

Technical Specifications take credit for testing of equipment done by other sections of the Technical Specifications, thereby minimizing starts on equipment. Also, surveillance testing and maintenance work is reviewed by the Planning and Scheduling Section to ensure, where possible, that all work is performed on a piece of equipment at one time.

With respect to the concern that surveillance requirements necessitate excessive testing, findings at BFN were similar to those for WBN and SQN. The issue was substantiated at least with respect to BFN's diesel generators based on the same EPEL report. However, like the management at WBN and SQN, BFN line management has analyzed in the past and continues to analyze all equipment testing requirements to take action to minimize damage caused by testing. The plant initiated a Preventive Maintenance Failure Trending Program in May, 1986 that should identify equipment failures due to excessive testing in the future. Also, there is an ongoing effort by Licensing to get technical specifications relief from surveillance test frequencies that are excessive.

#### Added Licensed Operator Paperwork

The concern that operators are not performing operational duties because of excessive paperwork was not substantiated. It was determined that operation of a unit always takes priority over paperwork and that paperwork is either set aside until it can be reviewed or is handled by extra operators supporting the shift.

#### BLN

Generic evaluations were conducted at BLN for the issues presented by concerns IN-86-014-001 and IN-86-208-001.

#### Excessive Surveillance Testing

The concern that there is no integrated approach to minimizing surveillance testing was not substantiated. The plant is still under construction, and the technical specifications (from which SIs will be prepared) will not be written until 1991. Thus, it was judged to be too early to check for an integrated approach to surveillance testing.

It was found that BLN line management had responded previously to the issue of surveillance requirements necessitating excessive testing. Line management had noted that running SIs on essential

equipment is not an ongoing activity at BLN and had cited industry-wide action to address the issue. The current evaluation found the issue to be unsubstantiated and concurred with the plant response that no further action is warranted.

Added Licensed Operator Paperwork

BLN line management also had answered the issue of operators not performing operational duties because of excessive paperwork. Line management had commented that performance of SIs by operations personnel is not an ongoing activity at BLN, but that additional licensed operators were assigned to each shift to assist with paperwork as necessary. The current evaluation found the issue to be unsubstantiated and concurred with the plant response that no further action is warranted.

Conclusion

The issue of excessive surveillance instruction testing and added licensed operator paperwork at WBN, SQN, and BFN is factual and presents a problem for which corrective action has been, or is being, taken as a result of an employee concerns evaluation. The issue at BLN cannot be verified as factual.

Issue 307.05-4 Shortage of Operations Personnel has Adverse Affect on Surveillance Testing

BFN

The issue regarding the transfer of BFN Operators having an adverse affect on surveillance instruction testing was not validated. The CI has valid statements however, in that personnel loans did occur and this fact resulted in increased overtime for remaining personnel.

The BFN Operations Staff had been required by the Manager-Nuclear Power to loan several Assistant Unit Operators (AUXOs) to support TVA fossil operations in November, 1985. A time delay in providing temporary replacement AUXOs from BLN resulted in a two to three month reduction of AUXOs at BFN which led to increased overtime for those remaining.

A review of SIs completed during this period of personnel reduction found that all were performed in accordance with technical specification requirements. There had been no compromise of plant operations or safety during this time period and therefore no corrective action is found necessary.

Conclusion

The issue of shortage of operations personnel has adverse effect on surveillance testing at BFN is factually accurate, but what it describes is not a problem (i.e., not a condition requiring corrective action by ONP).

3.6 Element 307.06 Test Procedures/Programs

Issue 307.06-1 All Test Problems Given The same Priority and Emphasis

WBN

The concern related to the resolution of test problems regardless of the impact upon the plant was found to have been previously investigated by line management. The concern was substantiated, however, no problem existed. The current evaluation concurs with the findings of the previous plant investigation. WBN's investigation determined that the concern was specific to prep testing. The investigation stated that since safety-related and non-safety portions of the plant are required for power operation, all components are considered important. Procedures in place at WBN mandate sufficient emphasis on all problems to ensure adequate resolution although the process does not differentiate between safety and non-safety items. Regulatory Guide 1.68 does allow for a graded approach in resolving test problems; however WBN has taken a conservative approach in meeting those requirements.

Conclusion

The issue of test problems given the same priority and emphasis at WBN is factually accurate, but what it describes is not a problem (i.e., not a condition requiring corrective action by ONP).

Issue 307.06-2 Incore Thermocouple Test Invalid Due to Bad Procedure

WBN

The concern specific to WBN involving the incore thermocouple test being invalid due to a bad procedure was previously investigated by NERS Report I-85-120-WBN and was not substantiated. The current evaluation agrees with the findings of the NERS report. The investigation determined the concern to be specific to Westinghouse procedure performed as part of a workplan for installation testing. Documentation reviews and interviews revealed no major problems. This evaluation also found that the prep test for incore thermocouples was successfully completed.

Conclusion

The issue of incore thermocouple test invalid due to a bad procedure at WBN can not be verified as factual. |R1  
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Generic Applicability

Concern IN-85-025-001 was evaluated at the site of concern (WBN) and found to be not valid. No other site evaluations are necessary. |R1  
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Issue 307.06-3 Annulus Vacuum Fans not Maintaining Negative Pressure |R1

WBN

The concern that WBN annulus vacuum fans would not achieve rated performance when tested under the preop program was substantiated; however, subsequent actions by DNE have resulted in an appropriate resolution. The problem was initially reported to DNE as a probable design deficiency. ECNs have since been issued detailing replacement of the fan motors. At the time of this evaluation, new motors have been installed and are awaiting post modification testing. The modification is expected to resolve the problem.

Conclusion

The issue of the annulus vacuum fans not maintaining negative Pressure at WBN is factual and identifies a problem, but corrective action for the problem was initiated before the employee concerns evaluation of the issue was undertaken. |R1  
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Generic Applicability

Concern IN-85-640-001 was evaluated at the site of concern (WBN). It was determined the situation was identified during a preop test. Although the initial resolution was inadequate, the situation had been resolved at the time of the ECTG evaluation. This is a WBN specific issue and no other site evaluations are necessary. |R1  
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Issue 307.06-4 Valve had to be Sealed by Hand to Pass Preoperational Test |R1  
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WBN

Due to lack of available information, an evaluation was not possible for the concern stating that a valve had to be blocked (sealed) in order to pass preoperational test. Therefore, the concern could not be validated.

Conclusion

The issue of a valve having to be sealed by hand to pass preoperational test at WBN can not be verified as factual.

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Generic Applicability

Concern IN-85-771-001 was found to be not valid at WBN. No other site evaluations are necessary.

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Issue 307.06-5 Programmatic Breakdown In Regard to Verification/ Signoff of Startup Test Prerequisites

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WBN

The concern involving the programmatic breakdown relative to verification/signoff of startup test prerequisites was not substantiated. The current evaluation had determined that applicable WBN instructions and baseline documents met the requirements for test prerequisites of Regulatory Guide 1.68. No evidence was found to indicate that the prerequisites specified in the startup test instructions are or have been in violation of the requirements.

Conclusion

The issue of programmatic breakdown in regard to verification/signoff of startup test prerequisites at WBN can not be verified as factual.

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Generic Applicability

Concern IN-86-076-001 was evaluated at the site of concern (WBN) and found to be not valid. No other site evaluations are necessary.

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Issue 307.06-6 Fragmentation of Responsibilities Results In Partial Reviews/Tests and Increase Coordination Problems

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WBN

The concern regarding fragmentation of system responsibilities which results in partial tests, partial reviews and increased coordination efforts was substantiated; however, no problems were identified. Operational system responsibilities are sometimes fragmented between

engineers due to the complexity and size of the systems. Test responsibilities are generally assigned within a single unit within operations with one supervisor being responsible for the entire system. DNE-generated scoping documents also ensure that systems are fully tested prior to plant start-up. No knowledge of quality problems associated with this fragmentation have been reported.

#### SQN

The concern alleging fragmentation of system responsibility as it relates to system-testing was validated based on former methods of system testing assignments.

It was found that fragmentation of system testing responsibilities had the potential for occurrence in the past due to an informal approach to assigning and implementing post-modification testing activities.

As a result of the Post-Modification Test (PMT) Task Force efforts coupled with the recovery from the April, 1984 thimble tube ejection incident, SQN implemented a System Engineering Section (SES) under the Technical Support Group. This section's function as defined by the Sequoyah Nuclear Performance Plan (SNPP) is to "provide a point of site operations of focus for the system history, status, special testing, and resolution of major system problems . . . Operational systems engineers will coordinate across organizational lines (i.e. DNE, Operations, Maintenance, and Technical Support) to determine the root cause and corrective actions of problems involving equipment/system interfaces." Discussion with the SES manager revealed that the section has been implemented under Standard Practice SQN-168. This document further defined responsibilities for members of the group. In the testing area, System Engineers are required to direct pre-modification and post-modification tests to ensure conformance with test requirements. The SES is currently in the review cycle for post-mod tests. Note that under SQEP-13 the responsibility for preparation of all post-mod tests is being shifted to DNE. This move, coupled with the assignment of a dedicated Operational Systems Engineer is intended to provide a consistent approach to testing.

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#### Conclusion

The issue of fragmentation of responsibilities results in partial reviews/tests and increase coordination problems at WBN is factually accurate, but what it describes is not a problem (i.e., not a condition requiring corrective action by ONP). The issue at SQN is

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factual and identifies a problem, but corrective action for the problem was initiated before the employee concerns evaluation of the issue was undertaken.

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Issue 307.06-7 Safety Equipment not Properly Tested

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SQN

The concern dealing with improper testing of "some tubes on the fuel floor" was not substantiated. The concern was determined to be specifically addressing the post-modification testing of the high density storage racks.

The spent fuel pool high-density storage racks were determined to have been adequately tested in accordance with the requirements of Regulatory Guide 1.68. Unlike the original racks which were tested under the TVA preoperational test program, this testing was contracted to National Nuclear Corporation (NNC). The test included Neutron Attenuation and Drag Tests to ensure proper moderation of spent fuel assemblies and the ability of assembly insertion/withdrawal.

Testing was approved by TVA DNE and conducted under TVA Quality Assurance procedures and the resulting data were reviewed and approved by DNE.

Conclusion

The issue of safety equipment not properly tested at SQN can not be verified as factual.

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Generic Applicability

Concern SQM-86-004-017 was evaluated at the site of concern (SQN) and found to be not valid. No other site evaluations are necessary.

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Issue 307.06-8 Validation of Tests for High Pressure Fire Protection Hoses

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WBN

The concern regarding the walking on or pushing carts over high pressure fire protection hoses that are being tested causing invalid results or a personnel safety hazard was not substantiated. It was determined that test procedures for the fire protection hoses warn the user to avoid cart interference during testing and also adequately address the personnel safety issue.

Conclusion

The issue of validation of tests for high pressure fire protection hoses at WBN can not be verified as factual. |R1

Issue 307.06-9 Inadequacy of Manuals, SIs and Training on Fire Detection System |R1

WBN

The concern regarding five related issues on the WBN fire detection system was not substantiated. These five related issues dealt with the availability of vendor manuals and prints, lack of SIs, lack of approved list of printouts/modifications, inadequate training and spare parts unavailability.

Vendor manuals and required drawings were determined to be available by the evaluator and confirmed by interviews with personnel responsible for the system. Surveillance instructions were also found that mandated a complete test of the system. It was also determined that as-constructed drawings were available for the unit 1 portion of the system and individuals responsible for maintaining/operating the system do possess adequate experience. Spare parts were also determined to be generally available.

SQN

The concern regarding Fire Detection System inadequacies at WBN was evaluated generically for SQN and was not substantiated. Of the five related issues noted in the concern, only one has a direct bearing on the SQN hardware, that of the lack of a surveillance instruction to check the system from the transmitter/receiver panel through to the console computer. The remaining issues in the concern are related to training, spare parts, drawings and manuals for the fire detection system at Watt. Bar. In the evaluation, "console computer" was taken to refer to the fire detection alarm console in the main control room.

A Sequoyah, SI-234 describes testing of all Technical Specifications related fire detection loops. Four separate checks are made on each loop: a channel functional test of detectors, an operational test of alarms, a detector and alarm circuit supervisory operational test, and an operational test of non-supervised circuits from the panels to operated equipment. Each of these tests includes specific instructions to verify proper indication at the local panel as well as the control room alarm console. This instruction is required to be performed on six-month intervals.

Conclusion

The issue of inadequacy of manuals, SIs and training on the fire detection system can not be verified as factual at WBN and SQN. |R1  
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Generic Applicability

Concern WBN-233 was evaluated at WBN and SQN and found to be not valid at both sites. No other site evaluations are necessary. |R1  
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Issue 307.06-10 Unqualified Individual Required to Perform Test |R1

WBN

The concern that an individual reported to the supervisor that he was unqualified to perform a specific test and the supervisor implied a disciplinary letter would be issued if the individual did not perform the test was not substantiated based on the quality aspect of this concern. By reviewing a random sample of individuals' education and experience level, requirements for prep engineers and the minimum qualification of individuals that direct or supervise the preoperational test were verified. Test directors were also found to be adequately trained. This concern is also being evaluated by the Intimidation and Harassment Category.

Conclusion

The issue of unqualified individual required to perform test at WBN cannot be verified as factual. |R1  
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Issue 307.06-11 Failure to Schedule Test for Similar Equipment after Problem Identified for One Component |R1  
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WBN

The concern regarding TVA not scheduling tests on similar equipment after one component was found to have inadequate wiring was not substantiated. This evaluation determined that adequate procedures and controls exist to ensure that any faulty equipment or design will be identified and resolved during the prep process. Similar equipment, as referenced by the concern, would have been fully tested by another prep test.

Conclusion

The issue of failure to schedule test for similar equipment after problem identified for one component at WBN can not be verified as factual.

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Generic Applicability

Concern WBP-85-017-005 was evaluated at the site of concern (WBN) and found to be not valid. No other site evaluations are necessary.

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Issue 307.06-12 Diesel Generator (D-G) Batteries Replaced Without Initial Testing

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SQN

The issue regarding improper testing of diesel generator batteries was not validated. However, the statement of concern was factually accurate, but what is describes is not a problem. It was found that the SQN Safety Evaluation Report (SER) requires testing of Class 1E batteries in accordance with requirements of IEEE-450-1972. However, the SER is interpreted to exclude testing of diesel generator batteries since the SER refers specifically to 125 volt dc batteries which provide uninterruptable power for control, instrumentation, annunciation, and emergency lighting. The SER has no mention of diesel generator batteries.

The Potential Reportable Occurrence (PRO-1-85-129) to which the CI refers, is in agreement with the SER interpretation and was based on FSAR, Tech Spec, and 10 CFR 50, Appendix A requirements. The PRO was determined not reportable. This is addressed by CATD 30706-SQN-01.

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It was found that all diesel generator battery banks were replaced with new C & D type 30CU-9 batteries and racks between 1980 and 1982. Post-installation testing of these batteries was performed in accordance with SI-238, Diesel Generator Battery System Inspection to verify compliance with SQN Technical Specifications; the test results had been satisfactory.

An NSRS investigation of this concern (I-85-109-SQN) chronicled the history of DG batteries and associated testing and substantiated the concern. Although the current evaluation differs from the conclusions reached in the NSRS report, several NSRS recommendations were responded to by SQN. SQN accommodated the NSRS recommendations by including a full performance test of the DG batteries in accordance with SI-238 which meets the IEEE-450 requirements. The present diesel generator maintenance and testing program at SQN is carried out per the IEEE-450 guidelines.

Conclusion

The issue of diesel generator batteries replaced without initial testing at SQN is factually accurate, but what it describes is not a problem (i.e., not a condition requiring corrective action by ONP). |R1

Generic Applicability

Concern XX-85-001-001 was evaluated at the site of concern (SQN). NSRS had previously received justification from each site on their battery maintenance programs. A review of these justifications revealed the issue is limited to SQN. |R1

Issue 307.06-13 Questionable Preop Prerequisites |R1

SQN

The concern questioning preoperational prerequisites for SQN unit 2 during the periods of early 1980 and mid-1981 was not substantiated. A review was conducted of 33 data packages identified on the test conduct log as having begun or ended during the stated time frame. The review did not produce any evidence of excessive prerequisite test exceptions, nor changes or deficiencies which would indicate that the systems were not complete and ready to test. Signoff of test prerequisites at SQN is in compliance with Regulatory Guide 1.68. Requirements specified in prerequisites were judged adequate since the tests are written and approved in accordance with DNE scoping documents.

Conclusion

The issue of questionable preop prerequisites at SQN can not be verified as factual. |R1

Generic Applicability

Concern XX-85-077-001 was evaluated at the site of concern (SQN) and found to be not valid. No other site evaluations are necessary. |R1

3.7 Element 307.07 Radiological Emergency Plan |R1

Issue 307.07-1 Adequacy of Evacuation Routes and TVA's Ability to Evacuate the Site in the Event of an Emergency |

WBN

The concerns questioning the adequacy of evacuation routes and TVA's ability to evacuate the site in the event of an emergency were not substantiated. It was determined that WBN emergency plans and

implementing procedures identify the methods to be used in case of a site evacuation. An evacuation time study has been conducted to assess the adequacy of evacuation routes. The NRC and Federal Emergency Management Agency (FEMA) have evaluated emergency exercises and have found the emergency plans and procedures to be adequate.

During the evaluation of the concerns dealing with evacuation, a side issue investigated by the evaluator found that there may be a lack of understanding of the Radiological Emergency Plan (REP) program by personnel not actively involved in the program. The lack of understanding was thought to be due to inadequacies in the General Employee Training (GET) program. It was found that GET does not provide sufficient coverage of onsite evacuation procedures and the purpose and location of assembly areas. The level of detail in GET Lesson Plan 3.1, "WBN Plant Security and Emergency Planning (EP)," was found to be insufficient. The lesson plan limits EP training to what an employee needs to do during an emergency (i.e., report to his/her assembly area). No background information on the purpose of EP or the level of planning currently in place is presented. This is addressed by CATD 30707-WBN-01.

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#### SQN

The concern regarding the adequacy of SQN's evacuation route was not substantiated. Federal Emergency Management Agency (FEMA) has reviewed the multi-jurisdictional response plan and has evaluated the annual emergency preparedness exercises conducted jointly by TVA, the State of Tennessee, and counties surrounding SQN. The FEMA Evaluation Report on the 1985 emergency exercise for SQN stated that the counties within 10 miles of SQN "demonstrated an adequate capability to evacuate the populace."

#### Conclusion

The issue of adequacy of evacuation routes and TVA's ability to evacuate the site in the event of an emergency at WBN itself does not identify a problem, but as a result of the employee concerns evaluation a problem was discovered for which corrective action was initiated. The issue at SQN can not be verified as factual.

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#### Generic Applicability

Concern JLN-86-004 was evaluated at the site of concern (SQN) and found to be not valid. No other site evaluations are necessary.

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Issue 307.07-2 Potential Misuse of Iodine Tablets Issued to Employees and the General Public

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SQN

The concern regarding the potential misuse of iodine tablets issued to employees and the general public was not substantiated. It was found that the distribution of potassium iodide to site personnel is controlled by plant procedures and that potassium iodide has not been given to site personnel. It was determined that the distribution of potassium iodide to area residents is a function of the state and local government. TVA has no authority or control over decisions made by the State of Tennessee.

Conclusion

The issue of potential misuse of iodine tablets issued to employees and the general public at SQN can not be verified as factual.

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Issue 307.07-3 Precautions In Case of an Explosion or Leak at the Plant

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WBN

The concern regarding precautions in case of an explosion or leak at the plant was not substantiated. It was determined that emergency plan requirements of the NRC have been implemented by TVA. The NRC and Federal Emergency Management Agency (FEMA) have stated in their reports for the WBN REP Exercises of September 11-12, 1984, and July 25, 1985, that WBN emergency plans and procedures are adequate to protect the health and safety of the public.

Conclusion

The issue of precautions in case of an explosion or leak at WBN cannot be verified as factual.

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Issue 307.07-4 Adequacy of Evacuation Drills

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WBN

The concerns regarding the need for a complete evacuation drill and questioning the validity of forewarning people of evacuation drills were not substantiated. No NRC requirements or recommendations

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could be identified for the conduct of unannounced evacuation drills or a complete site evacuation. The forewarning of evacuation drills is consistent with the NRC's and WBN's definitions of "drills" which is "a supervised instruction period aimed at testing, developing and maintaining skills in a particular operation."

Conclusion

The issue of the adequacy of evacuation drills at WBN can not be verified as factual.

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Issue 30707-5 Location of TVA's offsite Emergency Response Group

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WBN

The concern stating that TVA's offsite emergency response group is outside NRC's 10-mile radius limit was found to be factually accurate as stated. However, the concern did not pose a problem requiring corrective action. It was determined that the NRC provides two options for the locations of Emergency Operations Facilities (EOFs). Option 1 requires that one EOF be located within 10 miles of each plant, with a backup EOF between 10 and 20 miles from each site. Option 2 requires one EOF at or beyond 10 miles. If the EOF is beyond 20 miles from the plant, approval must be obtained from the NRC. TVA chose to exercise Option 2 and develop a central EOF for use with all nuclear plants. To augment the EOF location, a Local Recovery Center (LRC) is established at, or near, each site from where post-accident recovery operation can be controlled. The use of Option 2 with the centralized EOF was approved by NRC. The EOF is staffed by TVA personnel located in Chattanooga and has dedicated phone lines to the site's emergency facilities. The operation of the EOF has been evaluated by the NRC during emergency exercises for three TVA nuclear facilities. Evaluation of BLN will be performed at a later date.

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Conclusion

The issue of location of TVA's offsite emergency response group at WBN is factually accurate, but what it describes is not a problem (i.e., not a condition requiring corrective action by ONP).

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3.8 Element 307.08 Training Programs for Employees

Issue 307.08-1 Improper Reporting of Events at all TVA Sites

TVA Corporate

The concerns regarding improper event reporting were evaluated and substantiated for all TVA nuclear sites. Reviews of upper-tier documents, implementing procedures, applicable training courses, and historical data at SQN, BFN, and BLN had revealed no deficiencies of a programmatic nature and therefore the concerns initially had been considered unsubstantiated at these plants. At SQN in particular, a review of training records for Shift Technical Advisors, Shift Engineers, and Plant Operating Review Staff (PORC) personnel verified that training on regulatory reportability requirements has been and is conducted for all Shift Technical Advisors and licensed operators. Also, the PORC supervisor indicated that informal classes have been held with newly assigned personnel on reportability requirements.

During the evaluation at WBN, however, it was found that NRC, INPO, and DNQA had identified deficiencies in TVA's CAQ reporting program corporate-wide. It was determined that TVA committed to resolving the deficiencies by completely revising the CAQ reporting program throughout TVA. The commitments included required training for all appropriate personnel within the TVA system.

The revised CAQ reporting program was designed to provide consistency and consolidation between the many CAQ reporting methods previously used. The revised program requires all divisions to use one CAQ reporting document to replace any others previously used. The requirements of the revised program were written into the NQAM, Part I, Section 2.16 and are to be incorporated into site implementing procedures. This is being tracked by CATD 30708-NPS-01. |R1

Training on the revised program was developed in two parts - one part for potential CAQ initiators, and one part for potential CAQ processors. Training was begun in January of 1987 and was to be completed by March 30, 1987. At the time of the evaluation (February, 1987) over 5000 individuals had received this training throughout TVA and the training was proceeding on schedule. It was determined that the lesson plans for this training adequately address the requirements of the NQAM, Part I, Section 2.16 with the appropriate level of detail. It was also found that personnel attending the processor part of the training are tested for comprehension upon conclusion of the training.

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A review of the requirements of NQAM, Part I, Section 2.16, however, revealed the following potential deficiencies:

- a. Responsibility for determining 10CFR50.55 (e) reportability is undefined.
- b. For CAQs where a determination has been made that there is no generic applicability or potential effect to plant operability, no further review of this determination is required.
- c. No method is identified to provide generic applicability evaluation results to the organization responsible for root cause determination.

These deficiencies are addressed by CATD 30708-NPS-02. |R1  
The Construction (CO) CEG identifies other inadequacies and deficiencies in the new CAQ program in a construction fact sheet.

Conclusion

The issue of improper reporting of events at all TVA sites is factual and identifies a problem, but corrective action for the problem was initiated before the employee concern evaluation of the issue was undertaken. |R1

Generic Applicability

Concern WI-85-100-035 was evaluated at WBN, identical concerns were evaluated at each of the other sites, as follows: |R1

XX-85-122-036 at SQN |  
XX-85-122-037 at BLN |  
XX-85-122-038 at BFN |

Issue 307.08-2 Adequacy of General Employee Training |R1

WBN

The concerns regarding adequacy of GET at WBN were not substantiated. Previous responses to the concerns by line management, as well as an overall review of the program and documentation, indicated that TVA's GET program meets or exceeds regulatory requirements, INPO guidelines and industry standards.

SQN

The concern regarding insufficient time being spent on Health Physics General Employee Training (GET) was found to have been previously evaluated by the Nuclear Training Branch. The concern had not been substantiated in the previous evaluation. It had been determined that the time allotted to a specific class is based on experience with typical classes containing a broad cross-section of employee backgrounds and occupations. Instructors were found to be certified by TVA and it was possible to make arrangements for special tutoring sessions as necessary. Efforts had also been made to reduce class sizes to manageable levels to enhance the learning environment. The current evaluation concurred with the Nuclear Training Branch findings.

Conclusion

The issue of adequacy of general employee training at WBN and SQN cannot be verified as factual.

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Generic Applicability

Concern XX-85-058-001 was evaluated at the site of concern (SQN) and was found to be not valid. No other site evaluations are necessary

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Issue 307.08-3 Inadequate Procedural Training for Documenting the use of Instruments and Tools

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WBN

The concern regarding inadequate procedural training for documenting the use of instruments and tools had been previously evaluated in NSRS report I-85-727-WBN. NSRS had substantiated the concern based on DQA audit findings and based on an independent evaluation of requirements and their implementation. This report concurs with the findings of the NSRS. The NSRS had made recommendations for line management to provide formal training as the implementation of AI-5.9 and to maintain QA records on training given as a result of NRC or QA audits. The current evaluation found that line management has implemented the corrective action recommended by NSRS and that no further action is required.

Conclusion

The issue of inadequate procedural training for documenting the use of instruments and tools at WBN is factual and presents a problem for which corrective action has been, or is being, taken as a result of an employee concerns evaluation.

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Generic Applicability

Concern IN-86-112-001 was evaluated at the site of concern (WBN). It was determined that the previously identified deficiencies (by NSRS) were WBN specific. No other site evaluations are necessary.

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3.9 Element 307.09 Experience Review Program

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Issue 307.09-1 Inadequate Operating Experience Review Program at TVA

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TVA Corporate

The concern reflecting upon the adequacy of TVA's corporate Operating Experience Review (OER) Program was substantiated. A review of the history of the OER Program revealed a number of documents criticizing its performance. These documents were reports of evaluations conducted over the last five years by TVA QA, INPO and NRC. In its Corporate Nuclear Performance Plan (CNPP) submitted to NRC in 1986, TVA acknowledged the following: "There have been instances when problems identified at various nuclear plants throughout the country have not been accounted for at TVA's plants and when problems identified at one of TVA's plants have not been accounted for at its other plants."

However, it was determined that TVA has made a commitment to the NRC through the CNPP to upgrade the OER Program. In January, 1987, the Area Plan governing the experience review process (0601.01) was totally rewritten to incorporate the commitments made by the CNPP. At the time of the current evaluation, site implementing procedures had not yet been upgraded to the requirements of the revised Area Plan. This is addressed by CATD 30709-NPS-01 and CATD 30709-NPS-02.

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Conclusion

The issue of inadequate operating experience review program at TVA is factual and identifies a problem, but corrective action for the problem was initiated before the employee concerns evaluation of the issue was undertaken.

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Generic Applicability

Concern WI-85-100-034 was evaluated at the corporate level during the Watts Bar evaluations and other sites are reflected in this report.

3.10 Element 307.10 Corporate/Site Support Function

Issue 307.10-1 Operation of Nuclear Plants to Programs and Letters of Relief that have not been approved by NRC

TVA Corporate

The concern alleging that TVA operates its nuclear plants to programs and letters of relief that have not been approved by NRC was not substantiated. It was determined that TVA operates its nuclear plants under programs that have received NRC approval. This approval has been granted by the NRC through issuance of operating licenses pursuant to completion of SAR reviews. It was determined that In-service Inspection (ISI) relief requests are implemented by TVA without prior NRC approval for plants under construction. However, this action is within regulatory constraints and is considered acceptable by TVA corporate line management. Corporate TVA notes that plant Technical Specifications for operating units require conformance with ASME Section XI (ISI program) requirements unless written relief has been granted by the NRC pursuant to 10 CFR 50, Section 50.55a. Also, the Authorized Nuclear In-service Inspector monitors TVA's conformance to the requirements of ASME Section XI and can take exception to any TVA relief requests that do not meet the intent of TVA's approved ASME Section XI ISI Program.

During the course of the evaluation, it was determined that 10 CFR 50.59, "Unreviewed Safety Question Determinations" (USQD) are not being applied to ASME Section XI requests for relief. Area Plan Procedure 0602.01, "Coordination of Licensing Activities in the Division of Nuclear Power" does not contain provisions for the application of a USQD to ASME Section XI ISI relief requests. This is addressed by CATD 30710-NPS-01(R1).

As a result, proposed program changes contained in ASME Section XI relief requests have not been given a USQD evaluation as required by Area Plan Procedure 0604.04, "Unreviewed Safety Question Determination Intent, Method, Review, and Approval." It is possible that previous ASME Section XI relief requests submitted to NRC and subsequently implemented by TVA contain unreviewed safety questions that have been overlooked.

Conclusion

The issue of operating of nuclear plants to programs and letters of relief that have not been approved by NRC itself does not identify a problem, but as a result of the employee concerns evaluation a problem was discovered for which corrective action was initiated. | R1

Generic Applicability

Concern WBM-6-004-004 was evaluated at the corporate level during the WBN evaluations. Other sites are reflected in this report. | R1

Issue 307.10-2 Adequacy of Information Reported to NRC In Nuclear In-service Form | R1

TVA Corporate

The concern regarding the Nuclear In-Service Form was found to be factually accurate as stated but did not present a problem requiring corrective action. It was determined that changes to the program and relief requests are not required by ASME Section XI to be included on the Nuclear In-Service Form. The information that TVA includes on the form was found to meet minimum requirements and was, therefore, considered acceptable.

Conclusion

The issue of adequacy of information reported to NRC in Nuclear In-Service Form is factually accurate, but what it describes is not a problem (i.e., not a condition requiring corrective action by ONP). | R1

Generic Applicability

Concern WBM-6-004-005 evaluation was conducted at the corporate level during the WBN evaluations. Other sites are reflected in this report. | R1

3.11 Element 307.11 Management Nonresponsiveness | R1

Issue 307.11-1 Unresolved Difference of Opinion Regarding Definition of Single Failure Criteria | R1

BLN

The concern regarding a difference of opinion between BLN line management and NSRS regarding the definition of single failure criteria was substantiated. An NSRS report (R-85-25-BLN) directed toward the Main Steam Design adequacy for mitigation of steam line

break for BLN identified that the design did not meet single failure criteria for some steam line breaks or a design basis tornado. Additionally NSRS concluded that the BLN FSAR did not accurately represent the design bases for the main steam system. TVA's internal criteria for MSIVs and the BLN FSAR conflicted over the single failure issue. NSRS had recommended that TVA resolve the conflict and document the resolution in the design criteria of the FSAR as appropriate. Based on a review of available documentation to date, there has been no resolution to this issue. This is addressed by CATD 30711-NPS-01.

| R1  
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#### WBN

The concern that a difference of opinion exists between line management and NSRS regarding single failure criteria was not substantiated for WBN. During the course of the evaluation it was learned that even though this concern was identified for WBN it is applicable to BLN. Information was provided through review of Nuclear Safety Review Staff (NSRS) Report No. R-84-25-BLN and line managements response to this report. Interviews were also conducted with previous NSRS personnel and cognizant Nuclear Engineering Branch (NEB) individuals.

An additional problem discovered while evaluating this concern involves the lack of a design basis document at WBN to document and assure that single failure criteria are correctly translated into specifications, drawings, procedures, or instructions. This is addressed by CATD 30711-WBN-01.

| R1  
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#### SQN

The concern regarding the difference of opinion between line management and NSRS with response to the definition of a single failure criteria was evaluated at SQN and was not substantiated. No specific incident of disagreement of the application of single failure criteria was found through examination of plant records and interviews. Furthermore, the requirements of 10 CFR 50 Appendix A, which defines single failure criteria, have been incorporated into the SQN FSAR which is a basis for other design criteria documents.

#### Conclusion

The issue of unresolved difference of opinion regarding definition of single failure criteria at BLN is factual and presents a problem for which corrective action has been, or is being, taken as a result of an employee concerns evaluation. The issue at WBN itself does not identify a problem, but as a result of the employee concerns evaluation a problem was discovered for which corrective action was initiated. The issue at SQN cannot be verified as factual.

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Generic Applicability

Subsequent to the evaluation at BLW and SQN, during the WBN evaluation of concern OW-85-001-002, it was determined the issue specified in the concern was a BLN issue limited to the B&W NSSS design. No evaluation at BFN is necessary.

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Issue 307.11-2 UOs Not Informed of Maintenance Activities

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SQN

The concern reflecting the failure to inform the lead UO of maintenance activities and its impact on the safety margin at the plant was substantiated. For cases where activities are performed under MI-6.20, which do not require a clearance (UO signature not required, i.e., troubleshooting and preventive maintenance), the potential exists where plant activities could occur without the SE or UO cognizance. Therefore, a problem might arise which could adversely affect plant safety. This is addressed by CATD 30711-SQN-03.

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In cases where equipment will be covered by a clearance and documented in the Configuration Log, there is cognizance with the shift engineer as well as the UOs, and no problems in this area were identified.

|RI  
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WBN

The concern regarding the failure to inform lead unit operator (UO) of maintenance activities and its effect on the plant's safety margin at SQN was determined generically applicable to WBN and was not substantiated. This evaluation was limited to a review of existing system status procedures since initial system alignment for fuel load was not applicable. Adequate requirements and checks were determined to be in place to ensure cognizance of system status from the viewpoint of operational readiness. These checks include: (a) requirements in Operations Section Instruction Letter (OSLA-2) for the unit operator (UO) to maintain system status and for the senior reactor operator (SRO) to be responsible for notifying the UO of activities having potential affect on system status, (b) Administrative Instruction (AI)-9.2 requires that all maintenance or trouble shooting which may affect system status be performed under a maintenance request (MR), and (c) AI-2.1 requires permission from the shift engineer (SE)/SRO prior to performance of activities that may affect plant equipment.

BFN

The concern alleging that communication deficiencies exist between Operations Personnel (SE/SRO and UO) was validated at BFN based on findings of an NRC inspection report in 1982. The report found that a violation occurred because of the failure of an assistant shift engineer (ASE) to notify the unit operator when racking out electrical equipment. Corrective action prior to the current evaluation had been taken by incorporating statements into operational and maintenance procedures/instructions to require notification of the unit operator of any work activities on the affected unit. No further corrective action was found necessary.

Conclusion

The issue of UOs not informed of maintenance activities at SQN is factual and presents a problem for which corrective action has been, or is being, taken as a result of an employee concerns evaluation. The issue at WBN cannot be verified as factual. The issue at BFN is factual and identifies a problem, but corrective action for the problem was initiated before the employee concerns evaluation of the issue was undertaken.

Generic Applicability

Concern TAK-86-007-was evaluated at SQN, WBN, and BFN. Due to the length of time to fuel load, it was not evaluated at BLN.

Issue 307.11-3 Filtering Information on Quality Problems

WBN

The concern reflecting upon information provided to management regarding quality problems being "filtered" where trends or systematic issues were not identified was substantiated. Reports generated by NRC, INPO and DNQA identified problems in this area which included requirements to upgrade TVA's CAQ reporting program, deficiencies in the CAQ reporting program and deficiencies in the trending program, respectively. It was determined that TVA is presently upgrading the Corrective Action Program in response to these findings.

Conclusion

The issue of filtering information on quality problems at WBN is factual and identifies a problem, but corrective action for the problem was initiated before the employee concerns evaluation of the issue was undertaken.

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Issue 307.11-4 Poor Quality of Chemical and Radiochemical Data

|RI

SQN

The concern regarding the poor quality of chemical and radiochemical data at SQN causing high cost and embarrassment to TVA was not substantiated. A laboratory QC program based on NRC and INPO guidelines is being implemented at SQN including cross-checks with NRC and POTC laboratories. The results of the QC Program have indicated that the quality of data meets NRC and INPO guidelines. Furthermore, discussions with cognizant personnel and a review of NRC and INPO reports have indicated improvements and expansions in the laboratory QC program during the past year in response to specific concerns addressed in previous reports.

BFN

The two identical concerns, one specific to BFN and the other specific to SQN, regarding the poor quality of chemical and radiochemical data was not substantiated. The QA/QC program for the laboratory and associated procedures had been determined to meet INPO and NRC guidelines. The quality of the generated data was also determined acceptable based on inspection reports.

BLN

The concerns regarding the poor quality of chemical and radiochemical data was not substantiated. A review of CARs and DRs issued at BLN did not report any problems related to poor quality data. Except for a limited number of routine inspections with calibrated equipment, the amount of radiochemical activity at BLN is minimal. The only sampling being performed is for some bulk chemicals and no problems have been identified.

Conclusion

The issue of poor quality of chemical and radiochemical data at SQN, BFN, and BLN cannot be verified as factual.

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Generic Applicability

Concern XX-85-116-001 was evaluated at SQN, BFN, and BLN. A corporate evaluation of the chemistry program was conducted with the Watts Bar evaluation of XX-85-116-003 and XX-85-116-006. |

Concern XX-85-116-002 was evaluated specific for BFN. A corporate evaluation of the chemistry program was conducted with the WBN evaluation of concerns XX-85-116-003 and XX-85-116-006. |

Issue 307.11-5 Disregard of Recommendations and Commitments For Improving the Quality of Chemical and Radiochemical Data |

TVA Corporate

Two SQN concerns evaluated at WBN and SQN regarding the disregard of fulfilling commitments and following recommendations with respect to improving the quality of chemical and radiochemical data used to monitor and control operations at the plants were substantiated at both plants. NSRS in report number R-82-08-NPS had previously performed a management review of the Office of Power Water Quality Program and had detailed specific weaknesses at each facility and had made ten programmatic recommendations. The deficiencies included a lack of awareness of commitments regarding water quality control on the part of the central organization. The deficiencies were not tracked and nine out of the ten deficiencies have not been resolved. Corrective actions that were in progress were deemed inappropriate because of management's decision to decrease control by the central office and promote the owner/operator concept. Additionally, a major organizational change was being made. At the time of this evaluation, corrective actions were underway in response to an INPO audit which should resolve many of the NSRS identified problems. Efforts have been made by the SQN Chemistry Section to correct other deficiencies identified by NRC, QA and INPO audits. |

The concerns regarding the disregard of fulfilling commitments and following recommendations to improve the quality of chemical and radiochemical data were not substantiated at either BFN or at BLN. BFN established the Regulatory Performance Improvement Plan (RPIP) and the Chemistry Improvement Plan (CIP) based on weaknesses identified in the BFN laboratory quality program from TVA, INPO and NRC audits performed in 1983 and 1984. It was determined in reviewing the implementation of these programs that deficiencies related to regulatory, vendor and QA/QC program requirements were tracked and closed out as complete. Recommendations from a previous NSRS report (R-83-26-NPS) noting problems in the chemistry |

QA/QC program, water quality program, sampling and analysis procedures and staffing had also been implemented. At BLN, procedures and standard practices have been revised to incorporate changes identified at other TVA sites based on reported deficiencies. A review of CARs and DRs issued at BLN did not report any problems related to "poor quality" data or nonimplementation of commitments/recommendations related to data. This evaluation also determined that BLN's program is being reviewed to also incorporate INPO good practices prior to its implementation.

#### Conclusion

The issue of disregard of recommendations and commitments for improving the quality of chemical and radiochemical data at WBN and SQN is factual and presents a problem for which corrective action has been, or is being, taken as a result of an employee concerns evaluation. The issue cannot be verified as factual at BFN and BLN.

#### Generic Applicability

Concern XX-85-116-004 was evaluated specific for BFN. A corporate evaluation of the chemistry program was conducted with the WBN evaluation of concerns XX-85-116-003 and XX-85-116-006.

Concern XX-85-116-007 was evaluated specific for BFN. A corporate evaluation of the chemistry program was conducted with the WBN evaluation of concerns XX-85-116-003 and XX-85-116-006.

#### Issue 307.11-6 Approval of Chemical Conditions That Were In Violation of Technical Specifications

#### SQN

The concern regarding management's signoff on water chemistry conditions that were in violation of Technical Specifications without having an engineering evaluation performed had been previously evaluated and was not substantiated by NSRS. The NSRS investigation included a random sampling of chemistry log sheets and "did not identify an error of the type described in the employee's statement of concern." The current evaluation concurs with findings of the NSRS investigation. This evaluation had determined that there was one incident requiring an engineering review in regard to meeting sulfate limits. That review was completed in accordance with approved procedures.

Conclusion

The issue of approval of chemical conditions that were in violation of Technical Specifications at SQN cannot be verified as factual. |R1

Generic Applicability

Concern XX-85-116-014 was evaluated at the site of concern (SQN) and found to be not valid regarding the concern specifics. No other site evaluations are necessary. |R1

Issue 307.11-7 Adequacy of Processing Nonconforming Condition Reports (NCRs)

BFN

The concern regarding inadequate processing of Nonconforming Condition Reports (NCRs) was validated, as NCRs had been stored in a desk as the CI alleges. This had occurred during a reorganization and relocation of the BFN Compliance Staff.

However, it was found that those NCRs are now incorporated into RIMS (a QA filing system) and are being tracked in accordance with BFN Standard Practice SDSP 15.2, "Handling of Engineering Reports (ER) from DNE." This standard practice and Nuclear Engineering Procedure (NEP)-9.1, "Corrective Action," provide the controls for issuance, tracking, timely responses, and closure of all Conditions Adverse to Quality (CAQs). The CAQ Report (CAQR) program has superceded the previous NCR program. This CAQR process provides for DNE coordination responsibility from CAQR initiation to closeout.

An NSRS Report (I-85-516-BFN) had previously substantiated this concern finding that (a) storage requirements for QA records had not been satisfied, (b) documentation of NCR resolution had not met requirements for QA records, and (c) problems had existed in timeliness of disposition of open NCRs/ERs and problems had existed in the adequacy of NCR closure and reportability evaluations.

Additionally, the NSRS while evaluating the adequacy of an NCR resolution, found an example of inadequate configuration control - performance of work using a maintenance request when a workplan should have been employed.

The current evaluation found that BFN had addressed and resolved several of the NSRS recommendations in regard to the adequacy of processing nonconforming condition reports. |R1

The current evaluation concurs with the NSRS report and has issued CATD 30711-BFN-01 to follow-up recommendations made in NSRS Report I-85-516-BFN that were not resolved.

Conclusion

The issue of adequacy of processing Nonconforming Condition Reports (NCRs) at BFN is factual and presents a problem for which corrective action has been, or is being, taken as a result of an employee concerns evaluation.

Generic Applicability

Concern I-85-516-BFN was evaluated at the site of concern (BFN). It was determined the incident was specific to BFN. No other site evaluations are necessary.

3.12 Element 307.12 Quantity of Procedural Requirements

Issue 307.12-1 Large Number of Procedural Requirements Prevents Effective and Efficient Plant Operations

TVA Corporate

The concern raising the issue that an inadequate procedural system prevents effective and efficient plant operations was substantiated at all TVA sites. It was determined that the large number of procedures and requirements in the nuclear industry and at TVA do not of themselves hamper or prevent efficient plant operations. However, TVA's capability to operate its nuclear plants efficiently and effectively within the requirements and commitments is adversely affected by a procedure system that has been poorly organized and controlled. A major corporate corrective action program addressing the issue raised by the concern was found to be underway at the time of the current evaluation.

It was determined that TVA's nuclear procedures evolved in approximately 1970 from fossil procedures and regulatory requirements in place at the time. Regulatory changes were issued internally by memorandums. This process of incorporation of regulatory requirements continued until about 1983 when the "Area Plan Concept" was initiated. Under the "Area Plan Concept," procedures were divided into 19 areas and all procedures were written by groups in Chattanooga. In about 1985, the "Owner-Operator" concept was initiated to decentralize procedural and control functions and, in effect, to make each site its own "company" within TVA. Shortly thereafter, the ONP was formed and control centralized within it for engineering, construction, and operations of all nuclear activities. Many organizational changes were occurring during this timeframe which served to compound and complicate any efforts to streamline the procedural process.

Several findings, both internal and INPO, identified that the existing procedural system is "overly complex," "not sufficiently effective," "out-of-date," "lacking in identification of source documents and regulatory commitments," "cumbersome and unwieldy," and "lacks clear written definition of corporate policy relative to nuclear activities." Additionally, the ECTG Operations CEG identified procedural inadequacies as the root cause for numerous concerns evaluated.

Prior to the current evaluation, TVA began developing a new system of ONP policies, directives, standards, procedures, and instructions to govern its nuclear activities. This new Nuclear Procedure System (NPS) is to identify lines of responsibility and authority, ensure that regulatory requirements and commitments are implemented in documents, and provide standardization.

A review of the status of NPS implementation showed that 45 program policies had been drafted and documented at the time of the current evaluation. None had been issued; however, a schedule was found to exist for activities internal to the NPS rewrite effort, including issuance of directive on how to write directives and standards. Overall procedures development is to be tracked on Project 2 (P2, TVA scheduling system) as a Nuclear Performance Plan item. A draft transition plan was out for comment at the time of the current evaluation to reflect the phasing in of NPS documents.

A plan and schedule was not found to exist for ONP development and implementation of the Nuclear Procedures System (e.g., engineering and construction). Measurable milestones have not been established for the development and execution of the program. Methodology has not been established to track regulatory requirements and commitments, or for cross-referencing. This is addressed by CATD 30712-NPS-01. Sponsors have not been formally identified for development of directives, although, the NPS staff stated that a draft existed and would be submitted to the Manager, ONP, in the near future.

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|R1

#### Conclusion

The issue of large number of procedural requirements prevents effective and efficient plant operations at all TVA sites is factual and identifies a problem, but corrective action for the problem was initiated before the employee concerns evaluation of the issue was undertaken.

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3.13 Element 307.13 Configuration Control

Issue 307.13-1 Adequacy of TVA Configuration Control Program at all Nuclear Sites

WBN

The concern alleging that modifications were done to the access ladders for the filter cubicle in the Auxiliary Building without updating of drawings was substantiated. It was determined that these modifications had been done in 1982 and that the workplan under which the work had been done had not included an authorizing document approved by DNE. This had been in violation of AI 8.5. The modification had existed for approximately two years until the maintenance organization had written a Field Change Request (FCR). This FCR had been approved by DNE, and the modification had been incorporated into the plant design.

Concerns XX-85-062-003, XX-85-071-N05, and BFN-IESC-85-03 were evaluated at WBN for the single general issue of inadequate configuration control and were substantiated. It was determined that a special Configuration Control Task Force (CCTF) and NSRS had conducted previous TVA internal evaluations of system-wide configuration control programs and had made several observations and recommendations for all TVA sites and DNE. In the CCTF Final Report (RIMS R25 860526 838), findings applicable to WBN had been as follows:

- a. The procedures fulfilled commitments but were overly complex and time-consuming.
- b. Out-of-sequence implementation of ECNs had resulted in incorrect drawings.
- c. The drawing control process at WBN which provided for the simultaneous existence of "as-designed" and "as-constructed" drawings was contributing to problems.
- d. The lack of single drawing information system resulted in use of incorrect revisions.

Based on the observations, CCTF had made the following recommendations applicable to WBN:

- a. Adoption of a single unitized Configuration Control Drawing (CCD) system to represent the design and configuration status of the plant.
- b. Use of unitized design change supplements.
- c. Use of a drawing discrepancy resolution system in accordance with the NQAN, Part III, Section I.1.
- d. Establishment of the Drawing Management System (DMS) as the ONP drawing and document status system.

The NSRS report (E-85-473-NPS) had been primarily directed towards BFN and SQN but had made three corporate-level recommendations regarding configuration control at all nuclear sites. First, it had recommended that DNE develop a configuration control program at all TVA plants to systematically confirm the safety-related as-built configuration. Second, NSRS had recommended that additional written instructions be developed for "as-constructing" bills of material, vendor manuals, and instrument tabs, and for maintaining drawings not in the Drawing Management System (DMS). Third, it had been recommended that DNE establish an as-constructed drawing review process as part of the closure of a workplan. At the time of the recommendation, the workplan cognizant engineer had been responsible for updating applicable plant drawings to reflect the design change implemented by the workplan.

The intent of the third recommendation, therefore, had been to eliminate this single-point failure mechanism of the workplan cognizant engineer and to ensure timely processing of drawing updates because of workplans. This is addressed by CATD 30713-WBN-01.

|R1

The current evaluation found that the recommendations of the CCTF and the NSRS have been incorporated into the TVA Corporate Nuclear Performance Plan and NQAN, but have not as yet been incorporated into WBN administrative instructions. This is addressed by CATD 30713-WBN-02.

|R1

The current evaluation found no evidence that deficiencies in configuration control are a result of a breakdown in the maintenance program at WBN. Procedurally, plant maintenance is controlled to the requirements of AI-9.2 which forbids modification to plant equipment using the maintenance request (MR) process. A review of 150 randomly selected MRs found that alterations performed were identified as temporary and were returned to normal before closure of the MR. No cases were identified where permanent modifications were performed in the MR process.

In addition to the 150 randomly selected NRs reviewed for configuration changes, an additional 25 were selectively chosen to determine compliance with environmental qualification (EQ) requirements. The selection was based on equipment identified under the 10 CFR 50.49 program which had maintenance performed upon after the EQ inspections were completed. Each NR was reviewed for the work and inspections performed and compared to the maintenance requirements of the applicable EQ binder to identify if qualifications have been maintained. All work performed by the NRs was in compliance with the EQ requirements and identified as 10 CFR 50.49 equipment in the EQ binders.

#### SQN

The four concerns mentioned in Section 3.13.1 were evaluated at SQN for the single general issue of inadequate configuration control and were substantiated. The previous investigation by NSRS, as well as investigations by the TVA Configuration Control Task Force, SQN Quality Surveillance Section, INPO, and various contractors, had exposed configuration control weaknesses throughout TVA and had made recommendations to improve the configuration control process.

In its report, NSRS had presented the three corporate-level recommendations discussed in Section 3.13.1. Following the NSRS investigation, SQN line management had agreed to implement the three recommendations but had given them a low priority. Therefore, the current evaluation found that no action has been taken yet by SQN line management to specifically address the NSRS recommendations. However, an SQN design control improvement program was found to be underway in accordance with the Sequoyah Nuclear Performance Plan. The changes being made under this program are addressing the first NSRS recommendation regarding the need for a systematic configuration control program at all TVA nuclear plants.

The new systematic design control program at SQN is being founded on the unification of engineering responsibilities and on the strengthening of the SQN Project Engineering Group's function. With strengthened authority and responsibility for design integrity, the Project Engineer will be able to ensure that the technical aspects of the total design for SQN are carried out as required. This centralization of responsibility for design changes also will establish accountability for the quality of changes made. The current evaluation found that a Change Control Board consisting of senior plant personnel from plant management, licensing, QA, and the Division of Nuclear Engineering (DNE) and chaired by the Site Director is overseeing the transition from the old design control program to the new program.

A second program impacting configuration control is the Sequoyah Design Baseline and Verification Program. The focus of this program is to assess the adequacy of post-modification work and to correct deficiencies. Specific objectives of the program are:

- a. Verifying and establishing the plant configuration.
- b. Reconstructing the design basis.
- c. Reviewing and evaluating modifications since operating license issuance against the design basis.
- d. Performing the required tests or modifications developed from this review and evaluation.

The program encompasses all of those systems or portions of systems which are required to mitigate accidents analyzed in Chapter 15 of the FSAR and which provide for safe shutdown. An additional effort, to be completed after restart, extends the program to system corrections not required for restart and to other safety-related systems. The methodology of the program includes development of design basis documents, performance of system walkdowns, evaluation of all changes to the systems, and comparison of all data to licensing commitments and design bases. The effort will follow through with correction of any discrepancies found. Independent verification of the program will be provided by DNE's Engineering Assurance Group. CAPDs 30/13-SQN-01, -02 address this issue.

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BFN

Four concerns involving configuration control were evaluated for BFN. One of these concerns, BFNIESC-85-003, also includes issues involving 10 CFR 21 applicability and the nuclear parts program. These two issues are not related to configuration control and are therefore addressed in the ECTG Quality Assurance Subcategory Report, 80100.

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The issue of inadequate configuration control was substantiated at BFN based on the results of the previous NSRS investigation (I-85-473-NPS) and other surveys. It was determined, however, that this issue is being addressed extensively through the Browns Ferry Nuclear Performance Plan (BFNPP).

The NSRS report found there is a high degree of configuration control awareness among BFN employees and that appropriate corrective action is being taken. The NSRS found that actions defined by the CCTF were being worked, tracked, and reported.

The CCTF had been formed in June 1983 to resolve audit findings at BFN but was subsequently chartered to evaluate problems and provide recommendations on generic configuration control issues throughout TVA Nuclear. The NSRS report evaluated configuration control issues at the corporate level and presented recommendations as discussed in Section 3.13.1.

|R1

There are two major programs underway in accordance with the BFNPP: the Design Baseline Program and the Design Change Control Program. The first program is a recovery-oriented effort, while the second is a permanent measure to prevent recurrence of configuration control breakdown.

In the Design Baseline Program, data from system walkdowns and from reviews of modifications and tests are being compared to licensing commitments and design bases. The end product for the program will be a verified baseline design both in the plant and on the as-constructed drawings. Additionally, a report will be issued for each system containing the following information:

- a. Required Actions Summary
- b. Systems Evaluation Report
- c. Configuration Control Drawings
- d. Unreviewed Safety Question Determinations
- e. Design Criteria/Design Basis

The Design Change Control Program is similar in concept and implementation to SQN's new design program. A CCB chaired by the Site Director is overseeing an interim design control system that will lead to the permanent system. The interim system provides engineering output for any change in a single package, including drawings, instructions, bills of material, test procedures, and USQDs. Implementation of the permanent system is currently scheduled for after Unit 2 restart.

#### BLN

Four concerns addressing the single issue of inadequate configuration control were evaluated at BLN. Of these four, one, XX-85-071-N05, was validated.

The generic issue that configuration control is not being maintained at BLN could not be substantiated. Nuclear Power does not presently perform modifications at BLN. If a modification was required it would be sent to construction to institute the change and reflect it into the as-constructed drawings to maintain configuration control.

The only possible method where plant configuration can be changed by Nuclear Power is through the Maintenance Request process. A review of over 100 MR packages found no instances where configuration was permanently changed.

The concern XX-85-071-N05 addressing control room drawings not reflecting actual plant configuration is valid at BLN. However, these drawings are stamped "information only" and are not to be used to perform actual work. The drawings are Operational Release (OR) drawings indicating what systems and equipment have been operationally released to Nuclear Power. Due to the current construction status of the plant, this is acceptable at BLN. No further action is required.

#### Conclusion

The issue of adequacy of TVA configuration control program at WBN, SQN and BFN is factual and identifies a problem, but corrective action for the problem was initiated before the employee concern evaluation of the issue was undertaken. The issue at BLN cannot be verified as factual.

#### 4.0 COLLECTIVE SIGNIFICANCE

A collective assessment of the element-level findings (section 3.0) led to the identification of four subcategory-level findings. Three of these four findings were considered non plant-specific and should be addressed at the corporate level. The fourth finding was specific to WBN. These findings were determined to reflect adversely on management effectiveness and dealt with the PORC process, workplan process, configuration control programs, and test program as follows:

- a. There is a lack of corporate guidance, control, and overview of the PORC process at WBN, SQN, and BFN.
- b. The workplan processes has not been implemented consistently at WBN, SQN, and BFN.
- c. There have been weaknesses in configuration control at WBN, SQN, and BFN.

#### PORC Process (Non Plant-Specific)

With regard to the first finding, audits by DQA, NRC, INPO, and others had identified deficiencies in the PORC process at WBN, SQN, and BFN. Appropriate corrective action were found either to have been taken

already or to be in progress at each of these sites. These corrective actions have been site-specific, however, and have not been as a result of guidance from corporate levels to effect clear, consistent policy and methodology for the PORC process at all sites. Such guidance from corporate management should be developed and implemented at all sites, including BFN.

#### Workplan Process (Non Plant-Specific)

For the second finding, numerous SCRs and CARs have documented specific workplan problems at WBN such as (a) work being performed that was not specified by the controlling ECN, (b) failure to document performance of work steps, and (c) failure to establish a logical work sequence in the workplan. An action plan is currently being developed to deal with the resolution of programmatic problems at WBN associated with unauthorized work and inadequate work control. An Engineering and Configuration Assurance Program is also underway to verify that WBN Unit 1 licensing, design, and construction requirements have been properly implemented. Workplan problems at SQN have also resulted in a plant-wide system walkdown program to verify and establish the current plant configuration as well as a program to review and closeout all ECNs. At BFN, work packages for Unit 3, which had required installation of temporary supports, had no documentation for installation, control, and removal of these supports.

An additional finding pertaining to potential deficiencies in the WBN post-modification test program was based on the numerous deficiencies found in the workplan process dealing with configuration control. Because of the interrelationship between the test program and final configuration control, the deficiencies in configuration control found during evaluation of the WBN workplan process indicated potential deficiencies with the test program. Therefore, although no programmatic deficiencies were found during the evaluation of concerns dealing with the WBN test programs, it was thought that such deficiencies may exist.

#### Configuration Control (Non Plant-Specific)

The third finding regarding configuration control was determined through the evaluations of the CCTF and NSRS as discussed in Section 3.13-1 of this subcategory.

Major programs have been initiated at WBN, SQN, and BFN to address configuration control deficiencies at all sites. These programs are (a) The Engineering and Configuration Assurance Program at WBN, (b) The Sequoyah Design Baseline and Verification Program, and (c) the Design Baseline Program at BFN. In addition, SQN and BFN are implementing new system design control programs under the supervision of Change Control Boards consisting of senior plant management.

5.0 ROOT CAUSE, PRELIMINARY ANALYSIS

Sections 3.0 and 4.0 discussed the specific findings for each of the element evaluations of this subcategory and their collective significance. This section presents the results of an independent review and analysis done on these specific element-level findings to identify the most frequently occurring and widespread root causes at the subcategory level. Patterns of recurring findings called symptoms were derived from the elements. These symptoms were tested for root causes, and the root causes for all elements were then analyzed collectively to identify which occurred most frequently and at the most sites. Details of the symptoms and root causes derived for each element are presented in Attachment D "Summary of Symptoms and Root Causes."

A review and analysis of these symptoms and root causes taken collectively points to the following five significant root causes of this subcategory:

- a) Adequate systems, processes, or administrative controls are lacking to ensure that commitments are reflected in procedures and processes for PORC reviews, chemistry data reviews, configuration control, and TVA and industrywide operating experience reviews. (all sites)
- b) There are inadequate controls for review of workplans, chemistry data, and TVA and industrywide operating experience to ensure compliance with commitments. (all sites)
- c) Corporate and line management have been inattentive to trends in workplan practices and in TVA and industrywide operating experience. (all sites)
- d) There has been inadequate communications between various functional groups regarding TVA operating experience and the resolution of corporate-wide deficiencies with PORC processes and with chemistry data. (all sites)
- e) Personnel have failed to take appropriate action to preclude recurrence of operating experience problems and deficiencies in the workplan and design change processes. (all sites)

These five subcategory level root causes are supported by various findings at all sites as discussed below.

Reflecting commitments in procedures and processes

For the first root cause, there was an inadequate process at WBN to identify the need for re-evaluating the adequacy of procedures and activities that had been reviewed by PORC during a period of programmatic PORC deficiencies. There were inadequate controls at WBN and SQN to track corrective action for programmatic recommendations made by NSRS regarding the quality of chemical and radiological data. TVA's Operating Experience Review Program has been inadequate to account for problems identified industrywide and at the TVA plants. Finally, at BLN the FSAR does not accurately represent the design bases for the main steam system.

Inadequate controls to ensure compliance with commitments

For the second root cause, there has been inadequate oversight of the workplan and design change processes at WBN and SQN. Controls were also inadequate at WBN and SQN with respect to resolution of corporate chemistry deficiencies and at all sites with respect to the Operating Experience Review Program.

Inattentiveness to trends

At WBN numerous SCRs and CARs have documented continuing problems with inadequacies in the workplan process. Past corrective actions have failed to prevent recurrence of these nonconformances. There was inadequate attention corporate-wide to operating experience trends as a result of the deficient Operating Experience Review Program.

Inadequate communication between functional groups

TVA has acknowledged in its CNPP that there have been instances when problems identified at one of TVA's plants have not been accounted for at its other plants. This indicates lack of communication between the plants' line managers. Also, the presence of deficiencies at various TVA sites for PORC processes and chemistry data indicate that the plant line managers are not interacting sufficiently with one another and with corporate management.

Failure to preclude recurrence of deficiencies

At WBN past corrective actions on workplan deficiencies have failed to prevent recurrence of the deficiencies. Also the Operating Experience Review Program has been inadequate corporate-wide as described previously.

Corrective Action Tracking Documents (CATDs) were not issued specifically on these subcategory-level root causes. It was believed that corrective actions being taken already by line management as part of the commitments made in the Nuclear Performance Plan were helping to address these root causes. However, line management was expected to use the subcategory-level root cause information as an aid in preparing corrective action responses to subcategory-level CATDs that would preclude recurrence of the deficiency noted. The ECTIG's process for judging the adequacy of line corrective action response to subcategory-level CATDs included a determination of how well the applicable root causes were addressed by the response.

The significant root causes for all subcategories in the Operations category provided part of the input for determining programmatic areas of weakness at the category level and the associated causes. In the Operation category report, these programmatic weaknesses and associated causes are presented along with a discussion of how they are being corrected through implementation of the Nuclear Performance Plan and other corrective action programs.

## 6.0 CORRECTIVE ACTION

### 6.1 Corrective Action at Element Level

#### Element 307.01 - Plant Operations Review Committee (PORC) Process

##### WBN

Four CATDs were issued to WBN line management. CATD 30701-WBN-01 noted the failure to include the serial number of all instruction changes in PORC meeting minutes. The second CATD (30701-WBN-02) stated the SI review checklist concept was not extended to the review of other technically oriented instructions. The third CATD (30701-WBN-03) stated that the process used to evaluate the technical adequacy for other PORC approved items, other than SIs, has not been evaluated to ensure the process was not equally faulty as proven in the SI adequacy review. The fourth CATD (30701-WBN-04) stated that a legitimate number of people was not available for a PORC meeting as per procedure.

WBN line management responded to the CATD 30701-WBN-01 as follows:

"Non-intent Instruction Change (IC) numbers are issued by the Shift Engineer (SE) prior to PORC review and approval. They are available to the PORC Secretary during the PORC meeting and are included in PORC minutes. Intent ICs, however, do not get an SE issued number until after PORC review. The number is not, therefore, available during the PORC meeting and there is no procedural requirement for the IC originator to get this number and provide it to the PORC Secretary. This has sometimes resulted in the number not being included in the PORC minutes for Intent ICs. AI 3.1, Plant Instructions, is undergoing revision by Site Procedures Staff. The revised AI 3.1 will require that the IC originator obtain an IC number from the SE and provide the same to the PORC Secretary within one working day of IC approval by PORC. This will assure that all IC serial numbers, both Intent and Non-Intent, are included in PORC minutes. The revised AI 3.1 will be implemented by March 15, 1987."

The WBN response to CATD 30701-WBN-02 is as follows:

"Pending closure of NRC Notice of Violation 50-890/85-32-02. The surveillance Instruction (SI) checklist was developed to help address technical inadequacies identified by the Nuclear Regulatory Commission (NRC), specifically in the SI program. To date similar procedural deficiencies have not been identified with the plant's other technical related instructions."

"All PORC reviewed instructions affecting critical structures, systems and components (CSSC) at Watts Bar Nuclear Plant (WBN) reference Administrative Instruction (AI) 3.1, revision 16, section 2.0, are prepared, reviewed, revised, and used in accordance with the governing documents listed in the referenced section. These documents give specific details concerning preparation responsibilities, content and format."

"Some plant sections presently use in-house checklist/writer's guides as a tool in their particular disciplines for instruction preparation/review. We do not plan to change our developmental process as defined by AI 3.1."

"Development of additional site technical checklists would not be appropriate at this time since the Volume I of the Nuclear Performance Plan requires the corporate nuclear procedures staff to develop long term procedural control requirements."

The WBN response to CATD 307-WBN-03 is as follows:

"For the other PORC items referenced in Section 6, Office of Nuclear Power (ONP) believes that appropriate evaluations have been and are continuing to be performed by outside audit organizations, including Nuclear Regulatory Commission (NRC), Institute of Nuclear Power Operation (INPO), and Division of Nuclear Quality Assurance (DNQA). Plant modifications, workplans, preoperational tests, etc. have been the subject of numerous NRC resident and Region II inspections and subsequently evaluated in periodic SALP reports. These audits have not revealed any significant breakdown in the technical adequacy of these items. ONP will take positive steps in response to any audit or evaluation to improve the technical review, approval, and implementation of plant activities.

"In addition to the evaluations by audit organizations, ONP continues to take steps to improve the technical review process for PORC items. Many of these steps were already in place, others were implemented where a need for improvement was recognized. They include:

1. Checklists for technical review of Maintenance Instructions (MIs) were developed and are in use.
2. Technical Instructions (TIs) which are referenced by or implement Surveillance Instructions (SIs) have been reviewed against similar requirements as those for SIs.
3. Operations Emergency Procedures have been revised/reviewed using the latest guidance and methods developed by the Westinghouse Owner's Group (WOG). This is a continuing process.
4. System Operating Instructions (SOIs) were the subject of a special NRC inspection, similar to SIs. Results were favorable, however, necessary actions for improvement were taken. SOIs have also been walked down by Operation and revisions made to correct errors, omissions, etc. from the feedback.

5. The Preventive Maintenance (PM) program/procedures are currently undergoing a significant upgrade, which includes the use of writer's guidelines for content and format.
6. Radiological Control has implemented a qualified reviewer concept for instructions within their responsibility.
7. Startup (SU) tests were subjected to a special NRC inspection.
8. Supplement A was added to (AI) 3.7 in March 1986, providing writer's guidelines for preparation, control and use of maintenance and PM instructions. The guidelines not only include format but other technical requirements such as verifications and hold points.
9. AI-3.1, plant instruction-Control and Use, continues to be revised, updating guidelines for technical content, acceptance criteria, checkoffs, inspections, data and results.

"Other positive steps such as those above will be made as necessary to improve plant performance now and during startup.

"Further improvements are expected when the Independent Qualified Review (IQR) process is implemented at WBN, targeted for 1987. The process will provide a base of qualified, responsible technical individuals with formal training specific procedural guidance, and training within their section's discipline on how to perform a technical review. These IQRs will be responsible and accountable for adequate technical reviews.

"For the above reasons the plant feels that aggressive steps have been taken to improve technical reviews and implementation of PORC items. The provision of detailed checklists for each individual activity is not considered necessary at this time."

The WBN response to CATD 30701-WBN-04 is as follows:

3-4-88

"The minutes of the PORC meeting referenced in section 6 were reviewed, and based on the approved PORC membership dated January 21, 1987, there was a legitimate quorum at the meetings. The Employee Concern Task Group (ECTG) reviewer concurred in this finding. No specific corrective actions are considered necessary for those meetings.

Additional reviews of PORC minutes were performed by the ECTG subsequent to the above findings and are discussed below:

- 2-10-88
1. PORC meeting number 2149; October 7, 1986. The ECTG found Administrative Instruction (AI) 1.1 unclear as to whether the power plant superintendent, when serving as PORC Chairman, is considered to be one of the two allowable alternates mentioned in step 4.2. The Watts Bar Nuclear Plant (WBN) and Sequoyah Nuclear Plant (SQN) interpretation has always been that the superintendents are not considered as one of the two alternates.
  2. PORC meeting number 2198; December 19, 1986. The PORC minutes do not reflect the presence of the quality engineering supervisor or his alternate as required by AI-4.5, step 4.5. Based on discussion with the PORC secretary and members present it is felt that the Quality Assurance (QA) staff supervisor was present by phone, however, his presence was inadvertently left out of the minutes. Additionally, the QA staff supervisor did sign the minutes attesting that "the format and content are in compliance with QA requirements." His signature would have been based on his review through PORC attendance.
  3. PORC meeting number 2162; October 20, 1986. A legitimate quorum was not present, because of the fact that of the five members listed in the minutes one was the Operations supervisor and another was his alternate. The intent of AI-1.1 is for the permanent member or his alternate to be present but not both."

For the one PORC meeting (number 2162) where a legitimate quorum did not exist, those items PORC approved on that date will be brought back to PORC for further review and approval. This will be accomplished by April 1, 1987 as follows:

- "1. A clarification statement will be added stating that the Power Plant Superintendents, as designated in step 4.2, when serving as PORC chairman are not considered as one of the two allowable alternates.
2. The AI will specifically state that PORC members and alternates will be identified at the beginning of each meeting to ensure that a proper quorum exists. This will be implemented by using a sign-in sheet for PORC members and alternates to identify themselves and their official PORC capacity. The minutes will then designate who the official PORC members were and reference the approved membership list.

"The above two steps should improve the process for verifying the proper quorum of PORC is in attendance.

"The 5 items PORC approved during the 10/20/86 meeting will be brought back to PORC, discussed and approved."

SON

CATD 30701-SQN-01 was issued to track SON's implementation efforts on changes initiated for making the PORC process more effective. The SQN line response is as follows:

"A draft change to the NOAM (Part II, Section 1.5) was initiated via "TVA-Office of Nuclear Power - Onsite Independent Review - Plant Operations Review Committee" dated October 28, 1986.

CATD 30701-SQN-02 was issued to track clarification of SQA-21 regarding PORC chairman substitution.

Element 307.02 - Handling Safeguards Information

WBN

CATD 30702-WBN-01 was issued to WBN line management noting that WBN has not incorporated NSRS recommendations to include revision number and unit applicability on safeguard documents. WBN Line Management responded as follows:

"The Drawing and Document Control Unit (DDC, DCUB) DND implemented the attached document log April 17, 1986. SOP-12 paragraph 6.6.5.1 is currently being revised to require the DDC custodians to enter the date, time of issue, drawing number, revision, unit number and work plan number of all issued documents. 11-2-87

SQL

SQL line managers were notified by CATD 30702-SQN-01 to consider implementation of NSRS recommendations. One recommendation was to include the drawing revision number and unit applicability in the safeguards information log. The other involved clarification and guidance to line organizations in regard to implementation of safeguards incident investigations and disposition.

The acceptable response to this CATD from SQL line management is as follows:

"The Sequoyah Safeguard Document Log was immediately revised upon notification of recommendation to include revision and applicable unit(s). 8-11-88

"Office of Nuclear Power at Sequoyah Standard Practice SQA-132 Safeguards Information Program adequately addresses the handling of safeguards information. Training was conducted at Sequoyah on July 11, 1986 - September 12, 1986, for personnel handling safeguard information (see attached). Management at Sequoyah is to ensure their personnel are aware and adhere to safeguard requirements."

Element 307.03 - Transfer of Equipment

|R1

BLN

CATD 30703-BLN-01 was issued to BLN line management stating that there was no verification process for system transfer identification tags. The acceptable response received from BLN line management was as follows:

"BLN has reviewed CATD 30703-BLN-01 and its accompanying findings and conclusions. BLA 7.5 "Control of Transferred Equipment" depicts the requirements for tagging equipment as transferred to ONP operations. BLA 4 "Housekeeping" requires the monitoring of equipment labeling during housekeeping inspection in non-designated work areas.

"On non-transferred features, work activity packages for each segment (i.e., Elect., Mech., Instr., etc.) is developed by the responsible QC engineer, planned and scheduled in PC-III and worked accordingly by craft under foreman direction/supervisor. If no work activity package exists, no work is accomplished. All rework is accomplished in the same manner for non-transferred features. On transferred features, work is controlled via use of approved work plans (including review and approval by plant personnel). If a cabinet is transferred but wiring to another system internal is not, a work plan is required authorizing a particular work activity to be performed. Consequently, BLN management feels the existing programs in place are adequate to control access to transferred equipment and that the implementation of another procedure or instruction to periodically review/verify system transfer labels would not enhance the concern above the existing in place requirements. Should it prove to be difficult to control equipment access in the future, reevaluation will be performed with necessary corrective action at that time."

Element 307.04 - Workplan Process

|R1

WBN

Seven CATDs were issued for this element. CATD 30704-WBN-01 identified the failure to adequately control the workplan process which has resulted in configuration control lapses. CATD 30704-WBN-02 identified the lack of adequate attention to the requirements of the workplan implementing procedures. CATD 30704-WBN-03 dealt with the lack of documentation for identified problems during reviews of post modification testing requirements in unit 1 workplans. CATD 30704-WBN-04 stated the generic applicability review process for workplan nonconformances is not documented or procedurally addressed.

CATD 30704-WBN-05 noted problems with documentation and authorization of workplan activities affecting pipe support removal. CATDs 30704-WBN-06 and 07 were being used only to track the completion of the Engineering and Configuration Assurance Program and Preop Test Section completion of workplan reviews for post-modification testing requirements.

The WBN line response for CATD-30704-WBN-01 is:

"The perceived weaknesses in the workplan control process are as follows:

1. Performance of work not specified by the controlling ECN.
2. Failure to document performance of work steps.
3. Failure to establish a logical work sequence in the workplan.

"In the case of item 1 a specific example was given. A workplan performing a modification according to ECN 5828 on HPFP pump 1A-A also contained steps for installing temporary instrumentation and performing a test on the pump upon completion of work. The performance of special testing is allowed in AI-8.8, section 5.2.3, and in this case does not require an authorizing document such as an ECN. Other cases where workplans may not have a controlling ECN are also noted in section 5.2.3. QCI 1.60, "Work Control," also gives several cases in section 6.1.1 where workplans may not have a controlling ECN. This item is not considered to be a problem.

"Item 2 states that there have been cases of failure to document performance of work steps. Administrative controls in AI-8.8 are adequate, but are not, in all cases, being properly implemented by the individuals performing and completing workplans. The failure to establish a logical work sequence in the workplan, as noted in item 3, stems from a failure to properly follow the requirements of AI-8.8 when preparing work instructions. Although deviations have been documented as NCRs, CARs, etc. the problem persists as evidenced by the continuing trend of CAQs on the work-plan control process. This problem is currently under review by the Quality Improvement Section of the Site Quality Assurance organization. The corrective action for this problem will be performed by DNC based on the recommendations furnished by the Quality Improvement Section."

The WBN line response for CATD 30704-WBN-02 is:

"The problem identified on this CATD is another of the specific instances of weaknesses in the workplan control process as identified on CATD 30704-WBN-01. As stated in the corrective action plan for CATD 30704-WBN-01, this problem is currently under review by the Quality Improvement Section of the Site Quality Assurance organization. The corrective action plan for this problem will be performed by DNC based on the recommendations furnished by the Quality Improvement Section. See SCR 6497-S, WB-CAR-86-74, WB-CAR-86-75, WB-CAR-87-2, WB-CAR-87-3, WB-DR-86-171, revision 1."

The WBN line response for CATD 30704-WBN-03 is:

"Informal records of problems that are not associated with Preoperational's review of workplans for adequate functional testing are being maintained. The intent of the Preoperational Test Section was to complete the workplan review and then issue a CAQR. To provide formal documentation the Preoperational Test Section will prepare a Nonconforming Condition Report (NCR) to document the items which have previously been identified. It is felt that corrective action for this NCR will include a review of workplans to identify and correct these other problems which are not a part of the Preoperational Test Section's review of the workplans for adequate functional testing following work. A NCR will be prepared to document this program by March 13, 1987."

The WBN line response for CATD 30704-WBN-04 is:

"The question of generic applicability review between units (1 and 2) will be procedurally addressed in the CAO instruction AI-2.8.5. "Conditions Adverse to Quality - Corrective Action," which is to be implemented by March 30, 1987. The instruction will require the organization responsible for developing corrective action to send a copy of site generated and off-site generated CAQRs to either DNC or Mods (as applicable) for generic applicability review.

"Although procedural control did not exist before September 15, 1986 (AI 2.8.3 Revision 9), it was a plant practice to exchange NCRs for applicability review. This is based on the following information.

"Before unit 1 transfer it was a work practice to write combination NCRs which included both unit 1 and unit 2 information as applicable. At the time of unit 1 transfer of responsibility from the Construction Project Manager to the Watts Bar Site Director (approximately 9-23-85), it was decided that combination NCRs would no longer be written. Reasonable assurance of unit 1/unit 2 applicability reviews can be documented back to June of 1986 through records kept in Mods and cover memorandums attached to unit 2 NCRs which were sent to unit 1 by ONE. In addition, the Completions Unit has reviewed/re-reviewed all open NCRs beginning with W-110-P to ascertain applicability were found. Also a sample review was performed back to W-16-P. This review showed that combination NCRs were written as a practice. For those NCRs which were not combination in nature no problems were identified during this review.

"As an additional assurance Mods and Completions (DNC) shall review/re-review all site generated NCRs both open and closed from January 1, 1985 to June 30, 1986, for unit 1/unit 2 applicability."

The WBN line response for CATD 30704-WBN-05 is:

"No corrective action is required. Field verification of the existing High Pressure Fire Protection pump 1A-A and its associated equipment was performed by maintenance craft and engineering personnel. This verification revealed that the modifications to HPPF pump 1A-A that were implemented by workplan E5828-1 did not require any pipe support rework or documentation. Existing pipe couplings and unions allow the pump to be pulled without support disassembly.

"The fact that this workplan detailed activities which were outside the scope of ECN 5828 is not perceived as a problem. Site procedures which govern workplan preparation, review, and performance specifically address the fact that workplans shall be used to perform work, such as testing, that is not within the scope of an ECN (reference the corrective action plan for CATD 30704-WBN-01). This corrective action plan was coordinated with M. G. Galyon, Mechanical Maintenance Section."

SQL

Four CATDs were issued for this element. CATD 30704-SQN-01 addressed the fact that no procedures existed that addressed the re-use of electrical conduit. The acceptable response to this CATD from SQN line management is as follows:

"M&AI 6, 'Conduit Installation' is being revised. The revision is typed and awaiting PORC approval." 6-28-88

CAID 30704-SQN-02 noted the failure of the Modification Program to ensure drawings are updated and to obtain authorization for each workplan. NSRS had noted that the same form is used for CSSC and Non-CSSC workplans and that Non-CSSC workplans do not receive a QA review. Therefore, certain signoffs on Non-CSSC workplans had been left blank. The acceptable response to this CAID from SQN line management is as follows:

"No corrective action required. If a signoff is not applicable to a non-CSSC workplan, it should be marked N/A." 3-4-88

CAID 30704-SQN-03 noted that SQN line management had not addressed the four NSRS recommendations for Report I-85-637-SQN. However, one recommendation was addressed by the corrective action plan 801.05 SQN/CAID 80105-SQN-1. The acceptable response to this CAID from SQN line management is as follows:

"Response to the following NSRS Recommendation Nos.:

1. I-85-637-SQN-01 Sequoyah Nuclear Plant management believes that AI-19, part IV, currently addresses the preparation of documentation only workplans sufficiently. Documentation only work-plans are prepared in the same manner as any other workplan.
2. I-85-637-SQN-02 The contents of Section Instruction Letter MS/DCU-6 have been incorporated into AI-7. A similar issue addressing records identification is being addressed by CAR No. SQ-CAR-86-024 (see attached 45D and CAR response).
3. I-85-637-SQN-06-Personnel who initiate workplans are retrained each time a change is made to the workplan procedure (AI-19, part IV). People who write workplans are required to mark up drawings or reference manuals in the work-plan prior to that workplan being approved. The ECN closure process will also check to ensure that all required drawings are as-constructed. A recent training program was conducted at the plant to train personnel on how of mark up control room drawings upon completion of a workplan. Attached is the handout used and the attendance roster.
4. I-85-637-SQN-07-Quality Assurance has responded to this recommendation on the attached draft memorandum to R. W. Olson from L. E. Martin."

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"Subject: SQ-CAR-86-04-024

Summary of Corrective Action to Date:

1. Review AI-7 to incorporate specific responsibilities for the scheduling, performance, and documentation of required fire-load analysis/surveys of facilities which retain QA records in fire-rated cabinets. Revision 40 of AI-7, approved 8/8/86, met this requirement and was accepted by QA in memorandum dated 10/15/86.
2. Ensure that all locations which contain fire-rated cabinets have a current fire-load analysis and an annual survey as appropriate. Fire-load analyses were done for all fire-rated cabinets containing QA records identified by sections to Document Control in September 1986. This item was not accepted by QA due to lack of response from some sections.
3. Review AI-7 attachment to accurately reflect specific QA record types, their location, retention period, and a description of duplicate record maintenance. Revision 40 of AI-7 revised the attachments but still contained discrepancies between attachments and documentation provided by sections listing QA records. In addition, documentation was missing from DNC and DNE.

Conclusion: The QA records identification forms submitted by the sections are not complete and do not provide an adequate database from which to compile an accurate index to site QA records."

"Summary of Planned Corrective Action Under New Scope of SQ-CAR-86-04-024:

1. Document Control will perform a site inventory of QA documentation. Documented results will provide the following information:
  - A. Position title of designated records custodian for each plant section or organization.
  - B. Physical location of QA records files (completed).
  - C. Physical location of QA documents-in-process files (when appropriate).

- D. Signature of records custodian or responsible supervisor to show agreement with the identification of the documentation in his section and certifying that no records belonging to that organization are stored elsewhere. During this inventory information will be informally gathered concerning workflow of the documentation, retention periods, and final disposition of the records for use in step 3 and step 5. Estimated completion date is June 1, 1987.
2. Document Control will review AI-7. This revision will:
- A. Revise the attachments to reflect the new inventory.
  - B. Add the designated records custodians by position title as a part of the AI-7 attachment.
  - C. Clarify duties and responsibilities of the designated records custodians.

Estimated completion date for revision is July 1, 1987.

3. Information collected during the inventory will be used to analyze and evaluate the storage of QA documentation and records on site. Goal will be to discover alternatives to storage of QA records in sections so that section storage can be minimized and to determine which in-process QA documentation needs to receive handling and storage protection and at what point in the process that protection should begin. Estimated completion date is July 1, 1987.
4. Document Control will ensure that all QA records receive current fire-load analysis surveys. Locations for the survey will be based on the inventory minus the records which action in step 4 determines should no longer be stored in sections. Estimated completion date is September 1, 1987.
5. Document Control will revise AI-7 to identify which selected QA documentation shall begin to receive more handling and storage protection while still in process.

Requirements will be drawn from NQAM III 4.1 appendix B but may be altered to meet the needs of the selected records series. This revision will also include the NQAM guidelines as recommendation for handling of all QA in-process documentation on site. Note that there is a difference between requirements and recommendations.

AI-7 will clearly explain this and will specifically identify records series to which requirements apply. Estimate completion date is September 30, 1987.

6. Document Control already has a commitment to coordinate with the Training Office to ensure that training classes on AI-7 are conducted periodically on site. Document Control will ensure that all designated records custodians are scheduled to attend these classes. Estimated completion date for holding training classes geared to records custodians is December 31, 1987, depending on coordination with Training Office.
7. Document Control will coordinate sections' and organizations' compliance with storage of QA records and storage of selected in-process files identified in AI-7 attachments during step 6. Estimated completion date is September 30, 1988."

CATD 30704-SQN-04 was developed to track the plant-wide system walkdown program to ensure configuration control and that review and closeout efforts are completed.

BFN

Three CATDs (30704-BFN-01, 02, 03) were sent to BFN line management in regard to overstressing piping systems when permanent supports were removed during an outage, lack of documentation for removal of all temporary supports, and the inadequacy of a Modification Additions Instruction for Support of Piping System.

The response to CATD 30704-BFN-01 from BFN line management is as follows:

- A. Determine enveloping pipe support configuration which may have existed during the 1983 outage of unit 3 RHR loop 1.
- B. Evaluate configurations identified in (A) above for pipe stress, support loads and nozzle loads.
- C. Determine additional corrective action, if required, based on results of (B) above. Additional corrective action may include inspections and/or modifications. This work should be completed before unit 3 startup."

The response to CATD 30704-BFN-02 from BFN line management is as follows:

"Modifications will initiate a corrective action report (CAR) identifying the above adverse condition. Modifications shall propose, as a corrective action, that a walkdown of the RHR system be performed to verify the removal of all temporary supports."

5-25-88

The response to CATD 30704-BFN-03 from BFN line management is as follows:

- "A. MAI-23 is being revised to include precaution statement for installing, removing, and/or modifying supports on operating systems (in approval cycle).
- B. The USQD is part of the ECN, therefore it is included in the workplan that removes the support if the system is inoperable. If removal on operable system, precaution statement requires a specific USQD.
- C. Temporary supports have second party verification of installation and removal in a PORC approved instruction (MAI-23), therefore, a TACF is not applicable as long as MAI-23 is the referenced document."

BLN

CATD 30704-BLN-01 was issued to BLN line management noting that a modification could be performed without proper review and documentation. The BLN line response for this issue is as follows:

"BLA-12 is not ambiguous nor does it allow for the modification process to be circumvented. Just the opposite is the case. BLA-12 requires for proposed changes originating at the site (plant operations) to be documented thoroughly to the Manager of Nuclear Production (recent organization changes now identifies the documented data be provided BLN Site Director/Project Manager). This was in order to control non-essential type of changes, i.e. nice to have items. These request for changes were reviewed by the Manager of Design, Construction, Quality, Design Projects, and other members as a part of the review committee. The request for change was then sent to design asking for a cost benefit analysis be performed. After receipt of design analysis, the change was reviewed with plant management and final recommendations were made concerning the modification viability via ECN development, etc. This process did not inhibit NRC mandated changes, changes to correct design deficiencies, FCRs to make changes required during construction but only to enhance the review and disposition of non-essential changes. In other words, this system is nothing more than the now discussed change control process being implemented via configuration management process."

Element 307.05 - Surveillance Program and Instructions

WBN