



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

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS (OP306001)
ELEMENT REPORT OP 306.01-SQN
"FIRE PROTECTION EQUIPMENT WORKS IMPROPERLY"

1.0 INTRODUCTION

The problem as defined by TVA was a failure to adequately address the installation requirement for closure mechanisms needed to close fire doors against airflow and to accurately specify the installed door closure equipment in applicable output documents.

2.0 EVALUATION

Category: Operations (30600)
Subcategory: Fire Protection (30601)
Element: Fire Protection Equipment Works Improperly (306.1SQN)
Employee Concerns: IN-85-311-008

The basis for Element Report OP30601 - SQN, Revision 4, dated November 18, 1986, is Sequoyah Employee Concern IN-85-311-008 which states:

"The fire door A143, 20 feet outside control room entrance, is habitually open despite safety signs that require door to be closed at all times. Installing a self closing mechanism was expressed as being the solution to this concern." This concern was evaluated by TVA as potentially affecting the fire rated separation requirement for safety-related components and equipment and was potentially applicable to Sequoyah."

TVA reviewed seventy-four maintenance requests written on door closure mechanism over the past 18 months. Most of these requests were written to resolve deficiencies identified during the surveillance inspection of fire doors required by the Technical Specifications. Proper operation of the door was usually achieved by adjustment of the door closer mechanism or replacement of the door closer. However, in three cases, the maintenance request specified a replacement closure with a model number different from that prescribed by the door schedule of the construction documents. Apparently, these replacement closures had a greater strength than that specified by the schedule. The door closer for door A143 had recently been replaced and was adequate for the

specific application but was different from that prescribed by the construction door schedule.

TVA's review noted that fire door closure problems frequently occur because of differential air pressure across doors due to transients such as removing fans from service and alterations of flow paths. Also, it was noted that design engineering apparently did not consider forces due to design pressure when sizing door closer mechanisms. However, adequate procedures are in effect to identify fire doors which are unable to close and latch due to weak closures or other deficiencies. The action statement of the Technical Specification limiting condition for operations would be implemented for all identified inoperative fire doors.

To improve the surveillance of fire doors, the surveillance procedures are to be revised to require normal ventilation system lineup and building pressure in the required range prior to and during performance of the surveillance. Doors which do not close and latch are to be corrected by closure adjustments. If the problem cannot be corrected, an engineering evaluation will be conducted to determine if the problem is due to a ventilation imbalance or design deficiency and appropriate corrective action will be initiated. Also, to assure that doors are provided with the correct closure, all doors are to be inspected to verify that the installed door closures are in conformance to that specified by the door schedule of the construction drawings.

Corrective Action Tracking Documents (CATD) have been issued to track completion and implementation of these corrective actions. This is acceptable for restart.

3.0 CONCLUSION

The concern for the failure of the fire doors to properly close and latch has minor safety significance due to the additional plant fire protection features provided and the limiting condition for operation which have been implemented for those identified doors which will not properly close and latch. Therefore, the NRC staff concludes that TVA's investigation and resolution of the concern described in Element Report OP30601 - SQN were adequate. The NRC staff also concludes that no further action by the NRC is required.

SEQUOYAH NUCLEAR POWER PLANT - UNITS 1 AND 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS (OP306001)
ELEMENT REPORT OP 306.01-SQN
"FIRE PROTECTION EQUIPMENT WORKS IMPROPERLY"

I. Subject

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Subcategory: Fire Protection (30601)
Element: Fire Protection Equipment Works Improperly (306.1SQN)
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II. Summary of Issue

The problem as defined by TVA was a failure to adequately address the installation requirement for closure mechanisms needed to close fire doors against airflow and to accurately specify the installed door closure equipment in applicable output documents.

III. Evaluation

TVA reviewed seventy-four maintenance requests written on door closure mechanism over the past 18 months. Most of these requests were written to resolve deficiencies identified during the surveillance inspection of fire doors required by the Technical Specifications. Proper operation of the door was usually achieved by adjustment of the door closer mechanism or replacement of the door closer. However, in three cases, the maintenance request specified a replacement closure with a model number different from that prescribed by the door schedule of the construction documents. Apparently, these replacement closures had a greater strength than that specified by the schedule. The door closer for door A143 had recently been replaced and was adequate for the specific application but was different from that prescribed by the construction door schedule.

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Corrective Action Tracking Documents (CATD) have been issued to track completion and implementation of these corrective actions. This is acceptable for restart.

IV. Conclusion

The concern for the failure of the fire doors to properly close and latch has minor safety significance due to the additional plant fire protection features provided and the limiting condition for operation which have been implemented for those identified doors which will not properly close and latch. Therefore, the NRC staff concludes that TVA's investigation and resolution of the concern described in Element Report OP30601 - SQN were adequate. The NRC staff also concludes that no further action by the NRC is required.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 & 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT 30701 "PLANT OPERATIONS REVIEW COMMITTEE (PORC) PROCESS"

I. Subject

Category: Operations (30000)

Subcategory: Nuclear Power/Site Program/Procedures (30700)

Element: "Plant Operations Review Committee (PORC) Process" (30701)

Concern: IN-85-457-001

The basis for element report 30701-SQN Revision 2 dated February 27, 1987, is the following Watts Bar employee concern:

IN-85-457-001: Inadequate review of plant procedures by Plant Operations Review Committee (PORC). Reviews not conducted in accordance with AI 3.1 (refer to Surveillance Instruction Procedure).

This concern was evaluated by the Operations Category Evaluation Group Head (CEG-H) and determined to be generically applicable to SQN.

III. Evaluation

The requirements for the PORC process are delineated in the Technical Specifications (TS) and Regulatory Guide 1.33. This Regulatory Guide implements and endorses ANSI N18.7. Commitment to these documents by the Tennessee Valley Authority (TVA) for SQN is contained in the SQN Final Safety Analysis Report (FSAR) and the Quality Assurance Topical Report.

Effectiveness of implementation was assessed through a review of SQA-21, Onsite Independent Review (PORC), SQN TS for Units 1 and 2, and AI-4, Plant Instructions - Document Control. Pertinent documentation from the above references was reviewed and informal interviews were held with various members of the SQN staff, notably, the Plant Operations Review Staff (PORS) Supervisor, the PORC secretary, a PORC chairman and a member of the Nuclear Safety Review Board (NSRB). Additionally, the evaluator attended a regular meeting of PORC on Wednesday, November 11, 1986, to witness the conduct of business. The evaluator also reviewed applicable NRC inspection reports that addressed the PORC process. The evaluation determined that the concern was valid for Sequoyah.

As a result of TVA and NRC identified deficiencies with the PORC process, TVA has instituted changes to correct these deficiencies. One of the primary changes instituted was the formation of a qualified group of plant personnel to serve as a subcommittee for PORC reviews. Specific plant staff individuals are identified as Qualified Individuals (QI) within their discipline and area of expertise. Also included are specific qualification requirements that must be met to be designated as a QI.

This approach allows PORC to achieve its responsibilities through the use of QIs on a delegated, subcommittee approach. TVA has submitted a Technical Specification change to the NRC to recognize this new PORC process. An effort is underway to adapt this methodology at all TVA nuclear plants through a proposed revision to the Nuclear Quality Assurance Manual (NQAM), Part II, Section 1.5. The draft document explaining this proposed change is titled, "Onsite Independent Review - PORC," dated October 28, 1986. This draft is currently circulated for review and comment; no scheduled date for potential implementation was projected.

IV. Conclusion

The NRC staff believes that the TVA investigation of the concern was adequate, and their resolution of the concern as described in Element Report 30701 is acceptable for restart.

SEQUOYAH NUCLEAR POWER PLANT
UNITS 1 & 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT OP 30704 "Workplan Process"

I. Subject

Category: Operations (30000)

Subcategory: Nuclear Power/Site Program/Procedure (30700)

Element: Workplan Process (30704)

Concerns: XX-85-070-005

XX-85-070-003

SQP-6-003-003

IN-85-305-N03

SQP-86-003-N06

XX-85-070-002

XX-85-070-006

HI-86-090-N02

The basis for element Report OP 30704-SQN Rev 7 dated March 10, 1987, are the following employee concerns:

XX-85-070-005

"Sequoyah: Workplan (number known) to take equipment out of service for repair/modification was never authorized by engineering but work plan modifications have been completed. (Names/details to the specific case are known to QTC and withheld to maintain confidentiality.) Nuclear Power Concern. CI has no further information."

XX-85-070-003

"Sequoyah: Workplans contain inaccurate data. Majority of the DCRs taken care of but not documented right and drawings do not reflect the as-built conditions. Details withheld to maintain confidentiality. Nuclear Power Concern. CI has no further information."

SQP-6-003-003

"Conduit is currently being removed and reinstalled (rerouted) without proper documentation. Lower containment. Fan room 1.

Unit 2, approximate elevation 680'. Workplan 11882. Nuclear Power Concern. CI has no further information."

IN-85-305-N03

"NRC identified the following concern from QTC report IN-85-305-001. No administrative procedure exists for controlling field modifications for vendor supplied items."

SQP-86-003-N06

"NRC identified the following concern based on review of QTC file. If documentation deficiency for SQP-86-003(-003) is substantiated, it would be a QA violation of Appendix B and would be reportable. The subject form (ERT form M) indicated it is not reportable."

XX-85-070-002

"Sequoyah Units 1 and 2: CI expressed a concern that specific quality problems (open since 1980) are in the process of being intentionally closed in a dubious manner to prevent attracting the attention of the NRC. (Names/details to the specific case are known to QTC and withheld to maintain confidentiality). CI has no more information. Nuclear power department concern."

XX-85-070-006

"Sequoyah Units 1 and 2: Closure of specific quality documentation is being falsified in order to close these problems out before the NRC becomes aware of them. (Names/details to the specific case are known to QTC and withheld to maintain confidentiality). Nuclear power concern. CI has no further information."

HI-86-090-N02

"Untrained individuals were brought to Sequoyah to work ECROs, DCRs, and WPs."

II. Summary of Issue

TVA perceived this element to consist of four distinct issues. The first issue concerned the reuse of electrical conduit at SQN and the alleged failure to document this work. The second issue concerned the failure of the modification program to ensure that drawings are updated to reflect system changes, and the failure to obtain the necessary authorization for each workplan and to process open workplans to avoid NRC knowledge of quality problems and errors with workplans. The third issue concerned procedural controls for plant modifications to vendor supplied items. The fourth issue concerned untrained individuals being brought to SQN to work Engineering Change Notices, Design Change Requests, and Workplans.

III. Evaluation

- A. The concern about reuse of electrical conduit and failure to document this work was investigated by NSRS and the investigation concluded that the concern was unsubstantiated. SQN procedures and policies do not prohibit reuse of electrical conduit.
- B. The concerns addressing failure to update plant documentation and failure to obtain all required signatures before the completion of workplans was substantiated by an NSRS Investigation of these concerns. As a result SQN has initiated the Design Basis Verification program and the ECN closure project to review and close open ECNs. The concern addressing processing open workplans to avoid NRC knowledge of quality problems and errors with workplans was not substantiated by the NSRS evaluation.
- C. The concern addressing no administrative control procedures for modifications to vendor supplied items was not substantiated. Administrative Instruction AI-19 is the controlling document for all plant modifications after the plant is licensed. The procedure controls the preparation, execution and close out of all workplans which are required for the modification of any plant equipment.
- D. The concern that untrained individuals were brought to SQN from BLN to work on ECNs, DCRs and WPs was not substantiated. Based on TVA interviews with cognizant engineering supervisors from both SQN and BLN and a QA Audit Report the individuals were technically qualified engineering personnel.

IV. Conclusion

The NRC staff believes that the TVA investigation of the concerns was adequate, and their resolution of the concerns as described in Element Report OP 30704 is acceptable for restart.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 & 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT OP 30705
"SURVEILLANCE PROGRAM AND INSTRUCTIONS"

I. Subject

Category: Operations (30000)

Subcategory: NUCLEAR POWER/SITE PROGRAM/PROCEDURE (30700)

Element: SURVEILLANCE PROGRAM AND INSTRUCTIONS (30705)

Concern: IN-86-014-001
IN-86-208-001

The basis for Element Report OP 30705 - SQN, Rev. 1, dated December 18, 1986, are the following employee concerns:

IN-86-014-001: "The amount of SIs run on essential equipment is too much. Running numerous SIs on certain systems require the pumps, chillers, compressors, etc., to be cycled on and off. The starting duty on the equipment wears it down and causes more frequent failures such as bearing failures. An example is that only three of eight ERCW pumps are presently operational.

IN-86-208-001: "Numerous SI packages are required to be performed, which is detrimental to equipment operation due to an excessive number of start/stops. SIs also require too much time of licensed operator positions (more time spent in paperwork than in monitoring plant performance). Equipment affected is the ERCW pumps, diesel generators and fire pumps.

II. Summary of Issue

TVA has perceived four issues from concerns IN-86-014-001 and IN-86-208-001.

The first is that there is not an integrated approach to surveillance testing with the objective of minimizing starts. The second is that surveillance requirements require excessive testing. The third is that excessive surveillance testing frequencies cause equipment failures. The fourth is that the excessive paperwork prevents licensed operators from attending properly to the units.

III. Evaluation

TVA evaluators conducted interviews with cognizant operations personnel at Sequoyah and Chattanooga, reviewed relevant NSRS reports, applicable TVA procedures, regulatory requirements and appropriate outside documents addressing the issues. TVA evaluated EPRI Report NP-4264, Failures Related to Standby Equipment (Volume 1: Pump Testing) (Volume 2: Diesel Generator), dated October 1985 and has submitted a change request to the technical specification on August 8, 1986, to reduce testing frequencies. In addition, the SI-1 review check list asks whether all SIs that can be run concurrent are listed in the SI instructions. TVA believes this item will ensure that all SIs that can be run concurrently to reduce equipment start/stops will be identified. TVA does not consider completion of the SI review for reduction of start/stops as a startup issue.

TVA evaluator review of AI-2 section 1.16 identified that licensed operators positions have the authority to terminate activities and/or expel persons from the control room if he determines that the condition is adversely affecting his capability to operate the unit in a safe manner. TVA evaluator interviews with operations personnel indicated that they did not allow paperwork to take priority over the unit. TVA does emphasize that SI paperwork is used to verify the operability of the unit.

IV. Conclusion

The NRC staff believes that the TVA investigation of the concern was adequate, and their resolution of the concern as described in Element Report OP 30705 is acceptable for restart.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 & 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT OP 30706, "TEST PROCEDURE/PROGRAMS"

I. Subject

Category: Operations (30000)

Subcategory: Site Program/Procedures (30700)

Element: Test Procedure/Program (30706)

Concern: XX-85-001-001
SQM-86-004-017
WBN-233
XX-85-077-001
IN-86-209-011

The basis for Element Report OP 30706 - SQN, Rev. 2, dated April 22, 1987, are the following employee concerns.

XX-85-001-001: Sequoyah DG batteries have been replaced without initial testing per IEEE-450. A Potentially Reportable Occurrence (PRO) was written and determined not reportable by the compliance section.

SQM-86-004-017: Certain safety related equipment may not have been properly tested. One of the items involved are some tubes on the fuel floor. Other items are not specifically known. Details known to Quality Technology Corporation (QTC) withheld because of confidentiality. No further information may be released.

WBN-233: System 13, Fire Protection System, does not have enough approved manuals or prints for maintenance. The concerned individual (CI) has indicated that a surveillance instruction does not exist to check system from the transmitter/receiver panel through to the console computer. CI has indicated that an approved master list does not exist of printouts or modifications to the system. Individual is also concerned that individuals maintaining/operating the system are inadequately trained. CI requests that a check on availability of spare parts be made.

XX-85-077-001: Sequoyah - early 1980 and middle of 1981. Unit 2. The preoperational prerequisites are questionable. Details known to QTC, withheld due to confidentiality. CI has no further information Construction department concern.

IN-86-209-011: TVA fragments system responsibilities to minimize problems when an employee leaves. The overall result of this policy is that partial tests, partial reviews, and increased coordination efforts are required. This fragmented approach leads to misunderstandings and mistakes. Trying to coordinate with several people leads to retesting, reworking, moving equipment, removing equipment, and removal and reinstallation of piping systems. Systems may be broken up into several different tests, and you have several different engineers doing the tests.

Interfaces are not always clear which leads to mistakes and misunderstandings. With these interface problem test results could potentially be incorrect or incomplete. CI has no additional information. Nuclear power department concern.

II. Summary of Issue

Concern XX-85-001-001 addresses the lack of initial testing per IEEE-450 after the diesel generator batteries were replaced and potential reportability of this occurrence. This concern was initially addressed by the NSRS in report I-85-109-SQM issued November 18, 1985. Several memoranda were also sent between Sequoyah management and the manager of power and engineering concerning the NSRS investigation results.

Concern SQM-86-004-017 involved improper testing of some tubes on the fuel floor.

Concern WBN-233 addresses five issues associated with the fire protection system:

1. Not enough approved manuals or prints for maintenance.
2. No surveillance instruction to check system from transmitter/receiver through console computer.
3. No approved master list of printouts or modifications to system.
4. Individuals maintaining/operating the system are inadequately trained.
5. Availability of spare parts.

Concern XX-85-077-001 questions the adequacy of the preoperation prerequisites for unit 2.

Concern IN-86-209-011 identifies that test results could potentially be incorrect or incomplete because of fragmentation of test responsibilities between several people.

III. Evaluation

TVA evaluators reviewed the NSRS report written on the evaluation of Concern XX-85-001-001. NSRS was initially assigned the responsibility for review of this concern. The NSRS review took place August 5-19, 1985. The NSRS evaluation encompassed a review of the batteries at Sequoyah from issuance of purchase order or transfer from another TVA site through installation at Sequoyah. The NSRS found that after battery installation the post modification testing left questions unanswered concerning commitments to IEEE-450. The requirements of IEEE-450 are very similar to surveillance instruction SI-238.2 which was originally specified on the 1982 installation work package. SI-238.2 was deleted from the work package according to a November 19, 1985, memorandum from H. G. Parris to K. W. Whitt because no

commitment to do the testing existed. SI-238 was performed instead of SI-238.2 to satisfy the post installation test requirements. SI-238 is used to prove TS operability of the batteries. TVA evaluators found that the six recommendations from the NSRS report, which include the testing issue, cell traceability, and generic applicability were addressed in memoranda between the site directors and the manager of power and engineering. There was a difference of opinion between the NSRS and TVA line management on whether Sequoyah had committed to IEEE-450. Evaluators found that shortly after the NSRS evaluation, TVA conducted the 60 month battery discharge performance evaluations (SI-238.2) for all four installed diesel generator batteries. Evaluators found by interviews and from a memo from the Sequoyah site director to the Director of Nuclear Services that SI-238.2 is now being required by plant management for the diesel generator batteries. In addition they found that Sequoyah is intending to fully comply with IEEE-450 for the diesel generator batteries based on an INPO recommendation, however Sequoyah does not feel that it is a regulatory requirement or commitment to NRC.

In evaluating Watts Bar concern WBN-233, TVA evaluators determined that the only question applicable to Sequoyah was whether a SI exists to adequately test the system from the transmitter/receiver panel through the console computer. Evaluators identified a Sequoyah SI (SI-234) that tests the detectors loops from the local panels to the alarm computer console. This concern was evaluated as not valid at Sequoyah.

TVA evaluators reviewed the preoperational tests conducted from early 1981 to middle 1982 for concern XX-85-077-001. The review included test summaries, test change sheets, test deficiencies, and test exceptions. Evaluators found no indication of inadequate prerequisites in the preoperational tests reviewed. This concern was evaluated as not valid.

In evaluating SOM-86-004-017, the evaluator reviewed the expurgated file but could find no information that defined the affected system or equipment. The fuel racks were assumed to be the referenced equipment based on the fact that they were tested in a manner which was out of the ordinary. The Work Plan that installed and tested the fuel racks was reviewed for adequacy and the concern was determined not to be valid.

In evaluating IN-86-209-011, the evaluator assessed the methods by which technical responsibility for plant systems is assigned. As a result of identified problems in this area, Sequoyah has implemented a Systems Engineering Section who function is to provide a point of focus for the system history, status, special testing and resolution of major system problems. The licensee has also shifted responsibility for the preparation of all post modification tests to the Department of Nuclear Engineering. This concern was considered to be valid.

IV. Conclusion

The NRC staff believes that the TVA investigation of the concerns was adequate, and their resolution of the concerns as described in Element Report OP 30706 is acceptable for restart.

SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT NO. 307.07-SQN
"RADIOLOGICAL EMERGENCY PREPAREDNESS"

I. Subject

Category: Operations

Subcategory: Nuclear Power/Site Program/Procedure

Element: Radiological Emergency Preparedness

Employee Concerns: JLH-86-004
XX-85-035-001

A. Concern JLH-86-004 states:

"The evacuation route away from Sequoyah Nuclear Plant for area residents on both sides of the Tennessee River is inadequate. A four-lane highway from the new Highway 27 to SQN and across the Tennessee River to connect with I-75 would provide for a safe evacuation in case of a nuclear related accident."

B. Concern XX-85-035-001 states:

"Iodine tablets have been issued to Sequoyah site employees and the general public in the Sequoyah area, before the occurrence of a radiation incident. The result is that these tablets may be used in an unsupervised and possible [sic] hazardous manner."

These concerns were respectively evaluated by TVA as (A) Sequoyah-specific (not applicable to other TVA sites), and (B) potentially applicable to other TVA sites.

II. Summary of Issues

- A. The first issue concerns the adequacy of evacuation as a planned protective measure for the general public in the event of a nuclear accident, given the existing system of roads in the area around Sequoyah.
- B. The second issue is that potassium iodide (KI) tablets, which are used to reduce the thyroid uptake of radioactive iodine by individuals exposed to airborne radioactive material, may inappropriately or inadvertently be taken by individuals to whom KI has been distributed in advance, potentially producing harmful side effects with no attendant health benefits.

III. Evaluation

- A. TVA personnel determined that, although the NRC requires nuclear power plant licensees to develop and implement emergency response plans which address evacuation and other protective measures for the public, neither TVA nor any other such licensee has the legal authority to implement protective measures outside the plant boundary. Plans and provisions for evacuation of the public around Sequoyah are contained in the "Multi-Jurisdictional Radiological Emergency Response Plan" developed jointly by the State of Tennessee and the governments of the two counties within the 10-mile radius of the plant. On the basis of review of the Plan and evaluation of several annual emergency preparedness exercises, the Federal Emergency Management Agency (FEMA) has found that the Plan provides adequate protection for the population around Sequoyah.

The TVA evaluation concluded that this concern was not valid since FEMA has stated that the counties within 10 miles have "demonstrated an adequate capability to evacuate the populace."

- B. TVA's investigation of the second concern noted that KI has not been issued to employees at Sequoyah; such issuance (reserved for actual emergencies) is controlled by plant procedures. Although it is true that the State of Tennessee has distributed KI to the households within a 5-mile radius of the plant, the decision to do so was made by the State. TVA has no authority or control over decisions made by the State.

TVA concluded that this concern was not valid because (1) TVA has not issued KI to site personnel, and (2) the distribution of KI to area residents is a function of State and local government, not TVA.

IV. Conclusion

The NRC staff believes that the TVA investigation of the concerns listed herein was adequate, and their resolution of the concerns as described in Element Report No. 307.07-SQN is acceptable.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT OP 30708 "TRAINING PROGRAM
FOR EMPLOYEES"

I. Subject

Category: Operations (30000)

Subcategory: Nuclear Power Site Programs/Procedures (30700)

Element: Training Program for Employees (30708)

Concerns: XX-85-058-001
 XX-85-122-036

The basis for Element Report 30708 - SQN, Rev. 3, dated March 11, 1987, are the following employee concerns:

Concern XX-85-058-001: Concerned individual (CI) stated that employees at Sequoyah are run through indoctrination training classes "like cattle." Insufficient time is spent in training classes (specifically Health Physics) prior to being given tests. Instructors who are familiar with the subject matter "breeze through" the lessons.

Concern XX-85-122-036: CI stated that improper reporting of events occurs at operating plants or in design/construction. TVA personnel are not adequately trained and are not knowledgeable in what is reportable.

II. Summary of Issue

Concern XX-85-058-001. References the questionable quality of General Employee Training (GET) at Sequoyah due to class size and/or time spent in lectures.

Concern XX-85-122-036. References improper reporting of events at operating plants or in design/construction possibly due to lack of knowledge of the reporting requirements by TVA personnel.

III. Evaluation

A. XX-85-058-001. The concern was adequately addressed by the Nuclear Training Branch report dated September 19, 1985 (S00 850917 800). The evaluation did not substantiate the concern. While the classes may have been large at times, no evidence that the quality of instruction was impacted could be found. TVA has an ongoing

improvement program to limit GET class size to a manageable level. GET classes are taught by instructors certified by TVA through special training courses. Approved lesson plans are used which specify required material and time frames allotted. Employees that require special attention receive additional help whenever an instructor is aware of the need. Course evaluation forms are provided to class attendees at the end of training classes. These are reviewed by responsible management and discussed with instructors. Review of recent evaluation forms did not reveal any comments similar to the concern.

Although the concern was not substantiated, the following improvements have been taken:

Additional classes are scheduled for peak periods, such as outages.

As needed, special classes are held on back shifts.

A evaluation of position requirements is being conducted to determine if some employees are being required to attend unnecessarily. This could contribute to reduced class size.

GET-2.4, Level 0 Health Physics (HP) was implemented for those employees not requiring access to the power block. This also contributes to reduced class size in HP GET.

- B. XX-85-122-036. The concern was initially evaluated and determined not to be valid. Subsequent to the initial evaluation it was found that NRC order modifying license, EA-85-49, to Sequoyah and Browns Ferry, required TVA to review and correct programmatic deficiencies in the reporting system. The event which led up to the order involved the Electrical Qualification of certain containment pressure transmitters at Watts Bar. This event took nearly 2 months before Sequoyah personnel were notified of the potential operational significance of the engineering evaluation. Based on the NRC order and the subsequent reevaluation, the concern was reclassified as valid. As corrective action to the order, TVA committed to revise the corrective action reporting system then in use, which resulted in the new CAQR reporting system.

Training for the new program was developed in two parts, for potential initiators, and for potential CAQ processors. Training is scheduled to be completed prior to restart of Unit 2. Licensee review of the training program revealed that it adequately addressed the new requirements, with the appropriate level of detail. Personnel attending the processor part of the training are required to complete an exam at the conclusion of the training.

IV. Conclusion

The NRC staff believes that the TVA investigation of the concern was adequate, and their resolution of the concern as described in Element Report OP 30708 is acceptable for restart.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT OP 30711 "MANAGEMENT NONRESPONSIVENESS"

I. Subject

Category: Operations (30000)
Subcategory: Nuclear Power/Site Program/Procedure
Element: Management Nonresponsiveness (30711)
Employee Concerns: XX-85-116-001
 XX-85-116-003
 OW-85-001-002
 TAK-86-007
 XX-85-116-006
 XX-85-116-014

Concerns were expressed in the area of management nonresponsiveness as follows:

XX-85-116-001: Chemical and radiochemical data of poor quality at Sequoyah could be very costly and cause embarrassment to TVA.

XX-85-116-003: TVA has exhibited a lengthy disregard toward fulfilling commitments made to various regulatory and vendor organizations with respect to chemical and radiochemical data used to monitor and control operations at Sequoyah.

OW-85-001-002: A difference of opinion was identified between line management and NSRS regarding the definition of single failure criteria. This difference was dropped by NSRS and line management with no resolution.

TAK-86-007: Safety Margin will be greatly reduced because Shift Engineer/Senior Reactor Operator (SE/SRO) is busy and does not inform lead UO of maintenance activities.

XX-85-116-006: Recommendations made by internal TVA organizations such as Nuclear Safety Review Staff (NSRS) have produced little results regarding correcting practices which lead to chemical and radiochemical data of poor quality.

XX-85-116-014: Management has signed off secondary water chemistry conditions that were in violation of the Technical Specifications without having an engineering evaluation performed in violation of site procedures. Time period of 1985.

II. Summary of Issues

TVA identified that these concerns address the following issues:

1. The suspect quality of chemistry and radiochemistry data
2. Inadequate chemical/radiochemical program

3. Unresolved definition of single failure criteria
4. Unit operator (UO) not informed of maintenance activities
5. The violation of Technical Specifications for secondary system water chemistry

III. Evaluation

TVA evaluated these concerns as follows:

XX-85-116-001: The licensee evaluated the chemistry laboratory quality control program through review of procedures, compliance, and INPO and NRC reports. Outside of minor items and a comment on cleanliness in the 1985 report, nothing was found to substantiate the allegation. The 1986 NRC report had no adverse comments on the chemistry program.

XX-85-116-003 and XX-85-116-006: These two concerns were investigated and documented by NSRS Investigation Report No. I-86-130-SQN. The evaluator noted that the initial NSRS report (R-82-08-NPS) was not clear as to specific deficiencies in the chemistry program, nor was the area given a very high priority in the report. Sequoyah has committed to investigate and correct the deficiencies identified in the report.

XX-85-116-014: The evaluation noted that elements to be included in the secondary water chemistry program were specified in Technical Specifications. Limits, frequencies, and corrective actions were specified in SQE-22, "SNP Chemistry Program." A review of the data and logs for the period did not identify an error of the type described in the concern.

OW-85-001-002: The evaluation indicated that after a search of records and interviews with cognizant individuals, that no specific incident of disagreement of the application of single failure criteria was found for Sequoyah.

TAK-86-007: The evaluation validated this concern because the potential exists for a reduction in the safety margin due to unit activities occurring without the unit operators knowledge. Therefore, TVA has committed to reinstitute the requirement for the unit operator's signature in MI-6.20 for work on equipment not covered by a clearance. (CATD-30711-SQN-03).

The licensee evaluators concluded:

- o The Sequoyah Chemistry program as defined in SQE-22 was judged to be adequate.
- o Sequoyah has and is continuing to take action to investigate and correct the deficiencies identified in NSRS Report No. R-82-08-NPS.

- Sequoyah has committed to revising MI-6.20 within six months. This corrective action appears to be acceptable.
- The concerns with the exception of TAK-86-007, were not substantiated.

IV. Conclusions

The NRC staff believes that the TVA investigation, conclusions, and corrective actions for employee concerns Element Report 30711 are acceptable for restart.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 & 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT 30713 "CONFIGURATION CONTROL"

I. Subject

Category: Operations (30000)

Subcategory: Nuclear Power/Site Program/Procedure (30700)

Element: Configuration Control (30713)

Concerns: XX-85-062-003
 XX-85-071-N05
 IN-85-984-001
 BFN-IESC-85-03

The Basis for Element Report 30713-SQN, Rev. 6 dated March 3, 1987, are the following employee concerns.

XX-85-062-003

Sequoyah, Browns Ferry: CI was unofficially informed that the drawings, in many instances, are not a true representation of the installation. Nuclear Power Concern. CI has no more information.

Concern XX-85-062-003 is shared with the Engineering Concern Evaluation Group and is also addressed by element report 20601.

XX-85-071-N05

NRC identified the following concern from review of the QTC file.

"Drawings in the control room do not reflect actual plant configuration."

BFN-IESC-85-03

Concerns expressed regarding:

1. Process for evaluation of 10 CFR 21 applicability
2. Inadequate understanding of the level of control required in nuclear parts program is indicative of weakness in NQAM
3. Configuration control

The first two items in this concern are not related to configuration control and are being addressed by the Quality Assurance CEG.

IN-85-984-001

The Nuclear Power Department changes hardware without changing the drawings. EG: Ladders to tops of filter cubicles in Auxiliary Building Number 1 and common areas on 676', 692' and 737' elevations were cut in half to allow removal during filter plug removal, but drawings were not changed. 1982 Construction Department concern. CI has no further information.

II. Summary of Issue

TVA perceived the issue to be a lack of configuration control.

III. Evaluation

The concerns were evaluated as one under the topic of configuration control and concentrated on five aspects:

1. The validity of the concerns.
2. The adequacy of the NSRS evaluation report and the recommendations contained therein.
3. Verification of the line response to the NSRS report.
4. Verification of corrective action taken by line management.
5. The adequacy of corrective action to resolve the concerns and prevent recurrence.

Concern XX-85-062-003 was a SQN and BFN concern, XX-85-071-N05 was SQN specific, and BFN-IESC-85-03 was BFN specific. IN-85-984-001 was a WBN concern. The NSRS investigation report covered SQN, BFN, and BLN. The recommendations made were specific to the plants as well as programmatic in nature, thus impacting DNE. For this reason, the concerns are considered generic to all TVA nuclear plants.

This evaluation produced findings which substantiate the facts forming the basis for the concern. The NSRS recommendations could correct the deficiencies. The corporate management attention to configuration control as evidenced by the Configuration Control Task Force and the new design control programs initiated under the Corporate Nuclear Performance Plan are consistent with the NSRS recommendations. Until all of the commitments made in this area are implemented in working-level procedures, however, configuration control may continue to be inadequate when station modifications are made.

At present, the SQN as-constructed drawings do not completely represent the plant configuration, but the ongoing Sequoyan Design Baseline and Verification Program should resolve the deficiencies and produce a set of accurate drawings.

IV. Conclusion

The NRC staff believes that the TVA investigation of the concern was adequate, and their resolution of the concern as described in Element Report 30713 is acceptable for restart.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT 30901 "ADEQUACY OF PROCEDURE"

I. Subject

Category: Operations (30000)

Subcategory: Engineering (30900)

Element: Adequacy of Procedure (30901)

Concern: IN-85-977-001

The basis for Element Report 30901 - SQN, Rev. 3, dated March 17, 1987, is Watts Bar Employee Concern IN-85-977-001 which states:

TVA management has stated that teflon tape which was used on the Reactor Coolant System (RCS) must, be identified and replaced with another type of tape, however no program to accomplish this task has started.

This concern was evaluated by TVA as not safety-related.

II. Summary of Issue

TVA perceived the issue to be lack of implementation of a program to identify and replace the teflon tape used on the RCS and those systems that return to the RCS.

Teflon tape, which is used as a gasket and/or sealant, deteriorates under certain integrated radiation exposures (approximately 100000 R) or temperatures in excess of 300 degrees F. The tape will become brittle and release unacceptable concentrations of halogens, specifically fluorides and chlorides which can induce stress corrosion cracking of stainless steel. As a result of the NRC inspection of the Watts Bar site, which identified inappropriate use of the tape at the site, the criteria for unacceptable teflon tape application appears in Sequoyah procedure SQA-160 which prohibits the use of this tape in areas where:

Temperature exceeds 300 degrees F
Integrated radiation doses exceed 100000 R

Environment drawings were used to determine areas of concern. The Sequoyah review identified two instances of misapplication of teflon tape which were corrected by use of a licensee approved substitute.

The licensee has stated that the misapplication of teflon tape represents a reliability problem rather than a safety problem since stress corrosion cracking will result in a leak before crack.

III. Evaluation

The NRC agrees that the criteria used to evaluate the application of teflon tape appears to be adequate. The licensee's approach of using environmental data, in part, to perform the review, also appears to be acceptable. The licensee's use of procedural controls to limit the use or future use of teflon tape should be effective provided procedural compliance is assured.

The NRC does not agree that the misapplication of teflon tape only represents a reliability problem. This is based on recent safety events which have resulted from water level transmitter anomalies which were, in part, caused by undetected leaking sensing lines. In some cases, the leaks resulted from induced stress corrosion cracking.

Subsequent to the initial evaluation, the licensee has conducted additional training of personnel on the restrictions on tape usage and some suitable replacement materials have completed testing and evaluation at TVA's Singleton Lab.

IV. Conclusion

Although the NRC does agree that replacement of teflon tape identified in unacceptable locations is not a startup issue, the licensee needs to better define the tape replacement program. Resolution is needed on issues such as the removal of the third restriction in upper tier documents concerning the use of teflon tape on lines that will re-enter the RCS. Additionally, a decision is needed on the replacement of tape used solely as a lubricant that is not part of the system pressure boundary. There does not appear to be a single defined tape replacement plan, but rather several different plans. The licensee has identified this item for resolution.

Both the licensee's original criteria and evaluation for the application of teflon tape appears to be adequate for restart of Sequoyah.

ENCLOSURE 1

SEQUOYAH NUCLEAR PLANT
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS

I. Subject:

Category: Operations (3000)

Subcategory: Engineering

Element: Engineering Training

II. Summary of Issue

Concern: IN-86-209-012

The basis for Element Report 309.05-SQN, Rev. 1 dated October 20, 1986, is the following employee concern:

Concern IN-86-209-012 stated: "Personnel performing STA (Shift Technical Advisor) Training are engineers with little or no experience as an STA themselves. It was noted that two persons that were being processed through a particular STA class, were scheduled to teach the next class of STAs. Engineers are being assigned the task of training STAs in plant operations for which they themselves have little or no experience."

III. Evaluation:

TVA's evaluation of this concern involved the review of regulatory requirements, TVA commitments and procedures, STA instructor assignments, and the qualifications of the instructors for those assignments. Interviews with cognizant personnel were also conducted to determine the adequacy of the instructor's techniques.

A review of regulatory requirements in ANSI 3.1, NUREG 0660, and NUREG 0737, revealed that there are no requirements for STA instructors to be experienced STAs. Rather, the requirements are that the instructors be "technically qualified for the subjects taught."

Nuclear Training Program Manual Procedure 0202.07 governs the TVA Shift Technical Advisor Training Program, and Sequoyah Engineer Training Section Letter ETS-1-STA implements the requirements of 0202.07. TVA's procedure requirements were found to be comparable to those in the rest of the industry.

Concerning the two individuals in question, TVA investigated this particular case and found a file memorandum that explains the actions questioned. The memorandum lists the qualifications of STA instructors

used during the last two years and identifies two individuals assigned training duties for the class immediately following the classes they were attending. These instructors were used only in areas where they had particular expertise due to previous experience. This is in accordance with the requirements of ETS-1-STA.

Additionally, while these two instructors did not have experience as STAs, they did have extensive experience previous to their assignments as STA instructors and had passed the STA certification course which requires an average of 80 percent in scores. Concern IN-86-209-012 was substantiated, in that there were two instructors assigned training duties with little or no STA experience. However, the qualifications of these two individuals were well matched to the subject matter assigned. The duties assigned were also well within the requirements, both regulatory and TVA, for STA instructor qualification. Root cause of this concern appears to be that the concerned individual was not fully aware of the previous experience of the instructors involved.

IV. Conclusion:

The NRC staff believes that the TVA investigation of the concerns was adequate, and their resolution of the concerns as described in Element Report 309.05-SQN is acceptable.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT OP 31001 "OPERATOR'S
PROGRAMS/PROCEDURES INADEQUATE"

I. Subject

Category: Operations (30000)

Subcategory: Operational (31000)

Element: Operator's Programs/Procedures Inadequate (31001)

Concerns: SQP-5-003-001
SQP-5-003-002
XX-85-067-001
SQM-6-013-002
SQP-6-010-001
XX-85-022-001
IN-85-933-001
IN-85-933-010
XX-85-007-002

The basis for Element Report 31001 - SQN, Rev. 3, dated November 13, 1986, are the following employee concerns.

Concern SQP-5-003-001: Concerned Individual (CI) stated that an unit operator told an electrician to operate a valve in the Unit 2 RHR system, that a unit operator is not authorized to give such directions and that the action resulted in a spill of highly radioactive water. CI further stated that the incident was covered up.

Concern SQP-5-003-002: CI expressed that management or supervision have an attitude of "hurry up and get the job done" in an effort to get the plant on line. CI feels that procedures are not being followed in an effort to accomplish work as soon as possible, and evidenced this by the radioactive spill which occurred on December 9, 1985, as addressed in concern SQP-5-003-001.

Concern XX-85-067-001: CI expressed that small problems in plant operation were disregarded (1983) and Unit 1 was kept operating as if in a race, which resulted in bigger problems.

Concern SQM-6-013-002: CI feels that an itemized list for the proper size voltage, amperage, and type of bulbs and fuses needs to be available to

- operations for all equipment under their control.
- Concern SQP-6-010-001: CI feels that electrical switch boxes should be locked and the electrician performing the work should have the associated key while performing work on electrical lines (rather than just tagging switch boxes controlling the lines).
- Concern XX-85-022-001: CI states that operators began to fill a system prior to the completion of work. The concern implies that the system had been tagged for work.
- Concern IN-85-933-001: CI states that TVA's program of placing degreed engineers as SROs with only 20 months of plant experience will reduce the level of safety by having individuals in charge who do not know how to react to and resolve the practical problems that will be encountered during operations.
- Concern IN-85-933-010: CI states that TVA should continue to expand its program of having experienced operations personnel obtain college degrees to be licensed as SRO rather than implementing its more recent plan of making SROs out of degreed engineers who have no actual hands on operating experience.
- Concern XX-85-007-002: CI states that leak occurring in April 1983 in Unit 2 reactor was due to management's desire to break time record. Result was contamination of 500-600 gallons.

II. Summary of Issue

TVA perceived the issue to be past or potential incidents involving operations personnel directly related to a lack of experience or training.

Concerns SQP-5-003-001 and SQP-5-003-002 both reference a specific incident on December 9, 1985, where a unit operator told an electrician to operate a valve that resulted in a spill. Additionally, the incident was alleged to not have been reported (cover-up).

Concern XX-85-067-001 references that small problems were disregarded during 1983 and Unit 1 continued to remain in operation as if in a race, resulting in bigger problems.

Concern SQN-6-013-002 suggests that itemized lists for the proper size voltage, amperage, and type of bulbs and fuses need to be available to operations for all equipment under their control.

Concern SQN-6-010-001 states that electrical switch boxes should be locked during work with the key in the possession of the electrician performing the work.

Concern XX-85-022-001 describes an alleged incident where operators began to fill system piping before work was completed. The concern implies that the system was tagged for the work.

Concerns IN-85-933-001 and IN-85-933-010 are both related to the use of degreed engineers as SROs rather than more experienced operations personnel.

Concern XX-85-007-002 deals with alleged management desire to continue operation of Unit 2 during April 1983 in order to break a record. The continued operation resulted in a leak and contamination of 500-600 gallons.

III. Evaluation

- A. SQP-5-003-001 and SQP-5-003-002. The TVA Evaluator reviewed the specific incident associated with the spill that occurred on December 9, 1985. The contaminated spill occurrence had been substantiated in NSRS Report I-85-137-SQN. An operating permit had not been issued to allow the electrician to operate the valve without an operator present. This practice was in violation of licensee procedures, but the failure did not directly cause the spill and the spill would probably still have occurred with an AUO present, due to leakage from another valve. Operations personnel have been instructed to discontinue the above practice for all future work. Additionally, the incident had been properly documented and recorded in the unit operator and health physics daily journals with no evidence of a cover-up.
- B. XX-85-067-001. NSRS Report I-85-862-SQN adequately addressed the concern. The evaluation consisted of a review of previous NRC SALP reports, LERs, NRC violations and monthly operating reports submitted to the NRC. Interviews were conducted with personnel knowledgeable of operations/maintenance activities in 1983. The licensee could not substantiate the concern in that no specific problems were identified that related to Unit 1 operations in 1983 that were disregarded for the sake of unit operation which resulted in more serious problems.
- C. SQN-6-013-002. The evaluation resulted in the licensee perceiving this as a matter of convenience rather than a safety concern, and it would be treated as a suggestion. Work plans have been written to add updated fuse descriptions. The licensee feels that the action would be helpful but not necessary for continued unit operation.
- D. SQN-6-010-001. The evaluator reviewed the concern which was associated with an alleged tagging incident which occurred during the early construction phase at Sequoyah. The main point of concern appeared to be dissatisfaction with the method utilized to clear high voltage lines for work. The review consisted of current tagging

practices including the clearance procedure administrative instruction (AI) AI-3. While the evaluation was unable to reveal any facts directly related to the described event in 1973, it did conclude that present instructions covering the clearance procedure are effective. Sufficient safeguards are presently required by AI-3 so as to invalidate any necessity to allow a maintenance worker to personally retain a key to ensure his safety.

- E. XX-85-022-001. The evaluation of the alleged incident revealed that no such incident occurred. However, on September 11, 1984, SI 166.10 was performed, requiring removal of blind flanges and installation of test flanges to test check valve leak rates in system 63 (Safety Injection System). This work is very similar to that described in the concern. The flange removal was conducted via a maintenance request with no tagging required. Interviews with maintenance individuals involved in this particular SI revealed no problems which could have resulted in this concern. The licensee was not able to confirm or disprove occurrence of the concern. Although no evidence exists to substantiate such an assumption, the concern could have resulted from failure of a maintenance worker to fully understand that a section of piping may become refilled due to valve leakage or that various sections of piping may not be drained prior to initial work due to the piping configuration. No documented evidence could be found implicating operations personnel in a tagging discrepancy.
- F. IN-85-933-001 and IN-85-933-010. Both concerns were investigated adequately by a Generic Concern Task Force report dated April 26, 1986, entitled SRO/Engineers Lack Plant Knowledge. The evaluation consisted of interviews and review of various licensee documents and NUREG 0737. The licensee made the following conclusions:
- TVA's program to license degreed engineers meets or exceeds federal licensing requirements.
 - The degreed engineers are required to pass the same NRC administered exam as non-degreed personnel.
 - Plant management would not jeopardize plant safety by placing an SRO in a line supervisory function if his/her capabilities were in question.
- As a result of these findings and since unqualified candidates would be eliminated through the various stages of the screening and exam processes, there exists no verifiable reason to suspect reactor safety will ever be jeopardized as a result of this program.
- G. XX-85-007-002. The concern was adequately addressed in NSRS Report I-85-372-SQN. Operating logs for the period of April - July 1983 were reviewed along with Potential Reportable Occurrence (PRO) Report No. 2-83-71. The investigation revealed that the Unit 2 No. 3 steam generator experienced a through wall tube leak in early May 1983 (not April as stated). This resulted in leakage of reactor coolant into

the secondary side of the steam generator. However, the evaluation was not able to substantiate the concern for the following reasons:

No objective evidence was found that indicated that a record run time was the main consideration for continued operation.

The leak was not caused by management actions or lack of action, but by movement of a loose metal piece rubbing against the tubes.

The leakage did not exceed allowable limits during the period.

IV. Conclusion

The NRC staff believes that TVA's investigation of the concern was adequate, and their resolution of the concern as described in Element Report OP 31001 is acceptable for restart.

ENCLOSURE 2

SEQUOYAH NUCLEAR PLANT
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS

I. Subject:

Category: Operations (3000)

Subcategory: Operations/Operational

Element: Operator Qualifications

II. Summary of Issue:

Element Report 310.02-SQN, Rev. 2 dated October 31, 1986, addresses a number of employee concerns. The following concerns were reviewed and incorporated into this element report:

XX-85-048-002: At Sequoyah, the major responsibility for firefighting has been turned over from Public Safety Service to the Fire Brigade. Since most Public Safety Officers have been trained in the State Fire Training School and the Fire Brigade has not, CI feels that the Fire Brigade's lack of expertise will pose a fire protection problem at Sequoyah. CI stated that at Browns Ferry NP, Public Safety was chosen to provide fire protection services and questions why Sequoyah did not.

XX-85-093-001: Sequoyah's Shift Engineers (SE) and Assistant Shift Engineers (ASE) are inadequately trained in electrical station operation (Switchyard, off-site power feed, etc.) such that there could be an excessive delay in restoring off-site power feed to the plant in the event of an emergency. CI feels that SE/ASE personnel should receive better training in this area.

XX-85-093-002: Bellefonte: (Same concern as XX-85-093-001).

XX-85-093-003: Browns Ferry: (Same concern as XX-85-093-001).

WI-85-060-001: Watts Bar: (Same concern as XX-85-093-001).

IN-85-289-001: (Watts Bar) operators have already made errors during hot functional testing in unit 1, approximately one year ago (1984) which would have been significant if plant had been operating. CI expressed concern regarding the inadequate qualifications and training of operators.

IN-85-767-006: CI expressed that plant operators are not adequately trained to nor abide by the QA requirements of plant procedures.

IN-85-894-001: Plant operators are inadequately trained for their positions. The CI listed several incidences as examples. 1. An oil ring blew-up while replacing filters in mechanical maintenance, due to head pressure. 2. Women operators do not have enough strength to open and close isolation valves. CI had to help many times. 3. While hot functional testing about a year ago, Hydrazine spilled all over people and the floor in South Valve Room, Unit 1, Auxiliary Building, Elevation 737'-0" due to operator error.

IN-86-209-013: Since the plant operator training was conducted at the same training center, under the same management as the STA (Shift Technical Advisor) program; the quality of the operator training that started approximately ten years ago may have been as inadequate as the STA training.

III. Evaluation:

Concerns IN-85-289-001, IN-85-894-001, WI-85-060-001, IN-86-209-013, and XX-85-093-002 were previously evaluated by the Sequoyah Generic Concern Task Force (GCTF) and their results documented in a report dated April 22, 1986.

The concern regarding errors made during hot functional testing in concern IN-85-289-001 is specific to Watts Bar and not evaluated for Sequoyah. The overall operator qualifications and training were evaluated.

Concern XX-85-093-001 was previously evaluated by NSRS and their results documented in NSRS report I-85-619-SQN.

These reports were reviewed to determine if they adequately addressed and resolved the issues. It was concluded that the reports adequately covered the issues.

Since concern XX-85-093-003 is identical to concerns XX-85-060-001, XX-85-093-002 and WI-85-060-001, the findings of the above two reports are considered to have equal applicability to XX-85-093-003.

Concern IN-85-767-006 was previously evaluated by the GCTF and their findings documented in a report dated May 17, 1986.

This report was reviewed to determine if it conclusively established that operators receive adequate training on QA requirements and abide by the QA requirements of plant procedures.

Concern XX-85-048-002 has not been previously investigated. The scope of this evaluation was to determine if the Fire Brigade at Sequoyah is adequately trained in firefighting techniques and if there is a fire problem because of the Fire Brigade's lack of experience.

Applicable procedures for SQN were reviewed for all areas identified by the above concerns and interviews with cognizant personnel were conducted.

TVA concluded that concern XX-85-048-002 is not valid due to the fact that SQN's major firefighting responsibilities have not belonged to the Public Safety Officers (PSOs) since 1979 and then subsequently turned over to the Fire Brigade. The Fire Brigade receives extensive comprehensive training and firefighting practice to ensure there is no lack of experience on the fire brigade. Also, Browns Ferry PSOs have no fire protection responsibilities in the plant operating areas.

Concerns IN-85-289-001, IN-85-894-001, WI-85-060-001, IN-86-209-013, IN-85-767-006, and XX-85-093-001 are not valid based on the following conclusions as stated in the two referenced Generic Concern Task Force reports, and NSRS report I-85-619-SQN:

1. Sequoyah SEs and ASEs are given extensive training on the use and issuance of clearances. This training includes detailed examination process assuring the competence of licensed operators (ASE or SE) to issue safe clearances.
2. Sequoyah operators at all levels receive training on the use of clearances.
3. No evidence could be accumulated either by interview or computer data base search of potentially reportable occurrences (10 CFR 50.72 or 10 CFR 50.73) caused by mishandled clearances at Sequoyah.
4. TVA NSRS issued a report, I-85-619-SQN, which supports the adequacy of Sequoyah's electrical switchyard training for SEs and ASEs.
5. Sequoyah operators receive training that meets NRC requirements, and Sequoyah's training program has received INPO accreditation.
6. Interviews with operators (UO and ASE) accumulated no evidence of physical incapability of women to adequately perform AUO duties.
7. The issue of operators not being adequately trained on QA requirements is perceptual and an individual opinion. Training on the QA requirements is conducted both formally in the classroom and informally by way of required reading, which is documented per OSLT-1.
8. The issue of operators not abiding by QA requirements in plant procedures has no generic basis and must be handled on a case by case basis.
9. The Operations Section Letter, OSLT-4 is outdated and not being used.

10. The Sequoyah shift engineers and assistant shift engineers are given extensive training in the operation of the switchyard (both classroom and on-the-job). The training meets NRC requirements.
11. No examples of poor switchyard operation or operation of this equipment in a manner that endangered the nuclear equipment at Sequoyah was found.
12. The shift engineers and assistant shift engineers receive training in electrical station operation that meets the NRC requirements, and the Sequoyah training program has received INPO accreditation.

IV. Conclusion:

The NRC staff believes that the TVA investigation of these concerns was adequate and their resolution of the concerns, as described in Element Report 310.02-SQN, Rev. 2, is acceptable for restart. The NRC has separately given operator requalification examinations at Sequoyah and found the operator knowledge adequate, although the training program was deemed marginal based on failure rate. Future NRC exams and training inspections will continue to assure that operator knowledge remains adequate.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1&2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT OP 311.01 "HEALTH PHYSICS STAFF TRAINING"

I. Subject

Category: Operations

Subcategory: Health Physics

Employee Concerns: XX-85-024-001
XX-85-102-009
XX-85-102-012

The basis for Element Report OP 311.01, dated August 16, 1986, are the following employee concerns:

- Concern XX-85-024-001: Health Physics personnel are not aware of protective equipment required for work area. Example: HP at entrance to radiation area informed craft that particulate masks were not required. While working, HP told craft to stop work and leave area because they did not have particulate masks. This happened in 1983 and 1984. Nuclear Power Concern Units 1 and 2.
- Concern XX-85-102-009: The permanent plant Health Physics people are poorly trained. Concerned Individual (CI) does not feel the present HP staff has an adequate knowledge of working in radiated areas.
- Concern XX-85-102-012: The permanent plant Health Physics people are poorly trained. CI does not feel the present HP staff has an adequate knowledge of working in radiated areas.

II. Summary of Issue

Concern XX-85-024-001 references a specific incident where HP informed workers entering an area that respirators were not required and the HP at the job site later stopped work and made them leave because they did not have respirators. This event cause the concerned employee to believe that HP personnel were not aware of protective requirements before allowing

access to work areas. TVA could not investigate the circumstances of the alleged specific event due to a lack of further details and due to the time since the event. Concerns XX-85-102-009 and XX-85-102-012 are general statements concerning poor training of HP personnel and their inadequate knowledge of working in radiation areas. TVA evaluated the concerns, therefore, from a general programmatic standpoint within the areas of training of HP technicians in establishing protective requirements, HP technician stop work authority, HP technician error and establishment and revision of radiation work permit requirements.

III. Evaluation

TVA reviewed NRC, INPO, and TVA Quality Auditing Branch (QAB) audits to determine if any deficiencies related to the concerns had been identified by these groups. The HP technicians training program was reviewed. Selected HP technicians were interviewed to determine their ability to evaluate and specify protective requirements. TVA personnel reviewed licensee procedures which allowed HP technicians to stop work. A review of Radiological Incident Reports (RIR) written during the period of 1983 and 1984 did not reveal any situation where a technician was disciplined for failing to follow good radiological practices. TVA personnel determined that adequate training and procedural guidance was provided to the HP technicians in establishing and revising radiation work permit requirements. TVA concluded that there no major programmatic deficiencies in the training provided HP technicians.

IV. Conclusion

The NRC staff believes that TVA investigation of the concern was adequate, and their resolution of the concern as described in Element Report OP 311.01 is acceptable.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 & 2
SAFETY EVALUATION-REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT 308.02-SQN
"PREVENTIVE MAINTENANCE"

I. Subject

Category: OPERATIONS (30000)

Subcategory: MAINTENANCE (30800)

Element: PREVENTIVE MAINTENANCE (30802)

Concerns: IN-86-316-X09

The basis for Element Report 308.02-SQN, Rev. 5, dated January 6, 1986, is the following employee concern:

IN-86-316-X09: "TVA could not have a safe and adequate Preventative Maintenance Program if engineering continued to disregard the vendors' manuals for safety-related equipment."

II. Summary of Issue

The concern involved the use of vendor manuals in the Preventive Maintenance Program. The licensee determined that the specific concern as stated above was not valid.

III. Evaluation

Concern IN-86-316-X09 specifically states that engineering had disregarded vendor manual requirements for safety-related equipment in the Preventive Maintenance Program. Interviews conducted by the licensee specifically covering this concern indicated that cognizant engineers performing vendor manual reviews and using procedures had not disregarded vendor manuals. The NRC notes that the licensee indicates that the vendor manual control program had weaknesses and that the preventive maintenance procedures were unclear and lacked detail. The licensee has undertaken long term programs to correct these deficiencies. Although the licensee indicates that the specific concern on the disregard for vendor manuals was not substantiated, the NRC notes that programmatic deficiencies in these areas have resulted in problems in the implementation of vendor manuals and inconsistent application of the vendor manual requirements and lack of documentation for omitted vendor manual requirements. The long term corrective actions will accomplish a review of all plant safety-related vendor manuals and upgrade of procedures to assure coverage of pertinent requirements. The licensee's corrective actions for the deficiencies are comprehensive and should assure that vendor manual requirements are evaluated and appropriately included in procedures.

IV. Conclusion

The NRC staff believes that the TVA investigation of the concerns was adequate, and their resolution of the concerns as described in Element Report 308.02-SQN is acceptable for restart.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 & 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT 308.03-SQN
"CORRECTIVE MAINTENANCE"

I. Subject

Category: OPERATIONS (30000)

Subcategory: MAINTENANCE (30800)

Element: CORRECTIVE MAINTENANCE (30803)

Concerns: XX-85-096-005
 XX-85-096-N07
 GSB-85-001
 DHT-85-003
 2850162005
 SQP-86-014-002
 XX-85-071-003

The bases for Element Report 308.03-SQN, Rev. J, dated December 31, 1986, are the following employee concerns:

XX-85-096-005: The Radiation Monitor Tube problem (Thimble Guide Tube Incident) in Unit 1 in April 1985 could occur again, because the equipment is not properly designed to be fixed during plant operation.

XX-85-096-N07: NRC identified the following concern from review of QTC file. "As a result of the thimble tube incident about 34,000 gallons of radioactive water spilled but was misrepresented to the NRC as no amount of leakage and as a small instrumentation leak."

GSB-85-001: Since we do not check calibration of torque wrenches immediately after a job, we could have degraded bolting when we start-up and could contribute to nuclear safety problems, shutdown and increased dose due to rework on more than one job.

DHT-85-003: CI is concerned that due to limited knowledge and understanding of requirements, and due to mechanical work being classified CSSC while electrical and instrument work is classified non-CSSC, the maintenance work performed on ABSCE, fire and security doors is inadequate to meet the requirements applied to these doors.

2850162005: TVA makes repairs to their nuclear plants which are not in accordance with ASME codes, such as overlays, patches, and even furmanite (sophisticated glue).

SQP-86-014-002: Although the foremen are required to sign a document stating they have reviewed the work package with the craft assigned to the job, they in fact often do not review the work package at all with the applicable craft. Nuclear Power concern.

XX-85-071-003: Sequoyah: CI has general questions about hardware repair process and requested that QTC investigate. Details known to QTC; withheld to maintain confidentiality.

II. Summary of Issue

The concerns are miscellaneous concerns in the area of corrective maintenance. The licensee review of the employee concerns substantiated five of the concerns (XX-85-096-005, XX-85-096-N07, GSB-85-001, DHT-85-003, 2850162005), and found that one concern (SQP-86-014-002) was not substantiated. Concern XX-85-071-003 could not be evaluated by the licensee since details of the hardware repair process concern were withheld to protect confidentiality.

III. Evaluation

1. Concern XX-85-096-005

The concerned individual stated that the thimble guide tube incident on Unit 1 in April 1985 could occur again because the equipment is not designed to be fixed during plant operation. The licensee committed to the NRC that cleaning of thimble guide tubes with system pressure above atmospheric pressure would be prohibited in LER 327/84030, Rev. 1. The NRC Residents reviewed the corrective actions to assure that procedures prohibited the cleaning of thimble tubes at power and determined that appropriate changes had been made. LER 327/84030, Rev. 1, has been closed.

2. Concern XX-85-096-N07

The concern involved the misrepresentation of the amount of radioactive water spilled during the thimble tube event on Unit 1 in April 1985. The licensee substantiated the concern and a revised LER (327/84030, Rev. 1) was provided to the NRC. The NRC Resident Inspectors have reviewed the corrective actions for LER 327/84030, Rev. 1, and closed the LER.

3. Concern GSB-85-001

The concerned individual stated that calibration of torque wrenches was not checked immediately after a job. The licensee indicated that the concern was substantiated. The licensee revised procedures to require that measuring and test equipment (M&TE) be reviewed upon return to the tool room to ensure the tool was in calibration. The NRC reviewed the M&TE program as documented in NRC Inspection Reports 327, 328/87-15 and 327, 328/87-37. All open items in this area have been closed.

4. Concern DHT-85-003

The concerned individual indicated that maintenance on Auxiliary Building Secondary Containment Enclosure (ABSCE), fire and security doors was inadequate. The concern was substantiated. The licensee has submitted several LERs to the NRC identifying the deficient

doors. NRC review indicated that the licensee has established a dedicated door crew specifically trained to perform door maintenance to assure that ABSCE, fire and security requirements are met.

5. Concern 2850162005

The concerned individual stated that TVA makes repairs to the plant which are not in accordance with ASME codes. The concern in the maintenance area was limited to the use of temporary leak repairs using viscous fluids. The concern was validated by the licensee in that appropriate engineering evaluations of the consequences of metal removal, shifts in gasket loading and material compatibility, during valve repairs using Furmanite, were not performed. The licensee currently requires that the use of Furmanite be handled as a plant modification under AI-19, Plant Modifications: After Licensing, which includes requirements for appropriate safety evaluations. The NRC had identified an unresolved item on the use temporary sealants as discussed in NRC Inspection Report 327, 328/86-27 (URI 327, 328/86-27-01). The NRC review of the licensee's corrective actions were completed as documented in Inspection Report 327, 328/86-55 and the unresolved item was closed.

6. Concern SQP-86-014-002

The concerned individual indicated that although foremen are required to sign a document verifying that they have reviewed a work package with the craft prior to work, they often do not conduct the review. It was determined that SQM-2, Maintenance Management System, required the foreman and craftsmen to review the work package, not necessarily concurrently, and sign-off that the package is adequate prior to use. The concern was not valid in that the requirement did not exist. SQM-2 places the responsibility for understanding the procedure at the craft level in addition to the foreman level, therefore, craftsmen who did not understand the procedures or work requirements are responsible for resolving their questions with their supervisor. The licensee has conducted training to reinforce the philosophy that each craftsman is responsible for the quality of his/her work. NRC inspectors noted that for complicated work packages, the craftsmen and engineers involved are briefed on the work activities. This concern apparently resulted from a misunderstanding of the administrative requirements. The licensee's actions appear to resolve the problem.

7. Concern XX-85-071-003

The concerned individual had general questions about the hardware repair process. The details had been withheld from the licensee to protect the confidentiality of the CI. The NRC has reviewed the specific concern and provided the licensee by letter dated September 22, 1987 with sufficient information to perform an evaluation of the condition. The specific concern involved welding practices on non-safety related equipment. The NRC will review the licensee's final disposition of the concern.

IV. Conclusion

The licensee is being provided sufficient information to evaluate concern XX-85-071-003 regarding welding on non-safety-related equipment. The NRC staff believes that the TVA investigation of the remaining concerns was adequate, and their resolution of those concerns as described in Element Report 308.03-SQN is acceptable for restart.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 & 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT 308.04-SQN
"PROGRAM / PROCEDURE VIOLATIONS"

I. Subject

Category: OPERATIONS (30000)

Subcategory: MAINTENANCE (30800)

Element: PROGRAM / PROCEDURE VIOLATIONS (30804)

Concerns: IN86-073-002
IN-86-315-002
IN-86-110-001
SQP85-004-006
JAN86-001
I86-233-SQN
JLH86-001

The bases for Element Report 308.04-SQN, Rev. 2, dated December 19, 1986, are the following employee concerns:

IN-86-073-002: "The mechanism exists for technicians to verify if the vendor manuals kept in the shop contain the latest updated drawings or schematics. Using out of date drawings or schematics could cause the plant instruments to be placed (unknowingly) in an out of configuration status. Details known to QTC withheld to maintain confidentiality. Concerned individual (CI) has no additional information. Nuclear power concern - Unit 1." (Watts Bar)

IN-86-315-002: "Engineering design drags problems off before they are fixed. To make this point clear, CI stated that when inspection department issues notice of indication (NOIs) or maintenance requests (MRs) that engineering will disposition them without fixing. CI stated this as a generic concern. Nuclear Power concern. CI has no further information."

IN-86-110-001: "During ice loading, TVA used jack hammers to compact ice to achieve the minimum basket weight requirements. This could result in "CHANNELING" of ice and endanger containment integrity during a LOCA (Loss of Coolant Accident). CI has no additional information. Unit 1/Nuclear Power concern."

SQP-85-004-006: "Procedure M110.37 requires a 0-30 in. lb. torque wrench be used, yet craft are told to use a 0-24 in. lb. torque wrench. CI feels craft should not be asked to violate a procedure. Nuclear Power concern. CI has no further information."

JAN-86-001: "Phone call received about drawings being marked up for WP 10512 (class 1E fuses ID) without completing the work."

I-86-233-SQN: "An anonymous individual mailed in a potential safety hazard associated with the Condensate Demineralizer Waste Evaporator (CDWE) on EL 706 of the Auxiliary Building at SQN. The original stainless steel piping for pumping "bottoms" from the CDWE was removed and replaced by a temporary rubber hose. Extensive modifications are being performed over the rubber hose. Welding hot chips have been observed falling on the rubber hose. Damage to or rupture in the hose would result in possible personnel exposure of a very high amount."

JLH-86-001: "1. MRs which require the addition of grease to Limitorque valve operators are signed by a general foreman as "no grease necessary" when, in fact, the grease levels are low or need replacing. 2. MRs which the general foreman considers unimportant are signed off as complete even though no work was performed. 3. Non-QA material is installed in QA applications, and traceability is falsified on the MR."

II. Summary of Issue

These concerns involve miscellaneous issues in the maintenance area. The licensee's review of these issues indicated that three of the concerns (IN-86-073-002, SQP-85-004-006, JAN-86-001) were valid; three of the concerns (IN-86-315-002, IN-86-110-001, I-86-233-SQN,) were not valid; and, parts 2 and 3 of the seventh concern (JLH-86-001) were valid and part 1 was not valid.

III. Evaluation

1. Concern IN-86-073-002

The concern involved the use of vendor manual drawings that were out of date. The licensee has revised AI-23, Vendor Manual Control, to assure proper control of vendor manuals. AI-25, Part I, Drawing Control After Unit Licensing, has also been revised to field verify equipment and establish controlled drawings. In addition, the responsibility for verifying that materials referenced in a work package are current has been assigned to the craft foreman in SQM-2, Maintenance Management System. Verification that drawings are current is performed prior to work. The NRC agrees that the concern was valid and safety-related. Inspection of the administrative controls which have been implemented to correct the problem has been completed and the staff has concluded that the controls in place on usage of vendor drawings should prevent problems with using outdated vendor drawings. The NRC is continuing inspection activities to assure that current drawings are being used in the field and that controlled drawings are being established.

2. Concern IN-86-315-002

The concerned individual stated that engineering design was dispositioning problems without fixing them. The licensee indicated that the Nuclear Safety Review Staff (NSRS) had reviewed the concern and determined that documentation of the disposition of problems referred to design had not been completed in all cases. The NSRS did not find any issues which had been improperly dispositioned.

The licensee has corrected procedures to assure proper documentation of results of the engineering reviews. The NRC has identified various problems in the past with the interface between the plant and design organizations including failure to review deficiencies in a timely manner and failure to review problems identified at other sites. The NRC review to confirm adequate corrective actions for the design /plant interface is documented in NRC Inspection Report 327, 328/87-42. The NRC found the short term corrective actions adequate and will monitor implementation of the long term program.

3. Concern IN-86-110-001

The concern involved the use of jackhammers to compact ice to achieve minimum ice basket weight requirements at Watts Bar. The inspector reviewed the licensee's investigation of the concern. The licensee indicated that jackhammers were not being used for compacting ice at Sequoyah but that a jackhammer had been used for a demonstration previously. The NRC notes that this concern was originally brought up at Watts Bar and was substantiated for Watts Bar. The concern was reviewed at Sequoyah as a potentially generic problem and was not substantiated.

4. Concern SQP-85-004-006

The concern involved procedure MI-10.37 which required a 8-30 in. lb. torque wrench be used, but the craft were instructed to use a 8-24 in. lb. torque wrench. The concern indicated that employees were being told to disregard procedural requirements. The NRC issued violation 327, 328/85-47-03 in regard to the use of a torque wrench which was not specified in the procedure. The NRC performed field reviews of maintenance activities and conducted interviews with employees to confirm corrective actions were taken. These reviews indicate that the licensee has adopted a policy that the employee will follow procedures exactly or change the procedure. The NRC staff has an outstanding violation on failure to follow procedure in the maintenance area, however, the violation did not involve a situation similar to the concern involved in this item. The reviews of procedural adherence in the maintenance area and a discussion of the violation are documented in NRC Inspection Report 327, 328/87-37. The licensee will provide additional information on measures to assure strict procedure compliance in the response to the violation. The NRC concludes that the concern was valid and safety related. Licensee actions to address this concern appear adequate. Violation 327, 328/85-47-03 was closed in NRC Inspection Report 327, 328/86-37.

5. Concern JAN-86-001

The concern involved an employee who received a request to close a work request prior to completion of the work. The NRC reviewed the licensee's documentation of this concern and its resolution in Element Report 308.04-SQN and determined that the licensee's actions appeared appropriate. The licensee stated that the concern was valid and that the concerned individual and other involved personnel

had been interviewed and the issue resolved. The subject work plan was reviewed by the licensee and had been subsequently closed appropriately. The NRC noted that AI-19, Plant Modification: After Licensing, requires that work plan steps be completed prior to final signoff by the document coordinator.

6. Concern I-86-233-SQN

Original stainless steel piping in the Condensate Demineralizer Waste Evaporator was replaced with rubber hose. The concern stated that welding was being allowed over the hose with the potential for damage of the hose and release of contaminated material. The licensee could not identify any instances where welding had taken place over the hose without protection being provided. The licensee has since replaced the rubber hose with permanent piping. The licensee indicates that the concern was not validated, however, the inspector believes that the validity was indeterminate in that all instances of welding near the hose could not be reviewed for proper controls. The licensee uncovered no damage to the hose and has replaced the temporary hose with permanent piping. Corrective actions to assure that problems involved in the original concern are precluded, have been completed. This issue is considered to be resolved.

7. Concern JLN-86-001

The concern had three parts: (1) Valve operators with low grease or with grease that needed replacement were signed off by general foreman as not requiring grease; (2) MRs were signed off by general foreman without completing work; (3) non-QA material was installed and records falsified to indicate that QA material was used.

The NRC reviewed the licensee's response to the concerns as documented in Element Report 308.04-SQN. The licensee indicated that grease had been sampled on all Unit 2 Limitorque operators and maintenance verified that the operators were properly greased. The licensee's QC organization audited this process. No discrepancies were identified. This sampling program and the results from interviews conducted by the licensee appear sufficient to resolve this concern.

The second concern was considered valid by the licensee. The licensee's actions for this concern, which included rework of identified maintenance requests, implementation of a new program for tagging defective equipment, training and disciplinary action, appeared appropriate. In addition, the licensee has conducted an equipment operability study to identify inoperable equipment and maintenance requirements. NRC review of the equipment operability study is documented in NRC inspection report 327, 328/87-37. These actions should resolve this concern.

The third concern, involving traceability of QA material, was considered valid by the licensee. The licensee's Nuclear Safety Review Staff performed an audit in the area and identified several

problems including failure to segregate QA and non-QA bins, inadequate documentation, and addition of new parts with different documentation to existing stock. The NRC staff has conducted extensive inspections in this area and has identified additional concerns as documented in NRC Inspection Reports 327, 328/86-61 and 327, 329/87-40. Resolution of the licensee's findings and the NRC concerns will be tracked in the Inspection Reports.

IV. Conclusion

The NRC staff believes that the TVA investigation of the concerns was adequate, and their resolution of the concerns as described in Element Report 308.04-SQN is acceptable for restart. The NRC staff had the following comments on certain employee concerns which were not validated by the licensee. Concern IN-86-315-002, involving disposition of NCIs or MRs without correcting the problems, was considered not valid in that no instances of improper disposition were found; however, the licensee did indicate that documentation of dispositions were not adequate. The NRC notes that lack of documentation could have lead to the original concern that the problems were being dismissed. The NRC believes that actions to correct these problems appear adequate and therefore resolution of this problem is acceptable for restart. Concern IN-86-110-001, regarding use of a jack hammer on ice baskets, was a concern which was substantiated at Watts Bar. The NRC agrees with the licensee that this was not a concern at Sequoyah. The NRC notes that for I-86-233-SQN, that it is not clear whether or not welding took place in the vicinity of the CDWE bull hose; however, no damage to the hose was uncovered, the licensee's procedures on welding if followed completely should have prevented problems and should prevent future occurrences of this type and the licensee has since replaced the hose with stainless steel piping.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT OP 30806 "SUBJOURNEYMAN/JOURNEYMAN"

I. Subject

Category: Operations (30000)

Subcategory: Maintenance (30800)

Element: Subjourneymen/Journeymen (30806)

Employee Concern: IN-85-589-002

The basis for Element Report OP 30806, dated November 5, 1986, is the following employee concern:

Concern IN-85-589-002: "Power Division is using subjourneymen level craft personnel to perform welding, wiring, and other operations which require a certified trained journeyman to perform properly. All crafts were alleged to be involved in this practice. No further details available."

II. Summary of Issue

Concern states that subjourneymen craft personnel were performing duties requiring a certified trained journeyman. In their union contract TVA has a subjourneyman classification for both construction (unskilled work) and maintenance (semi-skilled work). Only the maintenance portion of the contract is applicable to Sequoyah, since it is considered an operating plant. Semi-skilled maintenance work for subjourneymen consists of tasks such as general shop cleanup, parts retrieval, and assisting journeymen. Work performed assisting journeymen is under the direct supervision of the journeyman and is signed for by the journeyman.

III. Evaluation

TVA interviewed supervisory personnel in electrical, instrument, and mechanical maintenance. Only electrical maintenance used subjourneymen; in August 1986, they had only a total of four subjourneymen. TVA personnel at Sequoyah searched the union grievances back to 1983 (when the subjourneyman classification began) and found nothing on subjourneymen. TVA Quality Assurance at Sequoyah found no DRs or CARs related to the subject of subjourneymen.

IV. Conclusion

The NRC staff believes that the TVA investigation of the concern was adequate and their resolution of the concerns as described in Element Report CP 30806 is acceptable for restart.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 & 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
ELEMENT REPORT 30807 "CLAM CONTROL PROGRAM"

I. Subject

Category: Operations (30000)

Subcategory: Maintenance (30800)

Element: Clam Control Program (30807)

Concerns: IN-85-948-001
IN-85-948-002
IN-85-948-003

The Basis for Element Report 30807-SQN, Revision 4 dated January 7, 1987, are the following Watts Bar employee concerns:

Concern IN-85-948-001: "Intake pumping station cannot or does not screen out mussels. The mussels found in the lines are very small and perhaps are hatching. The ERCW line is also clogged with concrete debris. An 8-inch line may have a one and a half inch opening for water flow. The fire protection system will not operate properly due to this clogging. Example: Six inch F. P. line in Unit 1 "Hot Shop" was cut 2-4 years ago, and a one foot length of pipe had enough debris to fill a hard hat (713' Elevation behind security). C.I. had no further information."

Concern In-85-948-002: "Pipes to the sprinkler heads in the switch yard are filled with mussels and debris. Examples of past clogging are where the four inch diameter header joins the one inch diameter around every transformer. C.I. had no further information."

Concern IN-85-948-003: "The flush hose was stopped up with mussels and identified while flushing the system two years ago. Auxiliary Building, Unit 1, 692' Elevation. This system was F.P. and was supposed to be "dry." C.I. had no further information."

II. Summary of Issue

TVA perceived the issue to be clam infestation in the plant water systems.

III. Evaluation

The TVA Evaluator reviewed the Sequoyah response to IE Bulletin 81-03, reviewed the Sequoyah clam control program; interviewed cognizant personnel and reviewed completed surveillance data. The concern addressing concrete debris in the ERCW piping was not evaluated at SQN due to the fact concrete lined pipe is specific to Watts Bar.

The evaluation determined that there are asiatic clams in the vicinity of SQN and that clam growths have occurred in some of the plant water systems. However, there was no indication of any massive or recurring problem with clams in plant water systems and that the plant surveillance instructions are adequate to prevent clam infestations.

IV. Conclusion

The NRC staff believes that the TVA investigation of the concern was adequate, and their resolution of the concern as described in Element Report 30807 is acceptable for restart.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
QTC-SQP-85-004-007 "POLAR CRANE"

I. Subject

Concern SQP-85-004-007: An employee was directed by supervision to operate a piece of equipment, after the employee had reported the piece of equipment as defective.

II. Summary of Issue

This concern describes an occasion when an employee was required by management to use a piece of equipment after the equipment had been declared defective by an inspection. This concern has been addressed by TVA with related concerns in Employee Concerns Element Report 30805 concerning maintenance training.

TVA chartered the Crane Consistency Program (CCP) to evaluate the use of cranes throughout TVA in the aftermath of the fatality at Brown Ferry in March 1985. CCP-Special Projects evaluators conducted interviews with crane operators and reviewed crane operator training lesson plans. The evaluators found that conflict between craft foremen and crane operators resulted from foremen not having had the special training that crane operators had received.

III. Evaluation

TVA has identified the root cause of this concern to be the failure to ensure that craft foremen receive the same information (training) that is provided the craft personnel.

The long term corrective action is for the CCP to develop an Office of Nuclear Power procedure to ensure safe crane operations. This procedure is anticipated to be completed in 1987.

IV. Conclusion

The NRC staff believes that the TVA investigation, resolution, and corrective action for Employee Concerns Element Report 30805 is acceptable for this related concern as well and for restart.

SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2
SAFETY EVALUATION REPORT FOR EMPLOYEE CONCERNS
QTC-XX-85-093-004
"GASSING OF CURRENT TRANSFORMERS"

I. Subject

Concern QTC-XX-85-093-004: Concerned individual feels that TVA has a problem with gassing of current transformers which has led to outages of line and bus ties to obtain oil samples and determine gassing conditions and is an example of inadequate SE/ASE electrical training.

II. Summary of Issue

The concerned individual feels that the SE/ASE does not have adequate training in electrical operations to understand the long term consequences pertaining to gassing of current transformers on station reliability. The C/I appears concerned from an overall electrical distribution standpoint (dispatcher) as compared to Nuclear safety.

III. Evaluation

TVA has addressed training of operators in ECSP element report 310.02. The TVA investigators found that this concern was initially evaluated by the NSRS and documented in NSRS report I-85-093-002. The NSRS evaluated the training program for licensed operators against the requirements of the NRC. They found that the training program fully met NRC requirements. In addition, the electrical training at Sequoyah was one of the first in the nation to receive INPO accreditation in January 1984. In addition, the investigators found that NSRS had already addressed the CIs concerns in a special investigation pertaining to training and qualification of SEs and ASEs on switchyard operation (NSRS I-85-619-SQN). The NSRS concluded that the SEs and ASEs are fully trained in switchyard operations. This training included portions on transformers and switchyard safety. TVA concluded that the concern was unsubstantiated.

IV. Conclusion

The NRC staff believes that the TVA investigation, resolution, and corrective action for Employee Concerns Element Report 310.02 is acceptable for this related concern as well and for restart.