APPENDIX A

Burns and Roe, Incorporated
Docket No. 99900503/82-02

NOTICE OF NONCONFORMANCE

Based on the results of an NRC inspection conducted on June 7-11, 1982, it appears that certain of your activities were not conducted in full compliance with your commitments to NRC as indicated below:

A. Paragraph 2.1 of Chapter VI, "Document Control" of the Burns and Roe (B&R) topical report (B&ROE-COM4-1-NP) states in part that, "The Burns and Roe, Inc. document control program is governed by a series of policy statements, standards, and procedures contained in the CORPORATE OPERATIONS MANUAL . . . ."

The Corporate Operations Manual, states in part that the "Division and Department CORPORATE OPERATIONS MANUAL coordinators . . . personally removes and destroys any superseded or deleted material."

Contrary to the above, the B&R document control program was not effectively governed by a procedure contained in the Corporate Operations Manual as evidenced by the fact that superseded revision 0 of the procedure "Program (Computer) Approval and Certification" was not removed by the designated coordinator from the controlled copy of the Corporate Operations Manual assigned to the B&R Woodbury facility library. This is the second consecutive inspection in which controlled manuals were determined to contain superseded procedures.

B. Paragraph 2.1 of Chapter V (Instructions, Procedures, and Drawings) of the B&R Topical Report states in part that, "Burns and Roe, Inc. working documents, such as instructions, procedures, drawings, and specifications, and changes thereto, are prepared, reviewed, and approved in accordance with this manual, project procedures, and company standards which outline the sequence of actions in detail."

Computer Users Manual procedure, "Abstracts of Available Programs," states in part that, "All programs available to Burns and Roe computer users are contained in the computer program index . . . (the) computer program index . . . (is a listing which) consists of one line of information about each computer program. It contains: program number, name, description, machine requirements, program status and advisor's name . . . ."

Contrary to the above, the latest issue of the Computer Program Index (dated December 31, 1981) was not prepared in accordance with procedural requirements in that:

1. The index did not list all engineering and design programs available to B&R computer users;

2. The index did not contain the advisor's name for approximately one fourth of the 270 engineering and design programs that were listed in the index.

C. Paragraph 4.9 of Chapter III (Design Control) of the B&R Topical Report states in part that "The use of computer codes is procedurally controlled . . . by the Computer Users Manual . . . ."

Computer Users Manual procedure, "Program Approval and Certification," states in part that, "Vendor supplied programs will be designated as 'Certified-V' . . . ."

Computer Users Manual procedure "Abstracts of Available Programs" states in part that the Computer Program Index ". . . is a listing of all currently available programs and the approval status or documentation status . . . The program status is defined as follows . . . 'Certified-V' . . . ." for vendor supplied programs approved for use.

Contrary to the above, the use of computer codes was not controlled by the Computer Users Manual Procedure in that none of the currently available vendor supplied programs listed in the Computer Program Index had an approval or documentation status designated as "Certified-V" even though they were available for use by B&R computer users.

D. Paragraph 2.0 of Chapter III "Design Control" of the B&R Topical Report states in part that, "The Burns and Roe, Inc. design control program complies with USNRC Regulatory Guide 1.64 (June, 1976). The design control program has been established to assure that all design related activities are carried out in a planned, controlled, and orderly manner These design activities include . . . analyses . . . (and) use of computer codes . . . ."

Section 2.2 of ANSI N45.2.11-1974 "Quality Assurance Requirements for the Design of Nuclear Power Plants," endorsed by revision 2 of Regulatory Guide 1.64, dated June 1976, states in part that "Procedures shall be employed to assure that design activities are carried out in a planned, controlled, orderly and correct manner. Program procedures shall cover the following . . . 2.2.4. Document control including review, approval, release, distribution, and revision . . . 2.2.5. Maintenance and retention of design documents . . . 2.2.11. Performance of design verifications . . . 2.2.13. Taking corrective action . . . 2.2.14. Making experience reports available to cognizant design personnel . . . 2.2.15. Controlling design changes."

Nonconformances with these commitments are as follows:

1. Contrary to section 2.2.4 of ANSI N45.2.11, computer program users manuals, design manuals, and operations manuals for certified computer programs were not distributed in a controlled fashion by the Technical Services Librarian to all appropriate users.

2. Contrary to section 2.2.5 of ANSI N45.2.11-1974, design documents such as computer code user, design and operation manuals, review and approval records, and validation records, needed to provide traceability and to support "certified" computer programs, were not identified as quality assurance records and, therefore, were not maintained and retained with the status of a quality assurance record.

3. Contrary to section 2.2.11 of ANSI N45.2.11-1974, procedures did not exist, and thus were not implemented, to require design verification of computer programs, and revisions thereto, by individuals or groups other than those who defined or generated the analytical representation of the physical problem, the necessary assumptions to employ the analytical model selected, the solution methodology, and the implementing algorithms of the computer code. Further, approximately one-half of the computer programs available for production use by B&R computer users are classified as "approval" (in accordance with procedure "Program Approval and Certification") for which design verification/ validation of the program is not precedurally required.

4. Contrary to section 2.2.13 of ANSI N45.2.11-1974, as supplemented by section 9.0 of the subject standard, procedures did not exist, and, thus, were not implemented for: (1) determining the cause and instituting appropriate changes in the computer code development/ validation process to prevent recurrence of a significant deficiency when detected in a computer code; (2) providing for reporting the deficiency and corrective action to appropriate levels of supervision and management; and (3) assuring followup action.

5. Contrary to section 2.2.14 of ANSI N45.2.11-1974, procedures did not exist, and, thus, were not implemented to make experience reports available to cognizant design personnel.

6. Contrary to sections 2.2.15 of ANSI N45.2.11-1974, as supplemented by section 8.0 of the subject standard, procedures did not exist, and, thus, were not implemented, for: (1) assuring that the impact of changes to computer codes is carefully considered, and required actions documented; (2) justifying the change and subjecting the change to design control measures commensurate with those that were, or should have been, applied to the original code, including revalidation/reverification.