FOR INFORMATION ONLY

Tennessee Valley Authority
Browns Ferry Nuclear Plant
Site Director Standard Practice

DEC 1 0 1987

Form Page 1 of 1
Form SDSP-1
SDSP-2.11

FORM SDSP-1
PROCEDURE AND INSTRUCTION REVIEW AND APPROVAL COVER SHEET

Unit	Procedure No.	2-Digit Tracking No.	Title	(for SPS use only) Revision No.
0	SDSP-12.1	0 8	Restart Test Program	3

CHECK AS APPROPRIATE: [X] Permanent Change [ ] Cancellation [ ] New procedure
[ ] Temporary change (Expiration date if less than 120 days after approval _____)

Originator list affected pages & forms: 1,5,6,7,8,9,10,12,13,14,15,16,17,18,19,23,24, 28,34,35,36,38,39,40,41,42,43,44,45,46,47,48,49,50,53,54 Forms 91,92,97, and 101

SPS list pages affected after word processing: 1, 5-10, 12-20, 23-24, 28, 34-36, 38-50, 53-54 c 1/25/88

ORIGINATOR: D.L. Snyder (print your name) Date 1/14/88 Section RTP Phone 2549

Operations
Name of Responsible Section

[X] Mark H [illegible] 1-14-88
RSPC Signature Date

Technical Review Required? [X] Yes [ ] No
Initials of Responsible Section Supervisor making determination: RDJ

[X] for [illegible] 2-8-88
Responsible Section Supervisor Date
(Signature AFTER any required Technical Review)

PRINCIPAL MANAGERS CONCURRENCE SIGNATURES	DATE	AFFECTED SECTIONS CONCURRENCE SIGNATURES	DATE
[ ] Assistant to Site Director		[ ] Operations (U2 Supt)	
[ ] Site Planning & Scheduling		[ ] Vendor Manual Coordinator	
[ ] Site Services Manager		[ ] Fire Protection Engineer	
[ ] Manager of Site Licensing		[ ] Safety Supervisor	
[ ] Project Management Manager		[ ] RADCON Supervisor	
[ ] Project Engineer (DNE)		[ ] Security	
[ ] Modifications Manager		[ ] PORS Supervisor	
[ ] Materials & Procurement Svcs Mgr		[ ] Training Supervisor	
[ ] Financial Services Manager		[ ] Section:	
[ ] Manager:		[ ] Section:	
		[ ] Section:	

QA Review Required? [✓] Yes [ ] No

[X] D/m 2-9-88 [illegible] 2-9-88
Site Quality Manager Date

[X] Ralph E. Thomas 2-9-88
Site Procedures Staff Supervisor

For Instructions approved by a Section Supervisor, mark the following approvals "NA."

PORC Review required? [✓] Yes [ ] No

[X] PORC Chairman or Plant Manager Approval Minutes No. 6-9 Date 2-9-88

[X] [illegible] for
Site Director (SDSPs only) Date 2/24/88

[X] PORC & Plant Manager or PORC Minutes No. PORC Min. No. Date

Retention Period: Lifetime

Responsibility: Document Control

2100p
General Revision

8806040043

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HISTORY OF REVISION/REVIEW

REV. NO.	DATE	REVISED PAGES	REASON FOR CURRENT REVISION
0	01/29/87	All	New procedure defining the administrative practices governing RTP test procedures to be utilized to return Unit 2 system operable from the current outage.
1	04/22/87	All	General revision to incorporate the new CAQ program, clarifications and other program improvement. Ref. NRC Inspection Reports 50-256/87-12 and 50-296/87-12 and CAQR's No. BFQ-87-0002-D01 and D02.
2	08/19/87	1-3,5-28,28A,29-56 Forms 91,94,97,101	Incorporate QA Surveillance finding as addressed by BFQ870421, clarifications and other program improvements.
TCP	12/09/87	1,5,7,18,23,34,36 49,50,53,54,and Forms 91,92,97,101	Incorporate SDSP27.1 Rev-0001, corrective actions for CAQRs BFQ-870534 and BFP-870541, and procedure improvements from Incident Critique 87-041. (SDSP12.1-07)
3	02/24/88	1,5-10,12-20,23,24, 28,34-36,38-50,53 54,Forms 91,92,97 101	Incorporates temporary change 07 Incorporates additional corrective actions under BFQ-87-0534. Incorporates program improvements and corrects some typographical errors. Incorporates program changes implementing admendment 134 for Unit 2 Technical Specifications. Update of reference list.

RESTART TEST PROGRAM

TABLE OF CONTENTS

Section | Page

RESTART TEST PROGRAM

1.0 PURPOSE

This procedure specifies the requirements for the following activities of the Restart Test Program (RTP) for the Browns Ferry Nuclear Plant Unit 2.

- RTP Test Instruction Format
- RTP Test Instruction Review and Approval Process
- Requirements for Conduct of RTP Testing
- RTP Test Instruction Changes
- RTP Test Instruction Exceptions
- RTP Test Results Package Contents, Review, and Approval Process

2.0 SCOPE

The RTP, as implemented by this procedure and SDSP-12.2, "Development of System Test Specifications," addresses the commitments made in the NPP Volume III, Section 8 for the Restart Test Program.

This instruction applies to all RTP tests developed during Unit 2 Cycle 5. RTP tests will be developed for both individual systems and combined systems depending on the scope of testing for each RTP test. RTP tests may be comprised of existing plant instructions such as Surveillance Instructions (SIs), Technical Instructions (TIs), Maintenance Instructions (EMIs, MMIs, etc.), Operating Instructions (OIs), Calibration Procedures. New tests needed to satisfy Design Baseline Evaluation Test Scoping Documents, and any testing activities needed to satisfy the requirements of the System Test Specifications (see SDSP-12.2, Restart Test Program System Test Specification Development) will also be incorporated.

3.0 REFERENCES

3.1 Reference Documents

3.1.1 NQAM, Part II, Section 4.5, "Plant Surveillance Test Program"

3.1.2 NQAM, Part III, Section 6.1, Selection and Training of Personnel for Nuclear Power Plants

3.1.3 ANSI/ASME N45.2.6, Qualifications of Inspection, Examination and Testing Personnel for Nuclear Power Plants.

3.1.4 Regulatory Guide 1.58, Qualifications of Nuclear Power Plant Inspection, Examination, and Testing Personnel

3.1.5 NQAM, Part I, Section 2.16, Corrective Action

3.2 Source Documents

3.2.1 NQAM, Part I, Section 2.11, "Test Control"

3.2.2 Nuclear Performance Plan, Volume III, Section 8

3.2.3 BFN Final Safety Analysis Report

3.2.4 BFN Technical Specifications

3.2.5 NQAM, Part II, Section 4.9, Handling of CSSC Test Deficiencies

3.2.6 NQAM, Part III, Section 1.1, Document Control

3.3 Implementing Documents

3.3.1 SDSP-8.4, Preparation and Processing of Work Plans and Inspection Records (WP&IR)

3.3.2 PMI-8.1, Temporary Alterations

3.3.3 SDSP-17.2, Postmodification Program Test

3.3.4 SDSP-12.2, Development of System Test Specifications

3.3.5 BF-12.24, Conduct of Operations

3.3.6 PMI-7.1, Plant Operating Review Committee

3.3.7 SDSP-27.1, Evaluation of Changes, Test, and Experiments

3.3.8 BF-12.25, Plant Equipment Deficiency Tags

3.3.9 BF-8.3, Plant Modifications

3.3.10 SDSP-2.2, Controlled Documents

3.3.11 SDSP-2.1, Site Procedures and Instructions

3.3.12 BF-3.11, Second-Person Verification

3.3.13 BF-17.5, Control of Maintenance and Test Equipment

3.3.14 PMI-2.3, Style Guide for Writing Instructions

3.3.15 SDSP-8.8, Conversion of Temporary Alterations to Permanent Plant Modifications

3.3.16 SDSP-3.7, Corrective Action

4.0 DEFINITIONS/ABBREVIATIONS

4.1 Restart Test Program (RTP) - Administrative program established by TVA to restart Browns Ferry Nuclear Plant (BFN) Unit 2.

4.2 RTP Test - A system(s) test procedure written to accomplish the testing identified by the System(s) Test Specification (STS). RTP tests may use existing plant procedures and/or new tests.

4.3 Design Baseline Test Requirements Document (DBTR) - A design document that identifies the functional testing required on a system to demonstrate the safe shutdown design requirements for that system.

4.4 RTP Test Engineer - The person cognizant for assigned STS and RTP test preparation.

4.5 Joint Test Group (JTG) - A group of site personnel acting as a Sub-Plant Operations Review Committee (PORC) with authority to review STS's and RTP tests as described in PMI-7.1.

4.6 Test Exceptions (TE) - Test exceptions are deficiencies encountered during the conduct of a test. These may be procedural difficulties, incorrect data, or equipment abnormalities. Included as a subset of Test Exceptions are test deficiencies as defined by the NQAM Part II Section 4.9. A test deficiency is defined as any condition during which the equipment or system being tested either:

(1) fails to operate
(2) operates in a suspected adverse manner
(3) operates outside the limits of documented acceptance criteria.

4.7 Chronological Log - A record of activities relating to the conduct of testing maintained by the RTP Test Engineer.

4.8 System Test Specification - A document specifying the required testing to be performed on selected systems for the Unit 2 Cycle 5 RTP. The RTP Test Engineer for the system(s) to be tested shall be responsible for the development of this document.

4.9 Modification Representative - The person(s) responsible for modification(s) being installed on systems being tested by the RTP.

4.10 Test Director - The person responsible for test conduct.

4.11 Intent Change - Intent changes are defined as follows:

- Changes to plants' instructions acceptance criteria.

- Deletion or alteration of QC holdpoints -- Instruction changes affecting QC holdpoints may be handled as nonintent if documented FQE concurrence is obtained prior to implementing the change. Addition of new holdpoints does not constitute an intent change.

- Changes to instructions which would violate the technical specifications or other licensing requirements.

- Changes in scope, technique, or sequential order of instruction steps that would affect the result of nuclear safety.

- Changes which implement a temporary alteration to operable CSSC without a TACF--If a change to a workplan called for temporary removal of an interfering hanger on an operable CSSC system, the change must be handled as intent to assure a before-the-fact PORC review.

- Changes to either the authority or responsibility for review and/or approval of the document or the results obtained by its implementation.

4.12 Non-Intent Change - Changes to an approved RTP Test which do not modify the objectives or intent of the test or invalidate test results.

4.13 System Engineer - The plant engineer responsible for system activities.

4.14 Configuration Control Drawing (CCD) - A single drawing of record which defines and depicts actual plant configuration and defines the field completed design supporting that configuration.

4.15 [DNQA] RTP Procedures Review Group (PRG) - An independent group of RTP Engineers responsible for providing a technical review of RTP system test specifications, test procedures, and test results. [BFQ-870534]

5.0 BACKGROUND

The Restart Test Program is intended to confirm the safe and reliable operation of systems involved in the operation of Browns Ferry Unit 2. All systems will be addressed using a graded approach, i.e., some systems will receive a more extensive review and test than others. The graded approach will be implemented by separating all systems into one of three groups according to the following general guidelines:

Group 1: Systems critical to safe operation or shutdown of plant will be included in this group. Testing requirements are determined primarily by Design Baseline Evaluation Program.

Group 2: Systems which provide support to plant operation are categorized as Group 2. Few test requirements specified by Design Baseline Evaluation Program; the majority of test requirements are determined by the RTP system review.

Group 3: Systems not directly supporting plant operation and not important to safety. Generally, no testing will be required.

Groups 1 and 2 will have a System Test Specification (STS) prepared per SDSP-12.2, and they will have a RTP Test Instruction and Test Results Package prepared as described in this procedure.

Group 3 systems will not have a STS prepared but will be addressed by the requirements of the System Checklist, which is part of the Test Results Package as required for Groups 1 and 2. Attachment 1 lists the systems by groups.

The RTP will include integrated system tests; examples are:

- Loss of Power/Loss of Coolant Accident Test (LOP/LOCA)
- Integrated Cold Functional Testing
- Backup Control Test
- Control System Tuneup Tests During Power Ascension
- Other Operational Tests During Power Ascension

The procedures for the above integrated tests will be written and conducted per the requirements of this procedure. Test procedures and results will be reviewed by the Joint Test Group (JTG) as specified in PMI-7.1, Plant Operations Review Committee (PORC).

6.0 INSTRUCTION

6.1 RTP Test Instruction Format

6.1.1 Detailed test instructions shall be prepared for each test identified by the responsible RTP Test Engineer. These instructions shall be based on the applicable STS and numbered as follows:

Unit Number - BFN - RTP - System Number

Example: 2-BFN-RTP-1, is the Unit 2 Main Steam System RTP test unique identifier. RTP tests based on STS's which have support systems included in the scope of testing shall reference the primary system number as the RTP test unique identifier. A statement shall be made in the test objectives (See Paragraph 6.1.3.1) stating the secondary or support systems included in the RTP Test.

6.1.2 The following description is the minimum required format and content presented to provide guidance to the RTP Test Engineer. The following is a listing of the sections of the RTP test:

- RTP Test Instruction Cover Sheet (Form SDSP-92)
- History of Revision (Form SDSP-93)
- Table of Contents
- Signature Log

1.0 Test Objectives
2.0 Test Prerequisites
3.0 Precautions, Limitations, and Actions
4.0 Special Test Equipment
5.0 RTP Test Instructions
6.0 Acceptance Criteria
7.0 Data Sheets
Appendices

NOTE: The signature log may be included as shown above or as an Appendix if desired. If the test is large and may require additional signature log sheets, an Appendix for the signature log is recommended.

6.1.2.1 Include appendices in the Table of Contents. Appendices shall have a cover sheet or first page with a description of the data or information to be attached. The first sheet for each appendix will allow for the establishment of page control during test results assembly.

6.1.2.2 Integrated RTP Test shall include all Test sections as outlined above. As these test cover more than one system, these test will address only those prerequisites appropriate for test conduct.

6.1 RTP Test Instruction Format (Continued)

6.1.3 Detailed Format

NOTE: RTP tests performed to meet long-term commitments to organizations outside BFN shall be identified in the test per the provisions of SDSP-2.1.

6.1.3.1 Section 1.0, Test Objectives

Test objectives specified by the STS and as part of the review process are to be clearly listed and numbered individually.

6.1.3.2 Section 2.0, Prerequisites

[DQA/C] This section identifies those conditions that must be established prior to test conduct. If a prerequisite is not applicable to all subsections of 5.0 of the test instruction, the prerequisite should identify the subsection(s) for which the prerequisite is applicable (or not applicable). [BFQ 870421] Each test prerequisite shall be uniquely numbered and include individual signoffs and dates. In addition, the following shall apply:

(a) Modifications

The RTP Test Engineer shall provide a test prerequisite to identify the status of all ECNs (by workplan) affecting the system(s) to be tested for the current outage (Unit 2 Cycle 5). Appendix G may be used for this listing. The RTP Test Engineer shall include provisions for the required signatures, or initials, and date next to each item.

(b) Systems Engineering/Restart Test Program

The RTP Engineer shall provide a prerequisite to list all the outstanding TACF's on the system(s) to be tested, and evaluate each TACF for test impact. Appendix I may be used for this listing. Signature and date by the Test Director is to certify the TACF's installed do not affect the test.

(c) Equipment Status Check/Alignment

The RTP Test Engineer shall provide a test prerequisite specifying the necessary system(s) alignment and condition prior to initiating test conduct. This alignment may be included as Appendix C, Equipment Status Check/Alignment.

6.1 RTP Test Instruction Format (Continued)

(d) Plant Operations

The RTP Test Engineer shall provide a test prerequisite verifying that all re-tagging performed for the Plant Labeling Program by Operations Special Projects is complete or statused.

(e) Process Instrument Status

If applicable to the test, the RTP Test Engineer shall provide a test prerequisite confirming that system(s) process instrumentation required for RTP test conduct has been calibrated for the system(s) addressed by each RTP test. This checklist may be included as Appendix D, Instrumentation Calibration. The RTP Test Engineer shall include provisions for the required signatures, or initials, and date next to each item.

(f) References

Each RTP Test Engineer shall include the following prerequisite in each test instruction:

"Prior to starting Section 5.0 of this test, the Test Director will review all referenced documents in Appendix A to ensure that revised documents do not affect the purpose or intent of the procedure."

(g) Division of Power Systems Operation (DPSO)

If applicable to the test, the RTP Test Engineer shall specify DPSO test prerequisites as necessary to support test conduct.

(h) Test Procedures

The RTP Test Engineer shall provide a test prerequisite listing the existing plant instructions (Surveillance Instructions [SIs], Maintenance Instructions [EMIs, MMIs, SIMIs, etc.], Operating Instructions [OIs], and others) to be used as part of RTP test conduct. Include revision and date as necessary.

6.1 RTP Test Instruction Format (Continued)

6.1.3.3 Section 3.0, Precautions, Limitations, Actions

(a) Identify and/or Include in the Precautions, Limitations, and Actions Section any of the following:

(1) The general safety of personnel.

(2) The protection of equipment.

(3) Measures to reduce exposure to radiation or contamination.

(4) Actions which may cause inadvertent plant shutdown or power reduction.

(5) Actions which may place plant operations into a Technical Specifications Limiting Condition for Operation (LCO).

(6) Limitations as identified in Technical Specifications without verbatim repeat of statements.

(7) Limitations as identified by vendor manuals or administrative policy.

(b) If cautionary information applies to a given step or sequence of steps within the procedure body, Write it as a caution before the step in lieu of a precaution.

(c) Avoid including instructions in Precautions, Limitations and Actions Section; Write Precautions, Limitations, and Actions in a passive voice.

(d) As appropriate, include in each precaution, limitation, and/or action the possible effects on plant operation or personal safety of violating a precaution, limitation, or action.

6.1 RTP Test Instruction Format (Continued)

6.1.3.4 Section 4.0, Special Test Equipment

The RTP Test Engineer should list all Measuring and Test Equipment required for test conduct. This numerical listing should include instrument accuracy, if applicable. The listing need not include permanently installed system instrumentation or instrumentation listed in existing plant instructions to be used as part of the RTP Test Instruction. Signature verification blanks are not required for this section of the RTP Test Instruction.

6.1.3.5 Section 5.0, RTP Test Instructions

The format of Section 5.0 of the test instructions will be based on the type of document required to satisfy the specific test requirement. These tests may be numbered to match the same section numbering sequence specified in the applicable STS.

For each plant instruction that will be used in the test instruction in whole or in part, the portion used shall be reviewed for technical accuracy to meet test requirement. Normally the attachment of a copy of the completed plant instruction as an appendix will be specified.

Each subsection of Section 5.0 should be written so that each can be performed in any order. If subsections must be performed in a specific order, it must be specifically addressed in Section 5.0 or 3.0 with the sequence restrictions identified.

Where calculation are performed, show all steps of the calculations including units and conversion factors. Provide a signature line for first and second party review of the calculation. For calculations completed prior to the approval of the test instruction the review of the calculations are considered inherent in the review process and no signature provisions are required.

6.1 RTP Test Instruction Format (Continued)

(a) If an existing plant document can be used in whole or part to perform a test to satisfy the requirements, that document or appropriate section of the document will be specifically identified. Use the following format for guidance.

EXAMPLE

5.1.1 Perform Section IV of SI-4.5.A.1.f. Include a copy of the completed steps in Appendix X.

OR

5.1.1 Perform SI-4.5.A.1.f. Attach a copy of the completed SI as Appendix X.

(b) If part or all of a previously run test or instruction is to be used to demonstrate a specific test requirement, that document or part of that document including title and any other identifying tracking number will be indicated. The step will require the attachment of a copy of that instruction or portion of that instruction as an Appendix. Use the following format for guidance.

EXAMPLE

5.2.1 HPCI System Preop Test, GE-13 fully meets test requirement. A copy of the indicated procedure has been included as Appendix X.

OR

5.2.1 Special Test Instruction 1234 meets the test requirement. A copy of the indicated test section has been included as Appendix X.

(c) If it is determined that the test requirement cannot be satisfied by existing plant instruction or previously performed plant instructions, instructional steps to demonstrate the requirement will be provided. The steps will provide the prerequisites, precautions, cautions, test equipment, and instructional steps needed to meet or demonstrate the requirements. The test instruction steps should be provided consistent with the format guidance provided in Attachment 2.

(d) If the STS referenced a second STS which will satisfy a Design Baseline test requirement, the Test Engineer will incorporate a step(s) in Section 5.0 with provisions for signature or initials and date to verify the test requirement is incorporated in the second STS.

6.1 RTP Test Instruction Format (Continued)

6.1.3.6 Section 6.0, Acceptance Criteria

Acceptance criteria are those qualitative or quantitative requirements or limits contained in design documents and test specifications or otherwise derived when compared with test results, which will determine the success or failure of the test. This section should indicate the appropriate test section or data that the acceptance criteria should be compared with. Positive correlation between test results and acceptance criteria should be provided.

Finite values or limits should be used. When finite values are used, the acceptance criteria should have tolerances with them, and the tolerances shall be identified using the same units.

A provision for signature, or initials, and date shall be made for each acceptance criteria.

6.1.3.7 Section 7.0, Data Sheets

Data sheets will be included as required to support test instruction steps developed within Section 5.0. Data sheets will be numbered sequentially under Section 7.0 as they are required by Section 5.0. Provisions will be made for recording of required data with units, data identification, specific, special and permanent plant instrumentation to be used, limits of expected values as applicable, and the procedure step(s) which require the data collection.

If calculations are used include signature provisions per Section 6.1.3.5.

6.1.3.8 Appendix A, References

Provide a listing of references used to prepare the test instruction. There shall be (2) two columns on the right hand side of the page labeled "Initial Revision" and "Performed Revision." The Initial Revision column shall have the revision of the document used to prepare the test instruction. The drawings used shall be "As Constructed" or CCD's as issued. ECNs, that are in the design or implementation process, that are used for test instruction development will be referenced. There is no requirement for "Initial" or "Performed Revision" when referencing ECNs.

6.1 RTP Test Instruction Format (Continued)

6.1.3.9 Appendix B, Text Exceptions

See Part 6.6 of this procedure.

6.1.3.10 Appendix C, Equipment Status Check/Alignment

Appendix C, if used, should provide the necessary instructions and actions to show that the system status will support the testing to be performed. This can be done through an alignment checklist and appropriate instructional steps needed to complete the necessary alignment. The checklist should include the component alpha numeric identifier, component name, location and desired position/condition. Signature provision and verifications shall be included consistent with BF-3.11, Second-Person Verification. Care should be exercised to ensure that the sequential performance of any included alignments are consistent with equipment and safety aspects needed to place the system in service. Steps to place equipment into operating conditions should be included as required to place the system in a mode to support testing. Existing system conditions for operating systems may be taken in account to prevent the unnecessary cycling of equipment.

An alternative method for verifying the system status may be used which would consist of steps requiring the performance of existing plant procedures (operating instructions) to place the system in a specific operating condition. Directions for the performance of parts or sections of the applicable operating instructions would be included with the appropriate signature and date provisions. A copy of any performed alignment/checklist as well as statements identifying the completion of sections of the operating instruction should be included.

6.1 RTP Test Instruction Format (Continued)

6.1.3.11 Appendix D, Instrumentation Checklist

The RTP Test Engineer may supply an Instrumentation Checklist as Appendix D of the RTP Test. The checklist may include process instrumentation needed to support or monitor system performance during test conduct. Only permanent plant instrumentation maintained and calibrated using generic or specific plant procedures by the Instrument Mechanic organization should be included in this checklist. The checklist needs to include the instrument identification number, the calibration due date, the last date calibrated, and a signature and date block used to signify verification of latest calibration. The instrument loop number and specific calibration data such as range and set points may be included at the RTP Test Engineer's discretion.

Process instrumentation that is used for the purposes of demonstrating RTP Test acceptance criteria outside the scope of a surveillance instruction must be post test calibrated. Provisions for this calibration must be addressed in the RTP Test. See Attachment 2, Section 6 for guidance.

6.1.3.12 Appendix E, Alarms and Annunciations

Alarms and Annunciations may be listed as Appendix E to give information which will aid in the performance of test conduct.

6.1.3.13 Appendix F, Safety Evaluations and/or Screening Reviews.

6.1.3.14 Appendix G, Modifications Listing, if necessary.

6.1.3.15 Appendix H, Plant Equipment Labeling Status, if necessary.

6.1.3.16 Appendix I, TACF Status, if necessary.

6.1.3.17 Additional Appendices as needed.

6.2 RTP Test Instruction Review and Approval

NOTE: The RTP Manager or engineers may act as the JTG secretary when necessary.

6.2.1 [DNQA] Restart Test Program generated system Test Specifications, Test Instructions, and Test Results Packages will be subjected to an internal review. These reviews will be performed by an internal RTP Procedure Review Group. The RTP manager will staff the group from RTP personnel including a designated lead as necessary to support the required reviews. The duties of those assigned to the PRG should be limited to those activities that do not interfere or conflict with the performance of quality reviews. The PRG will conduct reviews as outlined in this instruction to support the approval of RTP test instructions and test results packages. The group may conduct meetings and keep a log of meeting activities to facilitate the resolution of comments identified in the review process. [BFQ-87-0834]

6.2.2 The RTP engineer shall submit the RTP test to the JTG Secretary for typing. After the typed RTP test is typed and edited, the JTG secretary shall provide copies of the RTP test to the RTP Procedures Review Group (PRG).

The PRG shall review the RTP test for conformance to this procedure and for technical accuracy. The PRG engineer shall note any comments on a Comment Control Form (Form SDSP-103), and submit the reviewed RTP test to the assigned RTP Engineer when complete.

6.2.3 The RTP Test and PRG engineers shall resolve the comments. The assigned RTP engineer shall notify the JTG secretary of the changes to be made to the RTP test for retyping.

6.2.4 The JTG Secretary shall obtain the signatures for the RTP Test and PRG engineers on the original RTP test cover sheet after retyping. The JTG secretary shall then obtain the RTP Manager's signature on the RTP Test Cover Sheet noting that the RTP test is ready for JTG review.

6.2.5 Copies of the RTP test stamped "Review Copy Only" on the RTP Cover Sheet shall be made and distributed with Review Transmittal Sheet, Form SDSP-91, and a Comment Control Form, Form SDSP-103 to each group of the cognizant Joint Test Group (JTG) members by the JTG secretary. The JTG secretary shall fill out the Comment Control Form and the Review Transmittal Sheet noting the RTP Test number, title, revision number and also note on the review transmittal sheet, the review deadline and date transmitted.

6.2 RTP Test Instruction Review and Approval (Continued)

6.2.6 JTG membership is identified in Standard Practice BF-1.10, Plant Operations Review Committee. Each reviewing member of the JTG should review RTP tests as applicable to their cognizance. Review comments shall be made by filling out the supplied comment control form(s) or attach additional sheets as needed. Each JTG reviewer will sign and date the Comment Control Form and Review Transmittal Sheet, and check the appropriate box denoting "With Comments" or "Without Comments" and return to the RTP Department when the RTP Review is completed. The JTG secretary shall distribute the comments to the assigned RTP Test Engineer for resolution.

6.2.7 RTP test engineers shall notify the JTG secretary upon resolution and incorporation of all review comments that are agreed upon between the reviewing member(s) and the RTP Test Engineer. Review comments that remain unresolved will be handled in accordance with Step 6.2.8. The JTG secretary will schedule and notify the JTG members for a meeting to approve the RTP test.

6.2.8 The JTG shall have authority to resolve review comments by majority vote at JTG meetings. The JTG secretary shall note when this occurs in the JTG Meeting Minutes. The JTG secretary will maintain a file of RTP test Comment Control Forms until the final RTP Results Package is approved by the JTG.

6.2.9 The JTG secretary shall present the original RTP test to the JTG Chairman for review at the scheduled JTG meeting. The JTG Chairman shall note the review by signature and date in the appropriate space on the RTP Test Instruction Cover Sheet Form SDSP-92.

6.2.10 The JTG secretary, or other responsible RTP Section Representative, shall deliver the original JTG reviewed RTP test to the Plant Manager for approval. Disapproved tests shall be returned to the RTP engineer for comment resolution. Disapproved RTP Tests shall be resubmitted to the JTG after resolution of the reasons for disapproval.

6.2.11 The JTG secretary shall note RTP test review and recommended approval in the meeting minutes and submit the minutes for review by PORC in accordance with PMI-7.1, Plant Operations Review Committee.

6.2.12 The approved original RTP test shall be returned to the RTP Section. The JTG secretary shall issue to the assigned RTP Test Engineer a copy of the approved original and stamp each page in red "Official Copy." Distribution shall be made as listed on Form SDSP-92, and each RTP cover sheet shall be stamped "For Information Only."

6.2.13 The JTG secretary shall maintain a copy of the original approved RTP test and forward the original not stamped to DP & CU for maintenance in the master file. A copy with the cover sheet stamped "Approved for Use" shall also be sent to Nuclear Services DCU in Chattanooga.

6.2 RTP Test Instruction Review and Approval (Continued)

6.2.14 Any additional copies made for other requesting departments or organizations will have the RTP Test cover sheet stamped "For Information Only" prior to distribution.

6.3 Test Conduct

CAUTION: No test prerequisites that require equipment or system operation, alignment, or any other manipulations will be performed prior to JTG approval being granted per Step 6.3.1. This is not meant to preclude the performance of long lead time pretest activities, like instrument calibration, that are addressed by other site procedures or work documents.

6.3.1 In preparation for the JTG review of U2C5 modifications planned and/or in progress on a system, the Test Director shall identify the system status for presentation to the JTG. The Test Director shall use the test prerequisites as defined by Sections 6.3.1.1, 6.3.1.3, 6.3.1.4, 6.3.1.6, and 6.3.1.8 below as a basis for the system status. The completion of the appendices is permissible when developing a system status. The signoff of the prerequisites shall be delayed until the JTG gives approval to start.

Prior to beginning Section 2.0, Prerequisites, the JTG shall review modifications planned for U2C5 on the system but not yet completed, and other items that define the system status. After this review the JTG Chairman shall sign the test cover sheet (Form SDSP-92) indicating that the JTG approves the start of testing by the RTP. All prerequisites of the test procedure shall be addressed before starting test conduct. [DQA/C] If a prerequisite is identified per Step 6.1.3.2 as applying only to a certain section of the test, signing of that test prerequisite may be delayed until that section is ready to be performed. Test Prerequisites may be signed off in any order. Exceptions shall be taken to individual prerequisites that are not addressed per Step 6.1.3.2 and are not signed off. The use of exceptions for prerequisites should be minimized and utilized only as a last resort to further test conduct. [BFQ 870421]

6.3.1.1 Modifications

The Modifications Representative shall note the installation status by work plan including revision number (e.g., complete, partially completed, or not worked) next to each ECN, and initial, or sign, and date the signoff.

After Plant Modifications has statused all Work Plans (in Appendix G, if used) the Test Director shall evaluate the status to determine if there is any impact to his test instruction, and change the Test Instruction as necessary.

6.3 Test Conduct (Continued)

6.3.1.2 Equipment Status Check/Alignment

The Test Director will coordinate the completion of the identified actions defined (in Appendix C, if used). Plant operations will perform the actions identified to establish the necessary system status. System configurations or conditions inconsistent with these requirements must be carefully evaluated and documented using the processes outlined in this instruction and any necessary changes made in accordance with the applicable change methods.

6.3.1.3 Plant Operations

Operations Special Projects shall status the Plant Labeling Program re-tagging effort for the system(s) of each specific RTP test instruction. This status may be handwritten and attached as Appendix H. If the re-tagging is incomplete, the RTP Test Engineer will evaluate for test impact. The Plant Operations Representative shall sign, or initial, and date this step prior to RTP Test Conduct.

6.3.1.4 Process Instrumentation Status

The Test Director will coordinate the completion and/or documentation of the status of all instrumentation required for the RTP Test conduct. Instrument Maintenance shall ensure the proper and timely calibration has been completed on the identified process instrumentation. Instrument Maintenance personnel shall indicate the most recent calibration date, the required calibration due date, sign and date the entries to document the instrument status.

6.3.1.5 References

The RTP Test Director shall write in the current revision of all references under the "Performed" column in Appendix A. After reviewing all references for affect on test purpose or intent due to newer revision(s), indicate revisions requiring a change, the change notice number and sign and date the prerequisite.

6.3 Test Conduct (Continued) REV 0003

6.3.1.6 Systems Engineering/Restart Test Program

The responsible System Engineer shall list all the outstanding TACF's affecting the system(s) to be tested along with the ECN number if the TACF is to be made permanent (per SDSP-8.8) or the required removal date if they are not permanent (in Appendix I, if used). The Test Director shall verify that the TACF's do not affect the conduct of the test by their presence or the results of the test after their removal.

6.3.1.7 Division of Power Systems Operation (DPSO)

The DPSO supervisor shall sign and date each prerequisite specified by the Test Director after verifying that the actions identified have been successfully completed.

6.3.1.8 Test Procedures

The Test Director shall review each plant instruction to verify adequacy for use with the RTP test, revision status, and initiate instruction revisions as required. This review shall be documented by the Test Director initial and date for each instruction listed. The Test Director shall sign, or initial, and date this prerequisite step when all referenced plant instructions are reviewed.

6.3.2 The RTP Engineer, System Engineer, or PMT Engineer may act as the Test Director as specified in this practice to facilitate test conduct. The system engineer or PMT engineer shall be accountable to the RTP Manager when acting as the Test Director.

6.3.3 Each Test Director shall maintain a concise chronological record of events which occur during test conduct preparation, test conduct, and at the conclusion of testing which accurately portrays the daily events related to the conduct of testing.

6.3.4 Each Test Director should be responsible for providing advance notice to the M&TE custodian to ensure that required test equipment is available at the time of testing. The test director should use the schedule of testing activities to notify the M&TE custodian of those tests scheduled to start within the next eight weeks and for which M&TE is required for support. The M&TE custodian should notify the test director immediately of the status of the required M&TE. Any problems in M&TE availability should be immediately submitted to the test director's supervisor for resolution as necessary.

6.3 Test Conduct (Continued)

Prior to a test, to avoid the need for repeating any test, Test Engineers should verify, to the extent possible, the operability and readiness of any special test equipment needed to support the test. The larger and more involved the test, the more critical the verification becomes. The verification should include, as applicable, a check of the instrument valve lineup, assurance that the instrument is properly vented, assurance that the instrument is functioning, a check to ensure the equipment has been properly setup, and a comparison of existing conditions to the instrument indications. Note actions taken in the Chronological Log.

Each Test Director is responsible for ensuring that readings entered in the Test Data Sheets are the as-read readings from M&TE. Any correction factors required shall be calculated on attachments to the data sheets with sketches of M&TE hook up or installation details, if required. Calculations must be verified by a second-party sign-off by another test engineer. The correction factors may then be used as data on the recorded data sheets.

6.3.5 Personnel required to support test conduct (operators, electricians, instrument mechanics, etc.) should be identified and scheduled in advance of actual test conduct to avoid delays.

6.3.6 Test Directors are responsible for identifying daily RTP test activities to the Planning and Scheduling Group for inclusion with the current outage schedule. The RTP Manager, or his designee, shall report RTP activities at the daily/weekly outage scheduling meetings.

6.3.7 Before initiating test conduct, the Test Director should discuss the testing to be performed with other concerned personnel, particularly operations, to acquaint others with the test and to avoid conflicts with plant operations and other testing.

When a hold order is initiated or work is to be allowed on a system when a test is in progress, the Shift Engineer shall notify the Test Director.

The briefing should cover the general aspects of the test being performed, specific requirements needed of any support group, discussion of any special procedure or coordination measures, special safety precautions, and a general review of the test instruction including any preplanned ESF actuations.

6.3 Test Conduct (Continued)

6.3.8 Test Directors should attend and participate in the shift turnover meetings during test conduct.

6.3.9 Approval to initiate test conduct will be obtained from the Shift Engineer as noted on Form SDSP-92. The appropriate Shift Engineer and Unit Operator shall also be notified when test activities are ending and systems return-to-normal configuration at the end of the shift or day, before reinitiating test conduct, when all testing is complete, and at any time test results are other than those expected.

6.3.10 During testing, operations personnel should be utilized to perform normal operational-type functions. Craft personnel should be utilized for their normal functions (wirelifts, jumper installation, piping connections, instrumentation, etc.). Test Directors may use meters, hand-held jumpers, and special test equipment where necessary. Qualifications of personnel for the performance of second person verification shall be per the applicable departmental instructions.

6.3.11 Unless specifically stated otherwise, the subsections of a test procedure may be performed out of sequence.

6.3.12 Test instruction step signoffs may be signed by anyone involved in the test as directed by the Test Director. Consequently, data may be recorded by anyone involved in the test. Anyone who signs or initials instructional steps in the test will complete an entry in the signature log.

NOTE: Under no circumstances will anyone sign another person's initials or signature. The signer shall use his own initials or signature. Witnessing of test results, recording test data, and signing off completed steps may be assigned to other persons by the Test Director. In this case, the test director reviews the data and results to determine if observations were properly documented, test results are satisfactory, and the data taken is identified. The Test Director documents his review by counter-initialing and dating individual sign offs or signing and dating the page(s).

6.3.13 Test exceptions encountered during test conduct are to be handled as described in Test Exceptions Part 6.6 of this practice. Inform the SE whenever plant conditions or test results are other than expected. Operations will determine if it is safe to continue with test conduct or abort the test. If the test is aborted, appropriate actions, as defined by Operations shall be taken to restore the system and equipment to a safe condition.

6.3 Test Conduct (Continued)

6.3.14 Changes to RTP tests which develop during test conduct will be handled in accordance with Part 6.5 of this practice, Changes to RTP Tests.

6.3.15 Normal breaks in test activities will result from daily work and shift schedules. These breaks will normally be overnight or through a weekend. Prior to the start of test activities after these breaks, the Test Director will review the system status and verify that the status supports the continuation of testing. Document the review and any actions taken in the Chronological Log.

It may become necessary during the performance of a test, due to plant conditions or unforeseen circumstances, to interrupt test performance. The following steps should be used by the Test Director, as guidelines, to determine the actions required to restart his test instruction when the interruption exceeds 24 hours. Record results and actions taken in the Chronological Log.

(a) Identify the prerequisites in Section 2.0 that affect the test section about to be restarted.

(b) State that these specific prerequisites have been satisfactorily re-verified.

(c) State why the test was interrupted and the action(s) taken to allow restart of the test.

(d) Identify the steps in the Chronological Log which were previously completed and are re-performed to return the system to the condition at the time of Test Interruption. There is no requirement to re-sign the steps.

(e) State that a pre-test briefing has been held.

(f) If any of the above items do not apply, so state.

6.3.16 Test Directors should notify the RTP Engineer, Systems Engineer Supervisor and Post Modification Test (PMT) Supervisor of RTP test activities, including test conduct schedules, systems walkdowns, and other RTP activities. This notification does not need to be formal.

6.3 Test Conduct (Continued)

6.3.17 The requirements and provisions of this instruction for RTP test conduct do not supercede the requirements covering the performance of other existing plant instructions used within the RTP Test Instruction.

6.3.18 It is recognized that surveillance instructions may be performed at any time. There may be surveillance instructions performed after the RTP Test approval but before the RTP Test is started. These surveillance instructions may be used to satisfy RTP Test requirements. The Test Director will document the reason and justification for the use of these surveillance instructions in the Chronological Log. Attach copies of the surveillance results as required by the RTP test. Test instruction steps not used due to inclusion of these surveillance instructions will be addressed by test changes or exceptions.

6.4 Chronological Log

6.4.1 Prior to testing, the following should be included in the log.

6.4.1.1 Documentation of a pretest briefing for RTP Test instructional steps should appear in the Chronological Log. The briefing should cover the general aspects of the test being performed, specific requirements needed of any support group (instrumentation, electricians, etc.) discussion of any special procedure or coordination measures which will be in effect, special safety precautions, and a general review of the test instruction.

NOTE: Time should be allocated for a question and answer period.

6.4.1.2 Areas which must be controlled for test conduct and prerequisite system alignment should also be discussed and documented.

6.4.2 During test conduct the following items may be included on a daily basis.

NOTE: Since test requirements vary, an evaluation has to be made to determine if all items should be included.

6.4.2.1 A daily briefing of Operations personnel including the Shift Technical Advisor concerning planned testing activities and Shift Engineer notification.

6.4 Chronological Log (Continued)

6.4.2.2 Identify the subsection of the test being conducted.

6.4.2.3 Record of events that delay testing e.g., deficiencies and exceptions and actions taken to resolve the delay.

6.4.2.4 Operation of major equipment (start/stop times of major components).

6.4.2.5 MRs and FCRs written to resolve problems should be documented in the log (used as a supplement of test exception).

6.4.2.6 Unusual events or unexplained occurrences which either directly involve test activities or appear to be related (however remotely) to test control.

6.4.2.7 Changes to test instructions.

6.4.2.8 Other reasons for securing testing, such as conflicts between two tests in progress concurrently. A comment should be made, at the end of each day's testing, that the test is being secured, the status of the systems involved, and any special instructions to be performed prior to resuming testing. Ensure that the Shift Engineer is notified when testing is secured.

6.4.2.9 Shift turnover or transfer to the oncoming Shift test director should be documented in the chronological log when applicable. Inclusive in this transfer should be system status, conflicts, significant exceptions, test support personnel status, progress of testing status, and any other pertinent information.

6.4.2.10 Equipment operation, alignments, or other testing (per Operating Instructions, Surveillance Instructions, Shift Engineer's directions, etc.) by other organizations outside the scope of the RTP Test.

6.4 Chronological Log (Continued)

6.4.3 The following areas should be addressed in the test log following field completion of the test.

6.4.3.1 A record of events leading up to resolution of all outstanding test exceptions.

6.4.3.2 Any additional testing required, including retesting for test exception resolution.

6.4.3.3 any other significant event prior to final approval of the test data package.

6.5 Changes to RTP Tests

NOTE: Changes to permanent plant procedures shall be made by the governing practice for that procedure utilized as part of the RTP Test. The following instructions only apply to RTP Test Instructions.

6.5.1 Non-Intent Changes

Non-Intent changes are those that are not Intent changes as defined by Section 4.0. Non-Intent changes may be made at the discretion of the Test Director with concurrence of the Cognizant Unit Shift Engineer (SRO) and another member of the plant management staff. Examples of such changes include modifications to a valve lineup to facilitate testing, a change in the sequence of testing where a specified sequence is indicated in the test instruction, etc. A screening review prepared in accordance with Reference 3.3.7 is required for each change. The screening review shall be completed through the "Approved by" signature prior to implementing the change. Such changes shall be documented by an instruction change sheet as shown on Form SDSP-101 and shall be reviewed by the RTP Manager, the JTG, and approved by the Plant Manager within 14 calendar days or testing shall be interrupted until all reviews and the plant manager's approval is obtained.

6.5.2 Intent Changes

Intent changes are defined in Section 4.0. These intent changes shall be reviewed by both the RTP Manager and the JTG and shall be approved by the Plant Manager prior to implementation. Such changes shall be documented by Form SDSP-101 and accompanied with a completed screening review and/or safety evaluation.

It is recognized that some changes which may occur during test conduct and which will have an impact on continuation of testing will require telecommunication between the Test Director, the JTG, the RTP Manager, and the Plant Manager. Whenever this telecommunication occurs, it shall be documented on Form SDSP-101 in the space allocated for "review and approval" by noting verbal concurrence by the JTG, RTP Manager, and Plant Manager, dated and initialed by the Test Director. Subsequent to this verbal concurrence, this change shall be processed through normal channels for the required signatures.

6.5 Changes to RTP Tests (Continued)

6.5.3 RTP Change Sheet Preparation

6.5.3.1 Each change sheet shall include as a minimum, the affected RTP test number, the RTP test title, the RTP test change number, the RTP test revision level, and "page __ of __". A continuation change sheet (Form SDSP-101, page 2 of 2) can be made and each page shall be identified by the test instruction number, revision level, and change number (as stated on Page 1 of the change), and "page __ of __".

6.5.3.2 Changes will be assigned numbers consecutively, e.g., CN-1, CN-2, etc., as they are approved for implementation. A notation shall be made in the test instruction at the point of the change. The entry shall include the change number and be initialed and dated by the Test Director in black or dark ink. The Test Director shall maintain assigned numbers, record and maintain the original with his "official copy" of the RTP Procedure.

6.5.3.3 Changes to an approved test instructions which are necessary, need not be distributed to all JTG members but shall be included in the final RTP test results package.

6.5.3.4 When the number of changes implemented before conduct of testing for a particular test instruction makes its use cumbersome, a general revision may be initiated to incorporate all changes.

6.5.3.5 Changes to instructions as described and approved on the SDSP-101 forms can be made on the actual page of the test if desired.

6.5.4 History of Revision Page

Revisions made to RTP Tests which require retyping and changing the procedure revision, shall be noted on Form SDSP-93, RTP Test History of Revision Page.

6.6 Test Exceptions

During the performance of an RTP Test Instruction, permanent plant procedures or portions of procedures may be utilized to support the RTP Test Instruction. All test deficiencies which are identified, during the performance of a permanent plant procedure, shall be tracked and dispositioned by its own administrative program.

Test Exceptions that affect RTP Test Instruction steps or data shall be controlled as defined below:

6.6.1 Test Exceptions shall be documented on a Test Exception Form (SDSP-94) and inserted as Appendix B, and may be one of the following items:

1. Unexpected or unusual data
2. Procedural difficulties
3. Data outside acceptance criteria
4. Damage or failure of plant structures, systems, and/or components
5. Operates in a suspected adverse manner

6.6.2 All Test Exceptions will be evaluated by the Test Director against the criteria of SDSP-3.7, and a Condition Adverse to Quality Report (CAQR) will be initiated as required.

6.6.3 Steps which cannot be performed shall have Test Exceptions written against them and shall not be signed off.

6.6.4 The Test Exception shall be referenced in the instruction by putting the circled test exception number next to the associated step(s), appropriate data sheets or appendices with the Test Director's or responsible person's initials and date of entry. Each TE shall be identified with the "TE" prefix and be uniquely numbered in consecutive order (e.g., TE-1, TE-2, etc.). Test Exceptions will be maintained within each test procedure "official copy".

6.6.5 Test Exceptions may be dispositioned by ECNs, MRs, Change Notices, CAQRs, etc. The disposition will be written on Form SDSP-94 and must be clear and complete, ensuring all documentation is referenced and attached as required. Sufficient information will be provided to allow tracing from an anomaly to the appropriate closing document.

6.6 Test Exceptions (Continued)

6.6.6 When the test exception disposition requires deferred testing or retest, the required testing shall be completed on new test instruction page(s). The new pages shall be attached to the test exception and noted with the TE number and paginated.

6.6.7 In the event it is necessary to accomplish retesting, or the corrective action was made through other methods of work control, i.e. MR, the unique identifier of the work control form shall be referenced in the disposition portion, and the test and Test Exception number shall be referenced on the work control form.

6.6.8 It may be determined, after the performance of a test, that a Test Exception is needed to clarify test activities. This may be because a step was signed off incorrectly or because a step was signed off correctly and it was determined afterwards that an instrument used in the testing was out of tolerance. In such cases, the test exception may be written after the fact and will be identified next to the step or steps involved in accordance with Paragraph 6.6.4. There is no reason to line out the previous initials and dates since this creates legibility problems and the test exception documents any needed activities.

6.6.9 Test Exception Approval

6.6.9.1 When a Test Exception disposition is completed prior to JTG approval of the completed RTP Test Instruction, the RTP Manager shall sign and date the approval of the test exception and N/A the JTG block.

6.6.9.2 When the Test Exception disposition is completed after JTG approval of the completed RTP Test Instruction, the RTP manager shall sign and date the Test Exception and forward the TE to the JTG for review and approval.

6.6.9.3 Test Exceptions requiring disposition activities, which are not complete prior to the JTG's review of the Test Results Package, shall be maintained by the RTP Administrative Assistant.

6.6.9.4 A copy of the open Test Exception shall be included in the Test Results Package transmitted to DCS. The "Official Copy" shall be maintained as described in Step 6.6.9.3 and will be transmitted to DCS as an addendum to the original Test Results Package after the disposition is complete and approved by the JTG.

6.7 RTP Test Results Package Preparation and Review

6.7.1 Test Results Package Preparation

After completion of testing activities and as determined by the RTP Manager, a Test Results Package will be prepared for JTG approval. To determine when the package should be prepared, consideration will be given to the extent of modification completion, test exceptions remaining on the RTP Test Instruction, and schedule considerations to support Unit 2 startup. The Test Results Package will provide a basis for the determination of system status with respect to modification completion, major maintenance problems or conditions, as well as the results of testing conducted under the RTP Test Instruction.

6.7.1.1 A System Checklist (SCL) will be assembled by the RTP Engineer as directed by the RTP Manager. The SCL will reflect the condition of the system and any RTP identified open items. The SCL will be developed in two cases as defined below:

(a) Systems that have been assigned to groups one and two will have an SCL completed for inclusion in the Test Results Package just prior to being transmitted to the JTG for approval.

(b) Systems that have been assigned to group three will have the SCL completed and submitted to the JTG for approval as required to support the restart schedule.

6.7.1.2 A Test Summary Report will be written for all systems for which an RTP Test Instruction is performed. The RTP Engineer will include the following items in the Test Summary:

(a) Results - State whether the test objectives and acceptance criteria were met. Include significant problems encountered during the conduct of the test. Only pertinent facts should be discussed.

(b) Exceptions - All open test exceptions shall be listed by their corresponding identifier with a short description included. This description should explain why the exception is to remain open.

6.7 RTP Test Results Package Preparation and Review (Continued)

(c) References - All references listed in Appendix A of the Test Instruction will be reviewed for the difference between current revision level and revision level at time of test performance. Any differences will be evaluated for impact on test results.

(d) Modifications - Compare the current status of all U2C5 ECNs to the "as tested" ECN status as listed in the RTP Test Instruction. Evaluate the differences between the "as tested" status and the current status for impact on the test results. Record the differences, evaluation, and results in the summary report.

(e) Conclusion - This section can be used to add information to the record which the Test Engineer feels should be discussed concerning system operation or test conduct. Observations or recommendations concerning system or equipment operation which might be useful for further operation should be addressed here.

6.7.1.3 A System Punchlist assembled by the RTP/System Engineer groups will be included in the Test Results Package. This list may have handwritten updates at the time of JTG package approval to keep the punchlist up to date.

6.7.1.4 The System Test Specification "Official Copy" will be included in the Test Results Package, to include all changes and appendices.

6.7.1.5 The RTP Test Instruction, if applicable for the system, will be included in the Test Results Package. All appendices, attachments, chronological log, and data sheets shall be included.

6.7 RTP Test Results Package Preparation and Review (Continued)

6.7.2 Test Results Package Review

6.7.2.1 The Test Director will compile the Test Results Package and review it for completeness and accuracy. The review is for verifying that all acceptance criteria are satisfied, changes have been reviewed and incorporated correctly, test exceptions have been resolved or listed as being open, all steps have been completed or properly documented, and the system checklist and punchlist is up to date. The JTG Secretary will arrange the package and prepare the upper half of the Test Results Package cover sheet. The Test Engineer will then sign the Test Package Cover Sheet attesting to the review. The System Engineer and PRG engineer shall review the Test Results Package and resolve concerns with the RTP Test Engineer. After resolution of concerns, the System Engineer and PRG Engineer shall sign in the appropriate space on Form SDSP-97 and forward to the RTP Manager for signature.

6.7.2.2 Following engineer reviews the JTG secretary will distribute the Test Results Package to the JTG for review. The JTG shall review the package and if approved, the JTG chairman and Plant Manager will sign Form 97. For unresolved JTG comments, the package will be returned to the RTP Engineer for resolution prior to Results Package approval.

6.7.2.3 The JTG secretary shall document the approval and record any comment/resolutions discussed by the JTG for test results package approval. A copy of the meeting minutes documenting the final test results package approval will be attached to the results record package.

6.7.2.4 Following JTG approval of the meeting minutes, the JTG secretary shall forward the results package to the Document Control and Word Processing Section for permanent records retention and sign and date SDSP Form-97 noting transmittal.

6.8 ALARA Preplanning

ALARA preplanning is necessary for RTP testing in order to comply with radiological control instruction RCI-15, maintaining occupational radiation exposures as low as reasonably achievable (ALARA).

6.8.1 Test Directors

Test directors should determine during the preparation of test instructions if an ALARA preplanning report is required for test conduct in accordance with RCI-15. This determination should be made based on the amount of C-Zone and regulated area activity expected during test conduct, the number of personnel required for test conduct, the expected exposure rate during test conduct, the total time estimated for test personnel and any other variable which could increase personnel exposure. Test directors may specify by test prerequisites that piping system to be tested be cleaned and flushed prior to test conduct, that temporary lead shielding be installed; that radiation monitoring equipment or RADCON technicians are utilized during test conduct, or that any acceptable method to reduce exposure is utilized.

6.8.2 Post-Job ALARA Reports

Test directors shall perform post-job ALARA reports for submittal to the ALARA Engineer upon completion for all jobs requiring preplanning.

6.8.3 Plant Radiological Control

Plant Radiological Control shall assist as necessary, the directors in the evaluation of exposure estimates. This may be done during review of the RTP test instruction when applicable (RADCON review required).

6.9 RTP Test Director Certification

6.9.1 Test Director

The RTP Manager shall be responsible for verifying that Test Directors are certified as applicable, for test directors. All personnel being certified to the Restart Test Program shall as a minimum, have a combination of education, experience, and skills commensurate with their functional level of responsibility. The qualification of personnel will be certified in writing in accordance with references in Section 3.0, Subsections 3.1.2, 3.1.3 and 3.1.4. This verification shall be documented by memorandum from the RTP Manager to BFN Personnel.

6.10 RTP Test Unreviewed Safety Question Determination (USQD)

6.10.1 Screening reviews and/or safety evaluations shall be prepared for each RTP test. The screening review and/or safety evaluation for each test shall be prepared according to Reference 3.3.7. After review and approval of the test, a copy of approved screening reviews and safety evaluations, if required, shall be included as Appendix F to the RTP test instruction. The RTP Manager shall be responsible for providing a screening review and/or safety evaluation if the RTP Test Engineer is not qualified to prepare the screening review or safety evaluation.

6.10.2 An individual qualified to prepare screening reviews shall evaluate all changes to RTP test instructions in accordance with Reference 3.3.7. If required a safety evaluation will be prepared, reviewed, and approved in accordance with Reference 3.3.7. Include a copy of screening reviews and/or safety evaluations which support RTP changes in Appendix F.

6.10.3 The RTP Manager may request assistance in the preparation of RTP tests USQDs from DNE, Nuclear Engineering Branch.

7.0 RESPONSIBILITIES

7.1 Site Director

The Site Director is responsible for providing the necessary staffing to start up BFN Unit 2. This staff shall be designated as the Restart Test Program (RTP) Section directly reportable to the Unit 2 Superintendent.

7.2 Division of Nuclear Engineering (DNE)

- specify testing requirements for systems reviewed in the Design Baseline and Verification program in the form of test scoping documents.
- specifies postmodification testing (PMT) requirements for ECNs
- provides a representative for the review of RTP tests, changes and revisions, and RTP test results as part of the Joint Test Group (JTG)

7.2 Division of Nuclear Engineering (DNE) (Continued)

- provides copies of Configuration Control Drawings (CCDs)
- assists as needed in the preparation of RTP test USQDs

7.3 Division of Nuclear Construction (DNC)

- provides a representative to the Joint Test Group to review RTP tests, changes, and results.
- provides modification workplan status to support test conduct.

7.4 Plant Manager's Organization

7.4.1 Plant Manager

- approves RTP test instruction
- approves RTP test results
- approves RTP test changes

7.4.2 Unit 2 Superintendent

- act as chairman of the JTG and performs the duties of the chairman including review of RTP test, reviews RTP test results, and reviews RTP test changes.

7.4.3 Technical Services Superintendent

- provides a representative from the Systems Engineer Section or PMT Section for the JTG for the purposes of reviewing RTP tests, changes, and results;
- provides additional test directors as needed from the Systems Engineer and/or PMT Sections to facilitate test conduct.

7.4 Plant Manager's Organization. (Continued)

7.4.4	Maintenance Superintendent	- provides a representative for the JTG to review RTP tests, RTP test revisions, and RTP test results, - provides necessary craft support as coordinated by the RTP manager or designee, - verifies completion of modifications and associated work for modifications installed by Maintenance, - assists in providing the necessary special test equipment for RTP test through the Measuring and Test Equipment (M&TE) Custodian.
7.4.5	Joint Test Group	- Meets as needed to review RTP tests, changes, and results.
7.4.6	Plant Operations Supervisor (Unit 2)	- provides necessary Operations as coordinated by the RTP Manager or designee, - provides a representative to the JTG to review RTP tests, changes, and results.
7.4.7	Radiological Control Supervisor	- assists RTP Test Engineers in ALARA preplanning reports as needed.
7.4.8	Quality Assurance Manager	- provides a representative to the JTG for review of RTP tests, changes, and results.
7.4.9	RTP Manager	- comply with the provisions of this procedure as applicable. - provides a representative to the JTG for review of RTP tests, changes, and results. - provide RTP organizational chart. - reports the status of the RTP to the Plant Manager and Site Director. - assign personnel to the PRG.

7.4 Plant Manager's Organization (Continued)

7.4.10 Document Control and Word Processing Supervisor	-	maintains completed test packages as part of the plant historical records.
7.4.11 RTP Personnel	-	comply with the provisions of this procedure as applicable.
	-	Act as Test Directors when assigned.
7.4.12 PRG Personnel	-	comply with the provisions of this procedure as applicable

8.0 ATTACHMENTS AND FORMS

8.1 Attachment 1 - Restart Test Program Systems List
8.2 Attachment 2 - Format Guidance for Section 5.0 Test Instruction
8.3 Form SDSP-91 - Review Transmittal Sheet
8.4 Form SDSP-92 - RTP Test Instruction Cover Sheet
8.5 Form SDSP-93 - History of Revision Page
8.6 Form SDSP-94 - Test Exception
8.7 Form SDSP-97 - RTP Test Results Package Review Transmittal Sheet
8.8 Form SDSP-101 - Page 1 of 2 - RTP Test Instruction Change Sheet
8.9 Form SDSP-101 - Page 2 of 2 - RTP Test Instruction Continuation Change Sheet
8.10 Form SDSP-103 - Comment Control Form

9.0 DOCUMENTATION RECORDS

9.1 Completed RTP test results are QA records and will be maintained by Document Control as part of the plant's lifetime records.

9.2 The following SDSP form retention times and categories are established in accordance with ANSI N45.2.9.

SDSP Form Number	Retention time	Category
9.2.1 Form SDSP-91	Per Subsection 6.2.8	Not a QA Record
9.2.2 Form SDSP-92	Lifetime	Lifetime QA Record
9.2.3 Form SDSP-93	Lifetime	Lifetime QA Record
9.2.4 Form SDSP-94	Lifetime	Lifetime QA Record
9.2.5 Form SDSP-97	Lifetime	Lifetime QA Record
9.2.6 Form SDSP-101	Lifetime	Lifetime QA Record
9.2.7 Form SDSP-103	Per Subsection 6.2.8	Not a QA Record

END OF TEXT

ATTACHMENT 1

RESTART TEST PROGRAM SYSTEM LIST

SYS. NO.	DESCRIPTION	BTRD ISSUED	GROUP NO.	RTP STS NO.
1	MAIN STEAM SYSTEM	X	1	2-BFN-STS-001
2	CONDENSATE/DEMINERALIZERS	X	1	2-BFN-STS-002
3	FEEDWATER	X	1	2-BFN-STS-003
5	EXTRACTION STEAM	X	2	2-BFN-STS-002
6	HEATER DRAINS AND VENTS		3	NONE
8	TURBINE DRAINS		3	NONE
10	BOILER DRAINS AND VENTS	X	2	2-BFN-STS-003
12	AUX BOILER		3	NONE
18	FUEL OIL	X	2	2-BFN-STS-082
20	CENTRAL LUBE OIL		3	NONE
23	RHR SERVICE WATER	X	1	2-BFN-STS-023
24	RAW COOLING WATER	X	2	2-BFN-STS-024
25	RAW SERVICE WATER	X	2	2-BFN-STS-025
26	HIGH PRESSURE FIRE PROTECTION	X	2	2-BFN-STS-025
27	CONDENSER CIRCULATING WATER	X	2	2-BFN-STS-027
28	WATER TREATMENT		3	NONE
30	DIESEL GENERATOR AND REACTOR BLDG VENTILATION SYSTEMS	X	2	2-BFN-STS-030
31	CONTROL BAY HVAC	X	2	2-BFN-STS-031
32	CONTROL AIR	X	2	2-BFN-STS-032
33	SERVICE AIR	X	3	(1)
34	VACUUM PRIMING		3	NONE
35	GENERATOR COOLING		3	NONE
37	GLAND SEAL WATER TREATMENT		3	NONE
39	CO2 STORAGE AND FIRE PROT.	X	2	2-BFN-STS-039
40	BLDG. DRAINS		3	NONE
43	SAMPLING AND WATER QUALITY	X	2	2-BFN-STS-069
44	BUILDING HEATING		3	NONE
46	FEEDWATER CONTROL	X	2	2-BFN-STS-003
47	TURBINE/GEN CONTROL	X	2	2-BFN-STS-047

NOTES: DB&VP TR ISSUED - INDICATES SYSTEMS FOR WHICH THERE IS A TEST REQUIREMENTS DOCUMENT FROM THE DESIGN BASELINE AND VERIFICATION PROGRAM.
RTP STS NO. - EACH TEST SPEC. CAN INCLUDE MORE THAN ONE SYSTEM

(1) Latest revision of the test requirements document for system 33 deleted all Design Baseline test requirements. No additional testing was identified, therefore no RTP test instruction was written or conducted.

ATTACHMENT 1

RESTART TEST PROGRAM SYSTEM LIST
(Continued)

SYS. NO.	DESCRIPTION	BTRD ISSUED	GROUP NO.	RTP STS NO.
50	SODIUM HYPOCHLORITE INJECTION		3	NONE
51	RAW WATER CHLORINATION		3	NONE
53	DEMINERALIZER BACKWASH AIR		3	NONE
55	ANNUN. AND SEQUANTIAL EVENTS RECOR.		3	NONE
56	TEMPERATURE MONITORING		3	NONE
57	ASSOC. ELECTRICAL (SEE 200-SERIES)	X	1/2/3	2-BFN-STS-057-X
63	STANDBY LIQUID CONTROL	X	1	2-BFN-STS-063
64A	PRI CONT/PRI CONT ISOLATION	X	1	2-BFN-STS-064A
64B	REACTOR BUILDING VENTILATION	X	1	2-BFN-STS-030
64C	SECONDARY CONTAINMENT	X	1	2-BFN-STS-065
65	STANDBY GAS TREATMENT	X	1	2-BFN-STS-065
66	OFFGAS	X	2	2-BFN-STS-065
67	EMERGENCY EQUIP, COOLING WATER	X	1	2-BFN-STS-067
68	REACTOR WATER RECIRCULATION	X	2	2-BFN-STS-068
69	REACTOR WATER CLEANUP	X	2	2-BFN-STS-069
70	REACTOR BLDG CLOSED COOLING WATER	X	2	2-BFN-STS-070
71	REACTOR CORE ISOLATION COOLING	X	1	2-BFN-STS-071
73	HIGH PRESSURE COOLANT INJECTION	X	1	2-BFN-STS-073
74	RESIDUAL HEAT REMOVAL	X	1	2-BFN-STS-074
75	CORE SPRAY	X	1	2-BFN-STS-075
76	CONTAINMENT INERTING	X	2	2-BFN-STS-084
77	RADWASTE	X	2	2-BFN-STS-025
78	FUEL POOL COOLING	X	2	2-BFN-STS-069
79	FUEL HANDLING AND STORAGE	X	2	2-BFN-STS-079
80	PRIMARY CONTAINMENT COOLING		3	NONE
82	STANDBY DIESEL GENERATOR	X	1	2-BFN-STS-082
84	CONTAINMENT ATMOS. DILUTION	X	2	2-BFN-STS-084
85	CONTROL ROD DRIVE	X	1	2-BFN-STS-085
86	DIESEL STARTING AIR	X	1	2-BFN-STS-082
90	PROCESS RADIATION MONITORING	X	1	2-BFN-STS-090
92	NEUTRON MONITORING	X	1	2-BFN-STS-092
94	TRAVERSING INCORE MONITOR	X	1	2-BFN-STS-094
96	REACTOR RECIRC FLOW CONTROL	X	1	2-BFN-STS-068
99	REACTOR PROTECTION	X	1	2-BFN-STS-099
202	4KV UNIT BOARDS	X	1	2-BFN-STS-57-5
203	4KV COMMON BOARDS	X	1	2-BFN-STS-57-5
204	4KV UNIT START BD AND BUS 1		3	NONE
205	4KV COOLING TOWER SWITCHGEAR		3	NONE

NOTES: DB&VP TR ISSUED - INDICATES SYSTEMS FOR WHICH THERE IS A TEST REQUIREMENTS DOCUMENT FROM THE DESIGN BASELINE AND VERIFICATION PROGRAM.
RTP STS NO. - EACH TEST SPEC. CAN INCLUDE MORE THAN ONE SYSTEM

ATTACHMENT 1

RESTART TEST PROGRAM SYSTEM LIST
(Continued)

SYS. NO.	DESCRIPTION	BTRD ISSUED	GROUP NO.	RTP STS NO.
210	4KV BUS TIE BOARD	X	2	2-BFN-STS-057-5
211	4KV SHUTDOWN BOARDS AND BUSES	X	1	2-BFN-STS-57-5
215	480V COMMON BOARDS		3	NONE
219	480V DIESEL AUX BOARDS	X	1	2-BFN-STS-57-4
225	480V UNIT BOARDS		3	NONE
231	480V SHUTDOWN BOARDS	X	1	2-BFN-STS-57-4
236	MAIN TRANSFORMER (500, 20.7KV)		3	NONE
237	SERVICE BUILDING MAIN BOARD		3	NONE
239	480V LIGHTING BOARDS		3	NONE
240	480V WATER SUPPLY BOARD		3	NONE
241	161KV SWITCHYARD		3	NONE
242	500KV SWITCHYARD AND GEN. 1, 2, 3		3	NONE
243	UNIT STA SERV TRANS (20.7, 4.16KV)		3	NONE
244	COMMUNICATION	X	1	2-BFN-STS-244
245	COMMON STA SERV GRANS (161, 4.16KV)		3	NONE
246	COOLING TOWER TRANS (161, 4.16KV)		3	NONE
247	LIGHTING		3	NONE
248	250V DC UNIT BATTERIES	X	1	2-BFN-STS-57-3
248	250V DC SHUTDOWN BATTERIES	X	1	2-BFN-STS-57-7
249	PLANT PREFERRED 120V AC		3	NONE
250	PLANT NON-PREFERRED 120V AC		3	NONE
251	48V DC POWER		3	NONE
252	UNIT PREF 120V AC	X	1	2-BFN-STS-57-2
253	120V AC INSTRU AND CONT POWER	X	1	2-BFN-STS-57-2
254	DIESEL 125V DC	X	1	2-BFN-STS-57-1
255	DATA LOGGER		3	NONE
258	OPERATION RECORDER		3	NONE
261	COMPUTER		3	NONE
262	GENERATOR BUS	X	2	2-BFN-STS-047
265	480V REACTOR BUILDING VENT BDS	X	1	2-BFN-STS-57-4
266	480V CONTROL BAY VENT BDS	X	1	2-BFN-STS-57-4
267	480V TURBINE BUILDING BDS		3	
268	480V REACTOR MOV BOARDS	X	1	2-BFN-STS-57-4
269	480V TURBINE MOV BOARDS		3	
270	480V CONDENSATE DEMIN BDS		3	

NOTES: DB&VP TR ISSUED - INDICATES SYSTEMS FOR WHICH THERE IS A TEST REQUIREMENTS DOCUMENT FROM THE DESIGN BASELINE AND VERIFICATION PROGRAM.
RTP STS NO. - EACH TEST SPEC. CAN INCLUDE MORE THAN ONE SYSTEM

ATTACHMENT 1

RESTART TEST PROGRAM SYSTEM LIST
(Continued)

SYS. NO.	DESCRIPTION	BTRD ISSUED	GROUP NO.	RTP STS NO.
271	480V AUXILIARY BOILER BDS		3	NONE
272	480V WATER AND OIL STORAGE BDS		3	NONE
273	480V RADWASTE BOARDS		3	NONE
276	480V POWER CABINETS		3	NONE
278	240V DIST. CABINETS (500KV SW YD)		3	NONE
280	BATTERY BOARDS 1, 2, 3, and 4	X	1	2-BFN-STS-57-3
281	250V DC REACTOR MOV BOARDS	X	1	2-BFN-STS-57-3
282	250V DC DISTR. BOARDS	X	1	2-BFN-STS-57-3
283	24V DC POWER		3	NONE
L/L	LOSS OF POWER/LOSS OF COOLANT ACCIDENT TEST		NA	2-BFN-STS-L/L
BUC	BACKUP CONTROL TEST	X	NA	2-BFN-STS-BUC
ICF	INTERGRATED COLD FUNCTIONAL TESTS		NA	2-BFN-STS-ICF

NOTES: DB&VP TR ISSUED - INDICATES SYSTEMS FOR WHICH THERE IS A TEST REQUIREMENTS DOCUMENT FROM THE DESIGN BASELINE AND VERIFICATION PROGRAM.
RTP STS NO. - EACH TEST SPEC. CAN INCLUDE MORE THAN ONE SYSTEM

ATTACHMENT 2

Format Guidance for Section 5.0 Test Instructions

1. Steps to meet the test requirements should be included and numbered as substeps under the numbering sequence establish by the STS.

2. At the beginning of the section provide a statement identifying that the steps included within the section are provided to satisfy the test requirement of the objectives listed in Section 1.0 of RTP Test Instruction. Identify the appropriate paragraph of Section 1.0 by number. No signature provision is required.

3. Any precautions, limitations, and actions that are listed in Section 3.0 that apply to this section of the RTP Test Instruction should be repeated as specific steps. No signature provision is required.

4. Prerequisites should be included as separate steps. Use the following guidance to determine the need and format for these steps.

   NOTE:

   Reference to a support system is not intended to require complete operability of all components or features. If the support system can provide the necessary functions by some alignment in its associated instruction, the prerequisite is satisfied.

   A. Include in the Prerequisites steps related system general status and general actions that must be satisfied prior to starting these instructions.

   B. If preoperational verifications need to be performed. Include these as action statements early in the instructional text.

   C. If a related system is required to support test instruction steps, Refer to the system by name and instruction number.

   D. If necessary, Include a general phrase of the support function.

   E. Provide space in the Prerequisites section for initials for self-verification of each prerequisite.

   F. As applicable to the instruction, Specify the plant conditions under which the test can be performed.

ATTACHMENT 2 (Continued)

Format Guidance for Section 5.0 Test Instructions

5. Include a step to identify any Special Test Equipment needed for the performance of this section of the test.

   A. WRITE in such detail as to avoid testing delays due to improper equipment selection or the inability to obtain equipment.

   B. If required, Provide flexibility in equipment selection by using standard names for the tools and equipment followed by the specific model desired and the phrase "or equivalent" in parenthesis (e.g. Digital Multimeter Fluke 8600A or equivalent).

   C. Where M&TE is used in lieu of permanently installed plant equipment to obtain data, space shall be provided and labeled for recording of M&TE Identification and Calibration due date. Where M&TE is used several times it will only be necessary to record M&TE information at the conclusion of its used on that Data Sheet. Where calculations are performed (E.G. head corrections, etc), all steps of the calculation including uncorrected readings will be shown with units and conversion factors. A signature line shall be provided for second party review of all calculations.

   D. If work is performed on a routine basis, avoid listing standard tools of the trade.

6. Write the step-by-step instructional steps using the Style Guide for Writing Instructions, PMI-2.3 for guidance.

   A. If possible, write instructions in such detail to avoid the need for other administrative control measures such as Temporary Alteration Control Forms (TACF's).

   B. Provide space in the body of the instructions for initials and date for self-verification of each action step. Also include requirements for initials and date for second-person verification, as required by BF-3.11.

      NOTE: Instructional steps should be limited to one idea to a step. It is acceptable to have more than one action to support the one idea in a step; however the number of actions should be limited to three.

ATTACHMENT 2 (Continued)

Format Guidance for Section 5.0 Test Instructions

6. (Continued)

NOTE:

(1) The beginning and end of the instructions should be consistent. The middle portion or body may be different from instruction to instruction.

(2) The beginning instructions should include such items identifying initial conditions, as obtaining permission to perform the test, and establishing communications.

(3) The body instructions should include such items as aligning the system or component for testing, installing test equipment, isolating portions of a system, accomplishing the applicable tests(s), recording data, control of lifted leads and jumpers, and system restoration.

(4) The ending instructions should include such items as cleaning the area, administrative requirements, and notification of test completion.

C. Provide steps to establish initial conditions.

D. Provide a statement that the user obtain permission from the Shift Engineer (SE) to perform the test.

E. [NRC/C] Provide a statement that the user notify the Unit Operator (UO) this test is commencing. [RPT 82-16, LER 259/8232]

F. If necessary, provide a statement that the user establish communications required for the test.

G. Notify the Unit Operator of any changes which could lead to a misinterpretation of plant conditions (e.g., protection system trip, isolation, initiation, and indication changes).

ATTACHMENT 2 (Continued)

Format Guidance for Section 5.0 Test Instructions

6. (Continued)

H. Identify the recording of data and PLACE data tables after the associated step. If repetitive data or large amounts of data is required, the use of data sheets maybe used in place of tables within the instruction body.

EXAMPLE:

Record the following Core Spray Loop II parameters. _____

	Minimum	Measured	Maximum
Loop Flow At FI-75-69 (gpm)	6250		6350
Discharge Pressure at PI-75-48 (psig)	227		N/A

I. Identify the use of jumpers, bypasses, inhibits, fuse removals, or lifted leads. Include provision for verification requirements in accordance with BF-3.11 and PMI-8.1.

NOTE: Where possible the use of jumpers, bypasses, inhibits, fuse removals, and temporary wire lifts in the Test Instructions should be minimized.

J. When given the choice, USE component manipulation over jumpers, bypasses, inhibits, fuse removals and/or wire lifts (i.e., requesting Operations to reposition a valve to cause a set of contacts to change state instead of using a jumper to simulate them closed).

NOTE:

Caution should be exercised to verify that component manipulation would not place the plant in an unsafe condition or LCO.

K. As necessary, before each step involving jumpers, bypasses, inhibits, fuse removals, or lifted leads, PLACE a note describing the effect(s) on operability of plant systems.

L. Identify any time limits associated with the test.

ATTACHMENT 2 (Continued)

Format Guidance for Section 5.0 Test Instructions

6. (Continued)

NOTE:

Technical Specifications should be reviewed to determine the time limits (if any) that are placed on evolutions of this type. For example, an isolation instrumentation channel may be placed in the inoperable state for up to four hours for required surveillance without placing the trip system in the tripped state, provided at least one other channel in the same trip system is monitoring that parameter.

M. Record the time an instrument channel is out of service.

N. Place a set of cautions providing information on the step number which will constitute the end of the time interval and required notification of the Shift Engineer if the time limit is exceeded preceding the step which requires recording the time.

O. Include provisions to record the time at which the instrument is returned to service.

P. Write the step-by-step instructions to restore the system to the same state existing before the test began or as required for continued testing.

Q. Provide steps to post calibrate any process instrumentation if that instrumentation has been used outside the scope of a surveillance instruction for the purpose of demonstrating RTP Test acceptance criteria.

R. Use second-person verification for instructions which restore safety-related components in accordance with BF-3.11 and PMI-8.1.

S. Provide in the instructions a statement notifying the Unit Operator and the Shift Engineer that this section the RTP Test Instruction is complete.

SAMPLE

Tennessee Valley Authority
Browns Ferry Nuclear Plant
Site Director Standard Practice

FEB 24 1988

SDSP-12.1
Form SDSP-91
(Page 1 of 1)

BROWNS FERRY NUCLEAR PLANT
RESTART TEST PROGRAM TEST INSTRUCTION
Review Transmittal Sheet

Instruction No. _____ Title: _____

Revision No. _____

Review must be completed by the review deadline date indicated. Attach comments on Comment Control Form SDSP-103.

Reviewing Section (Joint Test Group Members) Review Deadline _____

Operations (Unit 2) _____ _____ Date

Date Transmitted _____

Quality Assurance _____ _____ Date

☐ Without Comments

System Engineer (Technical Support) _____ _____ Date

☐ With Comments

Division of Nuclear Engineering _____ _____ Date

Maintenance (Unit 2) _____ _____ Date

Division of Nuclear Construction (Modifications) _____ _____ Date

NSSS Vendor Representative _____ _____ Date

NOTE: The Responsible Section Reviewer shall sign and date the Review Transmittal Sheet and check the appropriate box when returning his/her comments.

Copy to: Unit 2 Superintendent (JTG Chairman) with attachment.

2369p

2369p

SAMPLE

Tennessee Valley Authority
Browns Ferry Nuclear Plant
Site Director Standard Practice

FEB 24 1988

SDSP-12.1
Form SDSP-92
(Page 1 of 1)

BROWNS FERRY NUCLEAR PLANT
UNIT 2
RESTART TEST PROGRAM TEST INSTRUCTION
COVER SHEET

Number: _____

Revision: _____ |_____| CSSC

Title: _____

Prepared by: _____ RTP Test Engineer _____ Date

Reviewed by: _____ PRG Engineer _____ Date

RTP Ready for JTG Review _____ RTP Manager _____ Date

JTG Review _____ JTG Chairman _____ Date

RTP Approval _____ Plant Manager _____ Date

Distribution

_____ Technical Support Services

_____ Division of Nuclear Engineering _____ NRC Resident Office

_____ Unit Common Maintenance Supt. (1 MM and 1 E & IC)

_____ Operations Supervisor

_____ Modifications Supervisor

Authorization to Perform Test

_____ / _____
Shift Engineer Date

JTG Approval to Start Test

_____ / _____
JTG Chairman Date

2369p

2369p

FOR INFORMATION ONLY

SAMPLE

Tennessee Valley Authority
Browns Ferry Nuclear Plant
Site Director Standard Practice

AUG 19 1987

SDSP-12.1
Form SDSP-93
(Page 1 of 1)

RTP Test Instruction History of Revision Page

RTP Test No. _____ Revision _____

Title: _____

Revision No.	Approval Date	Pages Affected	Reason for Revision

1776p

Tennessee Valley Authority
Browns Ferry Nuclear Plant
Site Director Standard Practice

REV. 0003

SAMPLE

Tennessee Valley Authority
Browns Ferry Nuclear Plant
Site Director Standard Practice

AUG 19 1987

SDSP-12.1
Form SDSP-94
(Page 1 of 1)

Page 1 of _____ TEST EXCEPTION TE No. _____

Procedure Number _____ Revision _____

Exception Description: Page No. _____ Step(s) _____

Test Exception was reviewed against criteria of SDSP-3.7.
CAQR Initiated: Yes _____ No _____ CAQR No. _____ Test Eng. _____
Date _____

Disposition of Exception:

Deferred/Retest Requirement Performed

Completed: Test Eng. _____ Date_____

Approval

RTP Manager _____ Date_____

JTG Chairman _____ Date_____

1775p

SAMPLE

Tennessee Valley Authority
Browns Ferry Nuclear Plant
Site Director Standard Practice

FEB 24 1988

SDSP-12.1
Form SDSP-97
(Page 1 of 1)

BROWNS FERRY NUCLEAR PLANT
UNIT _____
RTP TEST RESULTS PACKAGE TRANSMITTAL

RTP Test Number _____ Revision _____

Title _____

Results Package Contents	Pages	Contents Verified
Volume I		
1. RTP Test Summary Report	____	_____
2. RTP Test Instruction	____	_____
a. Objectives through Acceptance Criteria	____	_____
b. Data Sheets	____	_____
c. Appendices ____ through ____	____	_____
d. Change Sheets ____ through ____	____	_____
3. System Check List (SCL)	____	_____
4. Punchlists	____	_____
5. Test Director Certifications	____	_____
6. Chronological Log	____	_____
Volume II		
1. System Test Specification	____	_____
a. Appendices ____ through ____	____	_____
b. Change Sheets ____ through ____	____	_____

RTP Test Results Review and Approval

PRG Engineer	Date	Systems Engineer	Date
RTP Manager	Date	RTP Test Engineer	Date
RTP Tests Results Reviewed by JTG		Joint Test Group Chairman	Date
RTP Test Results Approved		Plant Manager	Date
Results Package Transmitted to DP&CU for Permanent Plant Record Retention		JTG Secretary	Date

2369p
2369p

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SAMPLE

Tennessee Valley Authority
Browns Ferry Nuclear Plant
Site Director Standard Practice

FEB 24 1988

SDSP-12.1
Form SDSP-101
(Page 1 of 1)

BROWNS FERRY NUCLEAR PLANT
RESTART TEST PROGRAM TEST INSTRUCTION
Change Number _____

Page _____ of _____

RTP Test Instruction Number _____ Unit _____

RTP Test Title _____ Revision _____

Page	Step	Description of Change	Reason for Change

Initiated by _____ Date _____
RTP Test Engineer

Screening review and/or Safety Evaluation complete.

_____ Reviewer _____ Date

INTENT CHANGES (Requires Prior Review and Approval)	NON-INTENT CHANGES
Recommended _____ / _____ RTP Manager Date	Concurrence _____ / _____ Cognizant Unit Shift Engineer (SRO) Date
	_____ / _____ Plant Mgt. Staff Date
Reviewed by JTG _____ / _____ JTG Chairman Date	Reviewed _____ / _____ RTP Manager Date
Approved for Use _____ / _____ Plant Manager Date	Reviewed _____ / _____ JTG Chairman Date
	Approved For Use _____ / _____ Plant Manager Date

2369p
2369p

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SAMPLE

Tennessee Valley Authority
Browns Ferry Nuclear Plant
Site Director Standard Practice

FEB 24 1988

SDSP-12.1
Form SDSP-101
(Page 2 of 2)

CONTINUATION
CHANGE SHEET

RTP Test No. _____
Revision Level _____
Page ____ of ____
Change No. _____

Page	Step	Description of Change	Reason for Change

1776p

SAMPLE

Tennessee Valley Authority
Browns Ferry Nuclear Plant
Site Director Standard Practice

AUG 19 1987

SDSP-12.1
Form SDSP-103
(Page 1 of 1)

COMMENT CONTROL FORM

PROCEDURE TITLE _____

PROCEDURE NUMBER _____ REVISION _____

RTP ENGINEER _____ REVIEWED BY _____

NUM	REF SECT	COMMENT	RESOLUTION

PAGE ____ of ____

1776p

LAST PAGE