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SUBJECT: Responds to S Black 880929 ltr re plant surveillance program safety evaluation open items.

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Gentlemen:

In the Matter of
Tennessee Valley Authority

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Docket Nos. 50-260

BROWNS FERRY NUCLEAR PLANT (BFN) - RESPONSE TO PLANT SURVEILLANCE PROGRAM
SAFETY EVALUATION OPEN ITEMS (TAC 62252)

This letter provides TVA's response to your letter from Suzanne Black to S. A. White dated September 29, 1988. In your letter, TVA was requested to address the staff's open items including a proposed schedule for resolution of these open items no later than October 31, 1988. TVA's response to each of these open items is provided as enclosure 1 to this letter. Summary statements of commitments contained in this submittal are provided in enclosure 2.

Please refer any questions regarding this submittal to Patrick Carier, Acting Manager of Site Licensing, BFN, (205) 729-3566.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

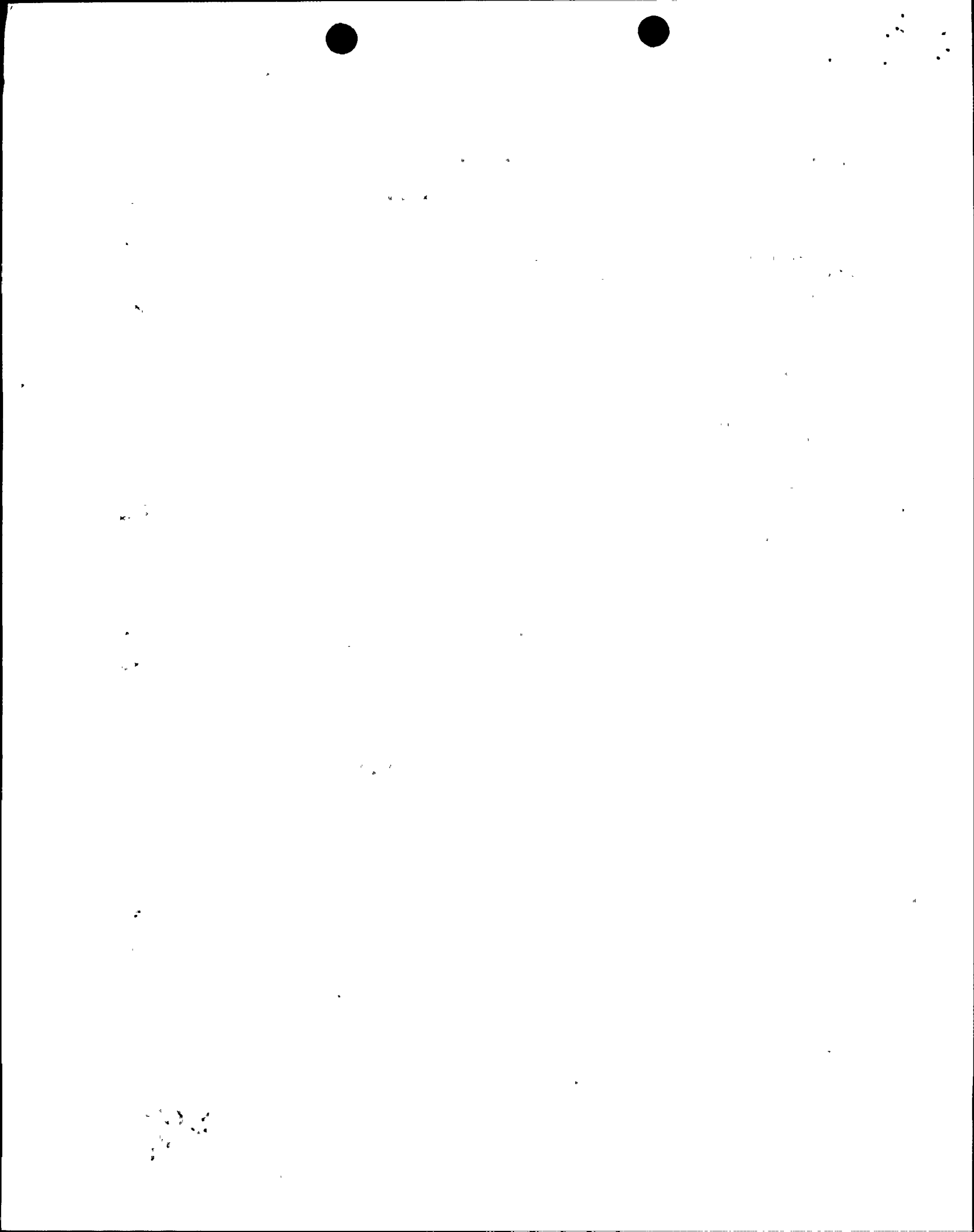
W. J. Ray
R. Gridley, Manager
Nuclear Licensing and
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Enclosures
cc: See page 2

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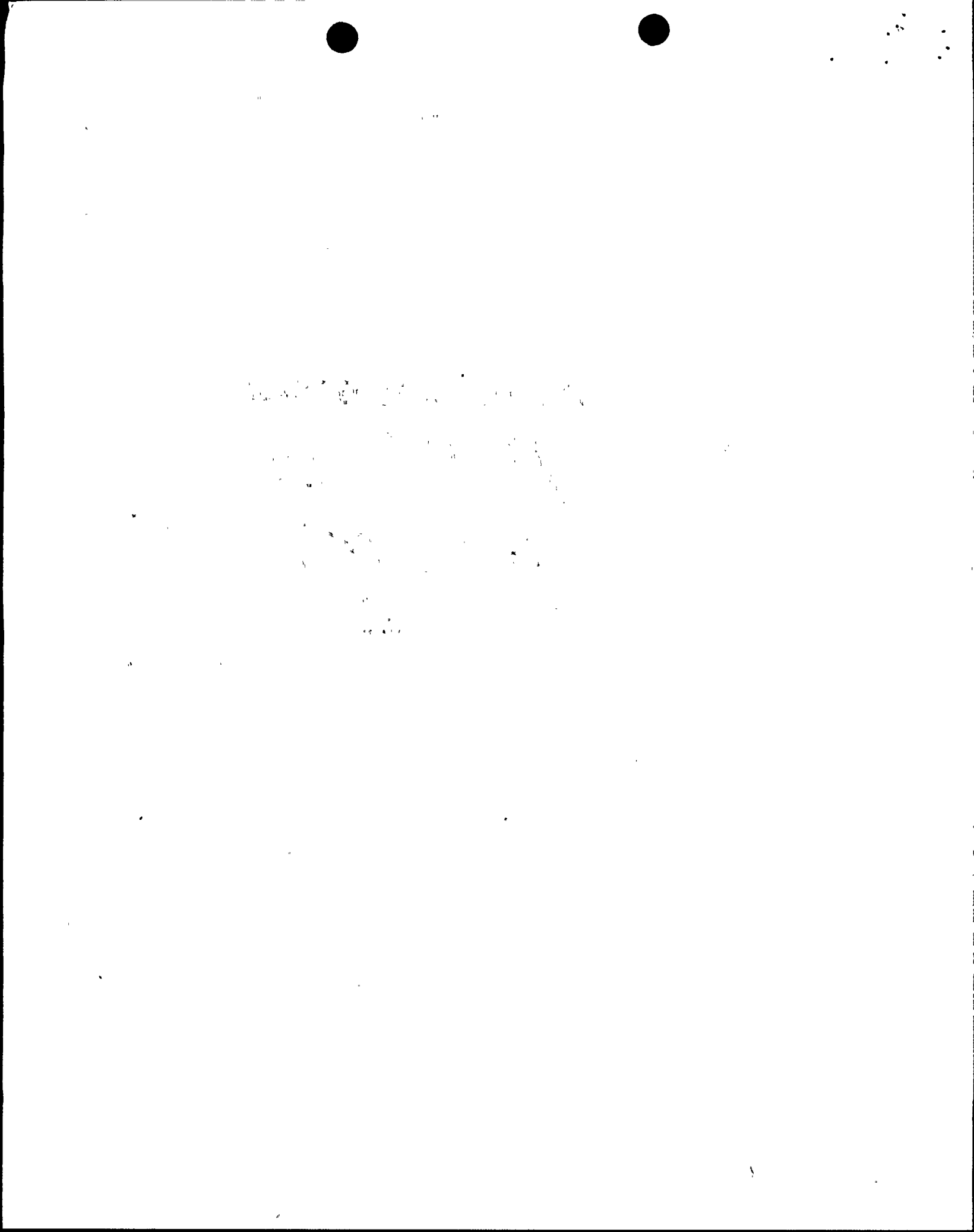
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cc (Enclosures):

Ms. S. C. Black, Assistant Director
for Projects
TVA Projects Division
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

Mr. F. R. McCoy, Assistant Director
for Inspection Programs
TVA Projects Division
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Browns Ferry Resident Inspector
Browns Ferry Nuclear Plant
Route 12, Box 637
Athens, Alabama 35611



ENCLOSURE 1

BROWNS FERRY NUCLEAR PLANT (BFN) PLANT SURVEILLANCE PROGRAM RESPONSE TO OPEN ITEMS IN THE NRC-OFFICE OF SPECIAL PROJECTS SAFETY EVALUATION

NRC Issue (Item 3.2.a, excerpt from Safety Evaluation Section 2.4))

"The Systems Engineer (SE or SEs) concept was intended, with respect to the Surveillance Program, to ensure that SI data would be reviewed, trended, and, where required, in-depth technical reviews and timely effective corrective action executed. At the time of the staff review of the upgraded surveillance program at BFN, the SE group had been established, but was not constituted to adequately address the root causes identified in the NPP. Specific staff concerns in this area follow.

The SE organization found to exist at BFN was a loosely constituted group of apparently well-qualified individuals who were frequently called upon to solve a wide variety of engineering problems. This SE group had existed for over a year, yet had neither an organizational charter nor formally defined responsibilities. The plant management was aware of this situation, yet did not have any specific plan to correct the problems with the SE organization. Concerning the role of the SEs in the surveillance program, the SEs had been given cognizance over about 70 SIs, which was about 10% of the SIs which were to have been implemented prior to plant restart. The functions of the SI reviews were still mostly under the cognizance of the various engineering groups on site which had traditionally had responsibility for technical review and corrective action associated with those SIs. In essence, the root causes meant to be corrected by the implementation of the SE concept were still in existence. . . Effective implementation of the SE concept to address the identified root causes would require, as a minimum, that the SE organization be formally chartered and that its Charter should include, as SE responsibilities, those functions envisioned for this organization in Section II.5.0 of NPP Volume 3."

TVA Response

Implementation of the SE concept is not the only corrective action taken for the deficiencies noted in the Surveillance Instruction (SI) program, but rather an integral part of the corrective actions. As stated in the Nuclear Performance Plan (NPP) Volume 3 Section II.5.0, the root causes for past SI program deficiencies were ". . . (1) unclear, difficult-to-use surveillance procedures and (2) insufficient attention to detail by persons reviewing and performing surveillances and reviewing surveillance results." The corrective action taken to resolve item (1) was to institute a review and upgrade program for the BFN SIs. Several corrective actions were taken to ensure resolution of item (2), with implementation of the SE concept being an integral part. These corrective actions included BFN management placing additional emphasis on the importance of following procedures, correcting procedures which could not be followed, and holding employees accountable for the quality of their work.

The statement in Section II.5.0 of the NPP, Volume 3, was not intended to mean that system engineers would review all SIs, but rather that implementation of the system engineering concept would improve the review process because:

1. The most qualified individuals would review SIs and the system engineering concept would provide a more qualified review of integrated system-related SIs.
2. More time for review of SIs would be available to responsible personnel because of the significant workload associated with system engineering responsibilities being removed from other plant organizations.

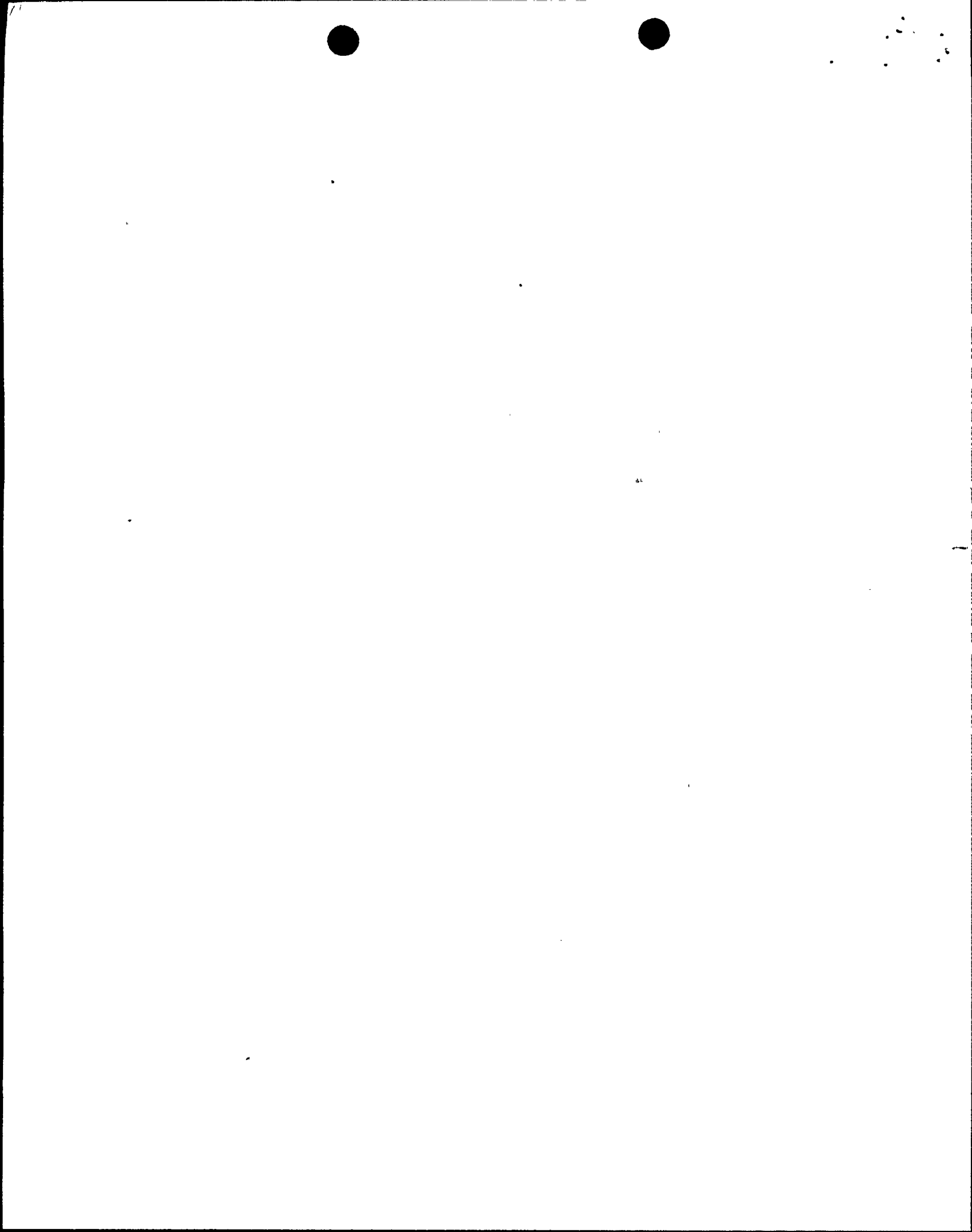
TVA's intent with respect to review of SIs is to have the most qualified personnel responsible for SI review. The statement in Section II.5.0 of the NPP, Volume 3, regarding system engineer review of SIs is consistent with this intent. For example, American Society of Mechanical Engineers Section XI SIs are reviewed by the Mechanical Test Section engineers who have responsibility for the Section XI program. This ensures that the Section XI program requirements are fully met and maintains consistency in the program. Similarly, the Instrument and Controls Technical Section engineers are most qualified to review instrument calibrations.

The SIs that are most applicable to system engineering responsibilities are the systems operability SIs and some of the functional SIs. These SIs typically involve integrated system operation with multiple system components, instrumentation, and logic. Currently, system engineering is cognizant of about 110 of the SIs. The remainder of the SIs have been reviewed and are assigned to the appropriate cognizant organizations.

NRC Issue (Item 3.2.b, excerpt from Safety Evaluation Section 2.1)

". . . there exists no requirement for a qualified third party to observe the execution of all SI validations in order to provide a quality check on the ability of SI performers to perform every procedure precisely as written. The staff's underlying concern is that, with an essentially new surveillance program being implemented in a substantially modified plant, there appears to exist insufficient provisions to assure the quality necessary to guarantee the workability and repeatability of every SI."

"TVA has initiated a limited third party observation of SI validations. The staff has noted that this limited scope third party review may not produce the consistency and quality required for the level of correctness and procedure repeatability necessary for an effective surveillance program. Alternatives discussed with TVA included the concept of increasing the third party review to a more significant percentage of SI validation."



TVA Response

Site Director Standard Practice (SDSP) 2.14, "Surveillance Instruction Evaluation," was developed to provide a mechanism for evaluating plant SIs. This evaluation includes guidelines for the review, verification, walkdown, and performance validation to ensure a consistent level of accuracy and performability. TVA will revise SDSP 2.14 to require a qualified individual in the respective cognizant area be present during the first performance of at least ten percent of the upgraded SIs. This individual will be in addition to the normal contingent of personnel required for performance of the SI. The revision to SDSP 2.14 will be accomplished no later than December 5, 1988. The selection of SIs requiring this third party independent review will address the different types of surveillance requirements. This determination will be made by the cognizant section supervisor.

In addition, the NRC safety evaluation requested TVA to provide ". . . justification of the acceptability of completed SI evaluations on those systems required for fuel loading." In response to this issue, it should be noted that the SI upgrade program is an extensive process directed at ensuring consistent and quality instructions. This program has mandated guidelines covering the following elements:

- SI preparation
- Independent second party review for all SIs
- Independent third party review for 20 percent of the SIs
- Walkdown of all SIs
- Validation of all SIs

The SI upgrades have been through a number of reviews and validation performance observations by such groups as the Independent Review Group (no longer in operation) and the Quality Surveillance Section. The Restart Test Program and Systems Engineering Section have also provided added assurance of quality instructions by observation of many of the validation performances. As noted above, TVA has taken a strong stand by demanding that instructions be performed as written. TVA has directed personnel involved in the performance of instructions to delay completion if procedural problems arise. Most problems with the performance of the SIs will be identified during the validation performance runs. Consequently, sufficient justification exists to demonstrate that the completed SI evaluations for systems required for fuel loading are acceptable.

NRC Issue (Item 3.2.c, excerpt from Safety Evaluation Section 2.1)

". . . there is no requirement for personnel reviewing SIs to verify the circuit or piping flow paths used in SIs. The lack of such a requirement means that, programmatically, there is an incomplete second check of the SI drafter's work. Any drafter's errors in tracing the proper path would most likely become apparent only during the validation run of an SI. The modes of discovery of such errors during validation could range from simple nonreceipt of expected indications to possible personnel injury or equipment damage."

TVA Response

TVA does not agree that a programmatic deficiency exists concerning personnel reviewing SIs. During the upgrade process, the SIs were rewritten using the Plant Manager's Instructions (PMI)-2.3 (Style Guide) and PMI-2.5 (Writer's Guide). The rewritten SI was then evaluated using the appropriate checklists in SDSP 2.14 which requires an independent technical review. PMI-2.5 gives specific guidance to the writer and reviewer for verification of circuitry and piping flow paths. The requirements of PMI-2.5 cannot be accomplished by the writer or the reviewer without in-depth use of the appropriate drawings.

In addition, SDSP-7.4, "Onsite Technical Review and Approval of Procedures," implements the onsite technical review required by BFN Technical Specification 6.8.1. This standard practice requires the review of all design documents, of which drawings are included. The reviewer cannot ensure technical adequacy without the appropriate drawings.

NRC Issue (Item 3.2.d, excerpt from Safety Evaluation Section 2.5)

"A final concern developed during the staff's review of the BFN Surveillance Program was that commitments made in the NPP do not seem to be tracked by the licensee. Of the four programs identified in the Introduction to this Safety Evaluation to correct the root causes of the problems previously existing with the BFN Surveillance Program, only two are being tracked on the licensee's Corporate Commitment Tracking System (CCTS). The Improved Management Practices and the implementation of the Systems Engineering role with respect to the surveillance program are not being tracked using the CCTS.

This deficiency may be indicative of a possible generic problem with the commitments made in the NPP not specifically being tracked as licensing commitments, even though the NPP was submitted to the NRC in response to a 10 CFR 50.54(f) letter."

TVA Response

At the time of submittal of the NPP to NRC, TVA identified many of the more significant programmatic improvement statements contained therein as being formal commitments to NRC. These commitments are enumerated in Attachment IV-2 of the NPP and are tracked to closure by CCTS. The NPP implementation element of the BFN Unit 2 Operational Readiness (OR) Program also tracks these items to closure along with other significant NPP statements of actions to improve programmatic performance at BFN. The BFN Unit 2 OR Program is described in Section V of the NPP. Specifically, in response to NRC's stated concerns, improved management practices and implementation of the SE role as they relate to the BFN Surveillance Program are tracked by the NPP implementation element of the BFN OR Program. Closure folders are being developed as auditable records of satisfactory completion of these NPP statements.

In summary, the CCTS tracking program in conjunction with the OR Program tracking and closure program provide adequate assurance that NPP commitments and other significant statements of action are being adequately tracked to closure.

ENCLOSURE 2

BROWNS FERRY NUCLEAR PLANT (BFN)
PLANT SURVEILLANCE PROGRAM
RESPONSE TO OPEN ITEMS IN
THE NRC-OFFICE OF SPECIAL PROJECTS' SAFETY EVALUATION
SUMMARY STATEMENTS OF COMMITMENTS

TVA will revise Site Director Standard Practice (SDSP) 2.14 to require a qualified individual in the respective cognizant area to be present during the first performance of at least ten percent of the upgraded SIs. This individual will be in addition to the normal contingent of personnel required for performance of the SI. The revision to SDSP 2.14 will be accomplished no later than December 5, 1988.

