

Memorandum

TENNESSEE VALLEY AUTHORITY

TO : Those listed

FROM : T. J. McGrath, Chairman, Nuclear Safety Review Board, LP 6A-C

DATE : June 10, 1991

91061920448

①

SUBJECT: MINUTES OF MEETING NO. 132 OF THE SEQUOYAH NUCLEAR SAFETY REVIEW BOARD (NSRB), MAY 22-23, 1990

Attached for your information is a copy of the minutes of the subject meeting. A copy has been forwarded to the Senior Vice President, to the Senior Executive Officer, and to the Board of Directors.

J. J. Id
for T.J.M.

- R. R. Calabro, BR 6A-C
- M. A. Cooper, OPS 4C-SQN
- R. L. Lumpkin, Jr., SB 1C-SQN
- W. M. McArthur, LP 4B-C
- G. R. Mullee, BR 5D-C
- J. A. Scalice, MOB 1R-WBN
- P. G. Trudel, DSC 1A-SQN
- J. L. Wilson, OPS 4A-SQN

- T. L. Gerber
- J. N. Grace
- T. A. Peterson
- G. Toto

JJL:WMB:AKP
Attachments

cc (Attachments)

- RIMS, MR 2F-C (Re: L42 910603 800)
- W. M. Berry, BR 5A-C
- J. R. Bynum, LP 3B-C
- W. R. Cobean, Jr., LP 3B-C
- P. E. Harmon, NRC-SQN
- M. O. Medford, LP 3B-C
- J. W. Profitt, Jr., OPS 4D-SQN
- C. A. Vondra, POB 2B-SQN

cc (Attachments):

Mr. Paul Krippner
TVA Account Engineer
American Nuclear Insurers
The Exchange, Suite 245
Farmington, Connecticut 06032

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USNRC

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OFFICE OF THE SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

2179V

Joint Exh. 7

CF 000023



Template = SECY-028

SECY-02

CLEAR REGULATORY COMMISSION

Docket No. 50-390 Official Ex. No. Joint 7

In the matter of _____

Staff Joint IDENTIFIED

Applicant _____ RECEIVED

Intervenor _____ REJECTED _____

Other _____ WITHDRAWN _____

DATE 4/24/02 Witness _____

Clerk BHM

QA RECORD

L42 910603 800

910619U0411

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T : Those listed
FROM : Dan A. Nauman, Senior Vice President, Nuclear Power, LP 3B-C
DATE : June 10, 1991
SUBJECT: MINUTES OF MEETING NO. 132 OF THE SEQUOYAH NUCLEAR SAFETY REVIEW BOARD (NSRB), MAY 22-23, 1991

Attached for your information are the minutes of the subject meeting. Copies of the attachments referenced in the minutes are available if you wish to see them.

Marvin Runyon, ET 12A-K
J. B. Waters, ET 12A-K
W. H. Kennoy, ET 12A-K
W. F. Willis, ET 12B-K



TJM:JL:WMB:AKP

Attachment

cc (Attachment):

RIMS, MR 2F-C

J. R. Bynum, LP 3B-C

O. D. Kingsley, Jr., LP 6A-C

T. J. McGrath, LP 3B-C

2179V

CF 000024

SEQUOYAH NUCLEAR SAFETY REVIEW BOARD (NSRB)
MINUTES OF MEETING NO. 132
MAY 22-23, 1991

EXECUTIVE SUMMARY

Sequoyah NSRB meeting No. 132 was held May 22-23, 1991. All members and advisors were present for both days except R. R. Calabro.

1. NSRB Recommendation

• Corrective Action Completion Timeliness, R115-1 (Closed)

The implementation of the simplified Problem Evaluation Report has resulted in a short-term increase of new issues. The site vice president reported that the backlog of corrective actions has risen even though substantial resources are being expended on closure. Timeliness has improved even though the volume of reports has increased. The problem has substantial management attention, and on this basis the NSRB closes the recommendation. The NSRB will continue to monitor progress in this area.

2. The following subjects were discussed.

Fire Protection Responsibility

Progress has been made in addressing fire protection concerns but additional problems have surfaced. Site and Corporate efforts are in progress to define and address all fire protection issues. The NSRB will hold this action item open until corrective actions are identified and scheduled.

• Actions to Improve Operations Performance

The plant manager described his efforts to define and communicate management's expectations to operations personnel. The plant manager is giving regular and consistent direction to operations management for taking ownership of the plant during their shift. It was apparent, however, from plant incidents which have occurred this year and NSRB interviews with management and working level personnel that adherence to administrative procedures and communication of management expectations was often inadequate. The NSRB will monitor corrective actions necessary to ensure that management's expectations are clearly communicated to all levels of personnel.

MINUTES

SEQUOYAH NUCLEAR SAFETY REVIEW BOARD (NSRB)

MEETING NO. 132

MAY 22-23, 1991

Members:

T. J. McGrath, Chairman
R. R. Calabro (absent)
M. A. Cooper
R. L. Lumpkin, Jr.
W. C. McArthur
G. R. Mullee
J. A. Scalice
P. G. Trudel
J. L. Wilson

Advisors:

T. L. Gerber
J. N. Grace
T. A. Peterson
G. Toto

Technical Secretary:

W. M. Berry

Also in Attendance:

J. J. Loud
(Manager, Nuclear Safety Review Board Support)

W. R. Cobean, Jr.
(Senior Advisor to TVA Board)

J. F. Burrow
(Nuclear Fuels)

Attachment to the Minutes: A - Action Items
B - Recommendations
C-G - Subcommittee Reports

The minutes of NSRB meetings No. 128 (LA2 910311 800), No. 129 (LA2 910227 800), No. 130 (LA2 910320 800), and No. 131 (LA2 910411 801) were approved. The following recommendation was closed at this meeting.

NSRB Recommendation

• Corrective Action Completion Timeliness (Closed)

The implementation of the simplified Problem Evaluation Report has resulted in a short-term increase of new issues. The site vice president reported that the backlog of corrective actions has risen even though substantial resources are being expended on closure. Timeliness has improved even though the volume of reports has increased. The problem has substantial management attention, and on this basis the NSRB closes the recommendation. The NSRB will continue to monitor progress in this area.

The following topics of interest were discussed.

Fire Protection Responsibility

At the February 1991 meeting, an action item to formally assign clear lines of responsibility for all site fire protection was established. Progress has been made but the scope of the problem is still not completely defined. The site vice president stated that a lower priority was given to fire protection concerns previously, but that significant site and Corporate efforts were in progress to define and address all fire protection issues. The NSRB will hold this action item open until corrective actions are identified and scheduled (A128-2).

General Employee Training (GET-10) Course Coverage of Quality Assurance (QA) Program

Discussions are ongoing between QA and Training on how best to modify the GET-10 video tape and lesson plan to address NSRB comments on the adequacy of QA coverage. This action item remains open until the revised training material can be assessed (A128-1).

Actions to Improve Operations Performance

Various events over the last six months indicate deficiencies in operations performance. The plant manager acknowledged the problem and described his efforts to define and communicate management's expectations to all levels of operations personnel. Specific emphasis is being placed on encouraging the shift operations supervisors and assistants to think of themselves as managers on shift rather than the most senior operators. The plant manager is giving regular and consistent direction to operations management for taking ownership of the plant during their shift. In cooperation with other sites, shift management is drafting a code of ethics that is separate from the operators existing code. However, it was apparent from NSRB discussions with management and working level personnel, and from plant incidents which have occurred this year, that adherence to administrative procedures and communication of management expectations was often inadequate. Further actions are needed to communicate management's expectations and ensure procedure adherence by all levels of personnel (A132-1). Additional onsite time by NSRB personnel can be arranged at site request to help in further defining and correcting this problem.

Cold Leg Accumulator Inleakage

Originally check valve seepage was thought to be the cause of the accumulator inleakage. Since valve manipulations have stopped the inleakage, it is now thought another path was more likely. The site is requested to give a presentation at the August 1991 meeting covering the most likely inleakage path and the lessons learned from investigation of this event (A132-2).

Institute of Nuclear Power Operations (INPO) Evaluation

The site vice president reported that the recent INPO evaluation was generally successful with relatively few significant findings. Based on preliminary INPO conclusions, the most significant issue was a "global" concern regarding the ability of operators to take prompt effective action in dealing with plant events.

Subcommittee Activity Summary

Quality Assurance and Safety Oversight Subcommittee

The subcommittee concluded that while some improvements in trend report usefulness have been made since the NSRB made a recommendation in this area, there are still a variety of problems. The QA manager will discuss corrective plans with the subcommittee at the next NSRB meeting.

The subcommittee reviewed the status of the Corrective Action Program. Significant improvements have been made but opportunities remain for fine tuning the program to ease closure and raise the threshold for item inclusion. The subcommittee will reassess the program at the next meeting.

Operations, Maintenance, and Modifications Subcommittee

The subcommittee discussed methods to prevent the propagation of maintenance errors into redundant equipment with the outgoing and incoming maintenance managers. The methods in place appear adequate to prevent this low probability event.

The subcommittee met with modifications to discuss planning for a near term upgrade and a longer term overhaul of work control. The subcommittee cautioned that Quality Control inspectors should be trained along with modifications personnel on the changes.

Radiation and Chemistry Subcommittee

The subcommittee identified a number of areas where performance can be improved (1) in radiologically controlled area work through use of an outage management representative to help coordinate activities (A132-3), (2) in the As Low As Reasonably Achievable Program with more detailed radiation source definition (A132-4), (3) through more readily available radiation exposure tracking (A132-5), (4) by use of more realistic training for the Post-Accident Sampling System (A132-6), and (5) by improved spent fuel pool foreign material exclusion posting (A132-7).

Engineering Subcommittee

The subcommittee believes a formal statement of acceptance criteria for steel containment corrosion inspection is needed (A132-8).

Progress has been made in the calculations to ensure motor operated valve function under the most demanding accident conditions. A few valves with marginal acceptability should receive a documented Justification for Continued Operation to ensure adequate tracking and resolution (A132-9).

The subcommittee reviewed the problems and fixes related to initial use of the Eagle-21 protection system equipment. No significant problems were identified.

The subcommittee reported that the plant has virtually eliminated the spurious containment ventilation isolations caused by radiation monitors. The subcommittee believes the technical support system engineers are adequately involved in issues arising out of Nuclear Experience Review Program.

Site engineering is not satisfied with the current performance indicators. Corporate engineering is coordinating with the sites to determine a set of indicators which will be of more value in managing and improving performance. The subcommittee will review these indicators after they are developed.

Unreviewed Safety Question Determination Subcommittee

Further consideration by management has reversed the corporate decision to downgrade safety assessment preparer qualification requirements and disband the 10 CFR 50.59 libraries. This resolves the previously stated subcommittee concerns in these areas. Two safety assessments/evaluations containing errors were returned to the preparing organizations for correction.

Technical Specification Changes

No. 91-04

This change makes the Unit 1 steam generator level 10-10 reactor trip setpoint the same as Unit 2's, after installation of more accurate level transmitters. The NSRB approved the change.

No. 91-06

This change reduces the pipe support snubber inspection frequency to that suggested by an NRC Generic Letter. The NSRB approved the change with the provision that the related technical specification bases be revised to reflect present plant life.

No. 91-08

This change allows the establishment of a "Core Operating Limits Report" (COLR) for fuel cycle specific parameters instead of carrying them in the technical specifications. The limits will be included with the related technical specification sections for ease of use. The NSRB approved the change subject to the Plant Operations Review Committee becoming the approving authority for the COLR.

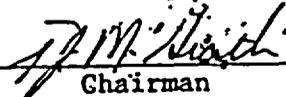
Actions Item Closed

The following action items were closed:

- A128-5 This action item response had eight distinct parts concerning a range of radiation control program issues. All were acceptable except the part on charcoal air sample cartridges. A separate action item has been established to address this item (A132-10).
- A128-6 The requested information was provided and a new action item on containment corrosion acceptance criteria was established.
- A128-7 The main steam check valve classification rationale was acceptable.

Next NSRB Meeting

The next NSRB meeting is scheduled for August 21-22, 1991.


Chairman

ATTACHMENT A

SEQUOYAH NUCLEAR SAFETY REVIEW BOARD (NSRB)

ACTION ITEMS LIST

<u>Action</u>	<u>Responder</u>	<u>Due</u>
A132-1 Report on actions taken to communicate management expectations and ensure procedure adherence.	R. J. Beecken	8-5-91
A132-2 Report on accumulator inleakage path.	J. L. Wilson	8-5-91
A132-3 Consider use of outage management representative at RCA control point.	R. J. Beecken	8-5-91
A132-4 Consider As Low As Reasonably Achievable Program improvement suggestions.	R. J. Beecken	8-5-91
A132-5 Consider radiation exposure tracking system improvement suggestions.	W. C. McArthur	8-5-91
A132-6 Report on improvements in Post-Accident Sampling training.	R. J. Beecken	8-5-91
A132-7 Improve spent fuel pool foreign material exclusion posting.	R. J. Beecken	8-5-91
A132-8 Establish ice condenser containment corrosion acceptance criteria.	P. G. Trudel	8-5-91
A132-9 Prepare Justifications for Continued Operation for marginal Motor Operated Valves.	P. G. Trudel	8-5-91
A132-10 Report on actions taken to control charcoal air sample cartridge storage.	R. J. Beecken	8-5-91
A128-1 Inform the NSRB of the actions to address NSRB comments on Quality Assurance Program in GET-10.	R. L. Lumpkin, Jr. L. B. Durham	8-5-91
A128-2 Inform the NSRB of progress in resolving fire protection program problems.	J. L. Wilson	8-5-91
A128-3 Inform the NSRB on how NRC GL 89-13 is addressed for the CCS plate heat exchangers.	OMM Subcommittee	8-5-91
A128-4 Review the appropriateness of the corporate requirement for frisking when leaving a radiation area.	W. C. McArthur	8-5-91

ATTACHMENT B

SEQUOYAH NUCLEAR SAFETY REVIEW BOARD (NSRB)

RECOMMENDATIONS

R115-1 Corrective Action Completion Timeliness (Closed)

The implementation of the simplified Problem Evaluation Report has resulted in a short-term increase of new issues. The site vice president reported that the backlog of corrective actions has risen even though substantial resources are being expended on closure. Timeliness has improved even though the volume of reports has increased. The problem has substantial management attention, and on this basis the NSRB closes the recommendation. The NSRB will continue to monitor progress in this area.

QUALITY ASSURANCE AND SAFETY OVERSIGHT (QASO)
SUBCOMMITTEE REPORT

TREND REPORT USEFULNESS FOLLOW-UP

Based upon a review of trend reports, associated documentation, and discussions with users, the subcommittee concluded that while there has been substantial improvement since this concern was originally identified, the corrective action is still incomplete.

The site Quality Assurance (QA) organization has taken a more proactive role in working with users, providing additional information, and helping users to understand potential adverse trends. As a result, users response time to those trends has been improved and there have been no delinquent responses for the past three months.

The site Modifications manager reported to the subcommittee that he considers the trend report to be very useful. He stated that the trend report was a factor in reducing his rejection rate from 8 percent to 0.8 percent. He has a quality committee that reviews the reports and recommends action to continue to process improvements. He stated that his people have a very good working relationship with QA. They meet together on a weekly basis to review incoming data rather than waiting for the monthly report. The subcommittee concluded that appropriate attention was being given to trends by modifications and good use of the data was made to achieve ongoing improvements in quality.

The site Nuclear Engineering (NE) manager has identified several problems with the NE trend report which have not yet been corrected. For example, there is a double counting of engineering errors when they are counted under different categories, i.e., Significant Corrective Action Reports (SCARs) and Incident Investigations. He feels that too much emphasis is placed upon the causing organization versus the responsibility for problem correction. He noted that of 19 findings identified as being caused by engineering in a recent report, only 13 were correctly counted. He has discussed these problems with the site QA manager and is drafting a memorandum to senior management requesting assistance to resolve his concerns.

The plant manager stated that some of the trend report is useful and other portions are not. For example, he has a problem with all cause codes related to personnel error being lumped together.

The site QA manager, along with some of his staff, briefed the subcommittee on efforts to improve the usefulness of the trend reports, such as the improvements in user interfaces discussed earlier. He also has worked with Corporate QA to improve the trend report system which is Corporate-wide. The Corporate position was to not accept all the changes recommended by the site QA manager. As a result, the site QA manager is now working with his counterpart from Browns Ferry and he expects, after developing a consistent recommendation between the two sites, to go back to Corporate QA again with a recommendation for improving the trend reports. The site QA manager stated that he plans to have improvements implemented and be ready to discuss them at the next NSRB meeting.

ADMINISTRATIVE PROCEDURE ADHERENCE

As a follow-up to its activities at the February 1991 meeting, the issue of adherence to administrative procedures was re-reviewed by the subcommittee. The plant manager, two Independent Safety Engineering (ISE) representatives, one RadCon technician, and two assistant unit operators (AUOs) were interviewed.

The plant manager noted that there have been problems with adherence to administrative procedures, but that he sees these as fundamental value issues such as the professional worth of an individual's signature. He has actions ongoing with the operations department at the shift operating supervisor and licensed operator level to improve this. He noted that management expectations had been lacking during Cycle 4 outages and improvements were being made in this area.

Discussions with the RadCon technician and AUOs indicated a common perception that administrative procedures are not as important as technical procedures, and they may be bypassed with or without management approval if the person felt the operation was safe. A distinct impression was given that management understood and condoned this practice. Specific examples were given during the interviews. For example, it was stated that many new procedures are not correct and "you do what you have to do" to get your job done whether or not the procedure is followed. Furthermore, an AUO stated that it was easier to work nights because there was less paperwork insisted on.

Follow-up discussions with ISE personnel on site indicated they were getting the same impression, and that management expectations need to be improved and communicated to lower levels of management as well as the workers.

The subcommittee recommends that senior site management take quick action on this issue. The subcommittee will review this issue at the August 1991 meeting and wishes to be kept informed of actions taken (A132-1).

CORRECTIVE ACTION PROGRAM FOLLOW-UP

As a follow-up to an earlier NSRB task force report, the subcommittee reviewed progress of the implementation of the modified corrective action program.

A new, simplified reporting category, called the Problem Evaluation Report (PER), has been added to facilitate and encourage reporting by workers to their supervisors. The supervisor, in turn, decides the correct reporting mechanism, e.g., whether it belongs in the Administrative Control Program (ACP) or should be a SCAR. The more simplified (user-friendly) format of the PER has resulted in a significant number of new submittals, as might be expected. However, the rate of closure has recently caught up with the rate of new PERs.

The corrective action task force, which created the new system, is being reconvened to attempt to make further improvements in the closure process, based on experience to date and impact from participating organizations to ease closure and raise the threshold for item inclusion. One necessary improvement is to facilitate the prompt transfer of PERs to the appropriate ACP program, as was originally intended. The purpose is to reduce the demand for management attention to issues of lesser importance for which the ACP program was designed and has been functioning successfully.

The subcommittee endorses this action, however, cautionary comments are in order.

1. The line organizations, and not QA, should be held responsible for expediting closure, as the line owns the problems and has the need and the resources to fix them.
2. It should be recognized that, while additional improvement is always possible, continued manipulation of the corrective action program is no substitute for acknowledging schedules and funding problems that must ultimately be addressed by the line organization. This may require rejection of some PERs as having too little cost benefit or, at least, scheduling and funding the corrective action for future year's implementation.

The subcommittee will review progress at our August 1991 meeting.

OPERATIONS, MAINTENANCE, AND MODIFICATIONS (OMM)
SUBCOMMITTEE REPORT

Fire Protection Program Problems

As a follow-up to the February NSRB meeting, Sequoyah activities in the Fire Protection/Appendix R areas were reviewed with John Willis, Scott Carter, and Vic Humm.

It was noted that a significant accumulation of deficiencies and discrepancies had occurred over the past year in the Fire Protection/Appendix R area. These had been summarized by Site Quality on an extensive history time line chart. In review of this chart, line management and Site Quality has essentially concluded the following as causes of a significant deterioration in the Fire Protection Program:

- Line management low priority given to the program.
- Ownership of program responsibilities not accepted.
- Inadequate number of qualified people assigned to the program.
- Poor corrective action timeliness.
- Inappropriate actions led to repetitive errors.

In March, the extensive history of these problems was reviewed in detail with Rob Beecken, Paul Trudel, and other line managers. This caused Mr. Beecken to assemble a task team (Mike Harding, Chairman), to address all of the Fire Protection/Appendix R problems and recommend a strategic corrective action plan to improve the fire protection program. A draft copy of the improvement team's report was received on May 17. Site quality reviewed the draft report for effectiveness of corrective actions and for thoroughness of coverage and presented comments to John Willis on May 22. A copy of the draft report will be distributed for NSRB information. Mr. Willis and Mr. Beecken indicated that they plan to finalize the improvement plan on June 1 and implement the recommendations immediately thereafter.

The Corporate QA office initiated an independent assessment of the Fire Protection/Appendix R program on May 22 at the request of M. O. Medford, Vice President, Nuclear Assurance, Licensing & Fuels. The Operations, Maintenance, and Modifications Subcommittee recommends that this issue remain open and review the results of the ongoing assessments and implementation of corrective actions at the August 1991 meeting (A128-2).

PROPAGATION OF MAINTENANCE ERRORS

The subcommittee met with L. Bryant and J. R. Walker to get an understanding of how the potential for propagation of maintenance errors (by making the same error in the adjustment or work on redundant channels or trains) is prevented. Sequoyah previously had an administrative instruction to address this potential problem. The instruction was cancelled in 1984 for two basic reasons.

1. It was expensive, cumbersome to implement, and might actually dilute the pool of expertise for a maintenance task.
2. It was to prevent a potential problem which never actually materialized.

Certain work methods are in place today which act to reduce the potential for maintenance error propagation.

1. Maintenance is done on a train oriented schedule which helps prove one train is all right before a second train is subjected to maintenance.
2. Second party verification and independent verification act to catch errors.
3. Post-maintenance testing and surveillance testing demonstrate the operability of equipment.
4. Maintenance is highly proceduralized.

A lack of demonstrated problems in this area convinced the subcommittee that no more formal level of control need be recommended.

WORK CONTROL METHOD CHANGES

The subcommittee met with D. Clift to get an understanding of how the planned new "ideal" plant modification process was to work. Various work initiation and control vehicles (work requests, design change notices, etc.) are replaced by a single vehicle, the "work order." This process is not expected to be initiated within engineering (the first step in the modification process) until after the Unit 1 Cycle 5 and Unit 2 Cycle 5 refueling outage work is processed. The "ideal" process is modeled after that used by plants with high SALP ratings. In general, the modification instructions which complement the "ideal" process have considerably less detail than those in use now. In the "ideal" process, modifications, in addition to engineering, can update the design control document tracking system.

In the interim, before the "ideal" process is in use, substantial changes to the current method of workplan/work package processing are being instituted to improve flow. The improved method should be in use by June 1991. The subcommittee cautioned Mr. Clift to be sure to include quality control inspectors in any training given to modifications personnel on the interim process.

MANUAL INITIATION OF PROTECTION ACTION PHILOSOPHY

The subcommittee requested Operations, Manager W. Lagergren, to state the site's philosophy on operator initiated protection actions. These actions include where a manual reactor trip is initiated to terminate an event. This is in contrast to relying on automatic protection action when it is apparent that plant conditions are degrading.

Mr. Lagergren stated that the site's philosophy is to manually intervene (with action to avoid the trip where possible or manually initiate the trip) to avoid challenging the protection system. While this philosophy seems adequately conservative, the subcommittee is aware that there are not many instances where Sequoyah operators shutdown the reactor before the automatic protection system initiated the trip. Various automatic trips on lo-lo steam generator level are examples.

At the August 1991 NSRB meeting, the subcommittee will measure the sensitivity of the control room staff and training to this philosophy.

RADIOLOGICAL CONTROL/CHEMISTRY (RAD/CHEM)
SUBCOMMITTEE REPORT

The subcommittee reviewed various aspects of Sequoyah's radiological and chemical programs. Included in this review were discussions on As Low As Reasonably Achievable (ALARA), recent incidents, outage planning, training, Post-Accident Sampling System (PASS), exposure tracking, and a tour of controlled areas. The following observations/recommendations are provided:

- The results of an NRC inspection conducted the week of May 14, 1991, which concentrated on several high rad area violations and instances where people entered areas without dosimetry were reviewed. The investigations and corrective actions taken appeared to be thorough and aggressive.

Of significant note is the implementation of a new Radiologically Controlled Area (RCA) control point where all workers entering the RCA interface with a senior radiological technician to discuss the work, radiological conditions, and precautions to be taken. This positive interface promises to add considerably to site radiological performance.

Recommendation

Consider including a representative from outage management at this control point to interface with work crews to ensure that interferences, tooling, equipment, support trades, plant conditions, etc. are appropriate at the job outset and, if not, direct resources to promptly resolve issues prior to workers entering the RCA. This should aid in reducing exposure and improving schedule performance (A132-3).

- The Source Term Reduction and ALARA programs were discussed and the following is provided:

Recommendation

A comprehensive list of sources of exposure should be compiled which includes not only "hot spots" but other sources such as tanks, filters, floor drains, etc. that contribute to site dose. The ALARA Committee should track action being taken to reduce these sources. Also, higher levels of modifications management should routinely attend the ALARA Committee meeting (and take action items), since Modifications receives 50-75 percent of site exposure during outage. Use of Notepad to query other utilities on pressurized water reactor valves that contribute significantly to Cobalt introduction should be considered (A132-4).

- The Radiation Exposure Tracking System (REXS) has significantly contributed to the sites ability to manage its ALARA program. However, problems still exist:

Recommendation

System downtime is a hindrance and its impact could be greatly reduced, particularly during outages, through the use of personal computers. Implementation of an effective MPC-hour tracking change (keyed to area air samples) would save an estimated 2500 man-hours/year. Installation of a "clock" feature on radiation work permit (RWP) sign-in would enhance the ability to address changing radiological conditions. The addition of interactive questioning upon RWP sign-in would improve the confidence that workers had read and understand their RWP (A132-5).

It is recognized that a tight schedule to complete phase 2 of REXS for Sequoyah may impact the addition of enhancements to the system. However, enhancements that will improve the plant's use of REXS should be prioritized for implementation.

- PASS training does not recognize time/exposure constraints on collecting and analyzing samples:

Recommendation

Include proficiency parameters in training to ensure original design criteria can be met in accordance with NUREG-0737. Ensure that the above is performed in the same anti-c's/respiratory protection anticipated for post-accident sampling conditions (A132-6).

- During a tour of the RCA, the following was observed:

Radiological postings and material condition generally appeared good. Housekeeping in the Radwaste truck bay was very poor, however, and general housekeeping would be enhanced by picking up "clean" anti-c's.

Recommendation

Posting of foreign material exclusion warnings around the spent fuel pool could be improved. Currently there are two signs for the entire area and one was partially covered (A132-7).

- Discussions were held with chemistry on effluent analysis and pathway monitoring. Two known unmonitored pathways were discussed, and it was reported that they had been analysed and were "trivial." This subject will be reviewed further by the subcommittee.
- Progress on the previously established action item (A128-4) regarding the corporate requirement for frisking when leaving a radiation area is ongoing but incomplete.

ENGINEERING (ENG) SUBCOMMITTEE REPORT

CONTAINMENT CORROSION CONTROL (A128-6)

The subcommittee discussed the NSRB action item A128-6 with Bill Goins, Nuclear Engineering (NE). This action item resulted from discussions on Generic Letter 89-79 last meeting and concerned resolution of responsibility for inspections to address potential corrosion of the ice condenser containment steel shell. Per Paul Trudel's memorandum to J. W. Proffitt dated May 17, 1991, NE has responsibility for these inspections and Tracking and Reporting of Open Items (TROI) action items have been assigned to track them.

The subcommittee learned that Watts Bar has equipment for remotely applying a protective coating to the vulnerable shell area which does not require removal and replacement of duct work. If Watts Bar shows that this can be easily done, application at Sequoyah will be considered. A preventive maintenance item for shell inspection for the next outage has been written.

The subcommittee recommends that acceptance criteria be established before inspecting for corrosion and that preventive action (coating) be pursued, if cost effective (A132-8).

GL-89-10 MOTOR OPERATED VALVE (MOV) EVALUATION STATUS

The subcommittee reviewed program implementation status with B. Pool, Nuclear Engineering (NE) and D. Romine, Technical Support, with particular interest in results of the thrust calculations being performed and the status of plans for testing during the upcoming Unit 1 Cycle 5 outage. The program includes a total of 280 MOVs for both units and common. As a result of IEN 90-40, phase two results, prioritization of MOVs was performed based upon design basis delta-P, i.e., MOVs with delta-Ps of greater than 350 psid are receiving first priority. Along those lines, 32 MOVs were selected (per unit) for thrust calculations, evaluations and testing (as possible) during the Unit 1 Cycle 5 refueling outage. For that group, thrust calculations are complete with the exception of four valves for which the calculations and evaluation are ongoing. Calculations completed to date indicate that two MOVs (FCV-70-87 and FCV-70-90, CCS to the thermal barrier) may be marginally deficient relative to the thrust calculations performed under the current methodology. These MOVs cannot be dP-tested to verify performance and accordingly are scheduled for modifications during the upcoming Unit 1 Cycle 5 refueling outage. It is expected that ten to fifteen other MOVs will be dP-tested during the upcoming Unit 1 Cycle 5 outage. Review of the performance characteristics and requirements for these valves indicates high confidence in acceptable results. However, contingency plans are being developed to address potential failures.

The subcommittee asked whether Justifications for Continued Operation (JCOs) had been prepared to address the current acceptability of the two CCS valves. Mr. Poole indicated that JCOs had not been prepared at this point. These MOVs are considered to be only marginally deficient and become so in part due to the conservative assumptions that must be taken relative to instrument inaccuracies (for setting up the MOVs). Additionally, the new methodology for thrust calculations is more conservative than the previous methodology and has not been fully established by testing. For these reasons, it is not believed by engineering personnel that an operability concern has been clearly established. The subcommittee considers that the deficiencies identified by utilization of currently accepted methodology should be dispositioned in accordance with TVA's corrective action program, e.g., documented on a PER, and included in the basis for current acceptability (A132-9). This action ensures that a methodical assessment of significance and corrective action is conducted consistent with TVA's corrective action program and 10 CFR 50 Appendix B. Additionally, appropriate documentation is thereby provided to support program audits. Further industry efforts could result in more or less conservative methodology, i.e., it is not a "given" that the current methodology will ultimately be found to be conservative. The subcommittee discussed this viewpoint with Mr. Poole and Mr. Romine, with the recommendation that the CCS MOVs and any future deficiencies be handled in a similar manner.

The subcommittee plans to follow up again on program implementation status, following testing during the upcoming Unit 1 Cycle 5 outage this fall.

EAGLE-21 PROBLEMS

The subcommittee met with Doug Craven, Ron Gladney, and Dennis Dimopoulos to discuss the current status of the Eagle-21 system. The subcommittee was briefed on the results of the recent NRC audit and problems associated with the startup and operation of the system. The NRC was primarily interested in generic issues related to adequate verification and validation of large digital safety-related computer systems rather than specific TVA issues.

Approximately 87 percent of all Eagle-21 problems can be traced to the reliability of two components (Intel chip and power supply). Westinghouse and TVA personnel have worked with the vendors involved, and it is believed that these problems have been resolved. TVA pushed Westinghouse hard to complete the system on a tight schedule and was well aware that the system was first-of-a-kind. The Technical Support engineers did not feel that the number of problems encountered have been more than expected for a new system.

The Technical Support engineers appeared quite knowledgeable of the system and were satisfied with the support received from Westinghouse to resolve operational problems.

RADIATION MONITOR CAUSED CONTAINMENT VENTILATION ISOLATIONS (CVIs)

The subcommittee met with Mr. Craven, Jeff Newton, and Joe Mack Hereford of Technical Support. These discussions were a follow-up to previous reviews of actions taken or planned to limit inadvertent CVIs. When discussed in November 1990, two modifications (deletion of the isolation function from radiation monitors RM90-106 and 112 and the addition of block switches to facilitate testing) were identified and said to be funded in 1991, but were not yet scheduled for implementation.

The subcommittee learned that implemented corrective actions have apparently been effective as there have been no radiation monitor initiated CVIs since last summer. The two modifications discussed previously have been scheduled for implementation in late 1991, or early 1992. An additional minor modification (EMI tape) has been made. A fourth modification (adjustable reset of high rad set points) has been proposed. The subcommittee is satisfied with the progress being made in this area.

MAIN STEAM CHECK VALVE CODES (MSCV) AND BOUNDARIES (A128-7)

The subcommittee reviewed the final disposition of this item and has no remaining questions. The MSCVs will not be added to the Section XI program and current inspection and maintenance practices will continue.

SYSTEM ENGINEER INVOLVEMENT WITH NUCLEAR EXPERIENCE REVIEW (NER) PROGRAM

This topic was on the subcommittee agenda to address NSRB advisor comments on hydrogen gas binding of the centrifugal charging pump NRC violation. This problem had been reviewed by the full NSRB at earlier meetings. The more general question addressed here was, "Are Technical Support system engineers effectively involved with NER issues and evaluations?"

From John Gates perspective, the NER Program is effectively informing system engineers of NER issues and investigation results. System engineers review all NER items with potential system impact and see most others for information. Like most organizations, the current Technical Support challenge is to accomplish their mission with shrinking resources. The subcommittee continues to emphasize the importance to safety of a strong, proactive Technical Support System Engineering organization.

NUCLEAR ENGINEERING (NE) PERFORMANCE INDICATORS

Tom Gerber met with Bob Witthauer of NE on May 21, 1991, to discuss the availability and utility of NE performance indicators. Three indicators (FCNs per DCN, Safety Evaluations Rejected, and LERs caused by NE) which had been monitored per Procedure Method (PM) 89-06 were judged by NE to not be meaningful and are no longer tracked. Likewise, Quality Assurance trending of NE caused deficiencies and findings has not been found useful by NE. Corporate NE is developing an NE performance indicator program which is now being reviewed by the project organization. The subcommittee will review this program when finalized.

UNREVIEWED SAFETY QUESTION DETERMINATION (USQD)
SUBCOMMITTEE REPORT

Meeting No. 23 of the USQD Subcommittee was held on April 29, 1991, at the Sequoyah Nuclear Plant. All subcommittee members were present. Just prior to the meeting, V. D. McAdams was appointed to replace F. C. Mashburn for the Site Independent Safety Engineering Manager position on the subcommittee. Mr. Mashburn provided written comments on his assigned safety assessments/safety evaluations (SA/SEs), but Mr. McAdams attended the meeting.

I. SUMMARY

The subcommittee conducted discussions on 1) the status and function of the 10 CFR 50.59 Program and recent NRC actions on the related Unresolved Item (URI) 89-15-07, 2) the reinstatement of the 10 CFR 50.59 library and maintenance of the living safety analysis report (SAR), 3) the recent Nuclear Manager's Review Group (NMRG) report, "Review of Internal Plant Reviews," and 4) twenty (SA/SEs).

II. SUBCOMMITTEE DISCUSSION

- A. Previous subcommittee reports to the Nuclear Safety Review Board (NSRB) had noted the subcommittee's concern of the 10 CFR 50.59 Corporate Standard Revision (Revision 3) elimination of the requirement for formal training of SA preparers. Although the standard was revised, Sequoyah never implemented that change. Recently NRC brought up this issue since it believed that, "TVA initially took acceptable (10 CFR 50.59 Program) corrective action but, with Revision 3 to the standard, has reverted to an unacceptable process." A recent reformatting of the standard and a standard change notice returned the training requirement for SA preparers. Unless there are subsequent changes, the subcommittee considers this concern resolved.
- B. The subcommittee report given at the February 1991 meeting noted the thought being given to disbanding the 10 CFR 50.59 library and maintenance of the SAR. This is no longer being considered. The new standard outlines current requirements for a 10 CFR 50.59 library.
- C. The subcommittee was informed of the conclusions reached in the NMRG report on "Review of Internal Plant Reviews." Since the NMRG report found the program generally acceptable and took no exceptions to the way the subcommittee monitors the program, no changes in the conduct of subcommittee business is planned as a result of this review.

- D. The subcommittee discussed comments on twenty SA/SEs. Two of these contained errors and were returned to the preparing organization for correction. Another two were deficient to a point the subcommittee believed the preparing organization will want to revise them to leave an adequate historical record. Another two required subcommittee chairman discussion with the cognizant technical people to confirm the type of work to be accomplished but the SA/SEs were ultimately found acceptable. The others SA/SEs reviewed were acceptable.
- E. The Sequoyah Plant Operations Review Committee recognized proposed pipe whip restraint and jet impingement shield work as involving an unreviewed safety question. Appropriate hold points were called for to receive NRC review before preceding with physical changes. This issue was subsequently discussed by the full board where it was learned that the modification was no longer scheduled for implementation.

CONCURRENCE SHEET

DOCUMENT NAME: MINUTES OF MEETING NO. 132 OF THE SEQUOYAH NUCLEAR SAFETY REVIEW BOARD (NSRB) - MAY 22-23, 1991

ORIGINATING ORGANIZATION: NUCLEAR SAFETY REVIEW BOARD

DOCUMENT PREPARED BY: W. M. Berry

ACCESSION NO.: L42 910603.800 DATE: 6/3/91

CONCURRENCES

Name	Signature - Comment	Date
W. M. Berry	<i>W. M. Berry</i>	6-5-91
J. J. Loud	<i>J. J. Loud</i>	6/5/91
T. J. McGrath	<i>T. J. McGrath</i>	6/6/91
Ben	<i>D. D. Bern. J.</i>	6/7/91

1. AK
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MB

INSTRUCTIONS:

- After each individual concurs, check a or b
 a. forward to next individual
 b. contact this person _____ ext. _____
- When concurrences are complete, forward to _____ extension _____
- Other instructions.

TO : Dan A. Nauman, Senior Vice President, Nuclear Power, LP 3B-C
FROM : T. J. McGrath, Chairman, Nuclear Safety Review Board, LP 3B-C
RE : June 6, 1991

SUBJECT: MINUTES OF MEETING NO. 132 OF THE SEQUOYAH NUCLEAR SAFETY REVIEW BOARD (NSRB), MAY 22-23, 1991

Attached for your information are the minutes of the subject meeting. Copies of the minutes are provided for you to forward to the Senior Executive Officer and to the Board of Directors.

TJM:AER
Attachments

TJM McGrath

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