

15. R-81-08-BFN-15, Use of Fire Resistant Cabinets for Storage of Documents Awaiting the Microfilming Process

NSRS was concerned that adequate protection of records was not provided during the period that the records were awaiting the microfilming process in the document control center. POWER indicated in their response that fire resistant cabinets had been located in the microfilming area at Browns Ferry and that records were protected during the period that they were awaiting microfilming. The reviewer verified during the plant visit during the week of May 24, 1982 that five filing cabinets with a one-hour Underwriters Laboratory fire rating had been provided in the microfilming area and records were being stored in them. This item is closed.

16. R-81-08-BFN-16, Operational Instructions

This recommendation represented two basic NSRS concerns in the area of operational instructions.

- a. General Operating Instruction 100-1 - NSRS concluded that the statement at the beginning of this instruction which allowed deviation from its written instructions with the consent and direction of the shift engineer gave the shift engineer authority to make procedure changes beyond that normally allowed by technical specifications and industry standards. The reviewer verified during the followup review that the statement had been revised to allow deviations only in procedure sequence to account for unit conditions during unit startup and trip recoveries. The sequential changes may be made with the consent and under the direction of the shift engineer. NSRS concurs that these changes in sequence are needed and necessary to provide safe and efficient integrated plant operations for the various conditions covered by General Operating Instruction 100-1. This item is closed.
- b. Instruction Classification - NSRS identified a number of abnormal instructions that should apparently have been classified as emergency operating instructions in accordance with the recommendations of Regulatory Guide 1.33, February 1978. Since this item was identified in January of 1981, considerable work had been done by the nuclear industry, primarily through the owners groups, to reduce the number of emergency operating instructions at nuclear plants. The objective is to have a very few emergency operating instructions (probably five) to handle actual emergency conditions and to maintain the plant stable and the core in a coolable condition. Many of the potential emergency conditions now covered by emergency operating instructions would, under this concept be handled as

abnormal conditions by abnormal operating instructions. The NRC, through NUREG-0799 has indicated support for this proposed reduction of emergency operating instructions. Based on the logic of this approach and the high probability that it will soon be adopted, NSRS considers this item resolved. We will continue to follow the progress of the work to restructure the system for controlling emergency conditions.

17. R-81-08-BFN-17, Provide USQDs for Temporary Alterations

Details are provided in the discussion of recommendation R-79-10-01, Item IV.A (section IV.A.1). This item remains open pending a determination by NUC PR to revise DPM N73011. At issue is whether the use of CSSC and other safety-related (i.e., non-CSSC but could adversely affect the CSSC) equipment is a satisfactory substitute for "the facility as described" in the FSAR. BFN performs a USQD for temporary changes to all operable equipment or inoperable equipment being made operable.

18. R-81-08-BFN-18, Provide USQDs for Existing Temporary Alterations

Concerned that several hundred "temporary" alterations had been in existence for lengthy period without consideration of an unreviewed safety question determination (USQD), NSRS has recommended that NUC PR provide a plan and schedule for full implementation of temporary alteration requirements (i.e., submit DCRs on needed alteration, perform USQDs as needed). The plant superintendent maintained a status listing of outstanding temporary alterations from which the status (as of 3-30-82) was determined as follows:

Outstanding TACFs

<u>Unit Type</u>	<u>CSSC</u>	<u>Non-CSSC*</u>	<u>Total</u>
0	7	36	43
1	50	79	129
2	55	51	106
3	140	127	267
TOTAL	252	293	545

*A written USQD is required for changes to the facility as described in the FSAR. Changes to non-CSSC systems may require a USQD.

At the plant site, several actions had been initiated to promote disposition of long standing TACFs:

- The plant had recently revised standard practice BF 8.2 to include use of form BF 134, "Resolution of Outstanding TACFs," for use in disposing of outstanding TACFs.
- NSRS was informed that one of two personnel being added to the compliance staff would be assigned responsibility to coordinate disposition of TACFs.

While the plant site was taking steps to control and disposition long standing "temporary" alterations, the NCO had relaxed its previously clearcut guidance in DPM N73011. For example, the following language (11/5/80):

"CSSC alterations shall not be considered temporary if they are to remain in effect over 60 days with issuance of a DCR. The DCR shall be submitted to EN DES within 60 days."

Had been revised to read as follows (5/12/81):

"Where practical, plant management shall initiate a design change request (DCR) in accordance with the OQAM to eliminate the need for temporary alterations."

Since the OQAM provided no qualifications for temporary alterations, the change in the DPM had deleted any objective criteria for effectively limiting long-term "temporary" alterations to safety-related systems.

In consideration of the current ECN/DCR backlog and constraints on manpower and expenditures, NSRS concluded that NUC PR had not addressed NSRS' concern with an effective remedy. Submission of a DCR does not automatically result in generation of a USQD and implementation of an ECN in a timely manner, unless a high priority can be set on the DCR. NSRS considers that NUC PR should consider the following:

a. Browns Ferry Nuclear Plant

- (1) Continue with planned efforts to remove TACFs or submit DCRs per form BF 134 as required in BF 8.2
- (2) Provide USQDs for safety-related TACFs as part of the DCR submittal review.
- (3) Implement a TACF inspection program to meet the requirements of b.(2) below.

b. Nuclear Central Office

- (1) Define an objective time limit for determination of whether to submit a DCR for a TACF. Submission of a form similar to BF 134 at the semi-annual PORC review required in section 9.0 of DPM N73011 is suggested.
- (2) Develop requirements for a program to inspect temporary alterations on a defined periodic basis. This program should verify continued correct implementation and identify conditions leading to deterioration of temporary alterations.

This item remains open and a response to the modified recommendation is requested from NUC PR.

19. R-81-08-BFN-19, Independent Verification of Clearance Tags

NSRS had recommended that NUC PR develop administrative controls to assure that requirements were established for independent verification of placement or removal of clearance tags. This was based on a requirement of ANSI N18.7-1976, section 6.2.6, to which TVA was committed in the Quality Assurance Program Description (Topical Report TVA-TR75-1A). NUC PR had committed to resolve this item by August 1, 1982. The review consisted of discussions with NCO personnel and examination of applicable administrative controls.

It was determined that neither DPM N7203, "Clearance Procedures" (revised March 13, 1972) nor standard practice BF 14.25, "Clearance Procedure," (revised March 30, 1982) addressed the independent verification of placement or removal of clearance tags. However, the standard practice placed sole responsibility for personnel involvement (either direct placement of or close supervision of subordinate's placing tags) on the assistant shift engineer.

The standard practice additionally required that tag placement be verified semiannually for clearances which had been in effect for at least three months.

NSRS was informed by NCO management personnel that a program for independent verification of hold orders were being prepared in response to concerns expressed by the NRC and INPO. Implementation of this program was anticipated for September 1982.

This item remains open pending a future review of implementation of the anticipated verification program.

20. R-81-08-BFN-20, OPQA&A Staff Audit of Plant Operations

During the management review, NSRS concluded that the scope of OPQA&A Staff and site QA audits and surveys were not of sufficient scope to assure management that operational activities were conducted in conformance with the technical specifications and facility license conditions. The POWER response stated that the audit program had been restructured to ensure an indepth examination and verification of licensing commitments. However, as stated earlier in this report under R-81-08-BFN-8, the OPQA&A Staff had been unable to increase their audit personnel sufficiently to carry out this commitment effectively. This may be alleviated by the establishment of the Corporate QA Staff. NSRS will observe the activities in this area during implementing of the audit program under the Corporate QA organization. This item remains open.

21. R-81-08-BFN-21, Upgrade OQAM Requirements for Maintenance Activities

NSRS had recommended that NUC PR issue a proposed draft revision to the OQAM, Part II, Section 2.1, "Plant Maintenance," as soon as practicable. This concern was expressed due to inadequate requirements in the OQAM. NUC PR responded that an OQAM revision had been issued on June 5, 1981. The review consisted of examination of part II, section 2.1 (revised March 10, 1982), of the OQAM.

The current revision of the OQAM had been revised to address each of NSRS' concerns adequately.

- Installation and protection of replacement equipment [paragraph 3.3.2.(c)].
- Review and approval of vendor manuals, etc. (paragraph 3.3.2)
- Failure evaluation (paragraph 4.4).

This met the NSRS concern. This item is closed based on revision to the OQAM.

22. R-82-08-BFN-22, Upgrade Requirements for Trouble Reports

NSRS had recommended that NUC PR upgrade administrative controls for trouble reports (TRs) in the N-OQAM and standard practices. This concern was identified due to use of minimal language concerning controls for such activities as the review of hold points, the definition of maintenance emergencies, and provision of special controls for such occasions.

The review consisted of discussions with site personnel and review of the N-OQAM and standard practices.

NSRS confirmed that the OQAM, Part II, Section 2.1, "Plant Maintenance," (revised March 10, 1982) had been revised to specify and upgrade requirements for TRs/MRs, especially in subsection 4.1. Equivalent requirements with additional measures had been specified in BF 7.6, "Trouble Report Review Prior to Work," (revised May 13, 1982).

This item is closed based on adequate revision of the N-OQAM and standard practice to control MRs/TRs.

23. R-81-08-BFN-23, Strengthen Management Controls for Maintenance of CSSC Equipment

NSRS had recommended that NUC PR upgrade administrative controls for maintenance of CSSC equipment. This concern results from findings as follows:

- Approved maintenance procedures were not specified for control of these repairs.
- A power supply amplifier was replaced by a spare without traceability.
- QA reviews had not been performed of completed TRs in five instances.

NUC PR responded that management attention to maintenance program requirements had been increased and that a review of completed TRs to verify QA requirements had been made.

The review consisted of examination of applicable administrative controls. Both the N-OQAM (part II, section 2.1, revised March 10, 1982) and standard practice BF 7.6 (revised May 13, 1982), "Trouble Report Review Prior to Work," contained explicit controls for the control and review of QA requirements in maintenance activities. The reviewer was told by the QA supervisor that CSSC TRs were receiving the required QA reviews and that non-CSSC TRs were being surveyed per requirements of the standard practice.

This item is closed based on satisfactory upgrading of requirements in the N-OQAM and standard practices.

24. R-81-08-BFN-24, Establish and Maintain a Valid CSSC List

NSRS had been concerned that the CSSC list for BFN should be upgraded to address the following:

- a. Update the list to as-built applicability.

- b. Improve the present format and equipment descriptions as applicable.
- c. Implement a documented program to maintain the CSSC list up to date with as-built status.

The reviewer found that NUC PR had requested expedited preparation of a detailed CSSC list by EN DES (reference VI.X.8). In turn, EN DES had been directed by the Manager, OEDC, to develop a detailed CSSC list for BFN by January 1, 1982 (reference VI.X.7). It was learned that the CSSC list for BFN would match the WBN list for detail and complexity. NUC PR and EN DES were cooperating to develop a detailed listing for WBN on a priority basis. NSRS learned that EN DES personnel had been internally tasked to develop a procedure for maintaining the CSSC list up to date. NSRS concluded that actions appropriate to the concern had been initiated, but that the resultant list and implementation should be reviewed at a later date. This item remains open.

25. R-81-08-BFN-25, Improper Classification of Safety-Related Modifications

This discussion addresses concern R-81-08-BFN-26 as well as R-81-08-BFN-25. NSRS had expressed in concern R-81-08-BFN-25 the requirements of 10CFR50.59 were not being met when locally approved design changes were made to safety-related equipment without a USQD. The two examples cited resulted from classification of safety-related equipment as nonsafety-related. NSRS was also concerned (R-81-02-BFN-26) that the criteria used to determine the need for USQDs was not in agreement with 10CFR50.59. NUC PR responded that local DCRs would be prohibited and the OQAM revised to provide appropriate control of DCR approvals. From discussions with site Field Services personnel and review of administrative controls, NSRS determined that LDCRs had been placed under strict controls as follows:

- a. Standard practice BF 83., "Plant Modifications and Work Plans," (revised March 25, 1982) prohibited use of LDCRs by requiring that all DCRs be processed through EN DES for issuance of an ECN, which would include a USQD. (This exceeded requirements of 10CFR50.59).
- b. Existing uncompleted LDCRs were being cancelled or superseded by DCRs to assure that requirements for design review and USQDs would be met.

However, NSRS noted that the OQAM (revised July 22, 1980) had not yet been revised to prohibit local DCRs. Furthermore the OQAM's process for addressing USQDs on LDCRs

appeared to deviate from the requirements of 10CFR50.59 in that the identification of "safety-components" had been restricted to a limited portion of the CSSC whereas safety-related equipment should also include all the CSSC plus non-CSSC components whose failure could affect the CSSC adversely (Note: BF 8.3 addresses this distinction correctly.) Furthermore, use of CSSC plus safety-related non-CSSC may not satisfy 10CFR50.59. NUC PR's use of CSSC and other safety-related equipment as the basis for performing USQDs for temporary alterations has been questioned in R-81-08-BFN-17 (see section IV.I.17 for details) as well as in this concern (R-81-08-BFN-26). The same basis should be used for both temporary and permanent modifications.

NSRS concluded that current practices at BFN exceeded the minimum requirements for safety evaluation of DCRs. However part II, section 3.2 of the OQAM was deficient. Recommendation R-81-08-BFN-25 remains open pending revision of the OQAM to prohibit LDCRs. R-81-08-BFN-26 remains open pending revision of the OQAM to institute valid criteria for determination of when to perform a USQD (Note: Since NUC PR intends in the future to process some DCRs in the NCO--where USQDs might not be required in all cases--the present BFN practice of processing all DCRs through EN DES is not considered an acceptable long-term resolution for invalid directives in the OQAM.)

26. R-81-08-BFN-26, Failure to Provide USQDs for Modifications to Systems Described in the FSAR

Discussion of this concern is provided under item R-81-08-BFN-25. NUC PR should revise the N-OQAM to direct performance of a USQD when required by 10CFR50.59 for modifications.

This item remains open pending resolution of this concern.

27. R-81-08-BFN-27, Resolution of Outstanding Local DCRs

NSRS had recommended that NUC PR define administrative requirements for resolution of outstanding local DCRs (LDCRs) which had been locally approved but were incomplete when further work by LDCRs was prohibited. NUC PR responded that guidance would be provided to the site by December 1, 1982. NSRS found that BFN had taken initiative to eliminate LDCRs. LDCRs were being resolved by cancellation if unnecessary or supersession by a DCR if required. The site had screened existing LDCRs and requested cancellation of 47 of those that were deemed unnecessary and had not been worked on.

NSRS concluded that the site had been responsive to the recommendation but the process of resolution was in a very early stage. This item remains open for review of implementation at a later date.

28. R-81-08-BFN-28, Resolution of "Hold" Work Plans

NSRS had recommended NUC PR (a) continue efforts to determine the status of work plans in "hold" and (b) to implement a written program to establish control of "hold" work plans. NUC PR (a) committed to continue its efforts to resolve status of "hold" work plans and (b) stated that standard practice BF 8.3, "Plant Modifications and Work Plans," provided adequate control of work plans. At BFN there were two recognized "Hold" conditions, "DA Hold" (work plan approved but not authorized for work) and "Hold" (installation discontinued before field complete). Only work plans in "Hold" (partially complete) related to this concern.

From discussions held with plant personnel, NSRS determined that efforts had been initiated to determine the status of work plans in "Hold" and to resolve them in a necessarily long-term program

The intent of present efforts was to determine the status of and process outstanding (hold) unit 2 work plans prior to the next refueling outage (by August 1982) and then to resolve other "Hold" work plans progressively prior to scheduled outages on other units. In order to document as-built status, there were considerations as to completing stalled work "as left" for documentation purposes with work to be completed on a followup work plan. A plant management representative stated that no work plans were currently being allowed to enter a "Hold" status.

NSRS could not identify controls for "Hold" work plans in BF 8.3. However, a Field Services representative stated that no further "Hold" work plans would be allowed until an approved control method was established.

NSRS concluded that the plant had begun to address "Hold" work plans but that implementation of intentions could not be judged at this time. Both parts of this item remain open pending a review of implementation. As stated in R-81-08-BFN-35, it is NSRS' position that "Hold" work plans should be addressed in the OQAM and standard practice with criteria for satisfaction of safety requirements specified in a documented fashion.

29. R-81-08-BFN-29, Provide Safety Evaluations for Electrical Modifications

Concerned that responsibility for an electrical analysis in applicable work plans could not be identified and

was not documented in at least one work plan, NSRS recommended that NUC PR "establish and document a process for accomplishing and documenting the electrical analysis specified in BF SP 83."

NSRS determined that NUC PR's response had been implemented in detail into standard practice BF 8.3 (for permanent modifications) and BF 8.2 (for temporary alterations). Implementation was not verified at this time. However, since the Modification Control Form (BF 62) had been revised to require specific documentation of analyses when required, this concern is considered satisfied and is closed.

30. R-81-08-EFN-30, Verify Certain Requirements Have Been Met for Workplans

NSRS expressed a concern that NUC PR direct by written procedure that:

- a. Special requirements of USQDs be implemented,
- b. FSAR revisions be implemented, and
- c. Revisions to technical specifications be obtained from the NRC

prior to implementation or completion (as applicable) of modifications. NSRS verified that standard practice BF 8.3 (revised March 25, 1982), "Plant Modifications and Work Plans," had been revised to institute controls for concerns (a) and (c): the QA staff had been specifically directed to assure that USQA requirements were met and PORC had been tasked to assure that any required NRC approvals were received prior to approval of a work plan. NSRS did not verify implementation measures for these concerns due to time constraints. In regard to concern (b), it was verified that FSAR revisions were being prepared by the plant staff to update the FSAR. This item is closed.

31. R-81-08-BFN-31, Documentation of Technical Specification Compliance Determination for CCDCRs

NSRS had expressed concern that the N-OQAM should require that proposed revisions to technical specifications in regard to core component DCRs (CCDCRs) be identified and provided an independent review by NSRB prior to implementation. This requirement is found in ANSI N18.7-1976 (section 4.3.2). NUC PR responded to NSRS that the OQAM, section 3.2.A, required identification of technical specification changes and that DPM N73A14, "Proposed Changes to Nuclear Plant Technical Specifications," required submission of proposed technical specifications revisions to NSRB.

NSRS reviewed DPM N73A14 (revised December 24, 1981) and concluded that adequate control had been provided. This concern is rescinded and closed out.

32. R-81-08-BFN-32, Control of Proposed Revisions to Technical Specifications in Regard to CCDRs

NSRS had expressed concern that there was not clearcut administrative requirement in NFQAP 1.10, "Review of Modifications to Nuclear Fuel and Related Core Components," to assure that USQs and potential revisions to technical specifications in regard to CCDRs would be reviewed by NSRB prior to implementation (ANSI N18.7-1976). NUC PR responded that NSRB review was assured under part II, section 3.2A of the N-OQAM. NSRS reviewed NFQAP 1.10 (reference VI.M) as well as preliminary draft revision of NFB QAP 5.3, "Design Change Control," (reference VI.K) which will supersede NFQAP 1.10. It was determined that Nuclear Fuels Branch (NFB) completes a USQD and determines whether a technical specifications change is required in accordance with either the current or proposed draft procedure. However, NFB has no responsibility for providing NSRB with CCDCR documentation.

Part II, Section 3.2A, "Core Component Change after Licensing," (reference VI.L), of the N-OQAM requires that NUC PR identify technical specifications changes and complete a USQD in processing a CCDCR, a copy of which must be provided to NSRB, either prior to (USQ involved) or following implementation. In accordance with DPM N73A14, NSRB is formally provided separate notification of any proposed revisions to technical specifications related to CCDRs. NSRB reviews proposed technical specifications changes either prior to (normal) or concurrent with (emergency) NRC review, thus assuring that changes are reviewed prior to implementation.

It was concluded that the ANSI standard requirements were being met by NUC PR's controls in the DPM and N-OQAM. This item is closed

33. R-81-08-BFN-33, Cancellation of ECNs

NSRS had recommended that "NUC PR should develop and implement a formal, documented process for informing EN DES that an issued DCR and ECN will not be implemented into the plant." This notification would help to prevent design mistakes based on the routine assumption that ECNs would be implemented as issued. The review consisted of discussions with site, NCO, and EN DES personnel plus review of applicable administrative controls.

It was determined that a semi-formal process existed for cancellation of ECNs and DCRs. The plant site was providing cancellation requests to the NCO by memoranda. The NCO was formally requesting cancellation of unnecessary DCRs and ECNs either by memorandum or by notation in the monthly modification meeting minutes for BFN. Although no formal program for review of DCRs and ECNs currently existed, NSRS was told that some review efforts were being undertaken at BFN and in the NCO. In addition, preparations were being made to obtain the division director's approval to establish and maintain a program for disposition of unnecessary ECNs.

NSRS concluded that action had been initiated that should prove adequate to satisfy this concern. This item remains open and will be reexamined in a future review of modification activities.

34. R-81-08-BFN-34, Closure of ECNs

NSRS had recommended that "NUC PR should develop and implement a formal, documented process for notifying EN DES that an ECN is field completed and the associated drawings have been issued as-constructed," The basis for this concern was that configuration be verifiable during processing of design changes through EN DES.

The review consisted of discussions with site, NCO, and EN DES personnel plus examination of applicable procedures and documents. EN DES procedure EP 4.02, "Engineering Change Notices (ECNs) - Handling," required that ECNs be closed out when all as-constructed drawings for the ECN were received from NUC PR. A mechanism for notification of EN DES of as-constructed drawing status had been set up in the DIS. However, for BFN NUC PR was specifically exempted from maintaining as-constructed drawing status (see details of R-81-08-BFN-55 for further discussion).

NUC PR maintained two computerized data bases from which modification status could be determined. "Mod Tracking" was a computerized listing of DCR and ECN status from which status such as design completion and field completion of ECN work could be listed on a unit-by-unit basis for each ECN. "Drawing Status" could provide a drawing status listing by ECN or drawing revision for both as-designed (ECN) and as-constructed drawings. Neither of these listings had been requested by or was being made available to EN DES.

The Drawing Control Center at BFN was providing as-constructed drawings to EN DES in accordance with ID-QAP 6.1. The work plan coordinator at BFN was providing notification by informal memoranda to EN DES when ECNs were field

complete on all affected units. However, EN DES personnel were not using these sources to determine ECN closure information. EN DES had not closed out any ECNs, except incorrectly, in some five years according to EN DES personnel.

The ECN closure situation was reviewed concurrently with NSRS followup by a joint audit team which tentatively cited both the Sequoyah-Watts Bar and Browns Ferry design projects for failure to close ECNs as required in EP 4.02. This citation was presented in preliminary form to EN DES management on June 25, 1982 as item O-1 in Joint Audit Report JA8200-03.

NSRS concluded that the concern had not been addressed adequately. However, EN DES, not NUC PR, is responsible for ECN closure (per EP 4.02). Consequently, this item is closed with NUC PR. NSRS will monitor the processing of the joint audit finding for EN DES action.

35. R-81-08-BFN-35, Verify Safety of Partially Completed Work Plans

Concerned that several work plans in a sample had been left in what appeared to be a very incomplete state, yet were informally marked "Ok for startup," NSRS had recommended that upgraded management controls should be implemented in a documented process for review of partially implemented work plans. NUC PR responded that standard practices BF 8.3, "Plant Modifications and Work Plans," and BF 12.18, "Unit Startup Review," would assure that any modifications tied into operating systems were controlled and reviewed for completeness as to installation and documentation to assure satisfactory operation after startup.

The review consisted of discussions with Field Services and plant management personnel following review of BF 8.3. and BF 12.18. NSRS was told that special emphasis was placed on completion of documentation and QA requirements for partially completed work plans prior to startup after a recent refueling outage. However, due to time constraints, implementation of these actions was not verified.

NSRS concluded that its concern had been addressed in very subjective language in BF 12.18, that is,

"Verify that status of all work plans are such that safe startup is not affected."

Due to the significance of this concern and apparent lack of objective criteria, concern R-81-08-35 remains open pending a review of implementation by NSRS. It is NSRS'

position that "Hold" work plans must be addressed in the OQAM and standard practice with satisfaction of safety requirements controlled in a documented fashion--that is, that criteria have been met in regard to safety needs for safety evaluation, drawing and procedure changes, QA review, cleanliness, and workmanship, etc., in the "as left" condition.

36. R-81-08-BFN-36, Plant Corrective Action System

NSRS determined that corrective action reports (CARs) were not always handled in accordance with the instructions of the applicable plant procedure (SP 10.1). Specifically, the corrective action for several CARs reviewed had not been completed within 30 days as required by BF SP 10.1. One contributor to this condition was the long period of time that the CARs were sometimes allowed to remain in the QA office before issuance for corrective action. This problem was discussed with the plant QA supervisor during the followup review. Significant action has been taken and is continuing to get timely corrective action and reduce the number of outstanding CARs. The QA personnel work directly with the section personnel responsible for the corrective action to resolve the basic problems. This had been done primarily through meetings between the cognizant QA and responsible people. Improvements in the timeliness of the issuance of the CARs appeared to have been made. The QA supervisor had initiated a system of formally informing the supervisor of each section by memorandum of delinquent CARs under his cognizance. The memoranda listed the delinquent CARs and established a schedule for the sections to meet with QA to resolve the problems leading to the delinquencies. The memorandum reports were issued monthly and included the QA section delinquent CARs. The action being taken to improve the timeliness of corrective actions for identified undesirable conditions appeared appropriate. This item is closed.

37. R-81-08-BFN-37, Discontent Within Plant QA Staff

The POWER response indicated that the NSRS' perceived problem was possibly due to a general purging of gripes by employees (which was common when "auditors" visited the plant) and lack of responsibility on the part of the auditors. The policy for dealing with employees was apparently thought to be completely adequate. However, during the followup review, the reviewer determined that a number of changes had been initiated which appeared to have been effective in dealing with the perceived discontent. The onsite QA Group now reports administratively to the NUC PR QA Branch Chief. This has theoretically increased the independence of the QA staff from plant management. The belief by QA personnel that

plant management assigned them menial tasks no longer seems to be a valid concern nor is there a basis for the perception of such a concern. In addition, the QA supervisor established a practice of discussing problems that his employees believe to be adversely affecting safety with the concerned individuals. The discussions appeared to be frank and to the point. If the supervisor determined that there was a safety problem, prompt action was taken. If there was no substance to the concern, the condition was explained to the employee, the reason no action was being taken was defined, and the employee was put to work. In at least one case, a task force had been established to investigate the activities and conditions associated with a series of safety concerns in a specific area.

It was also interesting to note that during the entire followup review during the week of May 24, 1982, no requests from QA personnel were received by the reviewers to look into a safety concern. This was impressive and a meaningful change from past visits. NSRS concluded that significant actions were being taken in this area and improvements had resulted. This item is closed.

38. R-81-08-BFN-38, Requirements and Commitments Matrix

As noted in section VI.K.2 of the management review of POWER, there was a lack of a system within the NUC PR QA organization to assure that all QA requirements and commitments were being satisfied. Consequently, a recommendation was made that NUC PR develop a matrix or other system to define regulatory requirements and TVA commitments pertinent to each nuclear plant along with the basis for the requirements and commitments and the method of satisfying them. POWER stated in the response to the recommendation that a compliance and commitment management section was being created in the NCO QA Branch. A responsibility of this section would be to ensure that all organizations prepared matrices for programs for which they were responsible. The Compliance Staff would ensure that matrices accurately reflected where requirements were implemented and would see that the matrices were revised as requirements or implementing procedures were changed. The most timely commitment date for having the matrices completed was October 1982. Some progress had been made toward the establishment of the matrix system. DPM N82A3 discussed the compliance matrix program in some detail, but it also indicated that additional information would be provided in future revisions. NSRS will continue to follow the progress and status of the development and implementation of this system. This item remains open.

39. R-81-08-BFN-39, Management Position Accountable for QA and Line Functions

While reviewing activities of the OPQA&A Staff, the NSRS reviewer became convinced that the management point for resolution of QA problems or disagreements between the line organization and QA was too far removed from the managers of these organizations. Subsequently, POWER designated the Deputy Manager of POWER as the manager responsible and accountable for both QA and line activities. The managers responsible for each of these functions reported directly to the Deputy Manager of POWER. A decision was later made by TVA to establish a Corporate QA Staff within the Office of the General Manager. Indications are that the OPQA&A Staff will be incorporated into the Corporate QA Staff. This action appears to make this recommendation to POWER invalid. However, it should be pointed out that POWER was responsive to this recommendation. The action taken completely satisfied the NSRS concern. The organizational structure established by POWER closely approached the ideal QA/line organizational relationship. This item is closed.

40. 81-08-BFN-40, QA Concurrence With Line Procedures

The basis for this recommendation was the conclusion by NSRS that the OPQA&A Staff was exercising an undesirable concurrence authority over certain line procedures. It appeared that this concurrence represented a position of weakness on the part of the QA organization that had possibly developed because of a lack of management support for the audit process. It also compromised the independence of the QA Staff. This issue had not been formally resolved with POWER. However, with the establishment of the Corporate QA Staff, it appeared that it was no longer just a POWER issue. If the condition still exists when the Corporate QA program is implemented, it will need to be addressed and resolved within the Office of the General Manager. For the purpose of this report, this item is closed.

41. R-81-08-BFN-41, Evaluation of Need for Additional Personnel Resources Within the OPQA&A Staff

A review of the audit plan, audit reports, and available auditors within the OPQA&A Staff led the NSRS reviewer to question whether or not the required audits could be performed in the desirable depth and scope with the available auditors. The POWER response indicated that the audit activities had been steadily increasing while available manpower had remain constant. It stated that

the problems had been recognized and steps were being taken to correct them through added manpower, better planning, curtailment of nonessential audits, and more direction and participation by the NSRB. In discussions with OPQ&A Staff management on June 10, 1982, it was learned that the situation had not improved. The manpower problem had probably worsened since audit requirements were increasing rather than being curtailed and use of personnel not experienced in QA had not proven as helpful as anticipated. The status of the problem will be followed during the initial implementation stage of the Corporate QA Staff. This item remains open.

42. R-81-08-BFN-42, Potential Conflict of Interest Associated with QA Staff

NSRS was concerned that the management structure of the QA Staff within the licensing organization could represent a conflict of interest between licensing activities and the quality assurance activities. The reorganization of the QA Staff such that it reported directly to the Deputy Manager of POWER eliminated this concern. This item is closed.

43. R-81-08-BFN-43, Radiation Protection

No review was made at this time. Ongoing efforts to resolve the concern were in process separate from this BFN review.

44. R-81-08-BFN-44, Radiation Protection

No review was made at this time. Ongoing efforts to resolve the concern were in process separate from this BFN review.

45. R-81-08-BFN-45, Radiation Protection

No review was made at this time. Ongoing efforts to resolve the concern were in process separate from this BFN review.

46. R-81-08-BFN-46, Radiation Protection

No review was made at this time. Ongoing efforts to resolve the concern were in process separate from this BFN review.

47. R-81-08-BFN-47, Radiation Protection

No review was made at this time. Ongoing efforts to resolve the concern were in process separate from this BFN review.

48. R-81-08-BFN-48, Radiation Protection

No review was made at this time. Ongoing efforts to resolve the concern were in process separate from this BFN review.

49. R-81-08-BFN-49, Quality Control of Dosimetry

NSRS had determined that a procedure system for handling dosimeter readings above a specified level was in place but was not being consistently followed. Any dosimeters that read greater than fifty mrem should have been pulled and a note placed on it to have the carrier report to the health physics office. (The trigger level has now been changed to 100 mrem.) The NSRS reviewer found that in some cases the dosimeters were being zeroed at the gate, replaced by other dosimeters, or returned to the carrier with the high readings with no instructions to report to the health physics office. NSRS recommended that plant management establish a quality control system to assure that dosimeter issuance, readings, and recording were accomplished in accordance with established procedures.

As corrective action, Health Physics Procedure, RCI-2, had been revised to require health physics personnel to monthly verify that dosimeter readings greater than 100 mrem were handled in accordance with paragraph V of RCI 2. The procedure required that this be done by using a dosimeter charger to set a number of dosimeters such that they indicate greater than 100 mrem and track the resulting actions. During the week of May 24, 1982, the reviewer examined the results of three of the monthly checks. Only one dosimeter had been returned to the carrier without proper instruction to report to the health physics office. This error had been discussed with the security chief for the purpose of getting corrective action promptly initiated. NSRS believes that adequate procedure and quality control have now been implemented to provide reasonable assurance that dosimeter practices are properly carried out. This item is closed.

NOTE: This item was also closed out in NSRS report R-82-06-NPS dated May 10, 1982 with the Office of Health and Safety.

50. R-81-08-BFN-50, Radiation Protection

No review was made at this time. Ongoing efforts to resolve the concern were in process separate from this BFN review.

51. R-81-08-BFN-51, Reduction of Consequences of Contaminated Water Leaks

The details of this item are discussed in section IV.L.12 of NSRS report R-81-08-BFN. The NSRS concern related to the spread of contamination from various sources such as the overflow of sumps, performance of maintenance activities, and leaks from rotating equipment. In discussions with plant health physics personnel, it appeared that a number of actions had been taken to reduce the spread of contamination. Control over the management of contaminated water to the radwaste tanks had been improved resulting in fewer occasions of sump overflow. Efforts were being made to minimize the spread of contamination because of maintenance activities by better control during maintenance and timely cleanup following the maintenance. Plant management indicated that one of the primary ways that contamination from leaking equipment was being controlled was by efforts to reduce the leaks to a minimum. In some areas of chronic leakage problems, catch basins had been constructed to contain the contaminated waste. Central Office personnel indicated that they were still working with the plant to identify all the serious leakage problems. In addition to the possible construction of devices to control the spread of leakage from rotating equipment, the Central Office was interested in the investigation of better seal materials, improved packing, etc. As a result of the efforts already under way, plant health physics personnel stated that there were fewer contamination areas at the plant currently than there had been since the beginning of three unit operation. The basements of units 1 and 3 were reported to be clean, and unit 2 would also be cleaned following completion of the torrus modifications. This item is closed.

52. R-81-08-BFN-52, Radiation Waste

No review was made at this time. Ongoing efforts to resolve the concern were in process separate from this BFN review.

53. R-81-08-BFN-53, Radiation Waste

No review was made at this time. Ongoing efforts to resolve the concern were in process separate from this BFN review.

54. R-81-08-BFN-54, Radioactive Material Shipping Cask Trailer Weld Cracks

Due to the fact that cracks in the welds of the high and low-level radioactive material shipping casks had been identified by Barnwell burial ground inspectors and because of

the high visibility they received and the potential consequences of weld failures, NSRS had recommended that nondestructive testing of trailer welds be performed to evaluate the overall condition and road worthiness of the trailers. POWER responded to the recommendation by explaining that the problems with the welds on the trailers had been studied earlier. An air-ride suspension had been installed on one trailer which had essentially eliminated the weld cracking problem. A similar suspension system had been installed on the other trailer in June of 1981. POWER was of the opinion that a nondestructive testing program was not warranted. During this followup inspection the weld crack problem was discussed with a management representative of the Radwaste Management Section in the Central Office. He stated that no weld cracks had been identified since the new suspension system had been installed last June; nor had any new cracks been found in the welds of the other trailer during the past year. He reiterated the position that the rate of weld cracking did not warrant a program to nondestructively test all the welds. He said that the inspection program would continue and that if the frequency of weld cracking significantly increased, the option to do the nondestructive testing of the trailer welds would be reconsidered. This approach is acceptable to NSRS. This item is closed.

55. R-81-08-BFN-55, Upgrade the Drawing Status System

NSRS had recommended that NUC PR establish a program mechanism to tabulate the drawing status as intended by DIS implementation requirements in ID-QAP 6.1, "Configuration Control." The review consisted of examination of documents and controls plus discussions with site and EN DES personnel.

Review of administrative controls showed that NUC PR was exempted in both ID-QAP 6.1 (revised March 17, 1982) and the OQAM, part III, section 1.1 (revised June 25, 1982), from maintaining as-constructed drawing status in the DIS. However, the OQAM required that an as-constructed drawing status index be maintained by NUC PR.

NSRS confirmed that EN DES was maintaining as-designed drawing status of the DIS. NUC PR was maintaining both as-designed and as-constructed status on a drawing control ("DRAWCO") program at BFN. NUC PR's DRAWCO system could list status of drawings by either ECN reference or by drawing sequence. Hardcopy output of this system could be made available to EN DES but was not currently in such use. Thus while receiving and distributing as-constructed drawings from BFN, EN DES had no comprehensive status listing from which to determine as-constructed implementation of drawings or ECNs.

NSRS determined from discussion with personnel from NUC PR and EN DES personnel that a study had been initiated to develop a drawing management system (DMS). The DMS was intended to provide comprehensive status of as-designed and as built drawings for all nuclear plants.

In discussion with EN DES personnel, NSRS found varying levels of concern in regard to the need for as-built information, although there was general agreement that availability of reliable as-built information was in question.

Although action had been initiated to develop a comprehensive drawing status system for joint use by EN DES and NUC PR, NSRS found that EN DES was not in possession of timely and dependable as-constructed status information to support configuration control. This situation is believed to be symptomatic of a larger problem in configuration control.

This item of concern remains open pending a more thorough review of modification activities in the future.

56. R-81-08-BFN-56, Incorporate Configuration Control in Vendor Drawings and Manuals

NSRS had recommended that NUC PR should "define, develop, and implement a program to ensure the as-constructed configuration is reflected in vendor drawings and manuals." The review consisted of discussions with site personnel following review of applicable administrative controls.

Vendor drawing changes were being identified and as-constructed as part of the modification process prescribed in BF 8.3 and BF 2.5 for drawing control.

Vendor manual changes were also identified and controlled as desired locally in accordance with standard practice BF 8.3 and 2.7. As permitted in DPM N76A5, "Changes to Vendor Manuals," vendor manuals were not generally controlled at BFN. This was in keeping with the "Information Only" policy for use of vendor manuals that has been in effect at BFN. However, the plant document control unit maintained an up-to-date copy of vendor manuals for reference by plant personnel.

It was concluded that adequate controls existed to ensure that as-constructed configuration was maintained in vendor drawings and manuals. This item is closed.

J. Report No. R-81-10-BFN, Routine Review of BFN Operational Activities

1. R-81-10-BFN-01, Mangement Control of Clearances and Temporary Alterations

This item is detailed in report R-81-10-BFN, section V.A. The NSRS discussed this item with the training coordinator, the Quality Assurance supervisor, and the responsible Assistant Superintendent. These discussions assured the NSRS that adequate management control in this area was being taken. A recent general revision of standard practice BF 8.2 had been immediately distributed to each shift engineer, and the training coordinator. The QA supervisor assured NSRS that training would be provided if the change to the source document was significant enough to warrant it. The Assistant Superintendent also indicated that the special projects coordinator was reviewing and evaluating the GET in an overall effort to improve content and implementation. It was the conclusion of NSRS that adequate procedural control and management attention existed in this area. This item is closed.

2. R-81-10-BFN, Item IV.A, Provide a Reliable Power Supply for the Card Key System

NSRS had recommended that NUC PR provide a reliable power supply for the card key system. This would prevent recurrence of security incidents which had disabled access door controls to vital areas on earlier occasions. The review consisted of discussions with site and NCO personnel. The reviewer verified the status of modifications to upgrade the necessary power supplies to the card key system. This item is closed based on satisfactory improvements to the power supply to the card key system.

K. Report No. R-81-17-BFN, Routine Review of BFN Operational Activities in the Area of Plant Modifications

1. R-81-17-BFN-01, Division and Plant Procedure Compliance with the OP-QAP

This item is detailed in report R-81-17-BFN, sections V.A, B., C., and D. Further review and evaluation of this item indicated that concerns described in details V.A., B., and D. were being addressed by NUC PR in an acceptable manner but that no action had yet been implemented on items A and B. The concern expressed in details V.D had also been addressed and the action taken considered acceptable. Details V.C was also covered in item R-81-17-BFN-03 and is considered closed under this item number.

It is the conclusion of NSRS that the proposed action by NUC PR to resolve concerns addressed in details V.A, B, and D are acceptable. NSRS will follow the implementation of the actions. This item remains open.

2. R-81-17-BFN-02, Inadequate Management Control of Plant Modification Work

This item is detailed in report R-81-17-BFN, sections V.B, C, D, E, and F. Resolution of items R-81-17-BFN-01, -03, -04, -05, -06, and -07 will satisfy the NSRS concern of management control of modification activities. This item is closed.

3. R-81-17-BFN-03, Review of Proposed Modifications for Radiation Exposure Impact

This item is detailed in report R-81-17-BFN, section V.C. Further review and discussion of this item indicated that, in fact, the proposed modifications were reviewed for radiation exposure impact by NUC PR, but there was not a division of NUC PR procedure which required this review. In plant standard practice BF 8.3, there were very specific instructions as to why signatures were required on modification control forms in most cases. It was not indicated that the HP supervisor or any other person was responsible for this type of review. It was the conclusion of NSRS that this should be clarified by implementation into the OQAM and into plant standard practice BF 8.3 so that in the future it would be assured that this review was continued. This item remains open.

4. R-81-17-BFN-04, Post Modification Testing and Instruction Revision

This item is detailed in report R-81-17-BFN, section V.D. Standard practice BF 8.3 has been revised to require that, when practicable, post modification test instructions will be included with the modification work plan as NSRS requested. In further review of the forms used in the work plans and the control provided, NSRS has concluded that the present method of handling plant instruction revision required by a modification is adequate. This item is closed.

5. R-81-17-BFN-05, Work Plan Document Control

This item is detailed in report R-81-17-BFN, section IV.E. Further review of work plan document control has not changed the opinion of NSRS. A controlled copy of the approved work plan as issued was not being maintained properly. Standard practice BF 2.1 established document control for all PORC-reviewed, superintendent-approved

plant documents with the exception of modification work plans. ANS 3.2/N18.7-1976, paragraph 5.2.15 contains the following statement:

The administrative controls and quality assurance program shall provide measures to control and coordinate the approval and issuance of documents, including changes thereto, which prescribe all activities affecting quality. Such documents include those which describe organizational interfaces, or which prescribe activities affecting safety-related structures, systems, or components. These documents also include operating and special orders, operating procedures, test procedures, equipment control procedures, maintenance or modification procedures, refueling and material control procedures. These measures shall assure that documents, including revisions or changes, are reviewed for adequacy by appropriately qualified personnel and approved for release by authorized personnel; and are distributed in accordance with current distribution lists and used by the personnel performing the prescribed activity, and that procedures are provided to avoid the misuse of outdated or inappropriate documents.

The present method of control of work plans at Browns Ferry is established in standard practice BF 8.3. All other plant documents are controlled by BF 2.1 which is an implementation of the OQAM on document control.

As can be seen from paragraph 5.2.15 of ANSI N18.7-1976, modification procedures are listed with all other plant procedures and indicates they should be controlled in the same manner.

It is the conclusion of the NSRS that the approved work plan should become a controlled document to comply with the requirements of ANSI N18.7-1976. Neither QA nor NRC could request and get from document control or from the work plan coordinator the controlled copy of a work plan as issued. An as-issued work plan with all revisions is not maintained during the work plan life time and is not considered a QA document until the work plan is complete with all signatures. This item remains open.

6. R-81-17-BFN-06, Establish Time Frame on Completion of Implemented Modification Paperwork

This item is detailed in report R-81-17-BFN, section V.E. NUC PR is presently considering establishing a time frame

for completion of paperwork on field implemented modifications as a revision to plant standard practice BF 8.3. It is the conclusion of NSRS that the present program is adequate but that this requirement in the standard practice would provide the additional control needed to ensure timely disposition of the paperwork on all field implemented modifications. This item is closed.

7. R-81-17-BFN-07, Table of Contents for Work Packages

This item is detailed in report R-81-17-BFN, section V.F. Further review of this item indicated that the present method is adequate. It was NSRS' conclusion that there was not sufficient evidence of problems in this area to press further. This item is closed.

8. R-81-17-BFN-08, Compliance with ANSI 18.7-1976

This item is detailed in report R-81-17-BFN, section V.G Standard practice BF 2.3, form BF 6, has been revised, and NSRS considers this item closed.

9. R-81-17-BFN-09, CSSC Alignment Status

This item is detailed in report R-81-17-BFN, section V.H. The standard practices have been revised, and NSRS considers this item closed.

10. R-81-17-BFN-10, Field Services Errors Generating Corrective Action Reports

This item is detailed in report R-81-17-BFN, section V.I. The review indicated that there are still an excessive number of corrective action reports (CARs) generated by errors made in the field services group. Since August of 1981, 214 CARs have been written against field service activities. Nineteen of these were later cancelled leaving a total 195 and of these, 126 have been written since January 1, 1982. Of the 195 CARs written, 164 are still open.

A program has been initiated by the field services supervisor at Browns Ferry to reduce this number. The following actions have been taken:

- a. Plan to provide more training for Modifications Engineers.
- b. The Quality Assurance and Field Service Staffs are meeting once a week during outages to help resolve problems.

- c. Better established responsibilities have been defined in the area of materials receipt inspection and in the area of contract radiography.
- d. Better control to ensure traceability of transferred materials has been established.
- e. A senior engineer is to review every work plan.
- f. An effort is to be made to revise and improve instructions.

The Plant Superintendent has also taken action to ensure that there is adequate review by PORC of all open CARs involving CSSC prior to unit startup following an outage.

In discussing this problem with the Plant Services Staff, it was indicated that probably the inadequate training contributed more to the errors made by the Field Services Group than any other cause. As indicated above, Field Services is trying to provide this training but indicated they needed assistance. A memorandum dated March 8, 1982 had been written to the Training Branch from the Chief of the Field Services Branch requesting training assistance, both in the area of General Employee Training and in the area of systems training. It was stated in this memorandum (L37 820222 801) that "without systems training it is very difficult for engineers to effectively perform their job." It was also stated that for the past one to two years field services had been unable to schedule their engineers for BWR or PWR systems training.

It is the conclusion of NSRS that action has been taken by field service to reduce the number of errors incurred during modification work but at this point in time it is uncertain as to the results of this action. The number of CARs had not been reduced. It is hoped that increased training and improved procedures will produce the positive results of reducing errors in field services work. This item remains open pending further evaluation of action taken and proposed action.

11. R-81-17-BFN-11, Operator Training on Plant Modifications

This item is detailed in report R-81-17-BFN, section V.J. After further review and discussion with the training shift engineer and the operation section supervisor, it was the conclusion of NSRS that adequate action had been taken to resolve this concern. This item is closed.

V. PERSONS CONTACTED

A. Office of Power

1. A. Crevasse, Manager, QA&A Staff
2. J. Darling, Deputy Manager of Power
3. R. Moore, Supervisor, QA&A Audit Section
4. F. Szczepanski, Supervisor, Nuclear Safety Staff

B. Division of Nuclear Power

1. C. Bowden, Supervisor, Management Compliance Unit
2. J. Hutton, Supervisor, Low-Level Rad Waste Group
3. R. Parker, Chief, Quality Assurance Branch
4. R. Russell, Supervisor, Reactor Systems Group
5. E. Sliger, Supervisor, Emergency Planning Group
6. *H. L. Abercrombie, Assistant Manager, Nuclear Production
7. *W. F. Andrews, Supervisor, Quality Engineering & Compliance Group
8. *N. T. Henrich, Jr., Supervisor, I&C Equipment Group
9. *D. E. McCloud, Supervisor, Modifications Section
10. *B. W. Hamby, Supervisor, Industrial Engineering & Materials Section
11. S. W. Bonneau, Information System Specialist, Compliance Management Section
12. W. R. Bacon, Supervisor, Compliance Management Section
13. *R. E. Slone, QA Engineer, Compliance Management Section
14. *R. T. Bolgeo, Electrical Engineer, Auxiliary Equipment Section
15. *J. D. Woolcott, Nuclear Engineer, BWR Engineering & Analysis Section
16. *J. F. Gibbs, Jr., Assistant Manager, Field Services Branch
17. *C. R. Brimer, Chief, Field Services Branch

B. Division of Nuclear Power - POTC

1. L. H. Sain, Eng. Trn. Supervisor

C. Browns Ferry Nuclear Plant

1. Ray Hunkapiller, Supervisor, Operation Section
2. E. G. Thornton, Shift Engineer, Training
3. A. W. Sorell, Supervisor, Health Physics Section
4. J. H. Miller, Plant Field Services Staff
5. J. R. Nebrig, Modifications Coordinator, Plant Field Services Staff
6. J. E. Swindell, Supervisor, Plant Field Services Staff
7. P. A. Crabb, Work Plan Coordinator, Plant Field Services Staff
8. M. W. Davis, Plant Training Officer
9. J. R. Bynum, Assistant Plant Superintendent, Operation and Engineering

*Telephone contact

10. J. R. Norris, QA Section Engineer
11. T. Hudson, Training Officer, Plant Field Services Staff
12. G. Jones, Plant Manager
13. A. Burnett, Supervisor, Assistant Operation
14. W. Haney, Supervisor, Mechanical Maintenance
15. L. Jones, Supervisor, Site Quality Assurance
16. J. Norris, Quality Assurance Engineer
17. P. Ziegler, Unit Operator
18. T. Chinn, Supervisor, Compliance Section
19. R. Nixon, Supervisor, Document Control Unit
20. R. Mitchess, Data Systems Coordinator
21. D. Phillips, Supervisor, Computer Unit
22. D. Mims, Supervisor, Engineering & Test Unit
23. L. Jones, Quality Assurance Supervisor

D. Division of Engineering Design

1. N. R. Beasley, TDP, Mechanical Project Engineer
2. J. R. Kellar, TDP, Senior Electrical Engineer
3. J. Snyder, TDP, Supervisor, Project Services
4. S. Thibadoux, TDP, Project Control Engineer
5. M. Davis, TDP, Clerk
6. T. Chandler, TDP, Senior Electrical Engineer
7. H. Jones, NEB, Nuclear Engineer
8. D. Wilson, NEB, Nuclear Engineer
9. G. Patrick, PCB, Systems Analyst

VI. DOCUMENTS REVIEWED

- A. TVA Topical Report, TVA-TR75-1A, "Quality Assurance Program Description," Section 17.2 of FSAR, R4, 8/80
- B. QA&A Staff QA Audit Program dated 2/23/82
- C. TVA Radiological Emergency Plan and Implementing Procedures
- D. Browns Ferry Standard Practices
 1. BF 6.1, "Performance of Maintenance," 2/16/82
 2. BF 7.6, "Trouble Report Review Prior to Work," 5/13/82
 3. BF 8.2, "Temporary Alterations," 5/14/82
 4. BF 8.3, "Plant Modifications and Work Plans," 2/16/82
 5. BF 12.2, "Documenting Operating Activities," 8/7/79
 6. BF 12.5, "Operation of Plant - Policy for Operator Responsibility," 11/10/81
 7. BF 12.17, "Administrative Controls for Plant Operation," 5/28/80
 8. BF 12.18, "Unit Prestartup Review," 4/6/82
 9. BF 14.25, "Clearance Procedure," 3/30/82
- E. DPMs
 1. DPM N76A5, "Changes to Vendor Manuals," 1/24/81
 2. DPM N7903, "Nuclear Plant Licensed Shift Personnel Responsibilities," 1/7/80

3. DPM N7904, "Shift and Relief Turnover," 4/9/81
 4. DPM N7905, "Nuclear Plant Licensed Operations Shift Management Responsibilities," 4/13/82
 5. DPM N73011, "Control of Temporary Alterations," (two versions, revised 12/8/81 and proposed draft)
 6. DPM N73A14, "Proposed Changes to Nuclear Plant Technical Specifications, 12/24/81
 7. DPM N74M7A, "Nuclear Plant Refueling Outage Management," 1/27/78
 8. DPM N7902, "Nuclear Plant Method of Operation Policy," 3/18/81
 9. DPM BF7901, "Administrative Controls for Plant Operation," 2/11/82
 10. DPM N74A19, "Operating Philosophy for Maintaining Occupational Radiation Exposure As Low As Reasonably Achievable"
 11. DPM N82A3, "Compliance Management"
 12. DPM N72A39, "Review, Reporting, and Feedback of Operating Experience Items"
- F. BF SI 4.5.A.1.d, "Core Spray System Flow Test"
- G. BF SI 3.1.1, "Core Spray Pump Performance"
- H. BF SIMI 75, "Core Spray System Calibration and Maintenance"
- I. EN DES EP 4.02, "Engineering Change Notices (ECNs) - Handling," R11
- J. ID QAP 6.1, "Configuration Control," 3/17/82
- K. NFB-CAP 5.3, "Design Change Control," R0 (Proposed Draft-undated)
- L. N-OQAM, Part II, Section 3.2.A, "Core Component Design Change After Licensing," 10/9/80
- M. NFAQP 1.10, "Review of Modifications to Nuclear Fuel and Related Core Components," R3, 9/29/81
- N. OP-QAP 3.1, 10/20/77
- O. Nuclear Safety Review Staff Investigation of Browns Ferry Unit 3 Containment Leakage Problem, December 6-9, 1979
- P. Quality Assurance Section Staffing Analysis
- Q. NSRB Charter, Revision 8, dated 4/19/82
- R. Operational Quality Assurance Manual (OQAM)
- S. BFN Work Plans
- T. BFN Technical Specifications

- U. BFN Corrective Action Report log, Field Services Staff Section
- V. NSRS Inspection Report dated 4/30/80, "Browns Ferry Nuclear Plant Unit 2 - Causes of Reactor Scrams on February 10, 12, and 15, March 9, 1980"

W. Letters

1. J. E. Gilleland to J. P. O'Reilly (NRC) dated April 24, 1979 (A27 790424 012)
2. L. M. Mills to H. R. Denton, NRC, dated April 13, 1982 (A27 820413 027)
3. R. J. Clark, NRC, to H. G. Parris dated 5/19/81, concerning amendments 83, 80, and 54 to the license of BFN units 1, 2, and 3, respectively.
4. E. G. Thornton, BFN, SE-Training, to Ray Hunkapiller, BFN, Operation Section Supervisor

Y. Memoranda

1. C. R. Brimer to R. J. Johnson dated 3/8/82 (L37 820222 801)
2. M. N. Sprouse to H. J. Green dated 5/12/82 (NEB 820512 260), "Browns Ferry Nuclear Plant - Control Rod Driven System Modification"
3. H. J. Green to H. N. Culver dated 2/11/82 (L16 820204 858)
4. H. N. Culver to H. J. Green dated 8/24/81 (GNS 810824 050) with attached NSRS report R-81-17-BFN
5. T. F. Ziegler to R. C. Parker dated 6/10/82 (L22 820609 803), "Nuclear Safety Review Staff Investigation of Browns Ferry Unit 3 Containment Leakage Problem, December 6-9, 1979"
6. H. G. Parris to H. N. Culver dated 10/13/81 (L04 810930 807 and GNS 811015 100), "Nuclear Safety Review Staff Major Management Review of the Office of Power and the Office of Health and Safety - Nuclear Safety Review Staff Report No. R-81-08-BFN"
7. G. H. Kimmons to Those listed dated 5/7/82 (EDC 820507 001), "All Nuclear Plants - The Identification and Specification of Items Covered by the OEDC Quality Assurance Program"
8. H. J. Green to M. N. Sprouse dated 11/2/81 (L16 811030 876 and DES 811105 005), "Browns Ferry Nuclear Plant - Identification of Structures, Systems, and Components Covered by the Quality Assurance Program"
9. G. T. Jones to T. G. Campbell dated 5/19/82, "Locally approved DCRs"
10. H. N. Culver to W. F. Willis dated February 2, 1982, "Proposed Policy Regarding Operation Beyond Technical Specification Limits"
11. H. J. Green to M. N. Sprouse dated April 22, 1982 (DES 820423 014 and L33 820406 8C6), "Browns Ferry Nuclear Plant - Control Rod Drive System Modifications (ECN-0392)"
12. L. W. Jones to G. T. Jones and D. O. McCloud dated 5/13/82 on subject of QA status report No. 88

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY
GNS '82 0715 050

TO : G. H. Kimmons, Manager of Engineering Design and Construction, W12A9 C-K

FROM : H. N. Culver, Director of Nuclear Safety Review Staff, 249A HBB-K

DATE : July 15, 1982

SUBJECT: WATTS BAR NUCLEAR PLANT (WBN) - NUCLEAR SAFETY REVIEW STAFF REPORT NO. R-82-13-WBN

Attached is the NSRS report for a followup review conducted at WBN March 15-19, 1982 concerning WBN responses to NSRS review reports R-80-21-WBN, R-81-09-WBN, R-81-11-WBN, and R-81-28-WBN. Additional reviews of recently revised procedures were performed subsequent to the onsite review. The followup review was originally intended to be included in the NSRS major management review report (R-82-02-WBN) but is being issued as a separate report for clarity.

A total of 32 items were examined during this review. Of the items, 11 were determined to be satisfactorily resolved and closed. Twenty-one of the items are pending resolution and remain open. Corrective action for the 21 open items will be verified by NSRS during a future review of WBN.

H N Culver
H. N. Culver

you 200 JCJ:LML

Attachment

cc (Attachment):

G. F. Dilworth, E12D46 C-K
MEDS, W5B63 C-K

NSRS FILE

TENNESSEE VALLEY AUTHORITY
NUCLEAR SAFETY REVIEW STAFF
REVIEW

NSRS REPORT NO. R-82-13-WBN

SUBJECT: ROUTINE REVIEW OF WATTS BAR NUCLEAR PLANT

DATE OF REVIEW: MARCH 15-19, 1982

TEAM LEADER:	<u>J. A. Crittenden</u> J. A. CRITTENDEN	<u>7-15-82</u> DATE
REVIEWERS:	<u>J. C. Jones</u> for M. A. HARRISON	<u>7-15-82</u> DATE
	<u>J. C. Jones</u> J. C. JONES	<u>7-15-82</u> DATE
APPROVED BY:	<u>J. A. Crittenden</u> J. A. CRITTENDEN	<u>7-15-82</u> DATE

TABLE OF CONTENTS

	<u>Page</u>
I. SCOPE	1
II. CONCLUSIONS	1
III. STATUS OF PREVIOUSLY IDENTIFIED ITEMS	1
IV. DETAILS	5
V. PERSONNEL CONTACTED	12
VI. DOCUMENTS REVIEWED	13

I. SCOPE

This routine review examined corrective action initiated at the Watts Bar Nuclear Plant (WBN) in response to the Nuclear Safety Review Staff (NSRS) review reports R-80-21-WBN, R-81-09-WBN, R-81-11-WBN, and R-81-28-WBN. The referenced reports involved review of the WBN construction project program governing activities associated with the installation and inspection of safety-related structures, systems, and components.

II. CONCLUSIONS

A total of 32 items were examined during this review. Of these items, 11 items were determined to be satisfactorily resolved and these were closed during the review. Twenty-one of the items are pending resolution and remain open.

III. STATUS OF PREVIOUSLY IDENTIFIED ITEMS

A. R-80-21-WBN-01, Preloading Problem

This item will remain open until the EN DES-CONST sampling plan results report is issued and reviewed by NSRS. (Refer to section IV.A for details.)

B. R-80-21-WBN-02, Different Reference Points for Locating Piping and Supports

EN DES-CONST response to this item has been implemented. This item is closed. (Refer to section IV.B for details.)

C. R-80-21-WBN-03, Control of Field Fabrication Sketch Program

Engineering review of field fabrication sketches is now being performed. This item is closed. (Refer to section IV.C for details.)

D. R-81-09-WBN-01, Use of Quality Control Instruction 1.38

Project personnel have been directed to follow the work package procedure. This item is closed. (Refer to section IV.D for details.)

E. R-81-09-WBN-02, Purpose of Quality Control Instruction 1.38

This item closed previously. (Refer to section IV.E for details.)

F. R-81-09-WBN-03, OwIL Formation from Work Packages

This item closed previously. (Refer to section IV.F for details.)

- G. R-81-09-WBN-04, Training on the Preparation of Work Packages for the Responsible Engineering Units

Training on work packages has been conducted. This item is closed. (Refer to section IV.G for details.)

- H. R-81-09-WBN-05, Development of Engineering Unit Guidelines for Preparation of Work Packages

Instructions on the preparation of work packages have been developed. This item is closed. (Refer to section IV.H for details.)

- I. R-81-09-WBN-06, Technical Review of Work Packages

This item closed previously. (Refer to section IV.I for details.)

- J. R-81-09-WBN-07, Electrical Engineering Unit's Implementation of Quality Control Instruction 1.38

This item closed previously. (Refer to section IV.J for details.)

- K. R-81-11-WBN-01, Statement of Condition

This item will remain open until discussions with OEDC management are completed and NSRS concerns are resolved. (Refer to section IV.K for details.)

- L. R-81-11-WBN-02, Inadequate Program

This item will remain open until NSRS reviews the revised procedures. (Refer to section IV.L for details.)

- M. R-81-11-WBN-03, Failure to Follow Procedures

This item will remain open until the Topical Report is approved or the FSAR is updated to reflect the present program. (Refer to section IV.M for details.)

- N. R-81-11-WBN-04, Schedule Quality Interrelation

Memorandums have been written and the Handbook issued pertaining to TVA policy on following procedures. This item is closed. (Refer to section IV.N for details.)

- O. R-81-28-WBN-01, Training and Qualification of Personnel

This item remains open pending resolution of NSRS comments. (Refer to section IV.O for details.)

P. R-81-28-WBN-02, Inspector Demonstration of Practical Knowledge

This item remains open until the site complies with issued procedures. (Refer to section IV.P for details.)

Q. R-81-28-WBN-03, Engineering Unit Personnel Demonstration of Practical Knowledge

This item remains open until the NSRS procedural review is completed and any NSRS comments are resolved. (Refer to section IV.Q for details.)

R. R-81-28-WBN-04, Procedural Comprehension

This item remains open until the NSRS procedural review is complete. (Refer to section IV.R for details.)

S. R-81-28-WBN-05, Inadequate Training System

This item will remain open until NSRS completes review of the revised training procedures and reviews the training plan for each unit. (Refer to section IV.S for details.)

T. R-81-28-WBN-06, Inadequate Documentation of Training

This item will remain open until NSRS verifies all appropriate records are updated. (Refer to section IV.T for details.)

U. R-81-28-WBN-07, Job Performance Evaluation

This item will remain open until NSRS verifies all inspectors requiring an evaluation have received the evaluation and the evidence is on file. (Refer to section IV.U for details.)

V. R-81-28-WBN-08, Personnel Qualification Summary

This item will remain open until NSRS verifies that inspector qualification sheets are on file. (Refer to section IV.V for details.)

W. R-81-28-WBN-09, Quality Assurance Orientation/Indoctrination

This item will remain open until NSRS verifies orientation/indoctrination has been conducted and documented. (Refer to section IV.W for details.)

X. R-81-28-WBN-10, Quality Control Procedure Inadequacies

This item will remain open until NSRS verifies appropriate revisions have been completed. (Refer to section IV.X for details.)

Y. R-81-28-WBN-11, Inadequate Document Control of Procedures

This item will remain open until the procedures are used at the location where the activity is performed. (Refer to section IV.Y for details.)

Z. R-81-28-WBN-12, Responsibility for Inspection

Procedure WBN-QCP 4.13 has been revised to reflect current site practice. This item is closed. (Refer to Section IV.Z for details.)

AA. R-81-28-WBN-13, Unqualified NDE Procedures

Proper NDE procedure records are now on file. This item is closed. (Refer to section IV.AA for details.)

BB. R-81-28-WBN-14, Inadequate Procedure Review

This item will remain open until NSRS verifies that procedure reviews are performed as required. (Refer to section IV.BB for details.)

CC. R-81-28-WBN-15, Inadequate Requirements in Cleaning and Flushing Procedures

This item will remain open until questions raised on layup requirements are addressed. (Refer to section IV.CC for details.)

DD. R-81-28-WBN-16, Determining Root Cause of Deficiencies

Procedural revisions have been issued which address root causes of deficiencies. This item is closed. (Refer to section IV.DD for details.)

EE. R-81-28-WBN-17, Inadequacies in WBNP-QCI-1.2

Procedures have been revised and/or issued which adequately address this issue. This item is closed. (Refer to section IV.EE for details.)

FF. R-81-28-WBN-18, Review of the Quality Trend Analysis Report

This finding will remain open pending NSRS review and concurrence with new procedures. (Refer to section IV.FF for details.)

GG. R-81-28-WBN-19, Review of the QA Trend Analysis Master Status Report

The procedure has been revised to establish minimum acceptable levels for trends and to require the review to be documented. This item is closed. (Refer to section IV.GG for details.)

HH. R-81-28-WBN-20, All Aspects of the QA Program Not Audited

This item will remain open until the NSRS verifies that all areas of the program have been audited. (Refer to section IV.HH for details.)

II. R-81-28-WBN-21, Interface Between the Site QA Unit and the CONST QA Manager's Office

This item will remain open until the channels are clearly defined. (Refer to section IV.II for details.)

JJ. R-81-28-WBN-22, Inadequate Resources for the Site QA Unit

This item will remain open until the site QA Unit is provided with adequate resources (manpower and materials) to perform their assigned duties. (Refer to section IV.JJ for details.)

IV. DETAILS

The NSRS reviewers performed a followup review on items previously identified in NSRS reports as open items. The results of the follow-up review are listed in the following paragraphs. Four items previously closed are also addressed in order to present a comprehensive summary.

A. R-80-21-WBN-01, Preloading Problem

This finding identified a potential problem in preload of piping. The EN DES-CONST response committed to establish a sampling plan to determine the preload in three safety systems by unbolting flanged connections and measuring the resultant displacement and angular rotation in piping. During the review, NSRS was informed that the sampling plan had been implemented, the data had been collected and analyzed, but the final report of the results had not been issued by EN DES. This item will remain open until the report is issued and has been reviewed by NSRS.

B. R-80-21-WBN-02, Different Reference Points for Locating Piping and Supports

This finding identified installation errors in piping and supports caused by using different reference points to locate both pipes and supports. The EN DES-CONST response committed to add a note to the 47A050 series drawings by ECN 2876 to clarify location tolerances. The note has been added to drawing 47A050-1Q-Mechanical Hanger Drawing General Notes. This item is closed.

C. R-80-21-WBN-03, Control of Field Fabrication Sketch Program

This finding identified problems with control of the Field Fabrication Sketch Program due to the lack of engineering review after the sketches were prepared by steamfitters. The EN DES-CONST

response committed to perform an engineering review of all sketches prepared in the future and to perform an engineering review of all sketches prepared by the steamfitters in the past. During the review, NSRS selected at random several sketches to determine if an engineering review had been performed. All sketches selected had been reviewed by engineering. This item is closed.

D. R-81-09-WBN-01, Use of Quality Control Instruction 1.38

This finding identified problems with implementation of QCI 1.38, Work Package Preparation, Processing, and Maintenance. Both the Project Manager and Construction Engineer have written memorandums emphasizing the importance of the work package system and directing project personnel to adhere to the requirements of the work package procedure. This item is closed.

E. R-81-09-WBN-02, Purpose of Quality Control Instruction 1.38

This item was closed during NSRS review R-81-18-WBN.

F. R-81-09-WBN-03, OWIL Formation from Work Packages

This item was closed during NSRS review R-81-18-WBN.

G. R-81-09-WBN-04, Training on the Preparation of Work Packages for the Responsible Engineering Unit

This finding identified problems with implementation of QCI 1.38. CONST has deleted QCI 1.38 and has replaced it with Watts Bar Field Instruction (WBFI) G-15. During the review, NSRS verified that training on WBFI G-15 had been conducted. This item is closed. However, NSRS review R-81-02-WBN-34 identified a concern of the use of WBFIs prescribing activities affecting quality.

H. R-81-09-WBN-05, Development of Engineering Unit Guidelines for Preparation of Work Packages

This finding identified problems with implementation of QCI 1.38. During the review, NSRS verified that sample work packages had been developed for each engineering unit with specific step-by-step instructions on the preparation of work packages. This item is closed.

I. R-81-09-WBN-06, Technical Review of Work Packages

This item was closed during NSRS review R-81-18-WBN.

J. R-81-09-WBN-07, Electrical Engineering Unit's Implementation of Quality Control Instruction 1.38

This item was closed during NSRS review R-81-18-WBN.

K. R-81-11-WBN-01, Statement of Condition

This finding pertained to inadequate identification of safety-related systems or components and failure to control the safety-related activities associated with the systems and components. NSRS recommended that a matrix be developed to indicate regulatory requirements, the TVA commitment to the requirement, and how the commitment is satisfied by the QA program. The OEDC response stated that a Construction Requirements Manual (CRM) had been developed which contained either the inspection requirements or the source document for the requirement.

NSRS reviewed the CRM and determined that it does not adequately resolve NSRS item R-81-11-WBN-01. NSRS will send detailed comments on the CRM to OEDC by memorandum. Further discussions with OEDC management are necessary to determine what additional top tier documents should be developed to identify regulatory requirements, the TVA commitment to the requirements, and how the commitment is satisfied by the QA program. This item will remain open until discussions with OEDC management are completed and NSRS concerns are resolved.

L. R-81-11-WBN-02, Inadequate Program

This finding was issued to upgrade implementing procedures after the matrix recommended in R-81-11-WBN-01 had been developed. The WBN implementing procedures were being extensively revised with scheduled completion by May 30, 1982. This item will remain open until item R-81-11-WBN-01 is resolved and NSRS reviews the revised procedures.

M. R-81-11-WBN-03, Failure to Follow Procedures

This finding identified problems with the FSAR being out of date. The NSRS recommendation was to update the FSAR after recommendations R-81-11-WBN-01 and -02 had been completed. The OEDC response stated that the TVA Topical Report had been revised and submitted to NRC for approval. When approved, the Topical Report will apply to all TVA nuclear plants. This item will remain open until the Topical Report is approved or the FSAR is updated to reflect the present program.

N. R-81-11-WBN-04, Schedule Quality Interrelation

This finding identified problems with some WBN personnel misinterpreting TVA policy on following procedures. The WBN Project Manager and Construction Engineer have written memoranda emphasizing the importance of following procedures. In addition, the Manager of Construction issued a Construction Handbook on Conduct Guidelines for Salary Policy Employees which provided disciplinary action for employees who fail to follow procedures. This item is closed.

O. R-81-28-WBN-01, Training and Qualification of Personnel

This finding stated that a training program had not been developed for QC inspectors and engineering personnel in practical application of inspection and testing. QCI 1.11 has been completely revised and issued as four separate procedures (QCIs 1.11-1, 1.11-2, 1.11-3, and 1.11-4). These procedures are being reviewed by NSRS, and our comments will be issued later. This item will remain open pending resolution of NSRS comments.

P. R-81-28-WBN-02, Inspector Demonstration of Practical Knowledge

This finding stated that inspectors had not been required to demonstrate their practical knowledge to the examiner as required by site procedure. Except for welding, the examiner still does not require inspectors to demonstrate their practical knowledge as part of the examination. This item will remain open until the site complies with issued procedures.

Q. R-81-28-WBN-03, Engineering Unit Personnel Demonstration of Practical Knowledge

This finding stated that engineering personnel have not been required to demonstrate their practical knowledge of QCPs and QCTs as required by site procedures. The procedures have been revised and are being reviewed by NSRS. This item will remain open until the review is completed and NSRS comments are resolved.

R. R-81-28-WBN-04, Procedural Comprehension

This finding stated that inspectors were not certified in QCIs as required by site procedures. The finding also stated that engineers were not certified in QCPs, QCTs, or QCIs as required by site procedures. The training procedure has been revised and issued and is currently being reviewed by NSRS. This item will remain open until the review is complete.

S. R-81-28-WBN-05, Inadequate Training System

This finding stated that site and division procedures do not clearly establish training requirements for all persons (i.e., inspectors, engineers, crafts, clerks, etc.) who perform quality-related activities. The finding also stated that the established training program did not assure upper management that suitable proficiency would be achieved and maintained. The training procedure has been revised and issued. The response stated that each engineering and quality control supervisor would prepare a training plan which would be reviewed and approved by the Construction Engineer prior to implementation. This item will remain open until NSRs completes the review of the revised training procedure and reviews the training plan for each unit.

T. R-81-28-WBN-06, Inadequate Documentation of Training

This finding stated that training had not been documented on Personnel Certification Records (PCRs) as required by procedures. NSRS reviewed selected inspectors' files in QC&RU during this review and found some files which had not been updated. This item will remain open until NSRS verifies all appropriate records are updated.

U. R-81-28-WBN-07, Job Performance Evaluation

This finding stated that records of job performance evaluations for inspectors had not been filed in QC&RU as required by procedures. The followup review by NSRS revealed that some inspectors' files did not contain a job performance evaluation.

This item will remain open until NSRS verifies all inspectors requiring an evaluation have received the evaluation and the evidence is on file.

V. R-81-28-WBN-08, Personnel Qualification Summary

This finding stated that inspector personnel qualification sheets were not on file in QC&RU as required by procedure. The NSRS followup review revealed some inspector personnel qualification sheets were still not on file. This item will remain open until NSRS verifies that inspector qualification sheets are on file.

W. R-81-28-WBN-09, Quality Assurance Orientation/Indoctrination

This finding stated that records did not indicate appropriate personnel had received quality assurance orientation/indoctrination. Orientation/indoctrination is scheduled for completion by April 30, 1982. This item will remain open until NSRS verifies orientation/indoctrination has been conducted and documented.

X. R-81-28-WBN-10, Quality Control Procedure Inadequacies

This finding stated that several procedures contained conflicting requirements, covered the same area, and contained an inordinate number of addendums. All QCIs, QCPs, and QCTs are being reviewed and revised as necessary. The scheduled completion date is May 30, 1982. This item will remain open until NSRS verifies appropriate revisions have been completed.

Y. R-81-28-WBN-11, Inadequate Document Control of Procedures

This finding stated that procedures were not distributed and used at the work location of the activity. The NSRS followup indicated some quality control units' procedures are located in the Administration Building. This item will remain open until the procedures are used at the location where the activity is performed.

Z. R-81-28-WBN-12, Responsibility for Inspection

This finding stated that all welding inspections were not performed by members of the Welding Engineering Unit (WEU) as required by procedure. Addendum 7 to QCP 4.13 was issued to state that the responsible engineering unit would perform the referenced inspections. This item is closed.

AA. R-81-28-WBN-13, Unqualified NDE Procedures

This finding stated that records were not available to verify the Authorized Nuclear Inspector (ANI) had reviewed and qualified nondestructive examination (NDE) procedures. The NSRS followup review confirmed the records are now on file. This item is closed.

BB. R-81-28-WBN-14, Inadequate Procedure Review

This finding stated that the site QA unit had not reviewed site-generated procedures in the depth required by upper-tier procedures. During the followup review, NSRS learned that the site QA unit will employ additional personnel and reorganize into a procedures review section and an audit section. This item will remain open until NSRS verifies that procedure reviews are performed as required.

CC. R-81-28-WBN-15, Inadequate Requirements in Cleaning and Flushing Procedures

This finding expressed concern over the lack of a velocity requirement in the flushing procedure and raised questions pertaining to layup requirements for systems other than those which are chemically cleaned. EN DES has provided a one-hour time limit on flushes; however, the NSRS questions on layup requirements have not been answered. NSRS was informed that a WBN paper had been written on layup requirements. The paper (Preoperational Cleaning of Piping Systems) was obtained and reviewed to determine if it addressed the questions raised on layup requirements. The paper stated that layup requirements are defined in QCT 4.36, G-39, and N3M-890. These documents do not answer the questions raised by NSRS. This item will remain open until CONST responds to the questions raised in R-81-28-WBN-15. Specifically, have layup requirements for systems other than those which are chemically cleaned been considered and what is the justification for eliminating the layup requirements?

DD. R-81-28-WBN-16, Determining Root Cause of Deficiencies

This finding stated that WBN had not developed an effective system to determine the root cause of deficiencies. Addendum 5 of QCI 1.2 was issued recently and contains requirements to identify root cause. QCI 1.48 was also issued recently and requires the Audited Organization Representative (AOR) to determine the root cause of significant audit deficiencies. This item is closed.

EE. R-81-28-WBN-17, Inadequacies in WBNP-QCI-1.2

This finding stated that present procedures did not adequately delineate the duties and responsibilities of persons responsible for initiating and reviewing NCRs and Inspection Rejection Notices (IRNs). Addendum 5 of QCI 1.2 was recently issued and clarifies who may initiate NCRs. QCI 1.2-1 was also recently issued, and it adequately addresses the IRN system. This item is closed.

FF. R-81-28-WBN-18, Review of the Quarterly Trend Analysis Report

This finding stated that no procedural requirement exists for the CONST QA Manager and the OEDC QA Manager to review the WBN Quarterly Trend Analysis Report to determine if generic or programmatic deficiencies exist. The response to this finding indicated that the CONST QA Manager would review the report and adjust the program. The response also indicated the OEDC QA Manager presently circulates the report to appropriate engineers within his staff, and they scan the report for programmatic problems. NSRS believes that both the CONST QA Manager and OEDC QA Manager should issue a procedure which describes their review of the report and how generic or programmatic problems are identified and resolved. This item will remain open pending NSRS review and concurrence with the procedures.

GG. R-81-28-WBN-19, Review of the QA Trend Analysis Master Status Report

This finding stated that present procedures do not require the Construction Engineer or his designated assistant to document their review of the QA Trend Analysis Master Status Report. The finding also noted that the procedure did not establish minimum acceptable levels for trends. Addendum 5 of QCI 1.2 was recently issued and stated that unacceptable trends exist if the number of deficiencies is greater than five percent above the total number of associated activities for the review period. Although the Assistant Construction Engineer (ACE) had been reviewing the report and documenting his review by memorandum, addendum 5 did not require the review to be documented. Subsequent to the review, QCI 1.2 was revised to require the ACE to document his review in a memorandum to the plant files. This item is closed.

HH. R-81-28-WBN-20, All Aspects of the QA Program Not Audited

This finding stated that the site QA unit had not audited all aspects of the QA program. The IRN system and system transfers to NUC PR were listed as examples of areas which had not been audited. During this review, NSRS verified that these areas had been audited since the last review, but other areas of the QA program which had not been audited were noted. Attachment B of QASP 7.1, revision 9, lists Housekeeping and Radioactive Waste Management System as areas to be audited. These areas had not been audited during the past 12 months. The CONST QA Manager

should review attachment B to ensure all aspects of the CONST quality assurance program are listed and to ensure that all areas are audited as required. This item will remain open until NSRS verifies that all areas of the program have been audited.

II. R-81-28-WBN-21, Interface Between the Site QA Unit and the CONST QA Manager's Office

This finding identified interface problems between the site QA unit and EN DES. The finding also indicated that no written procedure or instruction existed which described the interface between the site QA unit and the CONST QA Manager. The response to this finding stated that communication and interface channels would be clearly defined. This item will remain open until the channels are clearly defined.

JJ. R-81-28-WBN-22, Inadequate Resources for Site QA Unit

This finding identified problems with the site QA unit postponing scheduled audits and not performing procedure reviews to the depth required. The cause of these problems was attributed to inadequate resources (manpower and materials). The response stated that a total review of line and QA responsibilities was being performed as part of the CONST 1982 Action Plan for Quality Improvements. The action had not been completed so this item will remain open.

V. PERSONNEL CONTACTED

<u>Name</u>	<u>Organization/Title</u>	<u>Attended Entrance Meeting</u>	<u>Conducted During Review</u>	<u>Attended Exit Meeting</u>
D. R. Allen	MEU/Mechanical Engineer		X	
S. J. Boney	WEU/Supervisor		X	X
W. C. Hatmaker	Procedures & Training/ Welding Engineer		X	
T. W. Hayes	IEU/Supervisor	X	X	X
S. Johnson, Jr.	WBN/Assistant Construction Engineer	X	X	X
D. W. Kelley	QCRU/Supervisor		X	X
A. W. Rogers	WBN/QA Supervisor		X	X
J. A. Thompson	WBN/Procedures & Training Supervisor		X	
T. R. Trail	WBN/NRC Coordinator		X	X
J. Weinbaum	QCRU/Assistant Supervisor		X	

VI. DOCUMENTS REVIEWED

A. Construction QA Branch Manual

1. QASP-4.2, "Site-Generated Quality Control Procedures/Instructions," R0
2. QASP-7.1, "Auditing Construction Activities," R9

B. Division of Construction QA Program Manual

1. CONST-QAP 2.2, "Qualification/Certification of Inspection, Examination, and Testing Personnel," R5
2. CONST-QAP 2.3, "Qualification, Training, and Certification Requirements for NDE Personnel," R6

C. Division of Engineering Design Engineering Procedures

1. EP 1.16, "Quality Assurance Training Program," R2 and R3
2. EP 1.30, "Qualification Requirements for Personnel Assigned to QA Activities," R2

D. Watts Bar Quality Control Instructions

1. 1.2, "Control of Nonconforming Items," R2
2. 1.2-1, "Inspection Rejection Notice," R0
3. 1.11, "Quality Assurance Training Program," R1
4. 1.41, "Qualification, Training, and Certification Requirements of Visual Weld Inspectors," R0 and R1
5. 1.48, "Handling of CONST QAB and OEDC QA Audits and Audit Findings," R0
- 4.4, "Qualification, Training, and Certification of Non-destructive Examination Personnel," R0

E. Watts Bar Quality Control Procedures

1. 4.13, "Nondestructive Examination Procedures," R4, addenda 7
2. 4.23, "Standard Inspection and Documentation Requirements for Seismic Supports", R2, Appendix 4

F. Watts Bar Construction Requirements Manual, R2

G. Watts Bar Paper - Preoperational Cleaning of Piping Systems

- H. Watts Bar Steamfitter Sketches numbered SK-447-24, Sheet 1, R1; SK-447-25, Sheet 5, R2; SK-406-03, Sheet 17, R3; SK-406, Sheet 14, R0
- I. Watts Bar ECN-2876
- J. Construction Handbook on Conduct Guidelines for Salary Policy Employees
- K. Drawing #47A-50-IQ-Mechanical Hanger Drawing General Notes
- L. Memoranda
 - 1. Information memorandum from the WBN Project Manager and Construction Engineer to All Unit Supervisors directing them to prepare sample work packages
 - 2. Informal memoranda from the WBN Unit Supervisors to the Construction Engineer indicating that Work Packages had been prepared and training had been conducted. The memoranda provided names of personnel who attended the training.
 - 3. Memorandum from H. Rankin to J. E. Wilkins dated February 12, 1982, "Flushing of Instrument Lines"
- M. Watts Bar Field Instruction, WBFI-015, "Work Package Preparation, Processing, and Maintenance"