

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

GNS '82 1104 052

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

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

DATE : November 3, 1982

SUBJECT: NUCLEAR SAFETY REVIEW STAFF (NSRS) ROUTINE REVIEW - NSRS REPORT NO. R-82-14-OEDC(BLN)

Attached is the NSRS report for the routine review conducted in OEDC(BLN). The primary purpose of this review was to examine corrective actions initiated in response to NSRS' major management review of OEDC [R-81-14-OEDC(BLN)].

A total of 89 items were reviewed. Forty-eight of the items are closed and forty-one remain open. Except for item 54, the proposed corrective action for the open items is acceptable and implementation is in progress. Item 54 pertains to the work planning process at BLN. In our opinion the process does not meet some of the requirements of the ANSI standards nor are the planning methods consistent with those used at other TVA nuclear plant construction sites. Within 30 days of receipt of this report, please provide us with the proposed corrective action for item 54 including the expected implementation date.

In summary, progress is being made in resolving the open items; however, prompt corrective action has not been taken on several items. The Details section of the report indicates the items which appear to be taking an excessive amount of time to correct. The managers responsible for correcting these problems should give them their immediate attention.

If you have questions concerning the report, please contact J. A. Crittenden at extension 6620.

RE: GNS 321104053

H N Culver
H. N. Culver

Jac JAC:LML

Attachment

cc (Attachment):

G. F. Dilworth, E12D46 C-K
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NSRS FILE



TENNESSEE VALLEY AUTHORITY

NUCLEAR SAFETY REVIEW STAFF

REVIEW

NSRS REPORT NO. R-82-14-OEDC(BLN)

SUBJECT: NUCLEAR SAFETY REVIEW STAFF (NSRS) ROUTINE REVIEW

DATES OF REVIEW: JUNE 21-25, 1982 AND JULY 19-23, 1982

TEAM LEADER:	<u>Claude M. Key</u> CLAUDE M. KEY	<u>11/3/82</u> DATE
	<u>Bruce F. Siefken</u> BRUCE F. SIEFKEN	<u>11/4/82</u> DATE
REVIEWER:	<u>James C. Jones</u> JAMES C. JONES	<u>11/3/82</u> DATE
	<u>John W. Mashburn</u> JOHN W. MASHBURN	<u>11/3/82</u> DATE
	<u>Charles M. Schnupp</u> CHARLES M. SCHNUPP	<u>11/3/82</u> DATE
	<u>Jerry D. Smith</u> JERRY D. SMITH	<u>11/3/82</u> DATE
APPROVED BY:	<u>James A. Crittenden</u> JAMES A. CRITTENDEN	<u>11-4-82</u> DATE

TABLE OF CONTENTS

	<u>Page</u>
I. SCOPE	1
II. CONCLUSIONS	1
III. STATUS OF PREVIOUSLY IDENTIFIED ITEMS	1
A. Office of Engineering Design and Construction	1
B. Division of Engineering Design	3
C. Division of Construction	8
IV. DETAILS	13
A. Office of Engineering Design and Construction	13
B. Division of Engineering Design	17
C. Division of Construction	24
V. PERSONNEL CONTACTED	37
A. Office of Engineering Design and Construction	37
B. Division of Engineering Design	37
C. Division of Construction	37
VI. DOCUMENTS REVIEWED	38
A. Office of Engineering Design and Construction	38
B. Division of Engineering Design	39
C. Division of Construction	41

I. SCOPE

This routine review examined the corrective actions initiated by the Division of Construction (CONST), the Division of Engineering Design (EN DES), and the Office of Engineering and Design and Construction (OEDC) Quality Assurance (QA) Staff in response to the Nuclear Safety Review Staff (NSRS) major management review of OEDC [NSRS report R-81-14-OEDC(BLN)]. The revised responses to R-81-14-OEDC(BLN) of February 18, 1982 and March 11, 1982 served as the basis for this follow-up review and were examined for appropriateness and state of completion.

II. CONCLUSIONS

Progress is being made in the resolution of the open items; however, the progress is coming rather slowly. Some of this delay is due to the use of the OEDC 1982 Action Plan for Quality Improvement as a vehicle for resolving some open items. Other items which could be simply resolved, appear to be taking longer than necessary.

III. STATUS OF PREVIOUSLY IDENTIFIED ITEMS

A total of 89 items were examined, 16 in OEDC, 36 in CONST, and 37 in EN DES. Nine of the OEDC items are closed and seven remain open. Of the CONST items, 24 are closed and 12 remain open. In EN DES, 15 items are closed and 22 remain open.

A. Office of Engineering Design and Construction

1. R-81-14-OEDC(BLN)-1, Quality Goals and Objectives

This item will remain open pending the implementation of a program of quality goals and objectives. Refer to section IV.A.1 for details.

2. R-81-14-OEDC(BLN)-2, Codes and Standards

Following extensive discussions on this subject, NSRS has concluded that the OEDC response is acceptable. The last elements of the response concerning revising of the codes and standards index by plant name and revision of EP 3.37 to document further commitments are not scheduled for completion until December 31, 1982; therefore, this item remains open. Refer to section IV.A.2 for details.

3. R-81-14-OEDC(BLN)-3, Regulatory Guides/Standards

This item is open since OEDC has not issued updated commitment sheets. Estimated completion date is December 1982. Refer to section IV.A.3 for details.

4. R-81-14-OEDC(BLN)-4, Periodic Reviews of QA Manuals
MO-QAP-2.6 has been issued and defines requirements for periodic reviews of QA manuals. This item is closed. Refer to section IV.A.4 for details.
5. R-81-14-OEDC(BLN)-5, Temporary Storage of QA Records
This item concerns the lack of an OEDC QA policy regarding the temporary storage of QA records. OEDC QA is in the process of dispositioning this and several related NSRS findings regarding storage of records. This item will remain open pending corrective action in this area. Refer to section IV.A.5 for details.
6. R-81-14-OEDC(BLN)-6, Safety Analysis Reports
Revision 5 to QA Topical Report, TVA-TR75-1A has been issued. This report contains an updated description of the OEDC QA program for Sequoyah and future plants; therefore, this BLN item is closed. Refer to section IV.A.6 for details.
7. R-81-14-OEDC(BLN)-7, Quality Requirements Section Resources
Administrative actions have been made to add additional staff in this area. This item is closed. Refer to section IV.A.7 for details.
8. R-81-14-OEDC(BLN)-8, Compliance Section Resources
Through use of supplemental manpower and a reduced workload due to plant deferrals, this item is closed. Refer to section IV.A.8 for details.
9. R-81-14-OEDC(BLN)-9, Audit Support Records
OEDC MO-QAPs have been issued and revised to address this item. This item is closed. Refer to section IV.A.9 for details.
10. R-81-14-OEDC(BLN)-10, Revision of the OEDC Quality Assurance Manual for ASME Section III Nuclear Power Plant Components (NCM) OEDC Policy Statement Required
The subject documentation has been revised. This item is closed. Refer to IV.A.10 for details.
11. R-81-14-OEDC(BLN)-11, Inadequate Fulfillment of Certain ASME QA Requirements
NCM sections 1.3 and 1.9 have been revised to reflect these requirements. This item is closed. Refer to section IV.A.11 for details.

12. R-81-14-OEDC(BLN)-12, Establishment of ASME QA Program Measures to Control Forming, Bending and Aligning Processes

Procedures to control the subject processes have not been completed. This item is open. Refer to section IV.A.12 for details.

13. R-81-14-OEDC(BLN)-13, Inadequacies of the ID-QAPs

This item will remain open until all the noted procedural deficiencies have been corrected. Refer to section IV.A.13 for details.

14. R-81-14-OEDC(BLN)-14, DIS Implementation Concerns

This item will remain open until the Drawing Information System is improved or the Drawing Management System is in place. Refer to section IV.A.14 for details.

15. R-81-14-OEDC(BLN)-15, QA Auditor Training

This item is closed by the OEDC issuance of MO-QAP 3.6. Refer to section IV.A.15 for details.

16. R81-14-OEDC(BLN)-16, QA Training Audits by OEDC

This item is closed since training has been improved. Refer to section IV.A.16 for details.

B. Division of Engineering Design

1. R-81-14-OEDC(BLN)-17, Program and Implementation Inadequacies of Engineering Procedures

This item remains open since the Engineering Procedures have not been revised. The results of the EN DES Action Plan for Quality Improvement will require evaluation by NSRS to determine its adequacy in meeting the NSRS recommendation before this item is resolved. Refer to section IV.B.1 for details.

2. R-81-14-OEDC(LLN)-18, Failure to Establish Detailed QA Policy

This item remains open since detailed QA policy statements have not been issued. The results of the Quality Improvement Action Plan will require evaluation by NSRS to determine its adequacy in meeting the NSRS recommendation before this item is resolved. Refer to section IV.B.2 for details.

3. R-81-14-OEDC(BLN)-19, Management Responsibilities Not Clearly Defined

This item remains open since responsibility documents have not been issued. The results of the Action for Quality Improvement will require evaluation by NSRS to determine its adequacy in meeting the NSRS recommendation before this item is resolved. Refer to section IV.B.3 for details.

4. R-81-14-OEDC(BLN)-20, Lack of Control of Safety-Related Systems List

This item remains open since detailed QA lists have not been issued. The proposed actions appear appropriate. Refer to section IV.B.4 for details.

5. R-81-14-OEDC(BLN)-21, Lack of NSSF Vendor Review of Design Criteria

This item remains open since EP 3.01 has not been revised. Refer to section IV.B.5 for details.

6. R-81-14-OEDC(BLN)-22, Lack of Review of Revisions to Design Criteria

This item remains open since EP 3.01 has not been revised. The proposed action appears appropriate. Refer to section IV.B.6 for details.

7. R-81-14-OEDC(BLN)-23, Documentation of System Design Bases

This item remains open since the system design bases have not been adequately documented. The results of the Quality Improvement Action Plan will require evaluation by NSRS to determine its adequacy in meeting the NSRS recommendation before this item is closed. Refer to section IV.B.7 for details.

8. R-81-14-OEDC(BLN)-24, Lack of Verification of Structural Steel Loadings

Design criteria revisions addressing design verification have not been completed; therefore, this item is open. Refer to section IV.B.8 for details.

9. R-81-14-OEDC(BLN)-25, Lack of Approved Procedures for Certain Computer Programs

This item remains open since EP 3.23 has not been revised. The proposed action appears appropriate. Refer to section IV.B.9 for details.

10. R-81-14-OEDC(PLN)-26, Inadequate Evaluation and Processing of Field Change Requests (FCRs)

The initial response indicated that the corrective action would be completed by April 30, 1982. That date was subsequently slipped. This item is open. Refer to section IV.B.10 for details.

11. R-81-14-OEDC(BLN)-27, Inadequate Evaluation and Processing of Engineering Changes Notices (ECNs)

The initial response indicated that the EP 4.03 revision would be completed by April 30, 1982. That date was subsequently slipped to October 29, 1982. This item is open. Refer to section IV.B.11 for details.

12. R-81-14-OEDC(BLN)-28, ECN S1 Change Program Deficiencies

The initial response indicated that the EP 4.02 revision would be completed by April 30, 1982. That date was subsequently slipped to October 29, 1982. This item is open. Refer to section IV.B.12 for details.

13. R-81-14-OEDC(BLN)-29, Inadequate Evaluation and Processing of Construction Change Notices (CCNs)

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Procedural revisions are not scheduled for completion until October 29, 1982; therefore, this item is open. Refer to section IV.B.13 for details.

14. R-81-14-OEDC(BLN)-30, Failure to Complete ECNs in a Timely Manner

A computer sort has been developed which should give management greater visibility of open ECNs. This item is closed. Refer to section IV.B.14 for details.

15. R-81-14-OEDC(BLN)-31, Failure to Input Complete Vendor Information Into the DIS

The initial response indicated that revisions to EP 5.11, FP 5.14, and ID-CAP 6.1 would be completed by June 1, 1982. That date has subsequently slipped. This item is open. Refer to section IV.B.15 for details.

16. R-81-14-OEDC(PLN)-32, Inadequate Storage of Audit Support Records

This item remains open since temporary storage of QA records has not been upgraded. Refer to section IV.3.16 for details.

17. R-81-14-OEDC(BLN)-33, Staffing
This item is closed since staffing levels have been increased. Refer to section IV.B.17 for details.
18. R-81-14-OEDC(BLN)-34, Documentation of Responsibilities
This item is closed since QAB-AI 1.01 has been issued. Refer to section IV.B.18 for details.
19. R-81-14-OEDC(BLN)-35, Generation of NCRs
This item is closed by EN DES implementation of a NCR training program. Refer to section IV.E.19 for details.
20. R-81-14-OEDC(BLN)-36, Document Changes Resulting From NCRs
This item is closed by EN DES implementation of the recommendation. Refer to section IV.B.20 for details.
21. R-81-14-OEDC(BLN)-37, Definition of Significance
This item is closed by EN DES issuance of revision 4 of EP 1.26. Refer to section IV.B.21 for details.
22. R-81-14-OEDC(BLN)-38, Commitments Tracking System
This item is closed by EN DES completing its evaluation of commitment performance and the creation of a new OEDC commitment tracking system "Tracking and Reporting of Open Items" (TROI). Refer to section IV.B.22 for details.
23. R-81-14-OEDC(BLN)-39, Trend Analysis Program Not Functional
This item is closed by revision of the "TVA QA Topical Report, TR75-1A" and by implementation of a number of trend analyses in the past year. Refer to section IV.B.23 for details.
24. R-81-14-OEDC(BLN)-40, EN DES Technical Training Programs for Engineers and Designers
This item is closed by EN DES' increased emphasis on technical training and provisions throughout EN DES for budgeted training activities. Refer to section IV.B.24 for details.
25. R-81-14-OEDC(BLN)-41, QAB Auditor Training
This item is open pending completion of a QAB procedure for auditor training. Refer to section IV.B.25 for details.

26. R-81-14-OEDC(BLN)-42, Improper Storage of QA Records

This item is closed since microfilming of codes and standards has been completed. Refer to section IV.B.26 for details.

27. R-81-14-OEDC(BLN)-43, MEDS Handbook Approval Documentation

This item is closed. The revised MEDS Handbook, R2, was issued August 31, 1982. Refer to section IV.B.27 for details.

28. R-81-14-OEDC(BLN)-44, General Construction Specifications Not Revised Per Procedure

This item is closed since Construction Specification G-53 has been revised. Refer to section IV.B.28 for details.

29. R-81-14-OEDC(BLN)-45, Lack of Vendor History Program

This item is closed based on QAB having access to vendor history microfiche from the Division of Purchasing (PURCH) and their own QA program history file. Refer to section IV.B.29 for details.

30. R-81-14-OEDC(BLN)-46, Inadequate Bid Evaluation Procedure

This item is closed based on ERTES implementation of the recommendation to revise EP 5.01. Refer to section IV.B.30 for details.

31. R-81-14-OEDC(BLN)-47, Inadequate Requirements for Purchase Requisition Review

This item is open since improvements in the review of purchase requisitions have not been implemented. Refer to section IV.B.31 for details.

32. R-81-14-OEDC(BLN)-48, Contracts Were Not Receiving Required QA Review

This item is open pending completion of the revision to Quality Assurance Branch (QAB) EP 26.34 and subsequent verification of implementation. Refer to section IV.B.32 for details.

5.01
5.04
1.28

33. R-81-14-OEDC(BLN)-49, Codes-Standards-Materials Group (CSM) Review of QA Code-Related Audit Findings

This item will remain open until code related NC's are reviewed by CSM. Refer to section IV.B.33 for details.

34. R-81-14-OEDC(BLN)-50, Incorrect References Made in BLN Construction Specification

This item will remain open until Construction Specification N4M-870 has been revised. Refer to section IV.B.34 for details.

35. R-81-14-OEDC(BLN)-51, Waiving Source Inspection

This item is closed since revisions to the NCM and EP 5.43 have been completed. Refer to section IV.B.35 for details.

36. R-81-14-OEDC(BLN)-52, General Review and Revision of G-29 Required

This item will remain open until conflicts in proposed corrective actions are resolved. Refer to section IV.B.36 for details.

37. R-81-14-OEDC(BLN)-53, QA Approval Required for G-29M

This item will remain open until EP 3.13 is revised. Refer to section IV.B.37 for details.

C. Division of Construction

1. R-81-14-OEDC(BLN)-54, Lack of Initial Work Control Planning

NSRS and CONST have not yet agreed on an appropriate course of action on this item and, therefore, it remains open. Refer to section IV.C.1 for details.

2. R-81-14-OEDC(BLN)-55, Inadequacies in BLN QCPs

a. Periodic Revision to QCPs Required - This item is closed since it is being tracked as item No. R-81-14-OEDC(BLN)-77. Refer to section IV.C.2.a for details.

b. Matrix Control of Documents Referenced In QCPs Needed - This item is closed since it is being tracked as item No. R-81-14-OEDC(BLN)-78. Refer to section IV.C.2.b for details.

c. Use of Uncontrolled Copies of QCPs - This item is closed since it is being tracked as item No. R-81-14-OEDC(BLN)-79. Refer to section IV.C.2.c for details.

d. FCR Tracking Problems - This item is open since CONST has not completed corrective action. Refer to section IV.C.2.d for details.

- e. Lack of Detailed Inspection Checklists - The CONST response has been reevaluated by NSRS and has been determined to be adequate. This item is closed. Refer to section IV.C.2.e for details.
- f.(1) Lack of EC&D Program Controls - This item remains open pending CONST adequately implementing the proposed corrective action. Refer to section IV.C.2.f.(1) for details.
- f.(2) Lack of Vendor Manual Requirement Implementation - BNP-QCP 1.1, 1.2, and 1.3 have been revised to require a review of vendor manuals. This item is closed. Refer to section IV.C.2.f.(2) for details.
- f.(3) Lack of QA Controls Over Quality-Performing SOPs and FCPs - This item is closed since it is being tracked as item No. R-81-14-OEDC(BLN)-89. Refer to section IV.C.2.f.(3) for details.
3. R-81-14-OEDC(BLN)-56, Potential for Undetected Faulty Structural Welds
- Grinding of welds has been reduced to a minimum. This item is closed. Refer to section IV.C.3 for details.
4. R-81-14-OEDC(BLN)-57, Inadequate Interfacing Between BLN Organizational Units
- This item has been reevaluated by NSRS and agreed upon with CONST to be deleted from this review. This item is closed. Refer to section IV.C.4 for details.
5. R-81-14-OEDC(BLN)-58, Need for Seismic Analysis of Hangers and Supports on Systems Other Than Piping
- Since no response or corrective action was required, this item is closed. Refer to section IV.C.5 for details.
6. R-81-14-OEDC(BLN)-59, Work Plans
- This item is closed since corrective actions have been completed. Refer to section IV.C.6 for details.
7. R-81-14-OEDC(BLN)-60, Construction Change Notices
- This item is open since CONST has not completed the proposed corrective action. Refer to section IV.C.7 for details.
8. R-81-14-OEDC(BLN)-61, Drawing Information System (DIS)
- This item remains open pending clarification of ID-QAP 6.1. Refer to section IV.C.8 for details.

9. R-81-14-OEDC(BLN)-62, Inadequate Document Control of Electrical Cable Installation Slips
This item remains open since corrective action had not been completed. Refer to section IV.C.9 for details.
10. R-81-14-OEDC(BLN)-63, Audit Records
This item is closed since corrective action has been completed. Refer to section IV.C.10 for details.
11. R-81-14-OEDC(BLN)-64, Records of Corrective Action
This item is open since corrective action has not been completed. Refer to section IV.C.11 for details.
12. R-81-14-OEDC(BLN)-65, Closeout of Deficiencies
This item is closed since corrective action has been completed. Refer to section IV.C.12 for details.
13. R-81-14-OEDC(BLN)-66, Definition of Significance
This item will remain open until BNP-QCP 10.4 and QCP 10.26 procedures have been revised and reviewed by NSRS. Refer to section IV.C.13 for details.
14. R-81-14-OEDC(BLN)-67, Independent Review of QCIRs
This item will remain open until BNP-QCP-10.26 procedure has been revised and reviewed by NSRS. Refer to section IV.C.14 for details.
15. R-81-14-OEDC(BLN)-68, Program Information Notice System (PIN)
Procedure CONST-Q/SP 7.3 has been revised to reflect additional information in the PIN. This item is closed. Refer to section IV.C.15 for details.
16. R-81-14-OEDC(BLN)-69, Input Data for Trend Analysis Program
The NSRS reviewer examined many QCIRs and had no difficulty in determining the cause from the information presented. This item is closed. Refer to section IV.C.16 for details.
17. R-81-14-OEDC(BLN)-70, Incorporation of Experience into Training
This item will remain open until BNP-QCP 10.29 and QCP 10.30 have been revised and reviewed by NSRS. Refer to section IV.C.17 for details.

18. R-81-14-OEDC(BLN)-71, Identification of Generic Problems
- This item has been reevaluated by NSRS and agreed upon with CONST to be deleted from this review. This item is closed. Refer to section IV.C.18 for details.
19. R-81-14-OEDC(BLN)-72, Craft Supervision QA Training
- BLN response to this item is considered acceptable by NSRS. This item is closed. Refer to section IV.C.19 for details.
20. R-81-14-OEDC(BLN)-73, Craftsman QA Training
- Craftsman QA training procedure BLN-QCP-10.30 has been revised. This item is closed. Refer to section IV.C.20 for details.
21. R-81-14-OEDC(BLN)-74, Apprentice Training
- This item has been reevaluated by NSRS and agreed upon with CONST to be deleted from this review. This item is closed. Refer to section IV.C.21 for details.
22. R-81-14-OEDC(BLN)-75, Craft Skills
- This item has been reevaluated by NSRS and agreed upon with CONST to be deleted from this review. This item is closed. Refer to section IV.C.22 for details.
23. R-81-14-OEDC(BLN)-76, Records Vault Fire Suppression System
- The weekly checklist used by Public Safety has been revised. This item is closed. Refer to section IV.C.23 for details.
24. R-81-14-OEDC(BLN)-77, Revision to QCPs and SOPs
- Procedure BNP-QCP 10.1 has been revised to reflect the corrective action recommended by NSRS. This item is closed. Refer to section IV.C.24 for details.
25. R-81-14-OEDC(BLN)-78, Lack of Reference Revision Level in QCPs
- This item will remain open until the matrix listing each QCP and the references contained in it have been developed, incorporated into the appropriate manual/procedures, and reviewed for implementation and adequacy by NSRS. Refer to section IV.C.25 for details.
26. R-81-14-OEDC(BLN)-79, Use of Uncontrolled Copies of QCPs
- Since controlled copies of QCPs are available to the craft foreman from craft management personnel for the performance of work, this item is closed. Refer to section IV.C.26 for details.

27. R-81-14-OEDC(BLN)-80, Controls Over and Use of SOPs and FCPs
- NSRS has reviewed BLN latest response of August 31, 1982 and concurs with the corrective action program proposed for the control over and use of SOPs and FCPs. This item will remain open until BLN has reviewed all FCPs and SOPs and implemented this corrective action and the revised procedures have been reviewed by NSRS. Refer to section IV.C.27 for details.
28. R-81-14-OEDC(BLN)-81, Post Installation Equipment Protection
- BNP-QCP 10.27 has been revised to incorporate the requirements for protection of installed equipment from construction activities. Since this procedure has been recently revised, implementation could not be observed. This item will remain open until implementation can be evaluated. Refer to section IV.C.28 for details.
29. R-81-14-OEDC(BLN)-82, Segregation of Rod Shack Nonconforming Weld Filler Material
- Nonconforming weld filler material is being stored in locked containers. This item is closed. Refer to section IV.C.29 for details.
30. R-81-14-OEDC(BLN)-83, Inadequate Traceability Controls of Fabrication/Examination Processes
- Inspection procedure revision number and addendum number are being recorded on automatic process control (APC) cards. This item is closed. Refer to section IV.C.30 for details.
31. R-81-14-OEDC(BLN)-84, Definition of Periodic Calibration Check/Surveillance Interval Frequencies
- The definition of "monthly" has been properly defined by Addendum 1 to BNP-QCP-10.11, R9. This item is closed. Refer to section IV.C.31 for details.
32. R-81-14-OEDC(BLN)-85, Record File Indexing Conflict
- BLN had requested a change to the Nuclear Components Manual (NCM) to reflect their present record filing system. This change to the NCM has been made. This item is closed. Refer to section IV.C.32 for details.
33. R-81-14-OEDC(BLN)-86, Revision to Welder Certification Retest Criteria
- A waiting period for welders failing a retest has been established and implemented. This item is closed. Refer to paragraph IV.C.33 for details.

34. R-81-14-OEDC(BLN)-87, Inadequate Welder Recertification Controls

Additional control for welder recertification had been incorporated into BLN's program. This item is closed. Refer to section IV.C.34 for details.

35. R-81-14-OEDC(BLN)-88, Inadequate QA/QC Training Provided to Welders

The construction superintendent's organization had implemented a surveillance program. This item is closed. Refer to section IV.C.35 for details.

36. R-81-14-OEDC(BLN)-89, Inadequate Maintenance of NDE Certification Records

Qualification summary sheets for NDE inspectors had been properly prepared. This item is closed. Refer to section IV.C.36 for details.

IV. DETAILS

A. Office of Engineering Design and Construction (OEDC)

1. R-81-14-OEDC(BLN)-1, Quality Goals and Objectives

This item dealt with the lack of a system for establishing and tracking quality goals. The OEDC 1982 Action Plan for Quality Improvement contained some of the elements of such a system. Action I-1 will enhance management awareness of quality by having quarterly discussions of quality in staff meetings. Action II-2 assigns M-level employees quality responsibility in their job descriptions and assigns quality as a rating factor in the management appraisal system. Trending programs are also being developed which can be used as a management feedback mechanism. The major element of a quality goals program that is still missing is a procedure or instructions on how the trending programs in EN DES and CONST will be utilized as a management feedback mechanism. This item will remain open until instructions on the use of trending programs are established.

2. R-81-14-OEDC(BLN)-2, Codes and Standards

This item concerned the deletion of codes, quality-related regulations, standards, regulatory guides, and TVA documents from Tables 1 and 2 of the Program Requirements Manual (PRM). The NSRS concern was that important QA Program elements to which TVA is committed might not be incorporated into the various plant designs. The OEDC Technical Information Center has a library containing or providing access to all the items on PRM Tables 1 and 2. In addition, EP 3.37 has been revised to ensure that each document used by a

designer is available in the MFDS Service Center (MSC). The MSC also maintains an index of the documents available. It is our understanding that this index will be revised to indicate which document has been referenced in which plant design. In addition, EP 3.37 will be revised to require the designer to identify which document is being referenced on which plant design. The two actions are not scheduled for completion until December 31, 1982; therefore, this item remains open.

3. R-81-14-OEDC(BLN)-3, Regulatory Guides/Standards

This item concerns the lack of development of commitment sheets for recent regulatory guides and industry standards other than the ANSI N45.2 series. These sheets are being updated and developed as needed. Estimated completion date is December 1982. This item remains open.

4. R-81-14-OEDC(BLN)-4, Periodic Reviews of QA Manuals

This item concerned the lack of periodic review of the Manager's Office QA Manual, Interdivisional QA Manual, and Program Requirements Manual. MO-QAP 2.6 was issued and defines requirements for periodic reviews of these QA documents. This item is closed.

5. R-81-14-OEDC(BLN)-5, Temporary Storage of QA Records

This item concerns the lack of an OEDC QA policy regarding the temporary storage of QA records. It is NSRS' position that ID-QAP 17.2 should specify that temporary storage of QA records meet the requirements of ANSI N45.2.9. As a result of this and several other NSRS findings concerning storage of records, OEDC QA had scheduled a meeting on September 30, 1982 with CONST and EN DES to review the matter. This meeting has slipped to November 1982. This item will remain open pending corrective action.

6. R-81-14-OEDC(BLN)-6, Safety Analysis Reports

This item concerned the out-of-date and inaccurate condition of the BLN FSAR. Specifically the section describing the OEDC QA Program. The subsequent issuance of revision 5 to QA Topical Report, TVA-TR75-1A, describes the OEDC QA Program for Sequoyah and future plants. This BLN item is closed by that action.

7. R-81-14-OEDC(BLN)-7, Quality Requirements Section Resources

This item documented an NSRS concern that the section did not appear to be sufficiently staffed to fulfill its obligations in a timely manner. Administrative actions have been made to add additional staff in this area. This item is closed.

8. R-81-14-OEDC(BLN)-8, Compliance Section Resources

This item concerned a lack of staffing for the section. The subsequent use of supplemental manpower from EN DES and/or CONST and a declining workload due to plant deferrals have resolved this concern. This item is closed.

9. R-81-14-OEDC(BLN)-9, Audit Support Records

This item concerned the lack of proper storage of audit support records as required by ANSI N45.2.12 and N45.2.9. Procedure MO-QAP 3.5 was issued and MO-QAP 3.1 was revised to ensure that all necessary information required to describe the audit(s) is properly retained. This item is closed.

10. R-81-14-OEDC(BLN)-10, Revision of the NCM OEDC Policy Statement Required

This item concerned revision of the policy statement in the NCM to reflect its maintenance to the latest ASME Code Addenda and its (NCMs) use directly when section details are specific. The NCM policy statement has been revised to address this concern. This item is closed.

11. R-81-14-OEDC(BLN)-11, Inadequate Fulfillment of Certain ASME QA Program Requirements

This item concerned responsibilities detailed by the NCM for OEDC QA and EN DES NEB not being complied with. Subsequent to this finding the changes to the NCM reflecting the revised responsibilities of OEDC QA were made. In addition, EN DES NEB will review proposed changes to the PRM and Interdivisional QA Procedures Manual (IPM). This item is closed.

12. R-81-14-OEDC(BLN)-12, Establishment of ASME QA Program Measures to Control Forming, Bending and Aligning Processes

This item concerned the lack of program requirements to control the quality of items manufactured at the sites with respect to forming, bending, and aligning. These program requirements were to be documented in the NCM. The NCM will be revised to reflect the requirements. This item is open.

13. R-81-14-OEDC(BLN)-13, Inadequacies of the ID-QAPs

There have been revisions issued to some procedures mentioned in the response to this item. These procedural revisions (EP 4.02, R6, 4-1-82; EP 5.14, R2, 3-25-82; and ID-QAP 2.2, R4, 6/1/82) all adequately address some of the NSRS concerns. There is another concern addressed in the response which has not been accomplished. NSRS has not been provided the additional information requested in the memorandum from E. G. Beasley to M. N. Sprouse (QAM 820209 003). The memorandum stated that M. N. Sprouse was to prepare a response to NSRS

which would tell how EN DES does its review for operability and constructability. The response was to be forwarded by March 31, 1982. This item will remain open until this information is received and reviewed by NSRS.

14. R-81-14-OEDC(BLN)-14, DIS Implementation Concerns

A revised status report of this item was received July 22, 1982. This report indicated the drawing cleanup process is about 60 percent complete with no completion date. Phase I of the Drawing Management System is being routed for management approval and work is well underway on Phase II. No completion date was provided. Revisions to ID-QAP 6.1 due by February 1982 are currently being drafted and should be in place by October 1982. This item will remain open until the corrective actions are completed and reviewed by NSRS.

15. R-81-14-OEDC(BLN)-15, QA Auditor Training

The NSRS report indicated that effective QA auditor training was being conducted but without a written procedure approved by management. NSRS recommended that such a procedure be developed. In response, OEDC has developed MO-QAP 3.6, "OEDC QA Manager's Office Auditor Training Program," dated November 6, 1981. This procedure, related materials, and discussion with the OEDC auditor examiner about current activities provide sufficient evidence for NSRS to conclude the item is closed.

16. R-81-14-OEDC(BLN)-16, QA Training Audits by OEDC

The NSRS identified a serious lack of timely resolution of an OEDC QA audit finding pertaining to QA training of personnel. The audit finding, M78-5, deficiency No. 6, had been open since July 1978 (three years) because the EN DES QA training program remained inadequate. OEDC QA has since closed the finding because EN DES QA training is being conducted on a schedule and staffing improvements have been and are being made (see also V.B.19 and 25). This review covered the OEDC QA audit closure report, the EN DES QAB training schedule, and interviews with the OEDC QA auditor and EN DES QAB personnel involved in training. However, specific concerns about the training program were raised in NSRS report R-82-02-WBN, sections IV.B.6 and V.B.6. These included the identification of persons to be trained, the rate at which courses were being developed, and the rate at which people were scheduled to receive training. Following the R-82-02-WBN finding in March 1982, additional employees have been added to the training effort; 1,224 people have attended 8 different QA training courses; and the QA training requirement inputs have been received from the various organizational managers responsible for QA training. The tentative QA training schedule for the remainder of calendar 1982 has a continued good offering of QA courses. This item is closed.

B. Division of Engineering Design

1. R-81-14-OEDC(BLN)-17, Program and Implementation Inadequacies of Engineering Procedures

The EN DES response of January 27, 1982 indicates that this item will be addressed as part of the OEDC 1982 Action Plan for Quality Improvement (IV-1). A review of interim progress as documented in M. N. Sprouse's memorandum to G. H. Kimmons, "EN DES 1982 Action Plan for Quality Improvement - Progress Report for January - June 1982" (NEB 820629 251), indicated that progress is being made in this area. Due to the extensive evaluation of the engineering procedures system, this is a long term effort. Since corrective actions have not yet been completed, this item remains open.

2. R-81-14-OEDC(BLN)-18, Failure to Establish Detailed QA Policy

This item is being addressed as part of the OEDC 1982 Action Plan for Quality Improvement (II-1). A commitment to develop QA policy statements was made in the EN DES response of January 27, 1982. The reevaluation being done as a part of the action plan necessitates a long term approach to the resolution of this item. This item remains open since corrective actions have not been completed.

3. R-81-14-OEDC(BLN)-19, Management Responsibilities Not Clearly Defined

The OEDC 1982 Action Plan for Quality Improvement (II-1) addresses this item. Interim progress indicates that an EN DES responsibility document is to be developed which will more clearly define responsibilities. The recent reorganization of EN DES and the tie to the action plan have resulted in this being a long-term effort. This item remains open since corrective actions have not been completed.

4. R-81-14-OEDC(BLN)-20, Lack of Control of Safety-Related Systems List

The revised EN DES response of January 27, 1982 indicated that an engineering procedure to control the development of a detailed list of safety-related systems and components covered by the QA program would be developed. A directive to proceed with the development of the lists of systems and components under the QA program and an EP to govern this activity was issued May 7, 1982. The scheduled completion date for this effort was October 1, 1982 but had not been issued as of October 13, 1982. Since corrective actions for this item have not been completed, this item remains open.

5. R-81-14-OEDC(BLN)-21, Lack of NSSS Review of Design Criteria

The revised response commits EN DES to clarify the wording in EP 3.01 on NSSS vendor review of design criteria. This response is adequate since TVA performs the interface review of the NSSS vendor designs and assures that TVA design documents and drawings meet the specified interface requirements. This revision which was in progress on April 4, 1982 had not been issued. This appears to be an excessive length of time to make this clarification. This item remains open since corrective actions have not been completed.

6. R-81-14-OEDC(BLN)-22, Lack of Review of Revisions to Design Criteria

The revised response from EN DES committed to revise EP 3.01 to require the same organizations to approve design input memorandums (DIMs) as approved the original design criteria. This proposed corrective action is appropriate but it appears that an excessive length of time has elapsed without having completed the revision to EP 3.01. Since corrective action has not been completed, this item remains open.

7. R-81-14-OEDC(BLN)-23, Documentation of System Design Bases

The revised response to this item indicates that the EN DES 1982 Action Plan for Quality Improvement (IV-2) will examine the design control process. The progress report for January-June 1982 on the action plans indicates that recommendations in this area have not been finalized. Due to the extensive reevaluation, this is a long-term effort. Since corrective actions have not been completed, this item remains open.

8. R-81-14-OEDC(BLN)-24, Lack of Verification of Structural Steel Loadings

This item concerned the lack of an established program in EN DES to verify actual loadings on structural steel buildings such as the BLN reactor building. A draft DIM (N4-50-D702-5) is currently in the sign-out phase to correct this problem for BLN. Other DIMs have been proposed to correct this problem at other plants. These proposed changes are DIM numbers DC-V-1.1-1, DC-V-1.2.2-1, DC-V-1.3.2-1, and DC-V-1.3.3-1 for SQN; and WBN-DC-20-1-1, WBN-DC-20-1.1-1, WBN-DC-20-9-1, and WBN-DC-20-21-1 for WBN. A review of the BLN DIM by NSRS showed that the proposed change was an adequate response to item R-80-14-OEDC(BLN)-24. The item will remain open pending issuance of appropriate DIMs.

9. R-81-14-OEDC(BLN)-25, Lack of Approved Procedures for Certain Computer Programs

The revised EN DES response commits to revising EP 3.23 to redefine what computer programs are under the QA program and

to bring redesignated software into compliance with the revised EP. The types of software needing QA control have been defined, but EP 3.23 has not been revised nor has software been brought into compliance. A new EP to cover nonanalytical software is being developed but no expected completion date was available. Since corrective actions have not been completed, this item remains open.

10. R-81-14-OEDC(BLN)-26, Inadequate Evaluation and Processing of Field Change Requests (FCRs)

This item concerned several program and implementation deficiencies in the EN DES FCR control system. The initial response spells out several changes to the FCR control system which would appear to solve the problems. All of the proposed changes would be made by revising EP 4.03. The initial schedule for issuing this EP was April 30, 1982. It has now slipped and no completion date was available. This item is open.

11. R-81-14-OEDC(BLN)-27, Inadequate Evaluation and Processing of Engineering Change Notices (ECNs)

This item concerned program deficiencies in the EN DES ECN control system. NSRS recommended an ID QAP be written which delineates organizational responsibilities as required by Criterion I of Appendix B to 10CFR50. The initial response indicated that an EN DES task force has been established to correct these program deficiencies by reviewing EP 4.02 in its entirety. The initial schedule for completion was April 30, 1982, but it has now slipped to October 29, 1982. This item is open.

12. R-81-14-OEDC(BLN)-28, ECN S1 Change Program Deficiencies

This item identified program deficiencies in the implementation of the ECN S1 system. NSRS recommended that the ECN S1 design change method be discontinued at BLN because it was being used to circumvent the formal ECN system. The initial response indicated general agreement and stated that an EN DES task force would review EP 4.02 and recommend the corrections needed by April 30, 1982. This date has slipped to October 29, 1982. This item is open.

13. R-81-14-OEDC(BLN)-29, Inadequate Evaluation and Processing of Construction Change Notices (CCNs)

This item concerned program deficiencies in the EN DES CCN system. The initial response indicated that these deficiencies would be resolved by revising ID-QAP 3.2 by April 22, 1982. This schedule has slipped to October 29, 1982. This item is open.

14. R-81-14-OEDC(BLN)-30, Failure to Complete ECNs in a Timely Manner

This item concerned the excessive number of ECNs that had not been completed in a timely manner. A new computer sort has been developed which will give management better visibility of the ECN status. This item is closed.

15. R-81-14-OEDC(BLN)-31, Failure to Input Complete Vendor Information Into the DIS

EN DES implementing procedures failed to fully enforce the ID-QAP requirements for inputting vendor drawing information into the DIS. The initial response indicated that EP 5.11, 5.14, and ID-QAP 6.1 would be revised by June 1, 1982 to clarify the requirements. This date has slipped and no expected completion date was available. This item is open.

16. R-81-14-OEDC(BLN)-32, Inadequate Storage of Audit Support Records

This item will remain open pending the completion of corrective action by QAB. Presently, alternative measures are being evaluated for complying with the storage requirements of ANSI N45.2.9. Furthermore, OEDC QA is to hold a meeting concerning the storage of temporary QA records. Since corrective action has not been completed, this item will remain open.

17. R-81-14-OEDC(BLN)-33, Staffing

The auditing section in QAB has added four auditors as the result of a vacancy position announcement. The recent deferral of more nuclear plants and the realignment of EN DES has resulted in a decreased workload for QAB. The present staffing level of auditors now appears adequate. This item is closed.

18. R-81-14-OEDC(BLN)-34, Documentation of Responsibilities

The major sections in QAB have their responsibilities outlined in QAB-AI 1.01. A review of this AI issued October 28, 1981 indicated that the responsibilities are now adequately documented. This item is closed.

19. R-81-14-OEDC(BLN)-35, Generation of NCRs

EN DES has begun a program of scheduled training on NCR identification and reporting. This review included discussions with those responsible in QAB and review of the training schedule. Line management's increased responsibility for quality assurance, exemplified by the EN DES Action Plan for Quality Improvements, also supports the conclusion that this item has been satisfactorily addressed and therefore is closed.

20. R-81-14-OEDC(BLN)-36, Document Change Resulting from NCRs
- This review verified that EP 1.26 was changed as recommended (R4) to require the Design Project Manager or his delegate to identify on the NCR form whether drawing or specification revisions were necessary and would be made. This item is closed.
21. R-81-14-OEDC(BLN)-37, Definition of Significance
- This review verified that EP 1.26 has been changed (R4) to include the definition of significance in QAI-4. This item is closed.
22. R-8114-OEDC(BLN)-38, Commitments Tracking System
- This review disclosed that EN DES has reported on its investigation of NRC commitments (NEB 820316 270) and found only one of the sampled 75 SAR commitments had been missed. It was felt that this did not warrant a special program. A new OEDC-wide computer "Tracking and Reporting of Open Items" (TKOI) system will be used to improve commitment tracking. It had reached a test phase with actual data at review time. The NSRS finding has been resolved, and this item is closed.
23. R-81-14-OEDC(BLN)-39, Trend Analysis Program Not Functional
- This review disclosed that the Topical Report, TVA TR75-1, has been revised (R5) to document the EN DES QAB trend analysis program. Six specific reports on adverse trends had been issued, as well as semiannual reports. This item is closed.
24. R-81-14-OEDC(BLN)-40, EN DES Technical Training Programs for Engineers and Designers
- EN DES has established responsibility for technical training in the line organization, with each branch and project required to identify and budget for technical training and to address all EPs which govern their work. Budget restrictions in the past have hampered technical training in EN DES, so this emphasis in the budget process, where approximately 16 manhours training per individual is expected in 1983 is a significant improvement. This item is closed.
25. R-81-14-OEDC(BLN)-41, QAB Auditor Training
- This item is open pending issuance of a QAB procedure for auditor training, which was expected to be completed by September 30, 1982. Presently no completion date is available. Most of EN DES QAB's auditors are experienced, and the L. Marvin Johnson Company has provided training in the past. However, the program is still dependent on the continuity of key personnel who plan and direct the training in the absence of an approved procedure.

26. R-81-14-OEDC(BLN)-42, Improper Storage of QA Records

The microfilming of the QA codes and standards has been completed. The Technical Information Center (TIC) has the master file and additional copies for reference purposes. The "backfile" documents are now stored in a room in West Tower, fifth floor, rated at one-hour fire protection. EP 3.37 has been revised to provide for microfilming and storage of the QA codes and standards. The revised EP 3.37, R1, was released August 3, 1982. This item is closed.

27. R-81-14-OEDC(BLN)-43, MEDS Handbook Approval Documentation

The MEDS Handbook revision was originally scheduled to be issued in February 1982 but was delayed due to the move from the Union Building. The new revision, R2, was issued on August 23, 1982 and included a coversheet which fully documented the review and approval cycle of the handbook. This item is closed.

28. R-81-14-OEDC(BLN)-44, General Construction Specification Not Revised Per Procedure

General Construction Specification G-53, R2, has been revised to include the unincorporated specification revision notices (SRNs) and was issued February 9, 1982. EP 3.04, R11, was revised and has resolved the administrative problems with use of specification revision notices. This item is closed.

29. R-81-14-OEDC(BLN)-45, Lack of Vendor History Program

EN DES QAB has a microfiche record of all TVA contracts summarized quarterly, and this history resource is made available to the QAB evaluator to supplement the regular files which are of QA contracts only. This item is closed.

30. R-81-14-OEDC(BLN)-46, Inadequate Bid Evaluation Procedure

EP 5.01 has been revised (R12) to define more clearly the requirements for performing plant capability surveys. This item is closed.

31. R-81-14-OEDC(BLN)-47, Inadequate Requirements for Purchase Requisition Reviews

EN DES had intended to address this item by the results of an internal action plan study, "Special Study Report for the 1982 Action Plan for Quality Improvement Action V-2 Study for EN DES Procurement Process" (QAS 820524 002). However, the study group was not made aware of this intention and did not cover the subject of special expertise review between branches, etc., for purchase requisitions. The item will remain open pending further action by EN DES.

32. R-81-14-OEDC(BLN)-48, Contracts Were Not Receiving Required QA Review

EN DES intends to review the contracts for conformance to the input documents (basically a matter of verifying that the complete, unaltered specifications are incorporated in the contracts.) This was to be in a revision of QAB-EP 26.34. However, it is now the subject of discussion as responsibilities are transferred to the Office of Quality Assurance (OQA). The item will remain open pending completion of revised procedures and their implementation.

33. R-81-14-OEDC(BLN)-49, Codes-Standards-Materials Group (CSM) Review of QA Code-Related Audit Findings

Revision 10, section 11 of the Nuclear Code Manual (NCM) requires code-related audit findings be distributed to NEB. This appears adequate, however, the response concerning transmitting code-related NCRs to CSM has not been accomplished as stated. This item will remain open until all code-related NCRs are routed to NEB CSM and the related procedures are revised to indicate the transmittals.

34. R-81-14-OEPC(BLN)-50, Incorrect References Made in BLN Construction Specifications

BLN Construction Specification N4M-870 is being revised and will address the NSRS concerns. This revision of the construction specification was due to be issued September 30, 1982. This item will remain open until the construction specification is issued and reviewed by NSRS.

35. R-81-14-OEDC(BLN)-51, Waiving Source Inspection

Revision 7 of NCM section 3.5 and revision 6 of EP 5.43 have been issued. These revisions adequately address NSRS concerns pertaining to the waiving of source inspection. This item is closed.

36. R-81-14-OEDC(BLN)-52, General Review and Revision of G-29 Required

The July 19, 1982 status report concerning this item indicates that revision 20 of Construction Specification G-29 will resolve the NSRS concerns. This revision is due to be completed November 1, 1982. This item will remain open until revision 20 of G-29 is issued and reviewed by NSRS.

37. R-81-14-OELC(BLN)-53, QA Approval Required for G-29M

EP 3.13 is being revised to add provisions for a documented, independent review of process specifications. This EP was originally scheduled for issue May 8, 1982 but is currently

being held up pending removal of conflicts with an administrative instruction. There has been no revised issue date published. This item will remain open until EP 3.13 is issued and reviewed by NSRS.

C. Division of Construction

1. R-81-14-OEDC(BLN)-54, Lack of Initial Work Control Planning

The CONST response consists of a detailed report on the work control procedures and work planning measures in use at BLN. The bulk of the report addresses work control measures which were not questioned by NSRS, that is control of the work after an inspection, a QC holdpoint, or a problem arises. We pointed out in our report that this appeared to be a "formal, documented, and coherent work control and planning program." We note, however, that BLN does not have a procedure which describes the work planning process. Our point of contention dealt with the planning and initial control of work. Three ANSI standards govern initial work control, N45.2.4 for electrical equipment, N45.2.5 for civil materials, and N45.2.8 for mechanical equipment. In each of these standards a section entitled general requirements contains work control and planning requirements. These sections are slightly different from each other, but still contain the basic general requirements as follows:

- a. sequence of operations defined
- b. responsibilities defined
- c. measures to preserve quality defined
- d. review of design specifications and drawings to assure installation, inspection, and testing activities incorporated
- e. assurance that adequate time and personnel are available for each task
- f. need for preparation and control of procedures

Of the six requirements above, the construction sequence, the responsibilities, and the availability of time and personnel are met by the current work planning and control measures in use at BLN. The measures to preserve quality are in the BLN procedures but there is not a mechanism to define what measures apply at the onset of the work. The review of design specifications and drawings does not appear in the BLN QC/QA program. Also, there is not a mechanism in place to determine if a procedure should be written to cover an activity. These three omissions can be rectified by a work package program similar to the programs in effect at other TVA nuclear plant construction sites. The "work package" concept provides for the general sequencing of specific craft-related construction activities in accordance with predetermined construction priorities. A "work package" is a communication tool used between construction engineering and the respective craft disciplines for the accomplishment

of a specific item of work or a multitude of work activities associated with a system or portion of that system.

Furthermore, NSRS believes that a work package program offers the following advantages:

- Provides a review of the applicable drawings resulting in the accurate identification of the major components and interfacing equipment required to be transferred or operational for the accomplishment of a construction activity.
- Establishes a documented coordinated plan of sequential work activities for the responsible construction craft to follow.
- Ensures that all safety precautions have been identified.
- Ensures that required inspection and acceptance criteria in applicable procedures have been identified.
- Establishes and ensures that required testing has been identified.
- Ensures that adequate construction craft manpower and equipment will be available to perform the work.
- Provides for the identification, documentation, and resolution of installation, inspection, and testing problems.
- Ensures that all required documentation has been generated, received, and stored in QC&RU record vaults.
- For system transfers, ensures that all equipment within the package transfer boundary will be ready for transfer.
- Provides for timely preparation of applicable "as-constructed" drawings upon completion of the package.
- Provides for identification of incomplete work for transfer to the outstanding work items list (OWIL).

In summary, NSRS believes that a work package program which addresses the items mentioned above would fully meet the ANSI N45.2.4, N45.2.5, and N45.2.8 requirements; tie the existing work control and planning measures together into a cohesive unit; and promote the goal of getting the job done right the first time. This item will remain open pending the establishment of an initial work control program at BLN.

2. R-81-14-OEDC(BLN)-55, Inadequacies in BLN QCPs

- a. Periodic Revision to QCPs Required - Since this item is essentially the same as item R-81-14-OEDC(BLN)-77, NSRS has decided to resolve this concern under the latter item number and has closed this item. Refer to section IV.C.24 for the resolution of this concern.
- b. Matrix Control of Documents Referenced In QCPs Needed - Since this item is essentially the same as item R-81-14-OEDC(BLN)78, NSRS had decided to resolve this concern under the latter item number and has closed this item. Refer to section IV.C.25 for resolution of this concern.
- c. Use of Uncontrolled Copies of QCPs - Since this item is essentially the same as item R-81-14-OEDC(BLN)-79, NSRS has decided to resolve this concern under the later item number and has closed this item. Refer to section IV.C.26 for resolution of this concern.
- d. FCR Tracking Problems - The NSRS concern was that BLN had a problem tracking FCRs. CONST agreed to revise BLN QCP 10.2, "Drawing Control," to remove the conflict with EN DES-EP 4.03, "Field Change Requests," in their revised response of February 11, 1982. This response appeared adequate. However, the revision had not been made at the time of this review so this item remains open.
- e. Lack of Detailed Inspection Checklists - The finding stated that 11 QCPs being utilized at BLN were of sufficient length to warrant use of checklists. NSRS clarified its position on this item. Two QCPs (3.1, "Embedded Conduit," and 6.1, "Embedded Piping") were dropped from the list of QCPs needing checklists. NSRS maintained that the other nine QCPs (2.1, 3.2, 3.3, 3.7, 3.9, 3.13, 3.26, 3.29, and 3.30) are required to have checklists since they involve a number of inspector activities and the checklist verifies the completeness of the inspection. After further discussions with CONST, NSRS agreed that the present system of computer card sign-off by the QC inspector would be sufficient for QA record purposes. However, we highly recommend that complex and complicated inspection procedures contain checklists to aid the inspector and to ensure that all required inspections have been performed. This item is closed.
- f.(1) Lack of ECM&D Program Controls - The item stated neither the ECM&D program nor how to apply its output are specifically discussed in BLN QCPs. BNP-QCP 3.28, "Computer Data Control," had been revised as stated in CONST's revised response of February 11, 1982. However, when implementation

was reviewed, it was found that the Computer Services Unit (CSU) was unaware that the QCP had been revised since they normally do not receive copies of or training on QCPs. Previous to the revision of QCP 3.28, no QCPs applied to this unit. This item is open pending adequate implementation of the revised procedure.

f.(2) Lack of Vendor Manual Requirement Implementation - This finding stated that requirements contained within the vendor manuals were not consistently translated into procedures. CONST has revised BNP-QCP 1.1, 1.2, and 1.3 to include a review of vendor manuals for special receiving, handling, storage, and maintenance requirements. A review of training records indicated that responsible personnel had been trained in the revised procedures. Since the procedures have been revised and implemented, this item is closed.

f.(3) Lack of QA Controls Over Quality Performing SOPs and FCPs - Since this item is essentially the same as item R-81-14-OEDC(BLN)-80, NSRS has decided to resolve this concern under the latter item number and has closed this item. Refer to section IV.C.27 for the status of this concern.

3. R-81-14-OEDC(BLN)-56, Potential for Undetected Faulty Structural Welds

This concern cited that the practice of grinding welds could result in faulty structural steel welds on Category I structures going undetected.

G. K. Blackburn, Construction Superintendent, issued a memorandum to Craft Superintendents, Welders, and Welder Foremen dated February 9, 1982 which restricted grinding of a completed weld unless grinding was specifically required. NSRS contacted several welding inspectors who worked in the auxiliary building and inspected structural welds. These inspectors verified that grinding of welds is being kept to a minimum so this item is closed.

4. R-81-14-OEDC(BLN)-57, Inadequate Interfacing Between BLN Organizational Units

This item had been considered as an NSRS potential concern requiring corrective action. NSRS has reevaluated this item and agreed with CONST to delete the item. This item is closed.

5. R-81-14-OEDC(BLN)-58, Need for Seismic Analysis of Hangers and Supports on Systems Other Than Piping

NSRS is continuing its investigation into this area. No response from CONST is required for this item nor is any corrective action warranted at this time so this item is closed.

6. R-81-14-OEDC(BLN)-59, work plans

a. This item identified that the work plan forms did not provide an explanation of any remaining work required to complete an item. Since CONST tracks remaining work in other work plans, NSRS has decided to delete this item. This item is closed.

b. This item stated that the work plan forms did not include provisions for a specific list of Functional Configuration Control (FCC) drawings required by modification work. BNP-QCP 9.4 has been revised to require that the work plan form indicate what FCC drawings are affected. This new requirement was being implemented on recently issued work plans. This item is closed.

c. This finding stated that neither the work plan nor the FCC drawing revision scheme included provisions for the generation of a FCR, if required, during the performance of modification work. Addendum 2 to BNP-QCP 9.4, R2, added a means of denoting the FCR number if required on the work plan form. A review of recently issued work plans indicated that this new requirement was being implemented. This item is closed.

d. This concern stated that the work plan program did not include a requirement for a "fire hazard evaluation" regarding the modification that is to be performed. Addendum 2 to BNP-QCP 9.4, R2, added a reminder to specify fire safety precautions if required. Recently issued work plans indicated that this requirement was being implemented. This item is closed.

7. R-81-14-OEDC(BLN)-60, Construction Change Notices (CCN)

The finding stated that site procedures fail to address the mechanism for determining systems and structures excluded from the CCN process. CONST proposed revising BNP-QCP 10.34 to require review of CCNs by the engineering unit supervisor for verification that safety-related systems were not affected by the CCN. Although this corrective action appears appropriate, it has not yet been completed. This item remains open.

8. R-81-14-OEDC(BLN)-61, Drawing Information System (DIS)

ID-QAP 6.1, R2, was reviewed and a conflict was found concerning the requirements for as-constructed drawings. Sections 2.3.4.a.2 and 3.2.5 state or imply that all drawings used to perform work or verify configuration need to be as-constructed prior to tentative transfer. Section 2.3.3.c.4 states that non System Configuration Control Drawing List (SCCDL) drawings need not be as-constructed until fuel load. This procedure needs to be clarified to remove the apparent conflict.

NSRS suggests that drawings should be as-constructed prior to tentative transfer since historically a backlog of drawings has accumulated. This backlog must then be worked off prior to fuel loading when time pressures are very great. At both BFN and SQN this has occurred. There have also been considerable discrepancies between the actual plant configuration and the depicted configuration on the as-constructed drawings as evidenced by the large number of IEB 79-14 discrepancies at these plants. NUC PR and EN DES have recently formed an as-constructed drawing task force to deal with the drawing discrepancies. An effective configuration control program would eliminate this problem.

This item will remain open pending clarification of ID-QAP 6.1.

9. R-81-14-OEDC(BLN)-62, Inadequate Document Control of Electrical Cable Installation Slips

This finding was cited because cable installation slips were not included in procedures for configuration control even though they carry information necessary to build and maintain the plant. CONST committed to place a summary printout of cable installations under configuration control in their revised response of February 11, 1982. At the time of this review the proposed corrective action had not been implemented, and therefore, this item remains open.

10. R-81-14-OEDC(BLN)-63, Audit Records

This finding identified the problem that audit support records were not being stored in fire-rated cabinets. CONST QA issued R9 of CONST-QASP 7.1 on January 15, 1982 which required that audit support records be placed in MEDS. A review of site QA audits and a search of the MEDS file verified that the audit records are indeed being placed in MEDS and therefore meet the requirements of ANSI N45.2.9. This item is closed.

11. R-81-14-OEDC(BLN)-64, Records of Corrective Action

CONST-QAP 18.1 requires written responses to audit deficiencies. A memorandum to W. R. Dahnke from R. W. Dibeler dated November 23, 1981 requested that CEO-SOP-1004, R1, be changed and that BLN site procedures incorporate the written response requirement of CONST-QAP 18.1. At the time of this review the corrective action had not been completed. This item remains open.

12. R-81-14-OEDC(BLN)-65, Closeout of Deficiencies

This item was cited because two audit deficiencies were apparently closed without having confirmed that corrective actions had been completed. CONST-QASP 7.1 was revised on January 15, 1982 and clarified the requirements on closeout of deficiencies. BLN site QA personnel were aware of this revised procedure and were implementing the new requirements. This item is closed.

13. R-81-14-OEDC(BLN)-66, Definition of Significance

This finding identified a problem with the CONST and BLN procedures dealing with conditions adverse to quality. The definition of "significance" in CONST-QAP 15.1, R6, and BLN-QCPs 10.4, R8, and 10.26, R4, was not compatible with the definition of "significance" in OEDC-QAI 4, R2. CONST-QAP 15.1, R7, has been revised and references CONST-QAP 16.1, R1, for the definition of "significance." The definitions in CONST-QAP 16.1, R1, and OEDC-QAI 4, R2, are compatible. BLN has committed to revise QCPs 10.4 and 10.26 by addendums. This item will remain open until the addendums have been approved, incorporated, and reviewed by NSRS.

14. R-81-14-OEDC(BLN)-67, Independent Review of QCIRs

This finding identified a problem of QCIRs not receiving an independent review for upgrading to significance as required by OEDC-QAI 4, R2. OEDC-QAI 4, R3, states that "QCIRs and IRNs shall be reviewed by a minimum of two individuals as specified in CONST procedures to determine the need for a nonconformance report. Nonconformance reports and audit deficiencies determined to be nonsignificant shall be reviewed by the QA organization specified in division procedures and where deemed necessary upgraded to significant." CONST-QAP 15.1, R7, and 16.1, R1, have been completely rewritten. At the present time, BLN site management requested a meeting with the CONST QA Manager for resolution to the intent and direction of CONST-QAP 15.1. BLN committed to revise BLN-QCP-10.4 and -10.26 by addendums for review of QCIRs and nonconformance reports. This item will remain open until the addendums have been approved, incorporated, and reviewed for adequacy by NSRS.

15. R-81-14-OEDC(BLN)-68, Scope of Program Information Notice (PIN) System

The finding identified a shortcoming in the PIN system. At the time of the original NSRS review, the PIN system only disseminated information to all TVA nuclear plants on NRC-related items, such as NRC findings. NSRS recommended that the usefulness of the PIN system should be increased by using it to disseminate potentially generic information. Revision 3 to CONST-QASP 7.3 has incorporated additional information into the PIN system, such as 10CFR50.55(e) and 10CFR.21 items resulting from OEDC and CONST audit findings. In addition, selected nonconformance reports will also be incorporated into the system. This item is closed.

16. R-81-14-OEDC(BLN)-69, Input Data for Trend Analysis Program

This finding stated that the "cause" of the problem was not identified on QCIRs and nonsignificant NCRs. This information is only required for significant NCRs. BLN response indicated that the site QA unit had not experienced any major problems in determining cause codes and their past determinations had been reasonably accurate. During this review, NSRS examined many QCIRs to attempt to determine the cause of the problem from the information documented on the QCIR. The NSRS reviewer had no difficulty in determining the cause from the information presented. At the present time, the QA unit performs the trend analysis and prepares the report. This function will shift to the Quality Manager's Staff with new QCIR forms and guidelines established with present plans to enter "possible cause" on the form. This item is closed.

17. R-81-14-OEDC(BLN)-70, Incorporation of Experience Into Training

This finding stated that an apparent problem existed because BLN had no formal mechanism for incorporating adverse experience or trends into the site training program. The response to this concern was that a review of the trend analysis report is performed by the construction engineer's office in order to determine additional training needs. BLN QCP 10.30, "Craft Quality Assurance Training," has been revised to incorporate the construction engineer's responsibility to review the trend analysis report for additional training. During this review, NSRS suggested that this responsibility also be incorporated in BLN-QCP-10.29, "Quality Assurance Training Program." NSRS also indicated in the original recommendation that the review of the trend analysis report should also be used to determine when revisions to existing QCPs might be necessary. BLN committed to revise both QCP 10.29 and 10.30 to incorporate these recommendations. This item will remain open until the procedures have been revised and reviewed by NSRS.

18. R-81-14-OEDC(BLN)-71, Identification of Generic Problems

This item had originally been considered as an NSRS potential concern requiring further investigations. NSRS has reevaluated this item and agreed upon with CONST to delete the item from this review. This item is closed.

19. R-81-14-OEDC(BLN)-72, Craft Supervision QA Training

The finding identified a concern because evaluations to determine the effectiveness of craft supervision QA training were not being performed as recommended in BNP-QCP 10.30. This procedure recommends that the Project Training Officer (PTO) may at his discretion prepare and administer survey quizzes for the class participants to complete for determination of effectiveness of the training session and understanding of the procedure. The PTO indicated during this review that in the past survey quizzes were given but were apparently not effective in the determination of the effectiveness of the training session. A possible reason was that the class participants were not directly involved in the work area covered by that particular procedure. Recent training practice is to provide craft supervision with training in the particular individuals' work area. In addition, question and answer sessions are conducted at the end of each session and uncontrolled copies of the QCPs are distributed to the class participants for information. BNP-QCP 10.30 has been revised to allow the construction engineer to determine additional training needs as a result of the review of the trend analysis reports. This item is closed.

20. R-81-14-OEDC(BLN)-73, Craftsman QA Training

This finding identified a concern because a program had not been established to train journeyman craftsmen involved in quality-related work in QCPs and the details of other aspects of the QA program. NSRS recommended that a written program be established which assigned responsibilities and specific QA training and retraining requirements for journeyman craftsmen. BNP-QCP 10.30 had been revised to give the craft superintendent the option to schedule journeymen for training as he deemed necessary to improve quality or production. This item is closed.

21. R-81-14-OEDC(BLN)-74, Apprentice Training

This item had originally been considered as an NSRS potential concern requiring further investigation. NSRS has reevaluated this item and agreed upon with CONST to delete the item from this review. This item is closed.

22. R-81-14-OEDC(BLN)-75, Craft Skills

This item had originally been considered as an NSRS potential concern requiring further investigation. NSRS has reevaluated this item and agreed upon with CONST to delete the item from this review. This item is closed.

23. R-81-14-OEDC(BLN)-76, Records Vault Fire Suppression System

This finding identified a concern because no guidance was provided on the weekly checklist for an acceptable pressure on the HALON cylinder for the Records Vault Fire Suppression System. NSRS also recommended that the gauge be replaced with a more graduated gauge compatible to the vendors table for temperature dependent pressures. The weekly checklist has been revised by the Public Safety for checks on the HALON cylinder as either SATISFACTORY or UNSATISFACTORY. The pointer on the gauge must be above the width of the white mark on the dial for the acceptability of the HALON cylinder. This item is closed.

24. R-81-14-OEDC(BLN)-77, Revisions to QCPs and SOPs

BNP-QCP 10.1, R6, became effective on August 9, 1982 and has been reviewed by NSRS. The original NSRS finding identified a problem in that there was no requirement for incorporating addenda and errata into QCPs and SOPs within a certain timeframe. BLN had committed to revise BNP QCP 10.1 to eliminate the use of errata sheets, prevent the use of more than three addenda without a major revision to the procedures, and less than three addenda would be incorporated into the annual review revision. A review of revision 6 to BNP-QCP 10.1 has indicated that BLN has incorporated the recommendation of NSRS; however, BLN's own additional commitment to eliminate the use of errata sheets was not incorporated into the revised procedure. Since the original NSRS concern was not the elimination of the errata sheets, NSRS considers this item to be closed.

25. R-81-14-OEDC(BLN)-78, Lack of Reference Revision Levels in QCPs

This finding identified a problem because the majority of QCPs reviewed contained references but did not specify revision levels of the references in either the references section or text of the QCP. NSRS recommended that a matrix listing each QCP and the references contained in it be developed. The BLN Quality Manager's Staff is presently developing a matrix listing QCPs and references. This item will remain open until the matrix has been completely developed, implemented, and reviewed for adequacy by NSRS.

26. R-81-14-OEDC(BLN)-79, Use of Uncontrolled Copies of QCPs by the Crafts

This finding identified a problem where craft foremen possessed and apparently used QCPs which were uncontrolled, thus potentially out of date. Since the crafts need to be aware of inspection requirements of QCPs which their work must meet, NSRS recommended they be made available for the crafts. NSRS noted during this review that uncontrolled copies of QCPs are passed out to craft superintendents and foremen at the conclusion of a craft training session thereby providing reference to the applicable QCPs. This item is closed; however, NSRS further cautioned that the craft foremen should be aware of and use controlled copies in the performance of quality-related work and in particular where tolerance criteria might be dictated in a QCP.

27. R-81-14-OEDC(BLN)-80, Controls and Use of SOPs and FCPs

This finding identified a problem where no formal controls exist for the generation and use of SOPs and FCPs. These procedures prescribe activities affecting quality, therefore are an integral part of the QA program and as such should be controlled under the QA program. NSRS recommended initially that BLN management evaluate the use of SOPs and FCPs and if they prescribe activities affecting quality and such instructions are not contained in QCPs or higher tier documents, then a formal control systems for their development, use, and maintenance should be instituted.

In accordance with the response to this item dated August 31, 1982, BLN proposes to review all FCPs and SOPs and revise these procedures to eliminate any instructions which prescribe activities affecting quality when such instructions are not contained in QCPs or higher-tier documents. It is NSRS' understanding of this corrective action that at the conclusion of this review and revision of procedures that activities affecting quality will only be controlled by the QCPs and the present FCPs and SOPs prescribing activities affecting quality will be eliminated. This item will remain open until BLN has had sufficient time to initiate and implement the review and revision to the existing procedures and the NSRS has reviewed the revised procedure programs.

28. R-81-14-OEDC(BLN)-81, Post-Installation Equipment Protection

The NSRS concern was that installed equipment was not provided adequate protection from construction activities (welding, grinding, etc.). The site committed to initiate a program to address this concern. The program was to be incorporated into BNP-QCP 10.27. The revision to the procedure had been made and appeared adequate. However, the implementation of this program could not be verified since the procedure was revised recently. This item will remain open until NSRS can verify program implementation.

29. R-81-14-OEDC(BLN)-82, Segregation of Rod Shack Nonconforming Weld Filler Materials

This finding stated that the BLN procedure did not adequately address the control and identification of nonconforming weld filler material. BLN's response was to revise BNP-QCP 8.1 to include requirements to store nonconforming weld filler material in locked boxes labeled "scrap" and "For Weld Test Shop Use." The response appeared adequate. The NSRS reviewer checked four rod control centers and observed that locked boxes were present and in use. This item is closed.

30. R-81-14-OEDC(BLN)-83, Inadequate Traceability Controls of Fabrication/Examination Processes

The finding stated traceability to the construction process was not documented at the time of the inspection. The site's response was to revise the governing procedure to require the inspector to record revision and addenda numbers on APC inspection records. The response was adequate. The procedure had been revised and review of APC cards in the records vault indicated that this requirement was being adequately implemented. This item is closed.

31. R-81-14-OEDC(BLN)-84, Definition of Periodic Calibration Check/Surveillance Interval Frequencies

The item stated that BLN interpreted the definition of "monthly" contrary to standard technical specification guidance. BLN's response to revise BNP-QCP 10.11 to define the term monthly as 31 days was adequate. The procedure has been revised to implement the corrective action. This item is closed.

32. R-81-14-OEDC(BLN)-85, Record File Indexing Conflict

The finding cited BLN for indexing the record storage control system contrary to the guidance provided in NCM section 9.1. The site's response indicated they would ask for a revision to the NCM to allow their present system. This response was adequate. BLN had initiated a memorandum to EN DES requesting their record system be incorporated into the NCM. EN DES' reply stated that this item was being handled as part of the ASME Survey Team's review. Revision 13 to NCM section 9.1 incorporated the necessary changes. This item is closed.

33. R-81-14-OEDC(BLN)-86, Revision to Welder Certification Retest Criteria

The NSRS concern was that the two hour wait criteria appeared to be an ineffective control to assure the welders receive additional training prior to attempting another certification

test. The response indicated that the site would impose a two week waiting period in lieu of the present two hour period. This response was adequate. BNP-QCP 10.24 had been changed to require a two week waiting period for any welder failing a retest in any specific process. This requirement had been adequately implemented by the weld test shop personnel. This item is closed.

34. R-81-14-OEDC(BLN)-87, Inadequate Welder Recertification Controls

The finding stated that the filler metal requisition system for verifying a welder had used a particular process for recertification was considered questionable. BLN's reply stated that the site welding surveillance program, visual inspection, and a spot radiography program provided documented evidence of process usage. In addition, the NSRS reviewer observed that BLN's existing procedure had been changed by a revision to ENP-QCP 8.1. This revision required the foreman to sign the rod issue slip to verify weld process usage by welders. Review of rod issue slips indicated that this requirement had been adequately implemented. The NSRS considers the reply and action to be responsive and adequate. This item is closed.

35. R-81-14-OEDC(BLN)-88, Inadequate QA/QC Training Provided to Welders

The finding stated welders are relying on QC inspectors to provide the needed QA/QC information instead of obtaining this information from direct craft supervision. In lieu of ongoing training as recommended by NSRS, the site instituted a surveillance program. This program is being handled by the construction superintendent's organization. The surveillance program appeared to address adequately the concern expressed by this item. This item is closed.

36. R-81-14-OEDC(BLN)-89, Inadequate Maintenance of NDE Certification Records

This item cited BLN for not having personnel qualification summary sheets available for the nondestructive examination (NDE) candidates. The site responded that the necessary information was being gathered and that the qualification summary sheets would be properly completed. The response appeared adequate. Review of NDE inspectors' files revealed that the required summary sheets had been prepared and properly filed. This item is closed.

V. PERSONNEL CONTACTED

A. Office of Engineering Design and Construction

<u>Name</u>	<u>Organization/Title</u>	<u>Attended Entrance Meeting</u>	<u>Contacted During Review</u>	<u>Attended Exit Meeting</u>
M. S. Martin	OEDC QA	X	X	X
S. Duhan	OEDC QA		X	
D. R. Patterson	OEDC/Assistant Manager	X		

B. Division of Engineering Design

<u>Name</u>	<u>Organization/Title</u>	<u>Attended Entrance Meeting</u>	<u>Contacted During Review</u>	<u>Attended Exit Meeting</u>
C. W. Beachler	Project Controls Branch		X	
J. S. Colley	QAB		X	
R. A. Costner	QAB	X		X
J. F. Cox	NEB		X	
P. L. Duncan	QAB	X	X	X
C. Glidewell	CEB		X	
R. M. Hodges	BLP	X		
R. R. Hosesly	BLP	X		X
W. P. Joest	NEB		X	
M. W. Keener	QAB		X	
J. R. Lyons	NEB		X	X
J. E. McAmis	QAB		X	
A. Prahl	NEB		X	
J. J. Ritts	NEB		X	
S. J. Smith	QAB		X	
R. A. Thompson	QAB	X	X	X
J. J. Wilder	NEB		X	

C. Division of Construction

<u>Name</u>	<u>Organization/Job Title</u>	<u>Attended Entrance Meeting</u>	<u>Contacted During Review</u>	<u>Attended Exit Meeting</u>
G. L. Adkins	CONST/Engineering Aide		X	
J. A. Barnes	CONST/QAU Supervisor		X	
G. K. Blackburn	CONST/CONST Superintendent	X		X
W. R. Brown	OEDC/BLN Project Manager			X
C. H. Carpenter	CONST/General Foreman OFC		X	
D. L. Chapman	CONST/Group Leader - Records		X	
W. R. Dahnke	CONST/Project Manager	X	X	X
D. A. Freeman	CONST/EEU Supervisor		X	

<u>Name</u>	<u>Organization/Job Title</u>	<u>Attended Entrance Meeting</u>	<u>Contacted During Review</u>	<u>Attended Exit Meeting</u>
F. E. Gilbert	CONST/Construction Engineer	X	X	X
R. S. Godfrey	CONST/Quality Control Inspector		X	
J. H. Guthrie	CONST/WEU QC Supervisor		X	
H. C. Johnson	CONST/Supervisor WEU		X	
M. Howe	CONST/General Foreman OFC		X	
L. D. Johnson	CONST/Engineering Aide		X	
K. G. Lawless	CONST/Field WEU Supervisor		X	
W. C. Long	CONST/Engineering Associate		X	
C. A. Looney	CONST/Welding Engineer		X	
P. C. Mann	CONST/Engineering Management Asst		X	
G. R. McNutt	OEDC/Project Engineer			X
D. W. Murr	PSS/Officer		X	
T. F. Newton	CONST/STCU Supervisor		X	
A. L. Richards	CONST/EEU QC Supervisor		X	
E. D. Rose	CONST/Quality Assurance Engineer		X	
W. L. Sammons	CONST/Administrative Officer		X	
C. E. Short	CONST/Engineering Aide		X	
M. L. Sircy	PSS/Captain		X	
W. J. Swieder	CONST/Quality Control Inspector		X	
K. R. Welch	CONST/Engineering Associate		X	
J. E. Wilkins	CONST/Assistant Manager			X
R. M. Yost	CONST/Project Training Officer		X	
R. E. Young	OEDC/Project Engineer	X		X

VI. DOCUMENTS REVIEWED

A. Office of Engineering Design and Construction

1. OEDC 1982 Action Plan for Quality Improvement
2. TVA Topical Report TVA-TR75-1, R5, "Quality Assurance Description for the Design, Construction, and Operation of TVA Nuclear Plants"
3. MO-QAP 2.6, "Annual Review of the MOM, IPM, and PRM," R0
4. MO-QAP 3.1, "Manager's Office QA Audit Program," R5
5. MO-QAP 3.5, "OEDC Manager's Office QA Audit Reports," R6
6. MO-QAP 3.6, "OEDC QA Manager's Office Auditor Training Program," R0
7. ID-QAP 17.2, "Quality Assurance Records for Design and Construction," R0
8. OEDC QA Manual for ASME Section III Nuclear Power Plant Components (NCM), R 36

B. Division of Engineering Design

1. ANSI N45.2.9-1974, "Requirements for Collection, Storage, and Maintenance of Quality Assurance Records for Nuclear Power Plants"
2. ANSI N45.2.12-1977, "Requirements for Auditing of Quality Assurance Programs for Nuclear Power Plants"
3. EP 1.16, "QA Training Program," R3
4. EP 3.01, "Design Criteria Documents - Preparation, Review, and Approval," R4
5. EP 3.04, "EN DES Construction Specifications - Preparation, Review, and Approval," R11
6. EP 3.13, "Preparation, Review, and approval of Process Specifications and Assignment of Welding and NDE Procedures," R3
7. EP 3.23, "EN DES Computer Programs Requiring Quality Assurance - Verifying, Documenting, and Revising," R1
8. EP 3.37, "Establishment of OEDC Master File for Codes, Standards, and Other Non-TVA Documents," R0
9. EP 4.09, "Design Philosophy Improvement Requests (DPIRs) - Review, Coordination, and Implementation," R6
10. EP 5.01, "Purchase/Transfer Requisitions - Evaluation of Bids and Recommendations/Rejection of Contract Award - Revisions to Contracts," R12
11. EP 5.14, "Vendor Documents - Handling and Disposition," R1
12. EP 5.43, "Release of QA Items from Supplier's Shops to Construction Site," R6
13. ID-QAP 2.2, "EN DES-NUC PR-CONST Interfaces and Responsibilities During and Following Transition from Design and Construction to Operation," R4
14. ID-QAP 6.1, "Configuration Control," R2
15. M. N. Sprouse's memorandum to H. N. Culver dated April 6, 1982, "Corrective Action Completion Dates for NSRS-81-14-OEDC(BLN)" (QAS 820406 002)
16. L. J. Cooney's memorandum to R. A. Costner dated April 19, 1982, "Major Management Review of OEDC - NSRS Report R-81-14-OEDC(BLN)" (ESS 820419 205)

17. R. A. Painter's memorandum to R. A. Costner, dated April 22, 1982, "Major Management Review of the Office of Engineering Design and Construction - Nuclear Safety Review Staff Report No. R-81-14-OEDC(BLN) - Item Nos. 27 and 28" (DPC 820422 012)
18. R. A. Costner's memorandum to E. G. Beasley dated April 22, 1982, "ID-QAP 3.1, Processing of Construction Change Notifications (CCNs)" (QAS 820422 005)
19. M. N. Sprouse's memorandum to Those listed dated June 29, 1982, "1982 Action Plan for Quality Improvement" (AAA 820629 001)
20. G. H. Kimmons' memorandum to Those listed dated May 7, 1982, "All Nuclear Plants - The Identification and Specification of Items Covered by the OEDC Quality Assurance Program" (EDC 820508 001)
21. M. N. Sprouse's memorandum to G. H. Kimmons dated June 19, 1982, "EN DES 1982 Action Plan for Quality Improvement - Progress Report for January-June 1982" (NEB 820629 251)
22. J. A. Raulston's memorandum to R. A. Costner, "Major Management Review of the Office of Engineering Design and Construction - Nuclear Safety Review Staff Report No. R-81-14-OEDC(BLN)" Advance Copy
23. M. N. Sprouse's memorandum to G. H. Kimmons dated December 28, 1981 "Quality Assurance Trend Analysis Program Development - Semiannual Report" (QAS 811228 002)
24. M. N. Sprouse's memorandum to Those listed dated February 26, 1982, "Engineering Procedures (EPs) - Training and Utilization" (NEB 820226 255)
25. J. A. Raulston's memorandum to R. A. Costner dated March 16, 1982, "Investigation of OEDC's Accomplishment of Commitments to the NRC" (NEB 820316 270)
26. R. A. Costner's memorandum to M. N. Sprouse dated May 24, 1982, "EN DES 1982 Action Plan for Quality Improvement - Report on Study of EN DES Procurement Process, Action V-2" (QAS 820524 002)
27. MEDS Handbook
28. Construction Specification G-29M, "Fabrication, Welding, and Examination Specifications and Procedures," R19
29. Construction Specification G-53, "Certification Identification, Storage, Manufacture, and Tightening Requirements of Bolting Material for Nuclear Plants," R2

30. Quality Assurance Branch Administrative Instruction, QAB-AI 1.01, "Organization and Responsibilities"

C. Division of Construction

1. 10CFR50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants"
2. TVA Topical Report TVA-TR75-1, "Quality Assurance Program Description," R4
3. ANSI N45.2-1971, "Quality Assurance Program Requirements for Nuclear Power Plants"
4. ANSI/ASME N45.2-1977, "Quality Assurance Program Requirements for Nuclear Facilities"
5. ANSI-IEEE, N45.2.4-1972, "Std 335-1971, IEEE Standard - Installation, Inspection, and Testing Requirements for Instrumentation and Electric Equipment During the Construction of Nuclear Power Generating Stations"
6. ANSI N45.2.4-1972, "Installation, Inspection, and Testing Requirements for Instrumentation and Electric Equipment During the Construction of Nuclear Power Generating Stations"
7. ANSI N45.2.5-1978, "Supplementary Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete, Structural Steel, Soils, and Foundations During the Construction Phase of Nuclear Power Plants"
8. ANSI N45.2.8-1975, "Supplementary Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems for the Construction Phase of Nuclear Power Plants"
9. ID-QAP 2.2, "EN DES-NUC PR-CONST Interfaces and Responsibilities During and Following Transition from Design and Construction to Operation," R4, 6/1/82
10. ID-QAP 6.1, "Configuration Control," R2, 3/17/82
11. OEDC Quality Assurance Manual for ASME Section III Nuclear Power Plant Components (NCM), Section 9.1, "Records," R12, 7/7/80
12. OEDC-QAI 4, "Determining, Reporting, and Correcting Conditions Adverse to Quality," R3, 11/16/81
13. EN DES-EP 4.16, "Configuration Control By Use of Drawings and Drawing Lists," R4, 6/9/81

14. CONST-QAPP-5, "Instructions, Procedures, and Drawings," R2, 10/7/80
15. CONST-QAPP-6, "Document Control," R2, 2/16/82
16. CONST-QAP-15.1, "Control of Nonconformance Reports," R7, 4/20/82
17. CONST-QAP-16.1, "Conditions Adverse to Quality," R1, 4/20/82
18. CONST-QAPP-17, "Quality Assurance Records, R0, 2/9/79
19. CONST-QAP-18.1, "Audits," R3, 1/28/82
20. CONST-QASP-7.1, "Auditing Construction Activities," R9
21. CONST-QASP-7.2, "Trend Analysis," R4, 1/15/82
22. CONST-QASP-7.3, "Program Information Notice," R3
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