

# NRC INSPECTION MANUAL

IIPB

## MANUAL CHAPTER 25XX1

### BROWNS FERRY UNIT 1 RESTART PROJECT INSPECTION PROGRAM

#### 25XX1-01 PURPOSE

01.01 To provide the policies and requirements for the Browns Ferry Unit 1 (BF1) restart inspection program during that unit's major renovation, pre-restart testing, startup testing, and additional inspections prescribed by the Restart Oversight Panel.

01.02 To establish a record of the major regulatory and licensee actions taken and technical issues resolved leading to the licensee's readiness for restart and to the eventual return of the plant to the reactor oversight process.

#### 25XX1-02 OBJECTIVES

02.01 To verify that engineering evaluations, design changes, and modifications for the Browns Ferry Unit 1 Restart Project (BF1RP) are completed in conformance with the facility's license, applicable codes and standards, licensee commitments, and the regulations.

02.02 To verify that activities involving replacement, renovation, and removal of equipment are conducted so as to maintain adequate nuclear and radiological safety.

02.03 To verify the adequacy of the licensee's design control programs and their implementation, and the adequacy of the installation and testing of modifications for Special Programs listed in the licensee's Nuclear Performance Plan and other programs (i.e., security and radiation protection).

02.04 To appropriately disposition inspection findings and to close open restart issues.

02.05 To confirm the readiness of BF1 to begin pre-restart testing, based on inspections of the licensee's programs.

02.06 To verify that systems and components important to the safety of the plant have been fully tested to demonstrate compliance with design requirements, based on direct observation of pre-restart testing, personnel interviews of licensee staff, and review of pre-restart testing records.

02.07 To verify the operational readiness of BF1 for unrestricted operation based on inspections during the renovation phase, pre-restart testing, an Operational Readiness Assessment Team Inspection (ORAT), and any additional inspections recommended by the Restart Oversight Panel.

02.08 To effectively manage the resolution of restart issues, to establish a Restart Oversight Panel, and to ensure that NRR and Region II are appropriately involved in the decisions affecting the restart of BF1.

02.09 To provide an objective basis to justify NRC approval for BF1 to restart, and then to provide the process to transition BF1 into the reactor oversight process (ROP).

02.10 To provide a mechanism for communicating issues and corrective actions to the public and other external stakeholders.

### 25XX1-03 APPLICABILITY

03.01 The inspection program for MC 2515 "Light-Water Reactor Inspection Program - Operations Phase" applies to any licensed nuclear facility assumed capable of operating safely within currently required safety margins. That basic assumption does not hold true for BF1 because of unique circumstances. Since its shutdown in March 1985, the reactor has been defueled, systems have not operated and have generally been maintained in a layup condition, Technical Specifications have not been fully updated, and outstanding licensing actions and regulatory requirements have not been fully incorporated into the design basis.

Since BF1 is not in full compliance with the regulations for normal power operation, just those for its present mode, and has no discernable risk in its present defueled state, neither MC 2515 nor the present guidance for performance indicators (PIs) is presently applicable to BF1. In addition, MC 0305 "Operating Reactor Assessment Program." is also not applicable to BF1 since it would rely on the baseline inspection effort under MC 2515 in order to invoke the Action Matrix and to properly assess BF1's performance in conjunction with performance indicator values which also may not be available. Therefore, the philosophy and structure of the reactor oversight process (ROP), which depends on baseline inspections, PIs, and the assessment of both to determine safety performance from a risk perspective, can not be initially applicable at BF1.

03.02 The BF1RP inspection program, in accordance with this manual chapter, is applicable during the renovation of BF1, the pre-restart testing, and a post-restart period of operation not expected to exceed two quarters (six months). It will no longer be applicable, as decided by the Restart Oversight Panel, once it is determined that 1.) licensee corrective actions for restart issues have been completed, 2.) performance improvement changes have been made, and 3.) all ROP cornerstones are deemed monitorable by a combination of inspection and PIs. Additional inspections above the routine baseline inspections may have to be performed until the appropriate PIs are available.

03.03 Even though MC 2515 is not applicable for Browns Ferry's restart, individual inspection procedures (IPs) referenced in it will be utilized when advantageous for the BF1RP inspection program. The frequencies of implementation of those procedures will be in accordance with Region II's overall BF1RP inspection plan and schedule. The implementation of all IPs must be planned within the total estimated resources for the BF1RP inspection program. This implementation should also include inspections required to close restart items and to collect data equivalent to that provided by performance indicators (PIs) prior to and while transitioning to the ROP.

03.04 In addition, archived IPs and temporary instructions (TIs) may be revised and utilized to perform the required inspections or reviews of outstanding design, licensing, and regulatory issues for BF1.

03.05 As determined either by the Restart Oversight Panel or by cognizant Region II management prior to the establishment of the Restart Oversight Panel, an individual cornerstone of safety may become monitorable by inspection and PIs under the ROP. In order to do so, the first two conditions in Step 03.02 ( licensee corrective actions for restart issues have been completed; performance improvement changes have been made ) must

be fulfilled to the extent required to justify discontinuing the BF1RP inspection program for that cornerstone. The transition of BF1 to the full oversight provided by the ROP will be a gradual-phased approach on an individual cornerstone basis with the understanding that MCs 2515 and 0305 cannot be fully applied until all cornerstones are monitorable by the ROP. Once a cornerstone is monitorable by the ROP, MC 0609 "Significance Determination Process" (SDP) will be utilized to characterize the significance of findings resulting from the routine inspection effort of MC 2515 for that cornerstone.

03.06 BF1 is not considered to fall within the scope of the Commission's current Enforcement Policy for commercially operating nuclear power plants. Traditional enforcement, as utilized for BF3's restart (prior to adoption of the ROP), and not as defined in the Commission's current Enforcement Policy, will be applicable to any Severity Level IV and above noncompliances that are identified in inspections for a BF1 cornerstone of safety. This will only be applicable prior to the point when that cornerstone becomes monitorable by the ROP in accordance with the conditions identified in Step 03.05. Once a cornerstone has been determined by the NRC to be monitorable by the ROP, then the enforcement for any findings from NRC inspections for that cornerstone should be administered in accordance with the Commission's current Enforcement Policy.

## 25XX1-04 DEFINITIONS

04.01 Full Oversight of the ROP. For this manual chapter, this will mean when *all* cornerstones are monitored by baseline inspection and either PIs or compensatory inspections above the baseline in accordance with MC 2515. The regulatory response for findings resulting from such inspections will be by the Action Matrix in MC 0305.

04.02 Limited Oversight of the ROP. For this manual chapter, this will mean when some but not all the cornerstones are monitorable by baseline inspection and either PIs or compensatory inspections above the baseline in accordance with MC 2515. The regulatory response for findings resulting from such inspections for any of these cornerstones will be determined by the Restart Oversight Panel or Region II management.

04.03 Monitorable Under the ROP. For an individual cornerstone, it means that baseline inspection and either PIs or compensating inspections above baseline performed due to the unavailability of PIs can provide sufficient information for determining licensee performance for that cornerstone of safety.

04.04 Pre-Restart Testing Phase. This phase is composed of those testing activities normally designated as pre-operational testing but for discrimination between initial startup and restart this testing will for NRC purposes be labeled as pre-restart testing for the restart of BF1. It is part of the licensee's Restart Test Program for Unit 1 and resembles the testing program for the Unit 3 restart. This program includes the testing categories normally identified as renovation phase verification tests, and pre-restart tests, as defined below.

- a. Renovation Phase Verification Tests. Tests performed under the direction of renovation phase management personnel before system or component turnover to the operating group for pre-restart testing. These tests include those activities such as chemical cleaning, flushing, continuity testing, and initial calibration of instrumentation necessary to prepare a system for operation. They also include tests such as containment integrity and hydrostatic testing of piping systems necessary to demonstrate component, system, or structure design and construction adequacy. Baseline in-service inspection is also included in this category.
- b. Pre-Restart Tests. Tests performed by or under the direction of the licensee's operations staff to demonstrate the proper functioning, and conformance to design

requirements of SSCs. Pre-restart testing frequently forms the basis for declaring systems, structures, and components operationally ready.

04.05 Renovation Phase. This phase consists of the following activities - design, planning, and implementation of changes to plant hardware and operation; and equipment removal/replacement and/or refurbishment. For a new plant it would be similar to construction phase but for the BF1RP will be labeled as renovation phase to differentiate between a new plant being built and an existing plant being modified and then restarted.

04.06 Restart Oversight Panel. Functional equivalent to the Oversight Panel in MC 0350, "Oversight of Operating Reactor Facilities in a Shutdown Condition with Performance Problems."

04.07 Restart or Restart Project Activities. Consists of all licensee activities to promote the restart of BF1 but for the purpose of this manual chapter will be subdivided into activities conducted during renovation phase, pre-restart testing phase, and startup testing phase. NRC inspections could monitor activities in all three phases simultaneously.

04.08 Restart Project Inspection. Any NRC inspection conducted to monitor and evaluate licensee restart activities for BF1.

04.09 Startup Testing Phase. This phase consists of all testing activities to monitor precriticality and power ascension.

04.10 Transition Matrix. The justification developed by Region II for why a particular cornerstone can be deemed to be ready to be monitorable under the ROP.

04.11 Transition Plan. The justification developed by Region II for why all the cornerstones of safety can be deemed to be ready to be monitorable under the ROP. The transition plan mainly consists of all the transition matrices.

04.12 Transitioning to the ROP - When BF1 transitions to the full oversight of the ROP.

## 25XX1-05 RESPONSIBILITIES AND AUTHORITIES

### 05.01 Director, Office of Nuclear Reactor Regulation

- a. Provides overall program direction for the BF1RP inspection program.
- b. Develops and directs the implementation of policies, programs, and procedures for inspecting the licensee within or in addition to the BF1RP inspection program.
- c. Assesses the effectiveness, uniformity, and completeness of implementation of the BF1RP inspection program.
- d. Notifies, in conjunction, with the Regional Administrator for Region II the EDO and the Commission of the high-level NRC actions taken for the BF1RP.
- e. Discusses with the Regional Administrator for Region II any pending, important decisions concerning the restart of BF1.
- f. Concurs with the decision of the Regional Administrator for Region II to allow the licensee to restart BF1.
- g. Concurs with the decision of the Regional Administrator for Region II, the transition of BF1 into the full oversight of the ROP.

05.02 Associate Director for Inspection and Programs

- a. Directs the development of the BF1RP inspection program within the Office of Nuclear Reactor Regulation (NRR).

05.03 Director, Division of Inspection Program Management (DIPM)

- a. Manages BF1RP inspection program development within NRR.
- b. Develops and prepares revisions to this manual chapter and other applicable inspection program documents.
- c. Oversees regional implementation of BF1RP inspection program.
- d. Serves as the NRR contact with the Region II office for BF1RP inspection program development and implementation.
- e. In conjunction with Region II management provides information to the Restart Oversight Panel on the status of restart issues.
- f. Approves, in conjunction with the Chief, IIPB/DIPM, the Region II inspection plan and any changes that significantly affect the resources required to implement it.
- g. Decides, in conjunction, with the Regional Administrator for Region II when the Restart Oversight Panel should be established to oversee the final restart activities of BF1 and when it should be dissolved.

05.04 Director, Division of Projects (DLPM)

- a. Serves as NRR contact in regard to licensing and licensing policy issues related to the BF1RP inspection program.
- b. Assigns a Project Manager to address day-to-day matters concerning licensing issues for BF1RP.

05.05 Regional Administrator for Region II

- a. The Regional Administrator has responsibility and authority for overall direction of the implementation of the BF1RP inspection program.
- b. Establishes contacts with licensee on inspection-related issues and any required corrective actions either directly or through the assigned Region II Branch Chiefs in regard to those same issues.
- c. Maintain contacts with NRR on inspection related issues and the overall BF1RP inspection program either directly or through the assigned Region II Branch Chiefs in regard to those same issues. Ensures routine assessment of licensee performance in restart activities is considered.
- d. Decides, in conjunction with the Director, DIPM, when the Restart Oversight Panel should be established to oversee the restart activities of BF1 and when it should be dissolved.
- e. Notifies, in conjunction, with the Director, Office of Nuclear Reactor Regulation the EDO and the Commission of the high-level NRC actions taken for the BF1RP.

- f. Discusses with the Director, Office of Nuclear Reactor Regulation any pending, important decisions concerning the restart of BF1.
- g. Makes decision to allow licensee to restart BF1 with the concurrence of the Director, Office of Nuclear Reactor Regulation based on a written recommendation from the Restart Oversight Panel.
- h. Makes decision to allow BF1 to transition completely to the full oversight of the ROP with the concurrence of the Director, Office of Nuclear Reactor Regulation based on a written recommendation from the Restart Oversight Panel.

05.06 Region II, Director, Division of Reactor Safety

- a. Serves as the contact point for inspections performed by regional specialists and also for technical issues with NRR related to those inspections.
- b. Appoints a Region II DRS Branch Chief as his delegate in the day-to-day matters concerning the BF1RP.

05.07 Region II, Director, Division of Reactor Projects

- a. Serves as the contact point for inspections performed by residents and also for technical issues with NRR related to those inspections.
- b. Appoints a Region II DRP Branch Chief as his delegate in the day-to-day matters concerning the BF1RP.

05.08 Region II Branch Chiefs

- a. In conjunction with NRR management provide information to the Reactor Oversight Panel.
- b. Act as appointed delegates of their respective Region II Division Directors in the day to day matters related with the implementation of the BF1RP inspection program. Ensures routine assessment of licensee performance in restart activities is considered and promulgated in periodic public meetings and inspection report cover letters.
- c. Perform similar activities to those outlined in items c. through f. of Step 05.10 prior to the formation of the Restart Oversight Panel.
- d. Develop and then submit the Region II inspection plan and schedule to the Director, DIPM and the Chief, IIPB/DIPM for their approval.
- e. Develop the Transition Plan that provides the justification for why cornerstones can become monitorable by the ROP.

05.09 Chief, Inspection Program Management (IIPB)/DIPM

- a. Approves, in conjunction with the Director, DIPM, the Region II inspection plan and any changes that significantly affect the resources required to implement it.
- b. Concurs with the decision of either Region II or the Restart Oversight Panel to allow a cornerstone to be monitorable by the ROP.

05.10 Restart Oversight Panel

- a. Develops the functional equivalents of the Panel Process Plan and Restart Checklist referred to in MC 0350 in accordance with this manual chapter.
- b. Overviews licensee performance and provides licensee performance assessment beginning at about 12 months from actual restart.
- c. Determines the inspection effort necessary to review safety-significant restart issues and to compensate for the lack of PI data for the individual ROP cornerstones of safety.
- d. Assesses licensee corrective actions and performance improvements to determine the operational readiness of BF1 for restart.
- e. Keeps all stakeholders informed on the status of the BF1 restart.
- f. Determines when any of the seven ROP cornerstones of safety are ready to be monitorable by the ROP with the concurrence of the Chief, IIPB/DIPM.
- g. Provides post-restart oversight until all issues concerning restart activities are closed.
- h. Sends written recommendations to the Regional Administrator of Region II and to the Director of NRR that the licensee should be allowed to restart BF1.
- i. Sends written recommendations to the Regional Administrator of Region II and to the Director, DIPM and to Chief, IIPB/DIPM/NRR that BF1 should be allowed to transition into the full oversight provided by the ROP.

## 25XX1-06 BACKGROUND AND OVERVIEW

Browns Ferry Units 1, 2, and 3 were voluntarily shutdown in March 1985 for management and regulatory issues. TVA committed to obtain NRC approval prior to the restart of any unit. TVA submitted the Browns Ferry Nuclear Performance Plan, Volume 3, in August 1986, outlining the steps needed to recover the Browns Ferry units. NRC issued NUREG-1232, Volume 3, and its supplements, concluding that TVA's actions acceptably addressed Browns Ferry Nuclear Plant deficiencies. BF2 and BF3 were started up in the 1990s. BF1 commenced a 5-year restart program in May, 2002. Once BF1's startup program is completed, all three units will be similar in design basis and plant configuration, and will have implemented corrective actions for outstanding regulatory, licensing, and generic safety issues.

This manual chapter will establish policy for the BF1RP inspection program consisting of the renovation phase, pre-restart testing, and startup testing including power ascension. IPs or TIs, documented in Region II's inspection plan and schedule, will provide inspection requirements for these three main inspections areas that comprise the BF1RP inspection program.

Since BF1 has an operating license, the old and new construction programs under 10 CFR Part 50 and 10 CFR Part 52, respectively, for site evaluation, construction of a plant, testing, and power ascension are not appropriate. The current Reactor Oversight Process (ROP) cannot be initially applied for the reasons previously stated until the entry conditions for each cornerstone are met as stated in Step 03.05.

Although MC 0350 is normally intended for plants with performance problems which is not the case for BF1, various parts of it will be utilized in this manual chapter as appropriate with any exceptions noted.



Initially, all aspects of the BF1RP will be inspected in accordance with the Region II inspection plan and this manual chapter. Region II will manage all elements of the BF1RP inspections, i.e. reviews, assessment of licensee correction actions, evaluation of findings, and tracking open items. Prior to the formation of the Restart Oversight Panel, Region II, with concurrence by the Chief, IIPB/DIPM, will also determine which of the seven ROP cornerstones of safety are ready to be monitorable under the ROP. Allowing cornerstones to become monitorable under the ROP individually prior to BF1's startup is advantageous for two reasons. The first is that it is less cumbersome and more efficient to employ cornerstones rather than individual structures, systems, and components (SSCs). The second is that the objective, risk-informed inspection practices of the ROP are applied earlier, rather than later, to some inspectable areas.

A Restart Oversight Panel, consisting of participants from both Region II and NRR, will be established approximately 12 months prior to plant startup by the combined decision of the Regional Administrator for Region II and the Director, DIPM of the Office of Nuclear Reactor Regulation. The purpose and responsibilities of the Restart Oversight Panel will be stated in this manual chapter. This panel will ultimately decide whether the required corrective actions and performance improvement changes have been implemented successfully by the licensee so that BF1 meets the relevant regulatory requirements and can be safely operated. The actual decision to permit the licensee to restart BF1 will be made by the Regional Administrator of Region II with the concurrence of the Director, Office of Nuclear Reactor Regulation based on a written recommendation of the Restart Oversight Panel. The panel will also decide which of the remaining cornerstones are ready to be monitorable under the ROP. The decision to permit BF1 to transition into the full oversight of the ROP will be made by the Regional Administrator of Region II with the concurrence of the Director, Office of Nuclear Reactor Regulation based on a written recommendation of the Restart Oversight Panel. Even though various parts of MC 0350 will be utilized in this manual chapter, the policies controlling the restart of BF1 will be in accordance with this manual chapter only.

## 25XX1-07 GENERAL INSPECTION POLICY

### 07.01 Inspection Program Scheduling and Planning

- a. Region II will develop a 5 year (2003 through 2007) site-specific inspection plan and schedule (IP&S) which selects the appropriate IPs or equivalent criteria to review the licensee's restart activities and to implement inspections. The IP&S should be detailed but flexible and minimize the number of inspections (group various issues and programs together). It should allow for rescheduling inspections to accommodate licensee schedule changes.
- b. Region II will submit the IP&S to the Director of DIPM and the Chief, IIPB/DIPM/NRR for approval as to whether it provides sufficient oversight for safety-significant restart activities. Region II can alter the sample sizes and frequencies of IPs or TIs as appropriate without IIPB/DIPM concurrence if budgeted resources will still envelope the estimated resources to be expended after allowances for any alterations are made.
- c. The IP&S should allow for additional inspections that may be identified by Region II or by the Restart Oversight Panel. Region II should establish the means for tracking open items, (i.e., Inspection Follow-up Items (IFIs) or the Reactor Programs System (RPS) open items list), that can be rolled over later into the Restart Checklist.
- d. The Region II IP&S should be a public document to support any interface with stakeholders, the Commission, and other agencies, following the same guidelines for such communications as presented in MC 0350 for the Restart Oversight Panel.



The coordination and management of licensing and technical support activities may be in accordance with the procedures followed by both Region II and NRR project management organizations.

- e. The IP&S should be so configured as to group inspections according to the SSCs and licensee programs associated with a particular cornerstone since the transition of BF1 into the ROP will be on a cornerstone by cornerstone basis. Ordering the inspections in this manner will allow easier determination that the inspections for a particular cornerstone have been completed.

#### 07.02 Inspection Policy and Scoping.

- a. The IP&S should identify what licensee program areas, major modifications, and open items categories are being verified by an inspection, when the inspection will be performed, and the relevant IPs or TIs from those listed in Appendix A of this manual chapter. This will establish the overall scope of the BF1RP inspection program from which the total inspection effort can be estimated.
- b. The assigned branch chiefs from Region II will manage and coordinate the BF1RP inspection program, required technical support, and the verification that inspection hours are being properly charged. IIPB will assist in the latter effort by ensuring that inspection hours are being properly assigned to the appropriate IPs or TIs in the RPS.
- c. The IP&S should address inspections for the renovation phase, the pre-restart testing phase, startup testing, and also additional inspections identified either by Region II management or by the Restart Oversight Panel to address restart issues and the transition of BF1 into the full oversight of the ROP.
- d. Some of the IPs or TIs of Appendix A are keyed to renovation work activities at the plant site. Region II management and inspectors must be cognizant of the status of those renovation work activities in order to achieve appropriate inspection planning. The IP&S should coordinate NRC inspection activities with licensee restart activities. The IPs in Appendix C and the tests in the licensee's Restart Test Program should be treated similarly so that inspections of the pre-restart and startup tests can properly scheduled per the IP&S.
- e. The renovation phase portion of the IP&S for BF1RP will comprise two major types of restart activities: One is design, planning, and implementation of changes to plant hardware and operation; and the other is equipment removal/replacement and/or refurbishment.
- f. For the renovation phase, inspectors will mainly review restart activities that originated due to issues with design, licensing, regulations, generic safety, and NRC inspection findings. The appropriate IPs or TIs are identified in Appendix A with the applicable licensee Special programs listed in the first reference in Section 13 of this manual chapter..
- g. During the pre-restart testing phase, Region II shall determine which tests identified in the licensee's Restart Test Program will be witnessed or evaluated by the corresponding IPs listed in Appendix B.
- h. The IP&S shall require review of the licensee's plans and processes for the BF1RP for identifying, tracking, and resolving problems to ascertain whether they are

comparable with the plant processes for BF2 and BF3 for problem identification and resolution.

- i. The IP&S should focus on performance-based inspections (performance of SSCs and the results of the implementation of licensee programs) rather than the review of procedures and records.
- j. This manual chapter will establish the basis for allowing each cornerstone to be monitored by the ROP. However, Region II will develop a sufficiently detailed transition plan based on the transition matrices for the cornerstones so that the major steps are identified and defined.
- k. The IP&S should either refer to or include the detailed transition matrices to be developed by Region II for the seven cornerstones of safety. Each transition matrix shall deal with two primary concerns: 1.) what IPs were performed to verify the resolution of outstanding restart items (open items and licensee program impacts) for a particular cornerstone and 2.) that restart items were resolved by effective licensee corrective actions. This will establish traceability to show that a particular cornerstone warranted being monitored by ROP baseline inspection and PIs.
- l. This manual chapter may refer to the inspection of SSCs and licensee programs rather than solely the seven cornerstones of safety. The reason is that even though inspections will be categorized on a cornerstone basis for the orderly transition into the ROP, the inspections themselves will be performed at a SSC and licensee program level.

#### 07.03 Use of Inspectors

- a. Region II should assign inspectors based on their qualifications. Generally, resident inspectors should verify licensee performance for all general activities while the regional specialists should perform more specialized activities (technical reviews associated with specific types of inspections for each specialist).
- b. Programs and procedures should be reviewed once a performance problem is identified to ensure the licensee determines the root cause and extent of conditions. Focus on the licensee's efforts to implement long-term resolutions.
- c. The IP&S will emphasize the inspections of specific SSCs and licensee programs. Region II should focus more on safety and/or risk-significant inspections of both SSCs and licensee programs with allowances for changes in emphasis due to scheduling, inspector availability, and licensee changes.

#### 25XX1-08 BASIC REQUIREMENTS/POLICY FOR INSPECTION PROGRAM

This section provides the three phases of the BF1RP inspection program. The intent is not to imply that all inspections for a particular phase must be completed before entering the next phase.

08.01 Level of Effort. To be determined by Region II in its inspection plan and schedule as long as the total estimated resources for all inspection activities are in agreement with allotted budget developed jointly by Region II and NRR. Inspectors should charge to the IPs and TIs listed in Appendices A and B and to the applicable activity codes referenced in Appendix A. The licensee's actions to address outstanding startup issues (design, licensing, and regulatory actions) will be verified by implementation of the applicable IPs or TIs in Appendices A and B.

- a. Every licensee program, (i.e., Special Programs, testing, or maintenance) affecting either SSCs in a single system or multiple systems will be inspected per the following:
1. For each licensee program, inspect its programmatic aspects (review of the administrative processes for implementing a program or ensuring quality assurance is instilled in a program) only once. All licensee Special programs are listed in the first reference in Section 13 of this manual chapter. If the programmatic aspects of a program were verified by NRC inspections for the restarts of Browns Ferry Units 2 or 3 or during the commercial operation of those two units, then that program does not have to be re-verified for Unit 1 if it has not been altered. For those procedures and programs already utilized at BF2 and BF3 (i.e., security and emergency preparedness (EP), etc.), inspection requirements should focus on monitoring the results of their implementation, and any BF1-specific adopted revisions to them. Some cornerstones i.e., security and EP may become monitorable under the ROP prior to restart.
  2. An appropriate number of representative samples of the results of the implementation of each licensee Special program shall be inspected for safety- significant SSCs, including any interfacing non-safety-significant SSCs. That goal can be achieved by inspecting the SSCs for one system or several systems in which changes were made due to the implementation of a licensee Special program. The acceptance criteria for those results for each Special program will be as stated in the respective modification package, test procedure verifying the functionality of the results, or in the basis document for a specific licensee Special program.
- b. Region II shall develop a detailed transition plan, as part of or in addition to the IP&S, that defines the total inspection effort expended and the projected schedule in order for all seven cornerstones to be within the full oversight provided by the ROP. That full oversight is not available until all cornerstones are monitorable by a combination of the baseline inspection program and either PIs or compensating inspections above the baseline so that the Action Matrix can be invoked.
1. This transition plan shall clearly state which IPs and inspection criteria were performed; the inspection criteria completed entirely or just in part with any exceptions or deviations noted; and what open items, licensing actions, or regulatory issues were resolved by a particular IP or inspection criterion for each cornerstone.
  2. Region II will develop a detailed transition matrix to address the items listed in Step 08.01b.1. for each cornerstone.
  3. The IP&S and transition plan should be clearly cross-referenced to the inspection reports. Normal NRC processes and databases for tracking and closing out open and restart items will be utilized and will support development of a Restart Checklist after the Restart Oversight Panel is established.
  4. An open item closeout inspection shall be performed for each or several cornerstones at a time to verify that all warranted licensee corrective actions have been completed. The inspection shall be implemented prior to permitting any cornerstone to be monitorable under the ROP by inspection or PIs.

5. The transition plan shall indicate when each cornerstone is placed under the limited oversight of the ROP. A cornerstone can become monitorable as stated in Step 03.05 at any time during the restart of BF1, including its actual startup.

08.02 Renovation Phase. In addition to plant design modifications for the implementation of the Special Programs outlined in Browns Ferry's Nuclear Performance Plan and approved by NRC in NUREG-1232, Vol. 3, and its supplements ( which are a compilation of SERs), the inspection program should sample BF1 design modifications which should be similar to those completed for BF2 and BF3, planned design changes in the current 5 year Browns Ferry Nuclear Project Plan, corrective/preventive maintenance issues, regulatory issues, licensing actions, in-service inspection issues, and any NRC noncompliances resulting from inspections. The majority of these issues will be docketed by the licensee and should be placed on the list for tracking open items.

- a. The inspection of these modifications may be combined along with the programmatic reviews of Special Programs to increase inspection efficiency by reducing the number of inspections required. These inspections may be accomplished by implementing the applicable IPs from Appendix A.
- b. For line item 08.01a., an inspection noncompliance, incorporated in the list for tracking opens items, may increase the scope of the inspection for a particular issue by the review of additional samples. If there are multiple findings for one generic issue, then only the verification that the licensee is addressing corrective actions will be required since the existence of the problem has already been verified and the inspection of additional samples is unwarranted.

08.03 Pre-Restart Testing. Appendix B lists IPs to verify that SSCs important to the safety of the plant are fully tested to demonstrate they can perform their safety functions. In accordance with the IP&S, the appropriate IPs will be selected from Appendix B so inspectors can witness and/or evaluate the performance and the results of a representative sample of the tests contained in the licensee's pre-approved and submitted Restart Test Program for BF1, which is similar to the test programs conducted at BF2 and BF3.

- a. The NRC inspection of the pre-restart testing program will be invoked after affected SSCs are declared ready for testing or as defined in the objectives of this manual chapter.
- b. Region II may increase the scope and sample sizes of either individual IPs or the overall inspection policy for the pre-restart test program itself, as appropriate, if some licensee tests cannot be verified as satisfactorily completed.
- c. Appendix B lists IPs that may be used to verify that systems and components important to safety are satisfactorily tested per their design requirements.
- d. The inspections of Pre-Restart Testing verify the functionality of accident mitigation and safe shutdown systems. Region II will select a sample of tests to review from the licensee's Restart Test Program and the corresponding IPs from Appendix C. For each test, there are different IPs for procedure review, witnessing, and results evaluation. The IPs for procedure review should be implemented only if significant changes have been made to the corresponding licensee test procedures.

08.04 Startup Testing Phase. The licensee may conduct startup testing activities for BF1 which the NRC will monitor using routine oversight (likely by using baseline IPs). However, the NRC will conduct an ORAT inspection as defined below:

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- a. An Operational Readiness Assessment Team Inspection (IP 93806) will be performed during power escalation of BF1. The exact timing of the inspection and its scope should be tailored to the circumstances and the past performance of BF1. The purpose of this inspection effort is to focus on the effectiveness of licensee management oversight, safety-significant activities, operator training and experience, corrective action programs, the maintenance program, operator response to annunciators and general plant conditions impacting safety, and the readiness to support operations. Results from this inspection will provide a major input and basis for an NRC determination of startup readiness.

25XX1-09      OVERSIGHT OF RESTART ACTIVITIES The NRC oversight of BF1 restart activities will be conducted per this manual chapter by referencing MC 0350 and noting any exceptions with it below. Routine assessment of licensee restart performance will be provided by the Restart Panel in periodic public meetings and in routine inspection cover letters and other correspondence. Prior to establishment of the Restart Panel, routine assessment will be performed by the cognizant RII management.

09.01      The following exceptions are either generic to all of MC 0350 or more broader than the other exceptions.

- a. The basis for the shutdown of BF1 in 1985 was due to management and regulatory issues rather than performance problems or events.
- b. Only Region II will be involved in any BF1 restart decisions.
- c. Sections 04 and 05 should not be used for BF1 except for the portion in the latter on the Restart Checklist.
- d. The full oversight of the ROP is not in effect until all cornerstones are monitorable and transition to the ROP.

09.02      Contrary to MC 0350, the Restart Checklist should only contain the following types of issues:

- a. A violation of the facility's license, technical specifications, regulations, or orders under any mode of plant operation greater or equal to Severity Level III.
- b. An open inspection finding, that when evaluated by the SDP, is determined to have a risk of "white or higher" for those cornerstones that are monitorable under the ROP.
- c. A loss of the licensee's ability to maintain and operate the facility in accordance with the design and licensing basis.
- d. A condition for which NRC management lacks reasonable assurance that the licensee can or will conduct its activities without undue risk to the public health and safety.
- e. A failure of licensee management controls to effectively address previous significant concerns to prevent their recurrence.

09.03      Section 06 of MC 0350 on 'Oversight Review Activities' is appropriate with the following exceptions:

- a. The 'oversight panel' will be called the 'restart oversight panel.'

- b. The Regional Administrator for Region II and the Director of DIPM will decide when to establish and dissolve the Restart Oversight Panel.

09.04 Section 07 of MC 0350 on 'Post-Restart Activities' may be used but this manual chapter will override MC 0350 if there are any conflicts.

09.05 Section 09 of MC 0350 on 'Records' is appropriate except for item 2 on the list of records to be kept (Item 2 record should not be kept for BF1).

09.06 For Appendix A of MC 0350, the following exceptions are noted:

- a. For Step B.1, the Restart Oversight Panel should focus its restart review efforts on issues as defined in of Step 09.02.
- b. For Step B.3, the establishment of the Restart Oversight Panel and the content of the Restart Checklist should be in accordance with this manual chapter.
- c. For Step B.4.1a., the references to AIT and IIT are not appropriate.
- d. For Step B.5, items c. and d. should be in accordance with this manual chapter.
- e. Topics covered in Steps B.7 and B.8 may be used as long as they do not conflict with this manual chapter.
- f. For Step C.1, the issues on the Restart Checklist will be as stated in Step 9.02.
- g. Any exceptions noted above for the text in the body of MC.

## 25XX1-10 INSPECTION FINDINGS AND ENFORCEMENT.

10.01 For those cornerstones not being monitored by the ROP baseline inspection program and either PIs or compensatory inspections above the baseline inspection program, MC 0610 will be implemented to evaluate and document inspection observations and to classify them as findings, if appropriate, after they have been placed in context and assessed for significance. The findings will then be categorized as violations, noncited violations, minor violations, deviations, open items, or unresolved items.

Traditional enforcement, similar to that used for BF3's startup, will be in effect for the restart of BF1 only for those cornerstones which are not monitorable by the ROP. Findings from inspections will be processed in accordance with 10 CFR Part 2 and other applicable enforcement guidance using traditional enforcement tools. This includes use of severity levels, NOVs for severity level III and above, NCVs for severity level IV, and civil penalties as appropriate. The severity level of an apparent violation will be dependent on its safety significance per MC 0610, Section 05.04b and only Section IV.B. (except for any references to risk significance) and Supplement II of the Commissions current Enforcement Policy. Any references in MC 0610 to providing input to SALP or PPR should be ignored since they are not appropriate.

10.02 The NRC will conduct inspections of the licensee's work in progress and completed work in order to adequately assess implementation of the licensee's quality assurance program.

10.03 Minor violations will be assessed and documented using the criteria of MC 0610 for those associated with cornerstones which are not monitorable by the ROP.

10.04 For those cornerstones monitorable by the ROP in accordance with Step 03.05 of this MC, any noncompliances will be documented and reported under MC 0612 with no exceptions. The significance of noncompliances will be assessed in accordance with the significance determination process (SDP) per MC 0609. Any findings will be dispositioned in accordance with the ROP for such cornerstones with enforcement of these findings being handled in accordance with Commissions's current Enforcement Policy.

10.05 The same inspection report may have one noncompliance being assessed by MC 0610 and another noncompliance being assessed by MC 0612 depending on whether their respective cornerstones are not or are monitorable by the ROP.

10.06 The treatment of open items will deviate some from what is stated in MC 0610, Section 06.04 based on the exceptions noted below.

a. Region II may administratively close out an open item that does not warrant inspection resources. For example, Region II may review the proposed corrective action plan for a Unit 1 open item and compare it with what was done for either of the other two operating units. If all of the following questions are answered affirmatively about the open item, it can be administratively closed and the basis for its closure documented in an inspection report:

1. Is it being effectively tracked in the licensee's corrective action program or equivalent?
2. Is the licensee proposing the same corrective action or equivalent for it that was done for a similar open item for either Unit 2 or 3?
3. Will essentially the same procedures, process, or design change be used to correct the issue?
4. Does the inspection record indicate that the item was sufficiently inspected and closed on Unit 2 or 3 with no problems?
5. Would performance deficiencies associated with the licensee's corrective actions likely be detected by the licensee's oversight or testing programs or have only minor consequences?

## 25XX1-11 POST-RESTART AND THE TRANSITION TO THE ROP ACTIVITIES

11.01 Post-restart activities and the overall approach for transitioning to the ROP will be in accordance with this manual chapter as stated below.

- a. The transition of BF1 to the ROP will be a gradual-phased approach on an individualized cornerstone basis. The basis for why a certain cornerstone will be declared ready to be monitorable under the ROP will be contained in the BF1 ROP Transition Plan which shall be developed by Region II.
- b. The Region II Transition Plan will adhere to the guidelines for it stated in this manual chapter and will be composed of transition matrices, one for each cornerstone. Each transition matrix will contain all the records that verify that a cornerstone is fully monitorable (what inspection criteria were performed and when; whether inspection criteria were completed in their entirety or just in part with any exceptions or deviations noted; what open items, restart issues, licensing actions, or regulatory issues were resolved; identified inspection findings and the corresponding licensee corrective actions; status of outstanding issues; and finally whether the records were auditable with optimum traceability among all of them). Based on the decision of either Region II management or the Restart Oversight



Panel with the concurrence of the Chief, IIPB/DIPM, that cornerstone will be placed under the limited oversight of the ROP.

- c. The ROP Transition Plan should also specify that the required inspection procedures be performed, when one or several cornerstones appear to be ready to be monitorable by the ROP, to verify that all restart issues have been resolved with all licensee corrective actions being effective. The status of the cornerstones for BF1 should be comparable to the status of the same cornerstones for BF2 and BF3, prior to each of them implementing the ROP in April of 2000 but taking into account any new issues (design, licensing, or regulatory) that have developed between then and now.
- d. However, the appropriate actions to be undertaken for inspection findings by the ROP cannot be determined and the ROP Web Site will not be updated for either inspection findings or available PI results until all cornerstones are monitorable by the ROP and the Action Matrix is put into effect.
- e. The regulatory responses allowed in accordance with the Action Matrix may be used even though the Action Matrix is not in effect at the discretion of the Restart Oversight Panel or Region II management prior to the transition of BF1 to the ROP.
- f. The transfer of BF1 to the full oversight of ROP will be by written approval of the Regional Administrator with the concurrences of the Director of DIPM and the Chief, IIPB/DIPM, based on recommendations of the Restart Oversight Panel. This transfer may occur even if all PIs are not yet available, provided compensatory inspections are conducted as provided for by IMC 2515. The Restart Oversight Panel may be dissolved at that time or may be maintained for up to two additional quarters per MC 0350, Section 07, if necessary in order to deal appropriately only with outstanding restart issues. Prior to this point in time, identifying the need for additional NRC inspections and determining the response to inspection findings or events will either be by the assigned Region II branch chiefs or by the Restart Oversight Panel in accordance with this manual chapter. Subsequently the ROP will dictate what inspections should be implemented and what PIs should be reviewed in determining the performance of BF1 and also what will be the regulatory response for inspection findings or events.

## 25XX1-12 INTERFACE WITH RELATED PROGRAMS

12.01 Security and Safeguards Inspections. The security and safeguards inspection activities, as judged appropriate by regional management, will be conducted by this manual chapter early in the BF1RP. Selected portions of pre-restart safeguards inspection activities, such as barriers for alarm stations and vital areas, should be conducted as early as practical during the renovation phase and the installation of security features. Such early onsite examinations are also intended to allow the cornerstones for these areas to become monitorable by the ROP as soon as possible and to review these areas when there are numerous requests for security clearances due to the increase in temporary personnel onsite at BF1. Some of these early reviews may be possible during onsite accompaniment of licensing reviewers.

## 25XX1-13 REFERENCES

T.E. Abney to U.S. Nuclear Regulatory Commission, "Browns Ferry Nuclear Plant (BFN) - Unit 1 - Regulatory Framework For The Restart of Unit 1", dated December 13, 2002.

END

Appendices:

- A - Applicable IPs for Renovation Phase and Activity Codes
- B - Applicable Licensee Programs
- C - Pre-restart Testing Phase

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## APPENDIX A

### APPLICABLE IPs AND TEMPORARY INSTRUCTIONS FOR RENOVATIONS PHASE, AND APPLICABLE ACTIVITY CODES

<u>Inspection Procedure No.</u>	<u>Inspection Procedure Title</u>
71111.02	Evaluation of Changes, Tests, or Experiments
71111.05	Fire Protection
71111.12	Maintenance Rule Implementation
71111.17	Permanent Plant Modifications
71111.21	Safety System Design and Performance Capability
71111.23	Temporary Plant Modifications
71121.01	Access Control to Radiologically Significant Areas
71121.02	ALARA Planning and Controls
71152	Identification and Resolution of Problems
37550	Engineering
37551	Onsite Engineering
38703	Commercial Grade Dedication
40500	Effectiveness of Licensee Controls
49001	Erosion/Corrosion Programs
50090	Pipe Support and Restraint Systems
50100	HVAC Systems
51051	Electrical Components Procedure Review
51053	Electrical Components Work Observation
51055	Electrical Components Record Review
51061	Electric Cable Procedure Review
51063	Electric Cable Work Observation
51065	Electric Cable Record Review
52001	Digital Retrofits Receiving Prior Approval
52002	Digital Retrofits Not Receiving Prior Approval
55050	Nuclear Welding General Inspection Procedure

55100	Structural Welding General Inspection Procedure
55150	Weld Verification Checklist
57050	Nondestructive Examination Procedure Visual Examination Procedure Review/Work Observation/Record Review
57060	Nondestructive Examination Procedure Liquid Penetrant Examination Procedure Review/Work Observation/Record Review
57070	Nondestructive Examination Procedure Magnetic Particle Examination Procedure Review/Work Observation/Record Review
57080	Nondestructive Examination Procedure Ultrasonic Examination Procedure Review/Work Observation/Record Review
57090	Nondestructive Examination Procedure Radiographic Examination Procedure Review/Work Observation/Record Review
61700	Surveillance Procedures
61701	Complex Surveillances
61720	Local Leak Rate Testing
61726	Surveillance Observations
62703	Maintenance Observations
62705	Electrical Maintenance
64100	Fire-S/D & Emergency Lites
64704	Fire Protection Program
70301	Overall Preop Test Program
70370	Testing Piping Support and Restraint Systems
71707	Plant Operations
71711	Restart from Refueling
71715	Sustained Operations Observations
71750	Plant Support Activities
81064	Compensatory Measures
82701	Operation Status of EP Program
83727	Facilities & Equipment

83729	Occupational Exposure Ctrl Ext Outgas
83750	Occupational Radiation Exposure
84523	Liquid and Liquid Wastes
84524	Gaseous Waste System
84525	Confirmatory Measurements
84750	Rad Waste Trtmnt & Effl & Envr Mntrg
92701	Follow-up
92901	Plant Operations
92902	Follow-up - Maintenance
92903	Follow-up - Engineering
92904	Follow-up - Plant Support
93801	SSFI
93803	Safety Systems Outage Modifications Inspection
93804	PRA Team
93810	Service Water System Operational Performance Inspection (SWSOPI)
93811	Electrical Distribution System Functional Inspection (EDSFI)
<u>Temporary Instruction (TI) No.</u>	<u>Temporary Instruction Title</u>
2500/020	ATWS - 10 CFR 50.62
2500/027	Fastener Testing - Bulletin 87-02
2515/065	TMI Action Plan
2515/089	Licensee's Actions to Implement GL 84-11
2515/093	Diesel Fuel Oil QA
2515/109	MOV Testing - GL 89-10
2515/111	Electrical Dist. Followup
2515/112	Licensee Evaluations of Changes to the Environs Around Licensed Reactor Facilities
2515/118	SWOPI
2515/119	Water Level Instrumentation Errors During and After Depressurization Transients (GL-92-04)

2515/120	Station Blackout
2515/121	Hardened Vent Mods GI 89-16
2515/122	Evaluation of Rosemont Pressure Transmitter Performance and Licensee Enhanced Surveillance Programs
2515/124	Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors (GL 87-02, USI A-46)

#### APPLICABLE ACTIVITY CODES FOR BF1RP

Time and Labor reporting for inspection-related effort at Browns Ferry 1 prior to restart.

The following activity codes are to be used for time and labor reporting for inspection-related effort at Browns Ferry, Unit 1, prior to the date of Brown Ferry, Unit 1, restart:

Activity Code	Description
OA	Direct inspection effort - Time spent actually conducting inspections related to Browns Ferry, Unit 1, restart activities. This includes conducting any baseline IPs, supplemental procedures or any other IPs as determined by the Browns Ferry, Unit 1, restart panel.
AT	Browns Ferry, Unit 1, restart inspection related travel - Time spent traveling to and from Browns Ferry, Unit 1, to support Browns Ferry, Unit 1, restart inspections
SEP	Browns Ferry, Unit 1, restart inspection preparation - Time spent preparing for Browns Ferry, Unit 1, restart inspections. Preparation may occur before or during an inspection.
SED	Browns Ferry, Unit 1, restart inspection documentation - Time spent documenting the results of Browns Ferry, Unit 1, restart inspections, writing inspection reports and documenting inspection findings.
ENF	Browns Ferry, Unit 1, restart inspection enforcement - Time spent processing Browns Ferry, Unit 1, restart inspection findings.
COM	Browns Ferry, Unit 1, restart inspection routine communication - Time spent by SRI/RI in non-inspection related activities such as drop-in visits by plant management, tours with NRC management, teleconferences and discussions with NRC management.
REG	Browns Ferry, Unit 1, restart inspection regional assistance - Time spent providing non-direct inspection support for an ongoing Browns Ferry, Unit 1, restart inspection. Used primarily by regional inspectors to charge in-office reviews in response to general technical questions. (Direct inspection support by regional inspectors for a specific inspection is charged to activity code OA).

PS

Browns Ferry, Unit 1, plant status - Time spent by SRI/RI in gathering and analyzing information regarding current plant status and ongoing activities that are directly applicable to inspection planning. Control room and plant walkdowns, attendance at licensee status meetings, and inspection entrance and exit meetings.

Resource requirements for these inspection activities will be budgeted in the appropriate PA budget code and will be tracked during the period prior to Browns Ferry 1 restart. After the date of Browns Ferry 1 restart, time and labor reporting for inspection-related effort will be done according to standard ROP reporting procedures.

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## APPENDIX B

### PRE-RESTART TESTING PHASE

This Appendix describes the inspection program to verify systems, structures, and components important to safety of the plant are fully tested to demonstrate that they satisfy their design requirements. The IPs listed are for test procedure review, witnessing of test, and evaluation of test results. The IPs for a specific test are on the same line as test title and the following two to three lines as applicable.

<u>Inspection Procedure No.</u>	<u>Inspection Procedure Title</u>	
35301	Quality Assurance for Pre-restart Testing	
37301	Comparison of As-Built Plant to FSAR	
70300	Preoperational Test Procedure Test	
70301	Overall Preoperational Test Program	
70302	Preoperational Test Program Implementation	
70311	Preoperational Testing Procedure Verification	
70312	Preoperational Test Witnessing	
70329	Preoperational Test Result Evaluation Verification	
70370	Testing of Pipe Supports and Restraint Systems	
70400	Preoperational Test Results Evaluation P/B	**
71302	Preoperational Test Program Implementation Verification	

#### IP Numbers for

<u>Procedure Review</u>	<u>Witnessing of Test</u>	<u>Evaluations of Test Results</u>	<u>Inspection Procedure Title</u>
70304	70315	70322	Engineered Safety Features Test
70305	70317	70325	Reactor Protection System Test
70362	70462	70562	Reactor Coolant System Hydrostatic Test
70331	70431		Vibration Test
70332	70432		Control Rod System Test

70334	70434	Engineered Safety Features Activation System Test
70335	70435	Safety and Relief Valve Test
70336	70436	Residual-Decay Heat Removal System

IP Numbers for

<u>Procedure Review</u>	<u>Witnessing of Test</u>	<u>Inspection Procedure Title</u>
70337	70437	Main Steam Isolation Valve Test
70340	70440	DC Power System Test
70341	70441	Emergency-Standby Power Supply System Test
70343	70443	Containment Spray System Test
70344	70444	Containment Isolation Valve Test
70348	70448	Main Feedwater Control System Test
70352	70452	Remote Reactor Shutdown Test
70356	70456	Standby Liquid Control System Test
70357	70457	Reactor Core Isolation Cooling System Test
70359	70459	Recirculation System Flow Control Test