

March 19, 1999

Tennessee Valley Authority  
ATTN: Mr. J. A. Scalice  
Chief Nuclear Officer and  
Executive Vice President  
6A Hookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

SUBJECT: PLANT PERFORMANCE REVIEW - BROWNS FERRY NUCLEAR PLANT

Dear Mr. Scalice:

On February 8, 1999, the NRC staff completed a Plant Performance Review (PPR) of the Browns Ferry Nuclear Plant. The staff conducts these reviews for all operating nuclear power plants to develop an integrated understanding of safety performance. The results are used by NRC management to facilitate planning and allocation of inspection resources. PPRs provide NRC management with a current summary of licensee performance and serve as inputs to the NRC's senior management meeting (SMM) reviews. PPRs examine information since the last assessment of licensee performance to evaluate long term trends, but emphasize the last six months to ensure that the assessments reflect current performance. The PPR for Browns Ferry involved the participation of all technical divisions in evaluating inspection results and safety performance information for the period April 1998 through January 1999. The NRC's most recent summary of licensee performance was provided in a letter of May 21, 1998, and was discussed in a public meeting with you on June 11, 1998.

As discussed in the NRC's Administrative Letter 98-07 of October 2, 1998, the PPR provides an assessment of licensee performance during an interim period that the NRC has suspended its Systematic Assessment of Licensee Performance (SALP) program. The NRC suspended its SALP program to complete a review of its processes for assessing performance at nuclear power plants. At the end of the review period, the NRC will decide whether to resume the SALP program or terminate it in favor of an improved process.

During the last six months, Units 2 and 3 operated at or near full power, with the exception of one automatic reactor scram of Unit 2 on October 1, 1998, caused by high moderator cooling temperature. A refueling outage was also conducted for Unit 3 during the period.

Overall, performance at Browns Ferry was acceptable. Long operating runs of both units and a small number of transients demonstrated effective performance. Operators performed in a safe and professional manner. Corrective maintenance and refueling outage activities were well-planned and executed. Surveillance activities were conducted in an effective manner, with a few instances of inadequate procedures, some of which were related to Improved Technical Specification implementation. Design controls were generally effective and engineering support of plant operations and maintenance was technically adequate. Security, fire protection, radiation protection and plant chemistry continued to be effective.

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Operations performance was consistent. Effective performance in operations was demonstrated by both units operating well during the period. Refueling activities continued to be well-controlled. Operators continued to effectively respond to equipment problems and plant transients, and also continued to demonstrate professionalism in the control room. Following the implementation of the Improved Technical Specifications on July 27, 1998, there were several instances of poor performance and lack of necessary knowledge demonstrated by the operators which was caused by the deficiencies in the licensed operator training program. For example, during start up of Unit 3 in October 1998, 150 psig reactor steam dome pressure was exceeded with an inoperable high pressure coolant injection (HPCI) system. The operators failed to meet Technical Specification 3.0.4, which requires HPCI to be operable prior to increasing pressure above 150 psig. Although the operator requalification training program was adequate, the activation/reactivation of operator licenses was not effectively controlled. Performance during the period does not warrant any additional inspection effort above the core NRC inspection program.

Performance in Maintenance was consistent as demonstrated by maintenance and outage activities continuing to be well-planned and executed in accordance with requirements. In general, calibration and surveillance activities were also well-planned and executed in accordance with applicable requirements and procedures. Examples of inadequate test procedures continued to be identified during this period, as were difficulties in using measuring and test equipment. Overall, material condition of the plant was adequate. Fewer equipment failures occurred during the period, resulting in a decrease in equipment and operator challenges. Inservice inspection activities continued to be well-planned and conducted in accordance with ASME Code requirements and documented commitments. Maintenance personnel continued to be effective at problem identification and implementation of the corrective action program. Performance during the period does not warrant any additional inspection effort above the core NRC inspection program.

Performance in Engineering was consistent. Design controls were effective in preparing and implementing plant modifications for the HPCI system as part of the power uprate project. Safety evaluations were technically adequate. Engineering support of site activities effectively contributed to surveillance procedures meeting the Technical Specifications and applicable code requirements. Engineering programs and processes generally were implemented in an adequate manner, to include implementation of the Generic Letter 89-10 program. Inattention to detail contributed to several design calculation deficiencies and to several poor quality licensing submittals for the power uprate project. Weaknesses in engineering problem identification were demonstrated by the failure to identify inoperable rod block monitor channels and to disposition nonconforming flappers prior to placement in the warehouse for issue and use. In addition to the core inspections, a regional initiative is planned to evaluate engineering performance and review issues identified in the 1998 HPSI Safety System Engineering Inspection.

Plant Support performance was consistent. Radiological control practices continued to be effective in keeping exposures well below regulatory limits. The chemistry control program was also effective in maintaining good water quality. Security performance continued to be effective. Security personnel demonstrated that they were fully capable of performing their duties on a day-to-day basis. In addition, security personnel were highly trained and equipped to respond to contingency events. Security equipment was well-maintained as a result of excellent



engineering and instrumentation and control support. Fire protection activities continued to be performed in an effective manner. Surveillance testing of fire barrier penetration seals was effectively implemented. Performance during the period does not warrant any additional inspection effort above the core NRC inspection program.

Enclosure 1 contains a historical listing of plant issues, referred to as the Plant Issues Matrix (PIM), that were considered during this PPR process to arrive at an integrated view of licensee performance trends. The PIM includes items summarized from inspection reports or other docketed correspondence between the NRC and the Tennessee Valley Authority. The NRC does not attempt to document all aspects of licensee programs and performance that may be functioning appropriately. Rather, the NRC only documents issues that the NRC believes warrant management attention or represent noteworthy aspects of performance.

This letter advises you of our planned inspection effort resulting from the Browns Ferry PPR review. It is provided to minimize the resource impact on your staff and to allow for scheduling conflicts and personnel availability to be resolved in advance of inspector arrival onsite. Enclosure 2 details our inspection plan for the next 8 months. The rationale or basis for each inspection outside the core inspection program is provided so that you are aware of the reason for emphasis in these program areas. Resident inspections are not listed due to their ongoing and continuous nature.

We will inform you of any changes to the inspection plan. If you have any questions, please contact Paul Fredrickson at (404-562-4530).

Sincerely,

(Original signed by Paul E. Fredrickson)

Paul E. Fredrickson, Chief  
Reactor Projects Branch 6  
Division of Reactor Projects

Docket Nos. 50-259, 50-260, 50-296  
License Nos. DPR-33, DPR-52, DPR-68

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Enclosures: 1. Plant Issues Matrix  
2. Inspection Plan

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# United States Nuclear Regulatory Commission PLANT ISSUES MATRIX

by SALP Functional Area

BROWNS FERRY

16-Mar-99

| DATE              | TYPE(s)                             | SEC. SFA                            | SOURCE(s)                           | ID'd                     | ISSUE(s)  | SMM CODES  |  |   |   |   |   |   |   |                                     |                                     |                                     |                          |                                     |   |                                     |                          |                          |                          |                          |   |                                     |                                     |                          |                          |                          |
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| <b>OPERATIONS</b> |                                     |                                     |                                     |                          |   |  |  |   |   |   |   |   |   |                                     |                                     |                                     |                          |                                     |   |                                     |                          |                          |                          |                          |   |                                     |                                     |                          |                          |                          |
| 7/11/98           | NCV                                 |                                     | NCV 296/ 98-04-01                   | LICENSEE                 | The licensee's failure to implement the procedure for returning a loop I Residual Heat Removal (RHR) pump and heat exchanger to service in an operable loop resulted in an unrecognized entry into a more restrictive Technical Specification Limiting Condition for Operation. The licensee's corrective actions were adequate. Core Spray and RHR procedures were enhanced to address a vulnerability while opening normally closed containment isolation valves. | <table style="width: 100%; border: none;"> <tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>A</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr> <tr><td>B</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>C</td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> </table> |  | 1 | 2 | 3 | 4 | 5 | A | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | B | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | C | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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| 7/11/98           | Positive                            |                                     | IR 98-04                            | NRC                      | The control room operators responded correctly to the tripped 3B recirculation pump and utilized a conservative approach regarding consideration of the power/flow conditions. The licensee's use of thermography to assess damage to switchyard ceramic insulators was good.   | <table style="width: 100%; border: none;"> <tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>A</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>B</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>C</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> </table>            |  | 1 | 2 | 3 | 4 | 5 | A | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | B | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | C | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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| 6/16/98           | Positive                            |                                     | IR 98-03                            | NRC                      | During observation of routine operational activities, the inspectors observed good procedural compliance. Self checking and communications were conducted in accordance with licensee management expectations. A deficiency involving nitrogen gas bottle storage in the reactor building was corrected promptly by the licensee. Good supervision of a reactor operator trainee was noted during operation of a diesel generator.                                  | <table style="width: 100%; border: none;"> <tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>A</td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>B</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>C</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> </table> |  | 1 | 2 | 3 | 4 | 5 | A | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | B | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | C | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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| 6/16/98           | NCV                                 |                                     | NCV 98-03-01                        | LICENSEE                 | Personnel errors during development and review of a clearance for maintenance work on a reactor protection system power supply resulted in an inadvertent engineered safety features actuation.   | <table style="width: 100%; border: none;"> <tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>A</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>B</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>C</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> </table>            |  | 1 | 2 | 3 | 4 | 5 | A | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | B | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | C | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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| 6/16/98           | Positive                            |                                     | IR 98-03                            | NRC                      | The Unit 1 operator and AUOs demonstrated good coordination, communications and self checking during the Unit 1 residual heat removal system surveillance for Unit 2 operability. The contaminated area inside the Unit 1 drywell access contained an excessive amount of miscellaneous materials.  | <table style="width: 100%; border: none;"> <tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>A</td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>B</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>C</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> </table> |  | 1 | 2 | 3 | 4 | 5 | A | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | B | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | C | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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| 6/16/98           | Positive                            |                                     | IR 98-03                            | NRC                      | During a Unit 3 midcycle outage, the licensee successfully identified leaking fuel assemblies. Strong reactivity controls were administered for control rod manipulations during the subsequent startup.  | <table style="width: 100%; border: none;"> <tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>A</td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>B</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>C</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> </table>            |  | 1 | 2 | 3 | 4 | 5 | A | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            | B | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | C | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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| C                 | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>  |  |  |   |   |   |   |   |   |                                     |                                     |                                     |                          |                                     |   |                                     |                          |                          |                          |                          |   |                                     |                                     |                          |                          |                          |

| DATE                                | TYPE(s)                  | SEC. SFA                            | SOURCE(s)                | ID'd                                | ISSUE(s)  | SMM CODES   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
|-------------------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|---|---|---|---|---|---|---|-------------------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|---|--|--|--|--|---|--|--|--|--|---|--|--|--|--|
| 5/5/98                              | Negative                 |                                     | IR 98-02                 | NRC                                 | In several observed control room simulator training scenarios, the crew successfully recognized the major events, utilized response procedures, and stabilized the unit. In general, operator performance issues such as use of procedures and communications were addressed, however, management expectations for self-checking were not consistently emphasized. During observation of the critique sessions, the resident inspectors noted several examples which indicated that the training personnel were not consistently enforcing high standards of overall proficiency.   | <table border="0"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>A</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>B</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>C</td><td></td><td></td><td></td><td></td> </tr> </table> | 1 | 2 | 3 | 4 | 5 | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | A |  |  |  |  | B |  |  |  |  | C |  |  |  |  |
| 1                                   | 2                        | 3                                   | 4                        | 5                                   |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
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| A                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| B                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| C                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| 5/5/98                              | VIO                      |                                     | VIO 98-02-01             | NRC                                 | The licensed operator activation/reactivation process was incorrectly implemented resulting in operator licenses being certified active when in fact they were not. As a result, the licensee failed to meet the minimum shift crew requirements on several occasions. A violation was identified by the inspectors for noncompliance with technical specification (TS) 6.2.2.a.  | <table border="0"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td> </tr> <tr> <td>A</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>B</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>C</td><td></td><td></td><td></td><td></td> </tr> </table> | 1 | 2 | 3 | 4 | 5 | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | A |  |  |  |  | B |  |  |  |  | C |  |  |  |  |
| 1                                   | 2                        | 3                                   | 4                        | 5                                   |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
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| A                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| B                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| C                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| 5/5/98                              | Negative                 |                                     | IR 98-02                 | NRC                                 | The licensed operator requalification program was adequate with respect to the examination question sampling process, remediation training, operating examination content validity, and feedback of plant events and incidents into the training curricula. However, the written examination contained questions of marginal discriminatory value, and therefore, did not fully meet the standards established in NUREG-1021, Interim Revision 8.   | <table border="0"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td> </tr> <tr> <td>A</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>B</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>C</td><td></td><td></td><td></td><td></td> </tr> </table> | 1 | 2 | 3 | 4 | 5 | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | A |  |  |  |  | B |  |  |  |  | C |  |  |  |  |
| 1                                   | 2                        | 3                                   | 4                        | 5                                   |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
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| A                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| B                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| C                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| 5/5/98                              | Positive                 |                                     | IR 98-02                 | NRC                                 | Attendance of support group representatives (i.e., fire protection, security, maintenance, and engineering) at the shift turnover meetings was considered a good practice. Board walkdowns by operators were detailed, thorough, and consistent from crew to crew. Pre-shift reviews of required documentation were generally thorough.   | <table border="0"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td> </tr> <tr> <td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>A</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>B</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>C</td><td></td><td></td><td></td><td></td> </tr> </table> | 1 | 2 | 3 | 4 | 5 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            | A |  |  |  |  | B |  |  |  |  | C |  |  |  |  |
| 1                                   | 2                        | 3                                   | 4                        | 5                                   |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
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| A                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| B                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| C                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| 5/5/98                              | Positive                 |                                     | 1 98-02                  | NRC                                 | The inspectors concluded that a recent increase in the number of operations performance issues did not constitute a significant negative trend. The safety significance of many of the items was minor and a low threshold of problem identification was noted. Licensee's review of trend (PER 980476) was thorough.   | <table border="0"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>A</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>B</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>C</td><td></td><td></td><td></td><td></td> </tr> </table>            | 1 | 2 | 3 | 4 | 5 | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            | A |  |  |  |  | B |  |  |  |  | C |  |  |  |  |
| 1                                   | 2                        | 3                                   | 4                        | 5                                   |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
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| A                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| B                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| C                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| 5/5/98                              | Positive                 | ENG                                 | IR 98-02                 | NRC                                 | Control room operators properly inserted a manual scram after entering Region 1 of the core thermal power to flow diagram following a recirculation pump runback. The runback resulted when a breaker opened in the recirculation pump control circuitry. The problem was caused when an engineer taking measurements in an instrumentation cabinet allowed a metal tape measure to contact a fuse holder. Operator response following the scram was good. The peer check performed on the shutdown cooling lineup was considered a good practice. The incident investigation was thorough in review of the scram and equipment issues. | <table border="0"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td> </tr> <tr> <td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>A</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>B</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>C</td><td></td><td></td><td></td><td></td> </tr> </table> | 1 | 2 | 3 | 4 | 5 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            | A |  |  |  |  | B |  |  |  |  | C |  |  |  |  |
| 1                                   | 2                        | 3                                   | 4                        | 5                                   |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
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| A                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| B                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |
| C                                   |                          |                                     |                          |                                     |   |   |   |   |   |   |   |                                     |                          |                                     |                          |                                     |   |  |  |  |  |   |  |  |  |  |   |  |  |  |  |



BROWNS FERRY

16-Mar-99

| DATE               | TYPE(s)  | SEC. SFA | SOURCE(s)        | ID'd     | ISSUE(s)   | SMM CODES  |
|--------------------|----------|----------|------------------|----------|--|--|
| 5/5/98             | Positive | MAINT    | IR 98-02         | NRC      | Overall conduct of a complex surveillance involving 3EC shutdown board testing was good. Self-checking and communications practices were observed to be strong. The SRO coordinating the testing was well prepared and applied excellent supervisory oversight throughout the test. The SRC promptly identified and corrected two personnel errors during the testing. The investigation and immediate corrective actions for an emergent electrical board switch problem were performed well.                     | 1 2 3 4 5<br>A <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>            |
| <b>MAINTENANCE</b> |          |          |                  |          |  |  |
| 7/11/98            | Positive |          | IR 98-04         | NRC      | The licensee effectively performed corrective maintenance on a Unit 3 torus dynamic restraint that had a leaking oil reservoir. The licensee maintained good control of contractor personnel performing the functional test of the torus dynamic restraint.  | 1 2 3 4 5<br>A <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>            |
| 7/11/98            | NCV      |          | NCV 260/98-04-03 | LICENSEE | A maintenance worker performed unauthorized work by adjusting valve packing without operations authorization. Licensee corrective actions were considered good. Additional motor operated valve testing was performed although not required by the as-found condition.   | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> |
| 7/11/98            | Positive | OPS      | IR 98-04         | NRC      | The prejob briefing for the Reactor Core Isolation Cooling System Rated Flow at Normal Operating Pressure Test was detailed and instrumental in successfully coordinating the performance of the various post maintenance tests performed during the surveillance. The operator performing the time-to-rated-flow portion of the test demonstrated a good questioning attitude in questioning the acceptability of an abnormal system valve lineup. Control and supervision of the unit operator trainee was good. | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>                       |
| 7/11/98            | Negative |          | IR 98-04         | NRC      | Test equipment was not set up properly and contributed to unnecessary troubleshooting delays in the calibration of the Reactor Core Isolation Cooling (RCIC) system governor. Maintenance personnel were unfamiliar with test equipment operation although trained to perform the task. Preliminary licensee investigation efforts were adequately focused on the issues that emerged during performance of the RCIC system governor calibration.  | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>            |
| 5/5/98             | Positive |          | IR 98-02         | NRC      | Major maintenance activities on two residual heat removal service water pumps were conducted well. Placement of the pump assemblies was performed carefully and action to address shaft wear were thorough.  | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

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|--------------------|----------|----------|-----------------------|----------|--|--|
| 5/5/98             | Negative | OPS      | IFI 98-02-05          | NRC      | Overall, conduct of Fix-It-Now team work was well controlled. The inspectors questioned the procedural guidance and implementation regarding the use of personnel, in some cases, to ensure that a component was maintained in the safe position instead of using a clearance. Licensee management is reviewing the practice to determine if procedural guidance is appropriate and management expectations were met. Additional NRC review of the licensee' evaluation is necessary. (IFI 98-02-05)     | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5/5/98             | VIO      | ENG      | VIO 98-02-03          | NRC      | Additional NRC review identified that the procedure for testing the SBGT downstream HEPA filter did not meet the requirements of American National Standard Institute (ANSI) N510-1975 as required by TS, DOP dispersion testing was not incorporated into the test procedures. (TS 3.7.B.2.a Violation)   | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5/5/98             | VIO      | ENG      | VIO 98-02-02          | NRC      | The licensee did not initially perform an aggressive review of the inspector's concern that SBGT testing relied upon the skill of the maintenance craft to work around procedural obstacles. The NRC subsequently identified that the model of DOP generator used for testing of the Standby Gas Treatment (SBGT) and Control Room Emergency Ventilation (CREV) systems was not equivalent to that model required by the procedure. A violation was identified for failure to follow testing procedures. | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| <b>ENGINEERING</b> |          |          |                       |          |  |  |
| 7/11/98            | NCV      |          | NCV 260, 296/98-04-04 | LICENSEE | The correction coefficient (TAU) used to adjust the Operating Limit Minimum Critical Power Ratio (OLMCPR) for slow control rod scram insertion times was incorrect for several Unit 2 and 3 operating cycles. However, the corrected OLMCPR was never exceeded. Weak design controls were in place between the licensee and the contractor performing core reload analysis. The licensee corrective actions were prompt and complete.  | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>            |
| 6/16/98            | Negative |          | NRC ltr dtd 6/6/98    | NRC      | Incomplete and poor quality submittal and nontimely responses to staff's requests for additional information relating to license amendment request for power uprate. Quality of submittals and planning for licensing activities needs to be improved.   | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>                       |
| 6/16/98            | Negative | MAINT    | IR 98-03              | NRC      | Implementation of GL 89-10 remained partly incomplete, as the licensee had not satisfactorily obtained and/or analyzed motor-operated valve (MOV) test data to support certain assumptions.  | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>                       |



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|----------------------|----------|----------|--------------|----------|--|---|
| 6/16/98              | NCV      | MAINT    | NCV 98-03-06 | LICENSEE | The licensee identified that testing of a control room emergency ventilation system damper did not fully implement Technical Specification (TS) requirements. The problem was identified during reviews for Generic Letter 96-01, Testing of Safety-Related Logic Circuits.  | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>                       |
| 6/16/98              | URI      |          | URI 98-03-02 | LICENSEE | Testing of the Standby Gas Treatment relative humidity heater flow switches was well controlled and conducted in accordance with procedures. Second party checking and communication practices were good. Some inconsistencies were noted involving the testing methodology and measurement of air flowrates. An apparent discrepancy between TS requirements and the test procedure was identified by the licensee. An unresolved item was opened to address additional review.   | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>            |
| 5/5/98               | Positive |          | IR 98-02     | NRC      | The inspector concluded that the licensee's Qualified 50.59 Preparer Training met ANSI-3.1-1981. Six 10 CFR 50.59 safety evaluations chosen for review, five were determined to be technically adequate. One safety evaluation contained a minor deficiency.   | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> |
| 5/5/98               | VIO      | MAINT    | VIO 98-02-04 | NRC      | Periodic replacement of the High Pressure Coolant Injection System turbine exhaust rupture disc assembly was performed satisfactorily except that the as-found inspection process was not adequate to identify that the disc material was degraded. The licensee did not identify the degradation until the inspectors questioned the inspection. (Criterion XVI Violation)  | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> |
| <b>PLANT SUPPORT</b> |          |          |              |          |  |   |
| 7/11/98              | Positive |          | IR 98-04     | NRC      | Facility radiological conditions in radioactive waste storage areas, health physics facilities, and Turbine and Reactor Buildings were found to be appropriate and the areas were properly posted and material appropriately labeled. Personnel dosimetry devices were appropriately worn. Radiation work activities were appropriately planned. Radiation worker doses were being maintained well below regulatory limits and the licensee was maintaining exposures ALARA. A special team was planning an aggressive U3 drywell cleanup. The Whole Body counting program was performed as procedurally required. | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>C <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6/16/98              | Positive |          | IR 98-03     | NRC      | The inspector determined that the licensee had procedurally established a process to ensure that personnel who were granted unescorted access were trustworthy, reliable, and do not constitute an unreasonable risk to the health and safety of the public.   | 1 2 3 4 5<br>A <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>B <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>C <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>                       |

| DATE                     | TYPE(s)                             | SEC. SFA                            | SOURCE(s)                           | ID'd                                | ISSUE(s)  | SMM CODES   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |
|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---|---|---|---|---|---|---|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---|--|--|--|--|---|-------------------------------------|-------------------------------------|--------------------------|--------------------------|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 6/16/98                  | NCV                                 |                                     | NCV 98-03-07                        | LICENSEE                            | A non-cited violation for failure to meet NRC requirements in 10 CFR 50 Appendix B Criterion III Design Control was identified. Discussion with cognizant licensee personnel and a review of performance records determined the percentage unavailability of the Radcon continuous air monitors was an area that could be improved. The licensee was conducting thorough formal RP and chemistry audits as required by Technical Specifications and conducting self-assessments. The licensee was developing corrective action plans, trending, and completing corrective actions in a timely manner. | <table border="0"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td> </tr> <tr> <td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td> </tr> <tr> <td>A</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>B</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>C</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> </table> | 1 | 2 | 3 | 4 | 5 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | A |  |  |  |  | B | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | C | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 1                        | 2                                   | 3                                   | 4                                   | 5                                   |   |   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |   |   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |
| A                        |                                     |                                     |                                     |                                     |   |   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |
| B                        | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |   |   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |
| C                        | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |   |   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |
| 6/16/98                  | Positive                            |                                     | IR 98-03                            | NRC                                 | The water chemistry control program met the regulatory requirements and the licensee was using depleted zinc oxide to help lower general and component radiation dose levels.   | <table border="0"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>A</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>B</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>C</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> </table>                       | 1 | 2 | 3 | 4 | 5 | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | A |  |  |  |  | B | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | C | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 1                        | 2                                   | 3                                   | 4                                   | 5                                   |   |   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |
| <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |   |   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |
| A                        |                                     |                                     |                                     |                                     |   |   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |
| B                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |   |   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |
| C                        | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |   |   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |
| 6/16/98                  | Positive                            |                                     | IR 98-03                            | NRC                                 | Radioactive material was labeled appropriately, and areas were properly posted. Personnel dosimetry devices were appropriately worn. Radiation work activities were appropriately planned. Radiation worker doses were being maintained well below regulatory limits. Contamination control, although challenging was effective. Reduction in the generation of radwaste demonstrated aggressive management.  | <table border="0"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>A</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>B</td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>C</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> </table>            | 1 | 2 | 3 | 4 | 5 | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | A |  |  |  |  | B | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | C | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 1                        | 2                                   | 3                                   | 4                                   | 5                                   |   |   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |
| <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |   |   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |
| A                        |                                     |                                     |                                     |                                     |   |   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |
| B                        | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |   |   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |
| C                        | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |   |   |   |   |   |   |   |                          |                                     |                                     |                                     |                                     |   |  |  |  |  |   |                                     |                                     |                          |                          |   |                          |                          |                          |                          |

| DATE | TYPE(s) | SEC. SFA | SOURCE(s) | ID'd | ISSUE(s) | SMM CODES |
|------|---------|----------|-----------|------|----------|-----------|
|------|---------|----------|-----------|------|----------|-----------|

**SMM Template Codes:**

|    |  |
|----|--|
| 1A | OPERATION PERFORMANCE - Normal Operations            |
| 1B | OPERATION PERFORMANCE - Operations During Transients |
| 1C | OPERATION PERFORMANCE - Programs and Processes       |
| 2A | MATERIAL CONDITION - Equipment Condition             |
| 2B | MATERIAL CONDITION - Programs and Processes          |
| 3A | HUMAN PERFORMANCE - Work Performance                 |
| 3B | HUMAN PERFORMANCE - KSA                              |
| 3C | HUMAN PERFORMANCE- Work Environment                  |
| 4A | ENGINEERING/DESIGN - Design                          |
| 4B | ENGINEERING/DESIGN - Engineering Support             |
| 4C | ENGINEERING/DESIGN - Programs and Processes          |
| 5A | PROBLEM IDENTIFICATION & SOLUTION - Identification   |
| 5B | PROBLEM IDENTIFICATION & SOLUTION - Analysis         |
| 5C | PROBLEM IDENTIFICATION & SOLUTION - Resolution       |

**SALP Functional Areas:**

|        |                        |
|--------|------------------------|
| ENG    | ENGINEERING            |
| MAINT  | MAINTENANCE            |
| OPS    | OPERATIONS             |
| PLT SU | PLANT SUPPORT          |
| SAQV   | SAFETY ASSESSMENT & QV |

**ID Code:**

|          |               |
|----------|---------------|
| LICENSEE | LICENSEE      |
| NRC      | NRC           |
| SELF     | SELF-REVEALED |

EEIs are apparent violations of NRC requirements that are being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Action" (Enforcement Policy), NUREG-1600. However, the NRC has not reached its final enforcement decision on the issues identified by the EEIs and the PIM entries may be modified when the final decisions are made. Before the NRC makes its enforcement decision, the licensee will be provided with an opportunity to either (1) respond to the apparent violation or (2) request a predecisional enforcement conference.

URIs are unresolved items about which more information is required to determine whether the issue in question is an acceptable item, a deviation, a nonconformance, or a violation. However, the NRC has not reached its final conclusions on the issues, and the PIM entries may be modified when the final conclusions are made.



## United States Nuclear Regulatory Commission

Region II  
BROWNS FERRY

## PLANT ISSUE MATRIX

By Primary Functional Area

| Date       | Source     | Functional Area  | ID  | Type   | Template Codes             | Item Description   |
|------------|------------|------------------|-----|--------|----------------------------|--|
| 12/26/1998 | 1998008    | Pri: OPS<br>Sec: | NRC | MISC   | Pri: 1A<br>Sec:<br>Ter:    | The Institute of Nuclear Power Operations evaluation of the Browns Ferry Nuclear facility was consistent with the most recent NRC assessment of the licensee's performance.  |
| 12/26/1998 | 1998008    | Pri: OPS<br>Sec: | NRC | MV     | Pri: 1A<br>Sec:<br>Ter:    | On September 11, 1997, the licensee failed to meet the TS requirement to fully isolate a pressure boundary leak from all operable systems; however, the actions taken were reasonable and there were no safety consequences.   |
| 12/26/1998 | 1998008    | Pri: OPS<br>Sec: | NRC | NEG    | Pri: 1A<br>Sec:<br>Ter:    | The licensee continued to have difficulties with the implementation of the Improved Technical Specifications (TS). Specifically, the licensee erroneously determined that an inappropriate TS Limiting Condition for Operation (LCO) was applicable during rod worth minimizer testing. The testing procedure was subsequently changed to ensure that the LCO actions were followed. |
| 12/26/1998 | 1998008    | Pri: OPS<br>Sec: | NRC | POS    | Pri: 1A<br>Sec:<br>Ter:    | Good housekeeping was noted in the accessible portions of the plant. Cold weather protection was well-maintained.  |
| 12/26/1998 | 1998008    | Pri: OPS<br>Sec: | NRC | POS    | Pri: 1B<br>Sec:<br>Ter:    | A Unit Board 3B lockout caused a plant transient on November 17, 1998. Overall, the operators' response to the transient was good.   |
| 11/14/1998 | 1998007    | Pri: OPS<br>Sec: | NRC | POS    | Pri: 1A<br>Sec: 1C<br>Ter: | Fuel movement activities were properly implemented during the Unit 3 refueling outage. Refueling bridge personnel demonstrated good communications and performed fuel movement verifications in a consistent manner.   |
| 11/14/1998 | 1998007    | Pri: OPS<br>Sec: | NRC | STR    | Pri: 1A<br>Sec:<br>Ter:    | The operators performed in a professional and conservative manner. A strength was noted in the high quality of the control room logs.  |
| 11/14/1998 | 1998007    | Pri: OPS<br>Sec: | NRC | STR    | Pri: 3A<br>Sec:<br>Ter:    | Subsequent to the completion of the Unit 3 Cycle 8 refueling outage, drywell housekeeping was excellent with a few minor exceptions which were promptly corrected.   |
| 11/14/1998 | 1998007-01 | Pri: OPS<br>Sec: | NRC | VIO IV | Pri: 3B<br>Sec: 1A<br>Ter: | Licensed operators demonstrated a knowledge deficiency when they failed to implement the requirements of Technical Specification (TS) Limiting Condition for Operation 3.0.4. The operators incorrectly continued RPV heatup through 150 psig while HPCI was inoperable for maintenance.   |

## United States Nuclear Regulatory Commission

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## PLANT ISSUE MATRIX

By Primary Functional Area

| Date       | Source     | Functional Area         | ID       | Type   | Template Codes                | Item Description  |
|------------|------------|-------------------------|----------|--------|-------------------------------|---|
| 11/02/1998 | 1998006-01 | Pri: OPS<br>Sec:        | Licensee | NCV    | Pri: 1A<br>Sec:<br>Ter:       | A control rod was inadvertently withdrawn several notches past its previous position and promptly inserted back to its intended position. The licensee's investigation determined that the cause of the mispositioned control rod was human error and the cause of the re-insertion of the control rod without direction was human error. |
| 10/03/1998 | 1998006    | Pri: OPS<br>Sec:        | NRC      | NEG    | Pri: 1A<br>Sec:<br>Ter:       | Operations personnel inappropriately entered into TS LCO 3.0.3 when tagging out the Unit 3 CAD system prior to reactor shutdown for the refueling outage. Although the actual conditions for entry into TS LCO 3.0.3 did not exist, operators involved were not appropriately sensitive to intentional entry into TS LCO 3.0.3.           |
| 10/03/1998 | 1998006    | Pri: OPS<br>Sec:        | NRC      | NEG    | Pri: 1A<br>Sec: 1C<br>Ter:    | Licensee management expectations for signing the working copies of clearances in the field were not diligently implemented, as identified by two examples. The licensee clearly communicated expectations to Operations personnel following identification of the issue.  |
| 10/03/1998 | 1998006    | Pri: OPS<br>Sec: MAINT  | NRC      | POS    | Pri: 1B<br>Sec: 5A<br>Ter: 5B | Plant systems responded as designed when an automatic turbine trip and scram for scram occurred on Unit 2. Thorough troubleshooting of the stator cooling water system led to prompt identification of the cause. The licensee's Incident Investigation Team performed a thorough investigation of the event.                             |
| 10/03/1998 | 1998006    | Pri: OPS<br>Sec: MAINT  | NRC      | POS    | Pri: 2A<br>Sec:<br>Ter:       | General material conditions of the Unit 2 Core Spray system and of the Unit 3 torus were considered to be good.   |
| 08/22/1998 | 1998005-02 | Pri: OPS<br>Sec:        | Licensee | NCV    | Pri: 1A<br>Sec: 3B<br>Ter:    | The licensee identified that a high steam dome pressure indication was not effectively evaluated to determine necessary corrective measures, as required by procedures, when the steam dome pressure was recorded and determined to be outside of the TS-required acceptance criteria.  |
| 08/22/1998 | 1998005    | Pri: OPS<br>Sec: PLTSUP | NRC      | POS    | Pri: 1A<br>Sec:<br>Ter:       | Fuel receipt inspections were performed effectively and demonstrated good attention to detail.  |
| 01/25/1999 | 1998008-02 | Pri: MAINT<br>Sec:      | NRC      | VIO IV | Pri: 2B<br>Sec:<br>Ter:       | The surveillance procedure for functional testing of the Standby Gas Treatment System relative humidity flow switch channels was previously identified as inadequate to test the flow switch contacts in the relative humidity heater circuit. The planned corrective actions were reviewed and determined to be acceptable.              |
| 12/26/1998 | 1998008    | Pri: MAINT<br>Sec:      | NRC      | POS    | Pri: 3A<br>Sec: 3B<br>Ter:    | Work activities were well-controlled. The prejob briefing for the inspection/calibration of a Reactor Core Isolation Cooling instrument was very good. The briefing reviewed instrument symptoms and possible causes, detailed past problems, and emphasized the importance of good communications with operations personnel.             |

## United States Nuclear Regulatory Commission

Region II  
BROWNS FERRY

## PLANT ISSUE MATRIX

By Primary Functional Area

| Date       | Source     | Functional Area    | ID       | Type | Template Codes             | Item Description   |
|------------|------------|--------------------|----------|------|----------------------------|--|
| 12/26/1998 | 1998008    | Pri: MAINT<br>Sec: | NRC      | POS  | Pri: 3A<br>Sec: 3B<br>Ter: | Surveillance testing activities were performed in a professional manner with good attention to self-checking. Lead performers were knowledgeable of their tasks.   |
| 12/09/1998 | 1998007-03 | Pri: MAINT<br>Sec: | Licensee | NCV  | Pri: 2B<br>Sec: 3B<br>Ter: | Improper use of a volt-ohm meter (VOM) during Common Accident Signal Logic testing resulted in the unexpected actuation of the B3 Emergency Equipment Cooling Water pump. Additional deficiencies associated with the recommended use of the VOM were noted after testing was restarted following the actuation.   |
| 11/14/1998 | 1998007    | Pri: MAINT<br>Sec: | NRC      | NEG  | Pri: 2B<br>Sec:<br>Ter:    | The surveillance procedure for functional testing of the Standby Gas Treatment System relative humidity flow switch channels was inadequate to test the flow switch contacts in the relative humidity heater circuit.  |
| 11/14/1998 | 1998007    | Pri: MAINT<br>Sec: | NRC      | POS  | Pri: 2B<br>Sec:<br>Ter:    | The licensee's periodic assessment report provided sufficient detail to demonstrate that the licensee had adequately evaluated performance, condition monitoring, associated goals, and preventive maintenance activities for systems, structures, and components within the scope of the Maintenance Rule. The licensee's assessment met the requirements of NUMARC 93-01 and paragraph (a)(3) of 10 CFR 50.65.                 |
| 11/14/1998 | 1998007    | Pri: MAINT<br>Sec: | NRC      | POS  | Pri: 3A<br>Sec: 3B<br>Ter: | Work practices were professional and properly controlled. Workers were knowledgeable of their assigned tasks. The lead performer demonstrated exceptional knowledge of the construction and operation of the new Siemens vacuum type breaker during replacement activities on the Unit 1 4-kilovolt Unit Board.  |
| 11/14/1998 | 1998007    | Pri: MAINT<br>Sec: | NRC      | POS  | Pri: 3A<br>Sec: 3B<br>Ter: | Surveillance test activities were conducted in a professional manner, with good coordination demonstrated between operations, engineering, and chemistry personnel when troubleshooting an effluent radiation monitor during Residual Heat Removal Service Water pump testing.   |
| 11/14/1998 | 1998007-02 | Pri: MAINT<br>Sec: | NRC      | EEI  | Pri: 2B<br>Sec:<br>Ter:    | The surveillance procedure for functional testing of the Standby Gas Treatment System Relative Humidity Flow Switch Channels was inadequate to test the flow switch contacts in the Relative Humidity Heater Circuit.  |
| 10/03/1998 | 1998006    | Pri: MAINT<br>Sec: | NRC      | POS  | Pri: 2B<br>Sec:<br>Ter:    | The licensee's Inservice Testing (IST) program scope was satisfactory. The licensee's Program Manual for the second ten-year IST interval was consistent with the ASME Section XI code requirements. The licensee developed and implemented procedures which met IST program requirements for reactor core isolation cooling (RCIC) and residual heat removal systems (RHR) were described and tested in appropriate procedures. |
| 10/03/1998 | 1998006    | Pri: MAINT<br>Sec: | NRC      | POS  | Pri: 3A<br>Sec: 3B<br>Ter: | Thorough troubleshooting of equipment problems was observed during the inspection period. Workers were found to be knowledgeable of their assigned tasks. Good work practices were demonstrated.   |



## United States Nuclear Regulatory Commission

Region II  
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## PLANT ISSUE MATRIX

By Primary Functional Area

| Date       | Source  | Functional Area        | ID       | Type | Template Codes             | Item Description   |
|------------|---------|------------------------|----------|------|----------------------------|--|
| 10/03/1998 | 1998006 | Pri: MAINT<br>Sec: ENG | NRC      | POS  | Pri: 2B<br>Sec: 3B<br>Ter: | Operators conservatively backed out of testing and consulted engineering for support when problems were encountered during core spray logic system functional testing. Operations personnel performing the test demonstrated an in-depth knowledge of the test and the consequences of potential personnel errors.     |
| 08/22/1998 | 1998005 | Pri: MAINT<br>Sec:     | NRC      | POS  | Pri: 1A<br>Sec:<br>Ter:    | Maintenance work activities were performed in a professional and thorough manner.  |
| 08/22/1998 | 1998005 | Pri: MAINT<br>Sec:     | Licensee | POS  | Pri: 1A<br>Sec: 2A<br>Ter: | Effective troubleshooting by licensee engineers determined the cause of an oil foaming problem with the Unit 3 Reactor Core Isolation Cooling System. Troubleshooting activities were well-planned and executed with reliable maintenance support.   |
| 03/14/1998 | 1998007 | Pri: MAINT<br>Sec:     | NRC      | POS  | Pri: 3A<br>Sec:<br>Ter:    | The licensee's inservice inspection activities, including repairs and replacements, were conducted in accordance with regulatory requirements and licensee commitments.  |
| 12/26/1998 | 1998008 | Pri: ENG<br>Sec:       | NRC      | MISC | Pri: 4C<br>Sec:<br>Ter:    | The licensee's program for maintenance, inspection and repairs to Service Level I coatings was adequate. However, a weakness was identified in the licensee's site implementing procedure for omitting the requirements for repairs to coating from the procedure and referencing documents which had been superseded. |
| 12/17/1998 | 1998011 | Pri: ENG<br>Sec:       | NRC      | NEG  | Pri: 4A<br>Sec:<br>Ter:    | Although the mechanical/nuclear calculations reflected the plant's current design and licensing basis, various errors and/or methodology were identified in the majority of them.  |
| 12/17/1998 | 1998011 | Pri: ENG<br>Sec:       | NRC      | NEG  | Pri: 4C<br>Sec:<br>Ter:    | Requirements of FSAR Sections 8.6.2.2, 8.6.4.1, and 8.6.5 could not be met because of the 250-VDC system's inadequate battery capacity. This was identified as an original plant design deficiency.  |
| 12/17/1998 | 1998011 | Pri: ENG<br>Sec:       | NRC      | NEG  | Pri: 5B<br>Sec:<br>Ter:    | Calculation MD-Q3999-970055, developed in support of the ECCS strainer plant modification provided a weak analysis of the installation by not addressing the higher differential pressure across the clean strainer.   |
| 12/17/1998 | 1998011 | Pri: ENG<br>Sec:       | NRC      | POS  | Pri: 4A<br>Sec:<br>Ter:    | The licensee has implemented design changes which fully satisfy its regulatory commitments for TS changes 384 and 386.   |

## United States Nuclear Regulatory Commission

Date: 03/18/1999

Time: 06:01:49

Region II  
BROWNS FERRY

## PLANT ISSUE MATRIX

By Primary Functional Area

| Date       | Source     | Functional Area    | ID       | Type   | Template Codes                | Item Description   |
|------------|------------|--------------------|----------|--------|-------------------------------|--|
| 12/17/1998 | 1998011    | Pri: ENG<br>Sec:   | NRC      | POS    | Pri: 4A<br>Sec:<br>Ter:       | The electrical equipment in the HPCI room was qualified to meet the environmental changes resulting from the power uprate.   |
| 12/17/1998 | 1998011    | Pri: ENG<br>Sec:   | NRC      | POS    | Pri: 4A<br>Sec:<br>Ter:       | The review of Electrical Calculation ED-G0256-880707 showed that the assumptions made were adequate and a sound engineering approach was used.   |
| 12/17/1998 | 1998011    | Pri: ENG<br>Sec:   | NRC      | POS    | Pri: 4C<br>Sec:<br>Ter:       | The licensee developed and implemented plant modifications which evaluated the HPCI system instrument loops and demonstrated their capacity to operate under power uprate conditions. The instrument loops were demonstrated to be sufficiently accurate to perform their design function.   |
| 12/17/1998 | 1998011    | Pri: ENG<br>- Sec: | NRC      | POS    | Pri: 5A<br>Sec:<br>Ter:       | The self-assessment plan prepared to evaluate the HPCI system was both thorough and complete.  |
| 12/17/1998 | 1998011-01 | Pri: ENG<br>Sec:   | NRC      | NCV    | Pri: 4A<br>Sec:<br>Ter:       | Inadequate 250-VDC Battery Capacity. Although there were capacity limitations on the 250-Vdc system design, manual realignment of alternate power sources from another battery and repositioning of valves allowed the 250-Vdc system to meet the FSAR licensing basis requirements. This condition has existed the since original plant design. |
| 12/17/1998 | 1998011-02 | Pri: ENG<br>Sec:   | NRC      | IFI    | Pri: 4A<br>Sec: 4B<br>Ter:    | Corrective action followup for design basis calculations with six examples.  |
| 12/09/1998 | 1998007-04 | Pri: ENG<br>Sec:   | NRC      | VIO IV | Pri: 1A<br>Sec: 4C<br>Ter:    | The licensee's engineering group failed to disposition flappers identified as deficient prior to placing in an issue status.   |
| 11/02/1998 | 1998006-03 | Pri: ENG<br>Sec:   | Licensee | NCV    | Pri: 1A<br>Sec:<br>Ter:       | The licensee failed to identify inoperable RBM channels and take the actions specified by Technical Specification 3.3.2.1  |
| 10/03/1998 | 1998006    | Pri: ENG<br>Sec:   | NRC      | MISC   | Pri: 1A<br>Sec: 2A<br>Ter: 5B | The licensee's resolution that an Emergency Diesel Generator cooler leak was not a failure was considered to be incorrect. However, the licensee performed an adequate review to determine the cause of the leak on the 1/2C diesel generator cooler.  |

# United States Nuclear Regulatory Commission PLANT ISSUE MATRIX

Region II  
BROWNIS FERRY

By Primary Functional Area

| Date       | Source     | Functional Area        | ID  | Type   | Template Codes                | Item Description   |
|------------|------------|------------------------|-----|--------|-------------------------------|--|
| 10/03/1998 | 1998006-02 | Pri: ENG<br>Sec: MAINT | NRC | VIO IV | Pri: 1C<br>Sec:<br>Ter:       | Surveillance procedures for functional testing of the residual heat removal loop I/II valve logic and interlocks were inadequate.  |
| 12/26/1998 | 1998008    | Pri: PLTSUP<br>Sec:    | NRC | MISC   | Pri: 4C<br>Sec:<br>Ter:       | The licensee conducted the first Severe Accident Management Guidelines drill in a professional manner. The Technical Support Center critique held immediately after the drill was self-critical; however, the subsequent overall critique lacked participation and interaction from drill participants.  |
| 12/26/1998 | 1998008    | Pri: PLTSUP<br>Sec:    | NRC | MISC   | Pri: 4C<br>Sec: 2A<br>Ter:    | The surveillance requirements for demonstrating operability of the meteorological monitoring instrumentation were met.   |
| 12/26/1998 | 1998008    | Pri: PLTSUP<br>Sec:    | NRC | NEG    | Pri: 4C<br>Sec:<br>Ter:       | Several examples where radiological postings did not meet licensee expectations were identified. In addition, examples of workers not wearing dosimetry consistent with the licensee's expectations were identified.   |
| 12/26/1998 | 1998008    | Pri: PLTSUP<br>Sec:    | NRC | POS    | Pri: 2A<br>Sec:<br>Ter:       | The licensee had implemented an effective program for maintaining radioactive effluent monitoring instrumentation in an operable condition and for performing the required surveillances to demonstrate their operability.   |
| 12/26/1998 | 1998008    | Pri: PLTSUP<br>Sec:    | NRC | POS    | Pri: 2A<br>Sec: 4C<br>Ter:    | The licensee maintained the Control Room Emergency Ventilation System in an operable condition and performed the required surveillances to demonstrate operability of the systems.   |
| 11/14/1998 | 1998007    | Pri: PLTSUP<br>Sec:    | NRC | POS    | Pri: 1A<br>Sec: 1C<br>Ter: 3A | Performance of security officers in safeguarding the facility was satisfactory; they were attentive to their duties and cognizant of their surroundings.   |
| 11/14/1998 | 1998007    | Pri: PLTSUP<br>Sec:    | NRC | POS    | Pri: 1A<br>Sec: 3B<br>Ter:    | Radiation protection of personnel was effectively implemented through the proper administration of the control point, radiological postings, and integrity of locked high radiation areas.   |
| 10/03/1998 | 1998006    | Pri: PLTSUP<br>Sec:    | NRC | POS    | Pri: 1A<br>Sec: 2B<br>Ter:    | The licensee properly monitored and controlled personnel radiation exposure during the Unit 3 Cycle 8 refueling outage and posted area radiological conditions in accordance with 10 CFR Part 20. Briefings on radiological hazards and protective measures were adequate. Maximum individual radiation exposures were well within the regulatory limits for occupational dose specified in 10 CFR 20.1201(a). The licensee was generally successful in meeting established ALARA goals. |



## United States Nuclear Regulatory Commission

Region II  
BROWNS FERRY

## PLANT ISSUE MATRIX

By Primary Functional Area

| Date       | Source  | Functional Area     | ID  | Type | Template Codes          | Item Description  |
|------------|---------|---------------------|-----|------|-------------------------|---|
| 10/02/1998 | 1998012 | Pri: PLTSUP<br>Sec: | NRC | POS  | Pri: 1A<br>Sec:<br>Ter: | The licensee's security facilities and equipment were determined to be very well maintained and reliable. The initiative to develop a map of the effective zones of detection and to return the zones to that status after major maintenance was considered a strength. The excellent Engineering and I&C support was the major contributing factor to continued operability of the detection and assessment equipment. |
| 10/02/1998 | 1998012 | Pri: PLTSUP<br>Sec: | NRC | POS  | Pri: 1A<br>Sec:<br>Ter: | The SFMs adequately demonstrated that they have the requisite knowledge necessary to effectively implement the duties and responsibilities associated with their day-to-day and contingency response positions.   |
| 08/22/1998 | 1998005 | Pri: PLTSUP<br>Sec: | NRC | POS  | Pri: 1A<br>Sec:<br>Ter: | The protected area was well lit and temporary structures had sufficient temporary lighting.   |
| 08/22/1998 | 1998005 | Pri: PLTSUP<br>Sec: | NRC | POS  | Pri: 1A<br>Sec:<br>Ter: | During new fuel receipt, the Radiation Protection technicians performed thorough and consistent surveys and were knowledgeable of the new survey requirements.  |

# United States Nuclear Regulatory Commission PLANT ISSUE MATRIX

By Primary Functional Area

## Legend

**Type Codes:**

|      |                                  |
|------|----------------------------------|
| BU   | Bulletin                         |
| CDR  | Construction                     |
| DEV  | Deviation                        |
| EI   | Escalated Enforcement Item       |
| IFI  | Inspector Follow-up Item         |
| LER  | Licensee Event Report            |
| LIC  | Licensing Issue                  |
| MISC | Miscellaneous                    |
| MV   | Minor Violation                  |
| NCV  | Non-Cited Violation              |
| NEG  | Negative                         |
| NOED | Notice of Enforcement Discretion |
| NON  | Notice of Non-Conformance        |
| P21  | Part 21                          |
| POS  | Positive                         |
| SGI  | Safeguard Event Report           |
| STR  | Strength                         |
| URI  | Unresolved Item                  |
| VIO  | Violation                        |
| WK   | Weakness                         |

**Template Codes:**

|    |                              |
|----|------------------------------|
| 1A | Normal Operations            |
| 1B | Operations During Transients |
| 1C | Programs and Processes       |
| 2A | Equipment Condition          |
| 2B | Programs and Processes       |
| 3A | Work Performance             |
| 3B | KSA                          |
| 3C | Work Environment             |
| 4A | Design                       |
| 4B | Engineering Support          |
| 4C | Programs and Processes       |
| 5A | Identification               |
| 5B | Analysis                     |
| 5C | Resolution                   |

**ID Codes:**

|          |               |
|----------|---------------|
| NRC      | NRC           |
| Self     | Self-Reported |
| Licensee | Licensee      |

**Functional Areas:**

|        |               |
|--------|---------------|
| OPS    | Operations    |
| MAINT  | Maintenance   |
| ENG    | Engineering   |
| PLTSUP | Plant Support |
| OTHER  | Other         |

EIIs are apparent violations of NRC Requirements that are being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Action" (Enforcement Policy), NUREG-1600. However, the NRC has not reached its final enforcement decision on the issues identified by the EIIs and the PIM entries may be modified when the final decisions are made.

URIs are unresolved items about which more information is required to determine whether the issue in question is an acceptable item, a deviation, a nonconformance, or a violation. A URI may also be a potential violation that is not likely to be considered for escalated enforcement action. However, the NRC has not reached its final conclusions on the issues, and the PIM entries may be modified when the final conclusions are made.

**BROWNS FERRY NUCLEAR PLANT**

**INSPECTION PLAN**

| <b>INSPECTION PROCEDURE</b> | <b>TITLE</b>                              | <b>NO. OF INSPECTORS</b> | <b>INSPECTION DATES</b> | <b>TYPE OF INSPECTION</b>   |
|-----------------------------|---|--------------------------|-------------------------|---|
| 73753                       | ISI                                       | 1                        | 4/99                    | Core  |
| 83750                       | Radiation Protection                      | 1                        | 4/99                    | Core  |
| 82301                       | Emergency Preparedness                    | 3                        | 5/99                    | Core (Bi-annual Graded Exercise)  |
| 83750                       | Radiation Protection                      | 2                        | 6/99                    | Core (To TVA corporate offices to review personnel dose records)                                      |
| 37750 and 92903             | Engineering Performance and SSEI Followup | 3                        | 8/99                    | Regional Initiative - Evaluate engineering performance and review issues identified in the 1998 SSEI. |
| 84750 and 86750             | Radiation Protection                      | 1                        | 9/99                    | Core  |
| 81700                       | Physical Security                         | 1                        | 11/99                   | Core  |
| 83750                       | Radiation Protection                      | 1                        | 11/99                   | Core  |

**ENCLOSURE 2**