their plan to restart Unit 2 construction (120 day letter). Six inspectors in this branch have a total of 144 years of experience (76 years at NRC) with a rich variety. This includes Watts Bar Unit 1 operation, and Browns Ferry and other construction inspection experience, in addition to industry experience. Mr. Haag noted that the resident inspector selection process for WBN2 considered the background needed to address some of the inspection needs (e.g., electrical and civil/structural). He also discussed the method RII used to determine the FTE resource need by breaking down the areas of inspection during each year of construction (a total of 5). Mr. Haag envisions adding one more resident inspector with operations experience to his branch to enhance the response capability of the team and help transition to Unit 2's operating status.

RII Inspection of Watts Bar Unit 2

Mr. Haag noted that the lessons-learned from Watts Bar Unit 1, Browns Ferry and past construction inspections were factored into developing the inspection and oversight process for Unit 2. Mr. Haag discussed the readiness inspection that was a RII initiative following lessons-learned to assess TVA and Bechtel's readiness to start construction work, especially safety-related work. RII took a concerted effort to inspect the quality assurance program and organization, how the engineering organization was functioning, the procedures, and training of the individuals. A followup inspection completed one year later to look at the progress closed out many of the first readiness inspection findings.

Chairman Sieber asked if RII believed TVA had overcome the 1980s issues that resulted in the corrective action programs and special programs respectively known as CAPs and SPs. Administrator Reyes noted that he was personally involved in Unit 1 licensing and has knowledge that NRC was satisfied with the TVA's corrective actions at that time. He stated that RII inspections would verify the implementation of the CAPs and SPs at Unit 2 in resolution of those issues.

Chairman Sieber asked for RII's observation about the extent to which preservation or lack thereof would impede construction to a completion point where WBN2 would be similar to or as good as a plant that was built in a normal period of time instead of over 25 years. Administrator Reyes responded that the fact that TVA kept their construction permit in effect at Watts Bar Unit 2 triggered RII oversight inspections of the plant maintenance program during the intervening years (TVA followed layup program at Unit 2 until early 2000). Additionally, as some of the systems are shared between the two units, they are being maintained under Unit 1. Mr. Haag confirmed that

RII continued inspection of Unit 2 through the suspension of construction up to recent times, and the fact that TVA is replacing many safety related components (e.g., motor operated valve actuators) would help the situation. Upon NRC questions, TVA is also looking at the degradation mechanisms for passive components (e.g., piping, cables, concrete). Administrator Reyes pointed out that based on Browns Ferry experience, TVA favors replacement of components vs. re-engineering or analysis if there is a question about design capabilities. TVA's refurbishment program is under the careful watch of RII.

Mr. Haag discussed the findings of continued inspections in the area of problem identification and resolution (PI&R). A focused team inspection supported by regular sample review of TVA's problem evaluation reports (PERs) by the resident inspectors provided an overall positive assessment of TVA's program. The region based specialized inspectors provide additional support (e.g., inspecting the refurbishment program, welding, fire protection etc.). If necessary, RII will also use elements of the inspection program being developed for new reactors to be licensed under Part 52 (e.g., for PI&R program). In the case of WBN2, RII is providing more inspection resources than a typical plant under construction in the area of electrical cables. This is because of issues identified in the 1980s related to electrical cables resulted in a more extensive TVA program (from testing to replacement) than is the case for many other components. RII expects that the amount of cables being replaced in Unit 2 will be large, although not as much as was done for Unit 1.

Interaction with NRR

Mr. Hagg then discussed various ways RII is interacting and communicating with NRR. RII has extended the support of RII technical staff to help review some of the licensing submittals. In addition to helping the NRR workload this will also help identify inspections needed to support NRC licensing decisions. The staff is developing a process for inspection of NRR identified confirmatory action items. To help capture past lessons learned, RII is reaching out to the technical staff, currently occupying positions elsewhere in NRC, who were involved in inspection and resolution of some of the historic issues at Unit 1. Mr. Haag noted that the charter of the reactivation assessment group had been issued recently with a kickoff meeting planned in September 2009. RII has an active role in this group. Two self assessments were performed in which the development and implementation of the inspection program at RII were reviewed.

Inspection Status

Mr. Haag discussed the scope of inspection to be performed at WBN2. It included areas not addressed or adequately addressed in historic inspections (as identified by the inspection reconstitution effort), areas of new work/construction being performed, and more extensive document review and some re-inspection for areas where the inspection program was completed in 1980s (concrete, structures etc.).

Upon member Stetkar's question, Mr. Haag explained that the restart readiness inspection looked at the implementation of the Commission policy on deferred plants. This included inspection of the QA program implemented for replacing or removing safety related components (for use elsewhere, as was done by TVA in the intervening years) to make sure the activity did not adversely impact the plant. Administrator Reyes noted that every system was going to be walked down, mechanically, electrically, flush tested and operationally tested to provide assurance of its integrity.

Open items that were identified in previous inspections but never closed for Unit 2 are also being captured for inspection with special emphasis on hardware issues. Similar reviews were performed for generic communications, allegations and items for which temporary instructions were issued, the focus being on items that could have an impact on hardware or the need for TVA programs and processes to support ongoing construction and future operation.

RII is reviewing TVA's construction schedule to identify inspection opportunities, however aligning inspection resources to observe ongoing activities was noted as a challenge. The challenge involves the inherent flexibility allowed in construction scheduling, unplanned happenings, last minute changes and continually shifting priorities of site activities. RII is working with TVA on this. Regarding CAPs and SPs, TVA has provided RII with implementation plans for 10 out of 29 CAPs. Mr. Haag discussed how RII is developing inspection plans for those.

Regarding the QA records, Mr. Haag explained that related records are being reviewed by the inspectors during the course of their individual inspections. Also, the quality of QA records was an important program issue under the CAP, and RII will inspect TVA's resolution and implementation of this programmatic issue. He noted that quality of the layout and PM records were inspected under the readiness inspection.

RII is reviewing safety culture site wide including that of the EPC contractor. Part of this review is done under the current operating reactor inspection program for site corrective action activities. Also, there is a temporary instruction developed for inspecting the historic CAP issue related to employee concerns that came to surface in the 1980s. RII is inspecting TVA's implementation of CAP elements at Unit 2. Member Maynard asked how the broad safety culture initiative currently implemented at operating plants could be applied to a plant under construction. He referred to elements of conservative decision-making related to operational safety. Administrator Reyes noted that for a construction site implementation of industrial safety is a big concern in addition to willingness of workers to raise issues to their supervisors.

RII Evaluation and Assessment

RII has performed a focused effort on TVA's plant walkdown to evaluate if TVA has implemented previous lessons-learned, for example, if they trained the people doing the walkdowns adequately, if the procedures were adequate, etc. RII has observed walkdowns being performed by TVA, and then went back after TVA was complete to perform an independent assessment of those walkdowns by re-doing the steps. Mr. Haag stated that TVA had taken steps to correct some of the problems thus identified with walkdowns.

Regarding TVA's refurbishment program a discussion ensued on aging of installed passive components, like buried piping or structural elements, in the past 25 years. Mr. Haag noted that TVA is looking at degradation mechanisms of these as-installed components to determine if any corrective actions are needed. TVA's program will then be reviewed by the NRR. TVA is also using insights from license renewal.

Member Brown asked if how TVA was addressing the impact of component obsolescence was being reviewed and inspected. RII is planning a team engineering inspection in August which may provide an opportunity to look into this area. A discussion ensued regarding issues of qualification and component substitution from analog to digital. For example, the Eagle 21 reactor protection system for Unit 2 will contain some digital components which are analog in Unit 1. Mr. Haag stated that NRR has raised a question of acceptance test at the site for this system. A related issue of unit 2 control room having digital instruments/displays, when Unit 1 has analog, may be addressed

during the inspection of the CAP item on control room design. Chairman Sieber noted that replacement of analog components to solid state may introduce vulnerability to electro-magnetic interference that could impact equipment qualification. High speed of solid state relaying devices was another issue that may impact operation/troubleshooting. A long discussion ensued as to the types of vulnerabilities that may be introduced while replacing an older analog component to a newer version or to digital.

Mr. Haag then discussed the RII strategy and results of inspection on industry issues and NRC generic communications. Member Maynard and Chairman Sieber noted the benefit of a lack of radiation dose at this stage of construction of WBN2 for installing plant modifications on issues like emergency core cooling system gas accumulation. RII is mindful of this important distinction between the two units while determining the acceptability of commitments for Unit 2 vs. Unit 1. TVA's oversight of vendors and contractors was noted as acceptable with TVA increasing the number of their vendor oversight staff. Also mentioned were areas of QA assessment, engineering, construction and licensing activities. NRC inspections identified some problems in the area of training and TVA is taking actions. The inspection focus is also on those construction activities that have an opportunity to affect Unit 1 safe operation.

Annual Assessment

RII's annual assessment of WBN2 construction activities follows a process similar to the Reactor Oversight Process (ROP) documented in IMC 2517. It includes meetings with all stakeholders within NRC looking at the inspection results and other indications to assess TVA/Bechtel's performance to see if any changes to the inspection program were necessary. Results of the recent assessment, presented to the public in an April meeting, indicated TVA's programs and procedures were adequate to support the level of ongoing work, although there were areas that TVA needed to address. Quarterly and mid-cycle reviews are also part of the process. Upon member Abdel-Khalik's question, Mr. Haag explained that, unlike an operating plant, the lack of performance indicators and inspection results tied to action matrix make the WBN2 assessment qualitative. Mr. Plisco noted, given the new reactor construction assessment program development schedule, the decision on using that new program for WBN2 will not be made until next year or even later. Consideration of cross-cutting aspects is, however, included in the WBN2 assessment process.

Operator Licensing

The operator licensing examinations will address the differences between Units 1 and 2 as TVA is planning to use the same operating crew for both units interchangeably. Hence, any operator examination administered to this crew will have to address physical and operational differences between the units. The NRC examination strategy is not developed yet, and RII is looking at TVA's training program for candidates for new operator licenses. Upon Chairman Sieber's question, Administrator Reyes confirmed that like some operating plants with multiple units, the staff administered licensing examination will address the unit differences.

Chairman Sieber asked if the separation barrier erected by TVA in the control room was adequate for keeping Unit 2 side activities from distracting Unit 1 operators. It appeared that RII has not raised any issue yet, but the resident inspectors would review the adequacy of the barrier given the activity level. Also, Administrator Reyes noted that certain activities on the Unit 2 side of the control room are scheduled to be done during the Unit 1 refueling outage. A long discussion ensued regarding representation of the two control rooms on the Watts Bar simulator and the nature of differences between the two control rooms. Member Maynard pointed out the

added concern of operating shared systems differently after Unit 2 goes on line which has to be an important element of operator training. Member Stetkar noted that retraining of current operators to operate shared systems differently once Unit 2 goes online could be a bigger challenge than training new operators.

Mr. Haag concluded his presentation by saying that RII has developed an adequate infrastructure; and got adequate resources, staff experience and knowledge to support WBN2 construction inspection. He noted that the Unit 2 reactivation assessment group had started and would provide the needed oversight and course correction. With that note the meeting was recessed for lunch.

Other Construction Inspection Activities

After the lunch break, the meeting restarted with Mark Lesser, Chief, Division of Construction Inspection Branch, presenting inspection activities at fuel facility construction, vendor inspections, and activities in support of new reactors and operating reactors.

Fuel Facility Inspections

Scope of the fuel facility inspections includes the MOX facility in South Carolina and the National Enrichment facility of Louisiana Energy Services (LES) in New Mexico. Areas of inspections for both facilities include QA, items relied on for safety, building foundations and structures, instruments, piping, welding, and commercial grade dedication. Chairman Sieber asked if different accident potential and sequences between the two facilities are reflected in their inspection programs. Mr. Lesser noted that higher risk associated with the MOX facility resulted in higher inspection resources as reflected by the presence of a full time resident inspector at this facility. Chairman Seiber asked about the seismic design of these facilities and it was explained that MOX facility is at par with reactors and the LES is at a lower industrial level.

Mr. Lesser then discussed some of the issues that came up during inspection of the MOX and LES facilities. NRC uses traditional enforcement program for these facilities. Member Abdel-Khalik asked how lessons-learned experience at a construction site is incorporated in the construction inspection program. The staff stated that for new reactors, the Office of New Reactors (NRO) staff has established a construction experience program, modeled after similar program for operating reactors, where the HQ staff (NRO, NMSS) monitors such experience, coordinates and distributes to the inspectors and the industry. These items are factored into the construction inspection program based on significance and priority. Administrator Reyes noted that RII will address issues as they are identified.

Mr. Lesser stated that RII has an initiative to go through lessons learned of the past construction projects, and educate the inspectors. Also an information notice was sent to the applicants (of operating license) on this. RII will follow up on how the applicants are training their staff on it. Additionally, RII staff is encouraged to do lessons learned presentations on any relevant topic, even from outside nuclear industry (e.g., general industrial events, accidents, etc.), to distribute information and help incorporate applicable lessons learned into the inspection program. RII also sends inspectors to foreign construction sites to learn from their experience.

Administrator Reyes noted that RII meets quarterly with INPO to share the lessons learned on new construction, both domestic and overseas, and uses the INPO process to disseminate information to the utilities.

Mr. Lesser then discussed the support provided by his branch to inspection of two operating fuel facilities that are installing major modifications.

Vendor Inspection

Mr. Lesser's branch also does vendor inspection related to fuel facilities as there is no such entity at HQ (unlike vendor branch at HQ that supports reactors). This involves inspecting and assessing the applicant's capability regarding oversight of vendors in addition to direct inspections at vendor facilities. RII staff also interfaces with the HQ vendor branch to gain experience and knowledge.

New Reactor Inspection Activities

RII is working very closely with the NRO staff to develop the inspection program, infrastructure and tools that will be needed to inspect new reactors. RII has supported NRO site audits, quality assurance audits, and inspection of geotechnical investigations done by the applicants. RII piloted a vendor inspection procedure for new reactors at Westinghouse to verify adequate translation of design information into design documents. RII also sends inspectors to new reactors being constructed at foreign countries like, Taiwan, Finland, and India.

Administrator Reyes noted that RII is applying significantly more inspection resources to new reactor construction than in the '70s and '80s. The emphasis is on inspecting early with actual monitoring of activities by multiple inspectors to cover longer periods.

Member Stetkar asked about the status of establishing the Design Acceptance Criteria (DAC) closure process. A long discussion ensued which indicated that the process is not finalized yet as it has not been vetted among the NRO and RII staff completely. The members discussed the concern they have regarding the timing of some DAC closures past COL issuance and the required resolution through the inspection process. Mr. Edwin Hackett, Executive Director for the ACRS, noted for the record that the ACRS issued a letter on this subject recently, and more discussion with NRO would likely follow.

Mr. Lesser then discussed the development of Inspections, Tests, Analyses and Acceptance Criteria (ITAAC) related inspection program and procedures, inspector training and infrastructure development. Upon member Stetkar's question, Mr. Lesser noted that staff is developing inspection programs for ITAAC closure for different reactor designs. While program development is ongoing for AP1000 and ABWR, it has not started yet for other new reactor designs because of a lack of ITAAC definition. Regarding the extent of verification by inspection of ITAAC and DAC, it was noted that ITAAC will have inspections by sampling, although the method of sample selection has not been worked out. Mr. Lesser noted that operating experience and risk considerations go into sample selection for targeted ITAACs. Regarding DAC, some members noted their understanding from prior meetings with NRO that every DAC will be inspected, although the level of inspection was not known.

Some members were interested to know if ITAAC verification will be performed on as-installed configuration for prefabricated modular components. The staff noted that although not worked out completely, any inspection done at the vendor's fabrication facility for ITAAC closure has to be verified once the module is installed to ensure continued compliance and configuration controls. Chairman Sieber closed the long discussion by noting that a lot of issues and

challenges are associated with ITAAC and DAC, and a lot of work still needs to be done including ACRS followup.

RII Operating Plants

Mr. Leonard Wert, Director, Division of Reactor Projects, discussed the subject areas related to operating plants. His presentation addressed areas that the ACRS identified prior to the meeting. These included the overall ROP performance status of the operating reactors, effectiveness of the baseline inspection program, performance issues for plants that are beyond the "licensee response column," generic implications of findings, safety culture and results of engineering inspections. Mr. Wert noted that his presentation was developed with considerable input from individual inspectors.

Mr. Wert stated that the baseline program is effective and provided some examples of inspector identified safety issues. He noted also that many more inspector identified issues are of low safety significance and not included in the inspection reports, although the licensees are required to enter them in their corrective action program and follow the process. They are also required to address why their program did not identify the issue before the NRC inspector identified it. The ROP requires the inspectors to look into most risk-significant issues.

Member Stetkar asked if the inspectors are comfortable using risk significance indicators in their inspection process. Mr. Wert said that the inspectors are familiar with risk application in the inspection program and the dominant cutsets for their plant and have been using risk information for inspection focus for some time, although the new application of risk in fire protection may be a little more complex. RII developed a table as an inspection tool which lists the questions to ask and how to respond based on risk. This tool is used extensively to determine appropriate RII response if a licensee reports an incident off hour.

Mr. Wert noted that the ROP is continually being refined with enhanced area emphasis, addition of new temporary instructions and generic communication related inspections based on experience. He described the formal ROP re-alignment process which is done on a periodic basis with HQ leadership. Inspection staff feedback is sought to revise areas of emphasis. Mr. Wert noted that to maintain the quality of inspections, resident inspectors are encouraged to spend more time observing risk significant activities. Resident inspectors are often supported by project technical staff from the region.

He discussed the performance issues related to RII plants that are beyond the "licensee response" column. He noted that the issues are primarily plant specific, and that most performance issues can be attributed to safety culture in some regards unless the issue originated many years ago and does not reflect current performance. All findings and issues are examined for potential generic implication.

Region II utilizes a web-based system called the Plant Issues Tracking Application (PITA) on a daily basis to convey plant event information to the inspectors out at the site on a real time basis. Related plant pictures and system drawings are included to convey what has happened. This system is used to display information on the wall during RII daily safety meeting to convey and gain valuable perspective from other parts of the organization. Upon members' question, Mr. Wert noted that PITA is only used at RII, and HQ inspection program staff has full access to it and they use it regularly.

Regarding “greater than green” findings, Mr. Wert provided the statistics, about three to four each year. RII does not think the fact that none of the recent “greater than green” findings exceeded the white threshold, indicates enhanced (day-to-day) safety operations across the licensees in Region II. RII thinks it's more indicative of the fact that licensees are taking actions to reduce the overall risk profile of their plants. These actions include, installing modifications worth hundreds of millions of dollars to reduce the core damage frequency (e.g., higher temperature rating for reactor coolant pump seals to reduce probability of failure if seal cooling is lost, blackout diesels), implementing new security related regulatory requirements, and changing how the systems are operated (to reduce PRA indicated vulnerabilities), among others. As a result, the same set of findings now would carry lower risk significance than it would have in prior years.

Member Stetkar asked if RII licensees are using risk insights related to shutdown mode, e.g., modifications of systems to address shutdown risk vulnerabilities. Mr. Reyes noted that although they have not seen any plant modifications to reduce shutdown risk, the licensees do take special measures in scheduling work during the high risk periods of shutdown (e.g., during the first few days when decay heat is high no electrical system realignment is made).

Going back to “greater than green” findings, Mr. Wert noted that RII would inspect licensee’s corrective actions including modifications to reduce risk, and the followup inspection would ensure the licensee has taken actions to prevent future recurrence.

Regarding ACRS question on safety culture, specifically related to inspectors’ feedback, Mr. Wert noted that crosscutting aspects are identified only to inspection issues significant enough to be findings. He discussed some inspector feedback which indicates a desire to assign crosscutting aspects to all findings regardless of significance. But RII management did not accept it based on an understanding that it may impact unnecessarily the licensee’s decision-making process without a safety improvement. Also, regarding time allocated to perform the corrective action program documents review, Mr. Wert noted the flexibilities provided in the inspection program for additional time.

Mr. Wert then discussed how safety culture assessment of licensees is factored into various RII inspection and assessment activities. This includes area specific team inspections, site visits by RII management, and monitoring licensee’s own safety culture performance survey. The central issue that RII focuses on is willingness to bring forward concerns to licensee management.

Regarding safety culture at RII, the Office of Inspector General surveys are reviewed very closely to select areas of enhancement and develop actions to improve performance in those areas. RII also reviews subsequent surveys to verify needed improvements. The recently completed internal safety culture task force report will be another area of RII management focus, as was the 2007 NRC employee survey. Mr. Wert also discussed various ways management solicits staff feedback, concluding that these feedbacks indicate a healthy safety culture at RII.

Mr. Wert provided a short summary of engineering inspections at RII. Finding that licensees were not taking advantage of previous component design basis inspection results, the NRC issued Information Notice 2008-002 that discussed results of these inspections including generic issues. Upon member Abdel-Khalik’s question Mr. Wert noted, confirmed by Mr. Kriss Kennedy, Director, Division of Safety Systems, that some licensees had to recreate the analysis of records in case of lost documentation.

In the area of digital I&C and cyber security, development of baseline inspection procedures is underway and so is the training of inspectors. This is an area where RII construction staff is

working very closely with the operating reactor staff, thus sharing a lot of skill-sets and experience. In the area of NFPA 805, risk informed fire protection standard, Mr. Wert noted the improved understanding of risk and risk improvements that were indicated by the pilot inspections.

Public Comments/Questions

Chairman Sieber opened the meeting to the members of the public for comments and questions. Ms. Sandra Kurtz from Chattanooga, Tennessee representing several energy groups including the Solar Valley Coalition, Southern Alliance for Clean Energy and the Blue Ridge Environmental Defense League thanked the Committee members for their review and the opportunity for public comments. Ms. Kurtz noted that her question pertained to the July 28 ACRS meeting at Watts Bar. She stated that she arrived late and was not allowed to enter the site (the meeting was at TVA's training facility inside the owner controlled area surrounding Watts Bar plant) as she did not have the necessary paperwork. She complained that such need was not communicated before and the Committee should hold meetings at a site that is readily accessible to the public. Chairman Sieber thanked her and noted that her comments will be followed up.

Members Deliberation and Closing Comments

In their closing comments, the members thanked the RII staff and management, and noted that the information provided by RII was very valuable to them. Member Abdel-Khalik noted three issues: the importance of the DAC closure process; use of GALL regarding the aging process and how that may impact some of the passive structures and systems at Watts Bar 2; and retraining of current operators at Watts Bar 2 regarding the shared systems. Member Maynard noted that the presentations gave him a better appreciation on how RII is organized and how Watts Bar is being treated in the inspection program, how RII is getting ready for the new reactor inspections, and doing all that in a way not impacting the operating reactors inspection program. Member Stetkar agreed with all these comments. Chairman Sieber noted that his questions provided to RII by ACRS staff were well covered by the agenda and he thanked the RII staff for the entire effort.

Administrator Reyes noted that RII houses the Center of Excellence for Construction Inspections and the new reactor inspections, and invited the Committee to come back in near future. Chairman Sieber concluded the meeting at 2:45 pm.

Post Meeting Note

The Federal Register Notice (FRN) that announced the meeting indicated that the members of the public, who plan to attend the meeting, should contact Ms. Maitri Banerjee of ACRS staff at least seven days before the meeting so that arrangements could be made for access to the meeting site which was inside TVA's owner controlled area. The FRN provided the telephone number of Ms. Banerjee, and also stated that members of the public were required to provide certain information for gaining access to the site. However, neither Ms. Kurtz, nor any other person on her behalf, contacted Ms. Banerjee.

Background Materials Provided to the Subcommittee

1. Inspection Report 390/82-35 and 391/82-32, dated November 2, 1982
2. Inspection Report 390/83-40 and 391/83-29, dated October 19, 1983.

3. Watts Bar Nuclear Plant Unit 2 - NRC Integrated Construction Inspection Report 05000391/2008006, dated April 30, 2008 (ML081210735)
4. Watts Bar Nuclear Plant Unit 2 Construction - NRC Integrated Inspection Report 05000391/2008009, dated October 30, 2008 (ML083050404)
5. Watts Bar Nuclear Plant Unit 2 Construction - NRC Integrated Inspection Report 05000391/2008010, dated January 29, 2009 (ML090291033)
6. Watts Bar Nuclear Plant Unit 2 Construction - NRC Integrated Inspection Report 05000391/2009602, dated April 30, 2009 (ML091210420)

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 (e-mail).
