SEQUOYAH NUCLEAR SAFETY REVIEW BOARD
MINUTES OF MEETING NO. 137
FEBRUARY 19-20, 1992

EXECUTIVE SUMMARY

Sequoyah Nuclear Safety Review Board (NSRB) meeting No. 137 was held February 19-20, 1992. All members and advisors were present for both days, except L. W. Myers, R. L. Lumpkin, Jr., and G. R. Mullee.

Discussed below are key items from the meeting:

Site Chemistry Program

At the previous NSRB meeting, deficiencies and weaknesses in the Sequoyah Nuclear Plant (SQN) Chemistry Program were discussed, which if not corrected could impact chemistry control. The Plant Manager has approved a plan to prioritize and implement corrective actions to improve the chemistry program. An Institute of Nuclear Power Operations (INPO) assist visit, which began on February 24, 1992, was also arranged. The NSRB noted that these program deficiencies, which included trending analyses, procedures, training, data management, and personnel accountabilities, indicated that corrective actions implemented in response to the pre-restart Operational Readiness Reviews may have decreased in effectiveness and that a review of these actions was warranted. The corrective action plan will be revised as necessary based upon the previous Operational Readiness Review information and the INPO assist visit.

As Low As Reasonably Achievable (ALARA)

SQN had established an objective of reducing outage radiation exposure to 250 man-rem by 1995. The NSRB discussed various radiation exposure reduction approaches to achieve that objective. The recent SQN Unit 1 outage included the effective use of lead shielding to reduce radiation exposure, and the use of additional shielding is not expected to provide further significant dose reductions. Therefore, SQN must look at other means of reducing radiation exposure. Preliminary evaluations indicate that during an outage, the number of man-hours spent performing work under radiation work permits could be reduced. Improvements in this area may produce the most significant short-term reductions in dose. Another major source of exposure reduction can come from reducing source terms. Activities to reduce source terms appear to be going slowly. Overall, there appears to be a lack of a long-term plan to reduce radiation exposures. SQN will develop a long-range dose reduction plan directed toward achieving the 250 man-rem outage goal.

NUCLEAR REGULATORY COMMISSION

Docket No. 50-390 Official Exh. No. Joint-4

In the matter of TVA

Staff Joint	IDENTIFIED ✓
Applicant	RECEIVED ✓
Intervenor	REJECTED
Other	WITHDRAWN
DATE 4/24/02	Witness
Clerk BHM	

Minutes of Nuclear Safety Review Board (NSRB) meeting No. 136 were approved. All members and advisors were present for both days, except R. L. Lumpkin, Jr., G. R. Mullee, and L. W. Myers. D. A. Nauman, Senior Vice President, Nuclear Power, addressed the NSRB on February 20, 1992.

The following topics of interest were discussed.

Site Chemistry Program

At the previous NSRB meeting, deficiencies and weaknesses in the Sequoyah Nuclear Plant (SQN) Chemistry Program were discussed, which if not corrected could impact chemistry control. Both Corporate and Site Chemistry have agreed with this assessment. The Plant Manager has approved a plan to prioritize and implement corrective actions to improve the chemistry program. An Institute of Nuclear Power Operations (INPO) assist visit, which began on February 24, 1992, was also arranged. The NSRB noted that these program deficiencies, which included trending analyses, procedures, training, data management, and personnel accountabilities, indicated that corrective actions implemented in response to the pre-restart Operational Readiness Reviews may have decreased in effectiveness and that a review of these actions was warranted. The corrective action plan will be revised as necessary based upon the previous Operational Readiness Review information and the INPO assist visit. Action item A136-1 remains open.

As Low As Reasonably Achievable (ALARA)

SQN had established an objective of reducing outage radiation exposure to 250 man-rem by 1995. The NSRB discussed various radiation exposure reduction approaches to achieve that objective. The recent SQN Unit 1 outage included the effective use of lead shielding to reduce radiation exposure, and the use of additional shielding is not expected to provide further significant dose reductions. Therefore, SQN must look at other means of reducing radiation exposure. Preliminary evaluations indicate that during an outage, the number of man-hours spent performing work under radiation work permits could be reduced. Improvements in this area may produce the most significant short-term reductions in dose. The site will evaluate work activities in radiologically controlled areas to ensure optimization of worker efficiency (A137-1). Another major source of exposure reduction can come from reducing source terms. Activities to reduce source terms appear to be going slowly. Overall, there appears to be a lack of a long-term plan to reduce radiation exposures. SQN will develop a long-range dose reduction plan directed toward achieving the 250 man-rem outage goal (A137-2).

At the November meeting, it was agreed the site would evaluate the SQN and Westinghouse Radiological Control/ALARA programs to ensure that radiation exposure tasks were effectively managed. The Site Project Engineer evaluated the design change process to ensure that radiological control/ALARA considerations were addressed (S10 910226 800). Further evaluation of the process will be reported on by the Site Vice President at the next meeting. Action item A136-3 remains open.

The subcommittee was briefed on the fire protection improvement plan and progress made in the last six months. Several improvement initiatives were identified. The subcommittee will review Phase 1 of the TVA fire protection plan submitted to NRC (S10 920207 800) at the next meeting. This action item (A128-2) remains open.

Radiological Control and Chemistry (RAD/CHEM) Subcommittee

Radiological Control (RADCON) management agreed that requisite self-criticism and the timely reporting of deficiencies via the Radiological Awareness Report process have not been adequately communicated within the RADCON organization and requires additional work. RADCON has proposed action in response to A133-1 to correct this problem. This action item (A133-1) remains open to assess the effectiveness of these actions.

About two years ago, Modifications initiated a 4-hour ALARA training program for their first line supervisors and planners. The program has since been dropped. SQN will determine whether this is adequately covered in contractor (Bechtel) training and evaluate reinstituting a program for ALARA training in the planning and executing of modifications work in radiological areas (A137-3).

At the last meeting, it was identified that training on the post-accident sampling system did not recognize the time or radiation exposure constraints that exist when collecting and analyzing post-accident samples. A plan was being developed to verify the capability of each lab shift to obtain and analyze NUREG 0737 post-accident samples in under three hours. The subcommittee will review the plan. This action item (A132-6) will remain open until a plan has been finalized to ensure compliance with the 3-hour post-accident sampling requirement.

Progress on open item A133-9 (the impacts from unmonitored radiation release paths) was not evaluated during this meeting. The site response (S52 911112 062) addressed the concern, and the subcommittee will follow up on actions at the next meeting. This action item (A133-9) remains open.

A concern from a previous NSRB meeting was that the Radiological Assessment Review Committee (RARC) may not be necessary as currently configured. A plan was submitted to revise the procedure and technical specification so that the RARC functions as a subcommittee to the Plant Operations Review Committee. This action item (A133-2) was closed.

Engineering (ENG) Subcommittee

Corporate Engineering developed, with site input and concurrence, a preliminary set of Nuclear Engineering (NE) performance indicators. However, the subcommittee questioned the efforts being made by NE in using or improving the quality of the performance indicator information issued by QA. QA and NE will report their progress in this area at the next meeting. This action item (A133-3) remains open.

Assessment

Consideration should be given to reinstituting a program for training at least first line supervisors and planners in the planning and executing of work in radiological areas for the U2C5 outage. RADCON management was planning to perform training for U2C5. J. L. Wilson has agreed to look at this item. The subcommittee will review this area at the next meeting.

III. Shot-Peening (A136-2) (Contacts: C. E. Kent, C. G. Hudson, R. P. Reed, and J. D. Stamey)

The action being taken to address radiological deficiencies in the shot-peening equipment was discussed. In general, these actions appear adequate to reduce exposure significantly. The goal for the job is approximately 54 man-rem (Westinghouse portion is 36) which is aggressive but considered achievable.

Assessment

One action item which appeared not to have been addressed was level control on the dust cup. It was recommended that action be taken to ensure that the dust cup does not overfill. RADCON agreed to pursue this matter.

IV. Chemistry (A136-1, A132-6) (Contacts: G. E. Fiser, R. E. Richie, and W. E. Jocher)

A. Chemistry Corrective Action Plan - The subcommittee reviewed the SQN chemistry corrective action plan (dated January 17, 1992). The plan has been approved by the Plant Manager and is presently being implemented. There was a difference of opinion between SQN and Corporate Chemistry regarding the seriousness of chemistry problems at SQN. It was decided that a review of the previous findings including the Operational Readiness Review results, status of corrective actions, and the current corrective action plan and the INPO assisted visit recommendations be reviewed together and a comprehensive plan developed.

Assessment

The following steps are being taken:

1. An INPO assist visit is scheduled for week of February 24, 1992.

2. Combine current corrective action plan, results from the INPO visit and the pre-restart ORR reviews into a comprehensive corrective action plan.

3. Quarterly reviews by SQN Chemistry, Corporate Chemistry, and the Plant Manager will be held to review status of corrective actions and to identify any new issues.

The subcommittee will continue to monitor progress on the development and implementation of a chemistry improvement program. Action item A136-1 remains open.

B. Post-Accident Sampling - Item A132-6 has been on the agenda since May, 1991. The subcommittee recommended that this item be resolved as soon as possible. Both SQN Chemistry and Corporate Chemistry committed to addressing and resolving the issue promptly. One issue developed during discussions pointed out the potential for not satisfying the 3-hour requirement for taking and analyzing samples. A plan has been developed to verify the capability of each lab shift to draw and analyze NUREG 0737 samples in under three hours. The plan consists of scheduled demonstrations for all technicians to show compliance with 3-hour sample requirements. This item will remain open until the 3-hour post accident sampling requirement is demonstrated for all shifts.

C. Submicron Filtration - The 25 micron reactor coolant letdown filter between the demineralizers and volume control tank has been replaced on both units with a 5 micron nominal filter. The seal water injection filters on the A and B trains of both units have been replaced with 5 micron nominal filters. The seal water injection outlet filters are 25 micron nominal.

Unit 2 will be started up initially with 2 micron absolute filters. The filters on Unit 1 will be changed out at the same time. Both units will run until there are excessive dP or dose rate problems, at which time the filters will be changed out and replaced with 1 micron absolute filters. The goal is to run three months, at which time the filter size will be reduced to 0.5 micron absolute filters. This process will be repeated until all filters are 0.2 micron absolute.

V. Raw Service Water Task Force (Contact: G. L. Pitzl)

The Raw Water Corrosion Control program enhancement effort at BFN was reviewed and the overall scope and direction appears to be going in the right direction. It will be completed about May 15, 1992, at which time SQN will be evaluated.

Assessment

The subcommittee will continue to monitor progress in this area.