

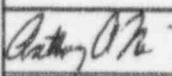
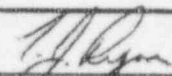
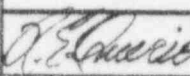
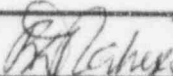
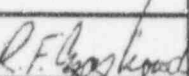
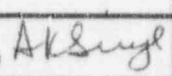
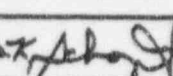
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Client:	Northeast Utilities
Station:	Millstone Unit 3

Title:	OPERATIONS AND MAINTENANCE AND TESTING PROCEDURES AND TRAINING DOCUMENTATION REVIEWS
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<input checked="" type="checkbox"/> Safety-Related	<input type="checkbox"/> Non-Safety-Related
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Reviewed By:	Approved By:
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System Lead	Programmatic Lead	O&M Lead	Accident Mitigation Lead	QA Engineer	Internal Review Committee Chairman	Verification Team Manager Date: 4-28-97
						

Description

Revision 1

- *Provided for independent review of modifications
- *Provided for SRG verification of bases parameters, modes, configurations, and limitations.
- *Provided for independent review of System Requirements Checklist items.
- *Provided for generation of discrepancies for bases item differences.
- *Revised Section 5.6.1 for clarification.
- *Added checklist CK-MP3-06-00.
- *Added checklist CK-MP3-06-10.
- *Added references to 'Configuration Management Plan' and 'Audit Plan'.
- *Added to verifiers responsibilities to provide for bases compilation and review.
- *Other minor changes and clarifications.
- *Revised Flow Chart


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1 PURPOSE

The purpose of the Operations, Maintenance and Testing (O&M&T) portion of the Independent Corrective Action Verification Program (ICAVP) is to determine whether the design and licensing bases for Millstone, Unit 3, have been adequately translated into operating, maintenance and test procedures for the selected systems. The O&M&T portion of the ICAVP will also verify that changes made to Unit 3 since issuance of the operating license were implemented by appropriate procedure changes and testing. Training program procedures and other Significant Support/Interacting Systems and Related Activities required for proper implementation of these procedures and testing will also be evaluated. The O&M&T will also confirm that current testing requirements, maintenance, and post modification testing are adequate to verify system performance.

2 REFERENCES

- 2.1 NRC Inspection Manual Procedure 93801, Safety System Functional Inspection.
- 2.2 10 CFR 50.2, Definitions.
- 2.3 NRC Confirmatory Order Establishing Independent Corrective Action Verification Program - Millstone Nuclear Power Station, Units 1, 2, and 3.
- 2.4 NRC ICAVP Oversight and Inspection Plan, dated December 19, 1996.
- 2.5 Regulatory Guide 1.33, Revision 2, Quality Assurance Program Requirements (Operations)
- 2.6 NUMARC 90-12, Design Basis Program Guidelines.
- 2.7 NRC Generic Letter 90-03, Relaxation of Staff Position in Generic Letter 83-28, Item 2.2, Part 2, Vendor Interface for Safety-Related Components.
- 2.8 NRC Generic Letter 91-18, Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability.
- 2.9 PI-MP3-01, Independent Corrective Action Verification Program Communications Protocol.
- 2.10 PI-MP3-02, Review of System Design for Compliance with the Design and Licensing Basis.
- 2.11 PI-MP3-03, Review of Plant Modifications Prepared After Receipt of Operating License for Technical Adequacy and for Configuration Control.

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- 2.12 PI-MP3-04 Programmatic Reviews
- 2.13 PI-MP3-05, Physical Plant Configuration Walkdowns.
- 2.14 PI-MP3-07 Review of Accident Mitigation Systems
- 2.15 PI-MP3-09, Preparation and Approval of Checklists.
- 2.16 PI-MP3-11, Discrepancy Report Submittal and Closure.
- 2.17 PI-MP3-12, Project File Index.
- 2.18 CK-MP3-06 Series Checklists as follows:
 - CK-MP3-06-00 System Review Checklist Index
 - CK-MP3-06-01 Accident Mitigating Systems-Critical Characteristics Checklist
 - CK-MP3-06-02 Bases/Change Features Checklist
 - CK-MP3-06-03 System Modes/Phases Checklist
 - CK-MP3-06-04 P&ID Checklist
 - CK-MP3-06-05 Significant Support/Interacting Systems and Related Activities Checklist.
 - CK-MP3-06-06 Supplemental Documents Checklist
 - CK-MP3-06-07 Process Indications Checklist
 - CK-MP3-06-08 Vendor Manuals/Files Checklist
 - CK-MP3-06-09 Performance History Files Checklist
 - CK-MP3-06-10 Procedure Bases Verification Checklist
 - CK-MP3-06-11 Mod Procedures Checklist
 - CK-MP3-06-12 PRG Change Process Procedures Checklist
 - CK-MP3-06-13 Training Materials Checklist
 - CK-MP3-06-14 Testing Requirements Checklist
 - CK-MP3-06-15 Testing Requirements Review Checklist
 - CK-MP3-06-16 Test Procedure Adequacy Checklist
 - CK-MP3-06-17 Testing Records Review Checklist
 - CK-MP3-06-18 Procedures Observed In The Field Checklist

Note: Checklists used in the performance of this PI are not included as attachments to the PI. Checklists are prepared and controlled as separate documents per PI-MP3-09.

- 2.19 Northeast Utilities Configuration Management Plan(CMP)
- 2.20 Audit Plan For Independent Corrective Action Verification Program(ICAVP)

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3 DEFINITIONS

- 3.1 **Operations & Maintenance and Testing Review Group (ORG)** - The subgroup of the ICAVP Verification Team responsible for review of the operating, maintenance and testing procedures, and training materials for the systems within the scope of the ICAVP.
- 3.2 **System Review Group (SRG)** - The subgroup of the ICAVP Verification Team responsible for performing an in-depth review of the design of the systems in the scope of the ICAVP.
- 3.3 **Configuration Review Group (CRG)** - The subgroup of the SRG Verification Team responsible for walkdowns to verify that the current as-built conditions are in conformance with the design output documents.
- 3.4 **Accident Mitigation Review Group (ARG)** - The subgroup of the ICAVP Verification Team responsible for the review of the critical system attributes of the systems used to mitigate the consequences of an accident.
- 3.5 **Programmatic Review Group (PRG)** - The subgroup of the ICAVP Verification Team responsible for performing a review of the design control and corrective action processes in the scope of the ICAVP.
- 3.6 **Current Licensing Basis (CLB)** - The set of NRC requirements applicable to a specific plant, and a licensee's written commitments for assuring compliance with and operation within applicable NRC requirements and the plant-specific design basis (including all modifications and additions to such commitments over the life of the license) that are docketed and are in effect. The CLB includes the NRC regulations contained in 10 CFR Parts 2, 19, 20, 21, 30, 40, 50, 51, 55, 72, 73, 100 and appendices thereto; orders; license conditions; exemptions, and Technical Specifications (TS). It also includes the plant-specific design basis information defined in 10 CFR 50.2 as documented in the most recent Final Safety Analysis Report (FSAR) as required by 10 CFR 50.71 and the licensee's commitments remaining in effect that were made in docketed licensing correspondence such as licensee responses to NRC bulletins, generic letters, and enforcement actions, as well as licensee commitments documented in NRC safety evaluations or licensee event reports. (Reference 2.7)
- 3.7 **Design Bases** - The information which identifies the specific functions to be performed by a structure, system or component of a facility, and the specific values or ranges of values chosen for controlling parameters as reference bounds for design. These values may be (1) restraints derived from generally accepted "state of the art" practices for achieving functional goals or (2) requirements derived from analysis of the effects of a postulated accident for

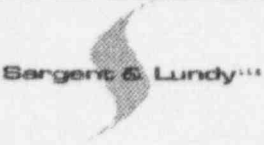
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which a structure, system or component must meet its function goals.
(Reference 2.2)

- 3.8 **Design Output Documents** - Controlled plant documents such as specifications, drawings, vendor drawings, datasheets, lists and databases.
(Reference 2.5)
- 3.9 **Design Process Documents** - Documents such as calculations, analyses, evaluations or other documented engineering activities that substantiate the final design. (Reference 2.5)
- 3.10 **Verifier** - The individual assigned to review engineering attributes within his area of responsibility.
- 3.11 **Significant Support/Interacting Systems and Related Activities** - As used in this PI Significant Support/Interacting Systems and Related Activities refers to those process systems, activities, or procedures that are considered essential and significant by the ORG Verifiers in accomplishing the Design or License Basis item that is being evaluated. It is not intended that this consideration of Significant Support/Interacting Systems and Related Activities be viewed as an all encompassing chain of all possible support and related activities. As an example, if an operator or maintenance worker must be trained with specific skills to perform particular procedures, then the existence of approved training procedures will be verified to accomplish that specific skill training. Neither the entire training program nor the skills nor qualifications of the trainers will be evaluated as part of meeting the subject design basis item being evaluated.

4 **RESPONSIBILITIES**

- 4.1 The Verification Team Manager shall be responsible for overall management of the Verification Team.
- 4.2 The ORG Lead shall be responsible for assigning a Lead Verifier for each system in the ICAVP scope, for assigning other verifiers as necessary to support the Lead Verifier, and for overall coordination of the ORG effort.
- 4.3 The ORG Lead Verifier shall be the primary person for an assigned system responsible for compiling and listing the bases information on the System Requirements Checklist, and for performing a review of procedures, vendor manuals, training materials and plant simulator configuration as described in this instruction. An ORG Lead Verifier may serve as a verifier for other reviews.
- 4.4 The ORG Verifiers shall be responsible for providing a technical review of the bases information listed on the System Requirements Checklist, and for

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performing reviews within their area of expertise in accordance with this instruction. An ORG Verifier may serve as an ORG Lead Verifier.

5 INSTRUCTIONS

5.1 General

The Nuclear Regulatory Commission (NRC) Confirmatory Order referenced in Section 2.0 of this PI requires Northeast Utilities (NU) to implement the ICAVP. The Confirmatory Order also defines the scope of the ICAVP. This scope includes verification that design and licensing bases requirements are translated into operating, maintenance and testing procedures. The ORG includes as part of this verification a check that functional and performance requirements, identified by the SRG in the licensing and design bases of the selected systems, are implemented in the operating, maintenance and testing procedures and training material. The ORG will also review modifications to the system to verify that the appropriate procedures correctly reflect the changes made. The ORG will also verify system performance through review of test records, maintenance history, and observation of selected testing. Walkdowns will be used as appropriate to verify adequate control of operational, maintenance, test and surveillance procedures, operator training, and control of the plant simulator configuration.

5.1.1 The ORG Verifier shall begin the assembly of checklists for the system being reviewed by filling out a copy of Checklist CK-MP3-06-00. Instructions for the use of this checklist are included with the checklist.

5.1.2 Additional Significant Support/Interacting Systems and Related Activities may be identified during reviews in order that procedures governing such activities can be evaluated for adequate implementation of Design Bases items. Refer to Definition 3.11 of this PI for clear understanding of this action.

5.1.3 Any parameters, or modes of operation, or configuration lineups, or numerical or setpoint limitations that are not identified in the System Requirements Checklist shall be forwarded to the SRG for verification as described in Sections 5.4.3.a.1, 5.5.8.a.1, and 5.6.9.a.1 of this PI

5.2 Document Retrieval and Review

5.2.1 Refer to Project Instruction PI-MP3-02 for a detailed breakdown in the division of responsibility within the ICAVP Verification Team for gathering documents. The ORG shall gather, for the selected system, the following minimum list of documents:

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- a. Operating Procedures including Emergency Operating Procedures
- b. Maintenance Procedures
- c. Surveillance Test Procedures
- d. Vendor Manuals
- e. System Training Procedures
- f. Other Significant Support and/or Related Procedures
- g. Operational Data needed to support review of Design Process Documents

- 5.2.2 The ORG shall use the station document index to determine the types of documents or records to be gathered and to identify specific procedures and tests applicable to the system being reviewed.
- 5.2.3 The ORG shall request relevant documents which are not in the ICAVP Library, from NU in accordance with subsection 3.1 of PI-MP3-01.
- 5.2.4 The ORG shall complete the applicable section of the System Reference List (SRL) with the documents identified in 5.2.2 and forward the completed checklist to the SRG Lead. Checklist CK-MP3-02-01 shall be used for the SRL.
- 5.2.5 Once the ORG Lead has received the combined SRL from the SRG Lead, the ORG Lead Verifier and the other ORG Verifiers assigned to review the system shall review the appropriate documentation in order to achieve an in-depth understanding of the system as it relates to their area of expertise.
- 5.2.6 Prior to the ORG review of system modifications which have occurred since the issuance of the operating license, the SRG shall provide the ORG a clear description of portions of modification packages which were subsequently revised by later modifications. The SRG shall also clearly describe for the ORG the modifications which are complete and implemented, and those that have not yet been installed. These measures are required, in part, to prevent generation of erroneous discrepancy reports during the ORG review of procedures and other supporting material.
- 5.2.7 The SRG screens the modifications using a Modification Screening Checklist (CK-MP3-03-02). Among the topics addressed by the checklist is a screening of the modification for impact on training procedures and plant procedures (operations, maintenance and surveillance). The SRG Lead Verifier shall forward a copy of the checklist and the modification package to the ORG for review. This step shall not be performed until all modifications to the system have been screened. The ORG Verifier shall independently review the modification


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packages for impact on procedures, and indicate concurrence by signing the checklist

- 5.2.8 If the system being reviewed is an Accident Mitigating System, critical characteristics will be provided by the ARG to the ORG. The ORG Verifier shall list the critical characteristics on Checklist CK-MP3-06-01. The ORG verifier shall verify that the procedures to be reviewed for implementation of these parameters are listed on the checklist. The ORG Verifier shall verify that the appropriate surveillance test procedures adequately implement these critical characteristics and document the results on Checklist CK-MP3-06-01. Notes about the use and disposition of Checklist CK-MP3-06-01 are included on the checklist.

5.3 Identification of System Requirements

- 5.3.1 As described in PI-MP3-02, the SRG shall use a Systems Requirements Checklist (SRC), Checklist CK-MP3-02-02, to identify the functional, performance and other design requirements for the system being reviewed.
- 5.3.2 The ORG shall use the Systems Requirements Checklist (SRC), Checklist CK-MP3-02-02, to review the licensing and design bases documents to identify operating, maintenance, and testing requirements.
- 5.3.3 The ORG Lead will assign a Lead Verifier for each of the systems being reviewed.
- 5.3.4 The Lead Verifier shall tabulate the requirements along with a reference on the System Requirements Checklist (CK-MP3-02-02).
- 5.3.5 The information tabulated on the System Requirements Checklist shall be independently reviewed by another verifier as described in PI-MP3-02.
- 5.3.6 Any conflicts of bases requirements identified on the System Requirements Checklist shall be processed as discrepancies.
- 5.3.7 The ORG Lead shall approve the ORG input on the SRC and forward it to the SRG Lead for combination with the other ICAVP inputs.
- 5.3.8 The SRG Lead shall provide the ORG Lead a signed copy of the combined SRC for use.
- 5.3.9 The ORG Verifier shall plan and schedule plant walkdowns for the purpose of verifying system performance and to verify adequate control

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of procedures through observation of selected activities and testing, as described in Section 5.6.11 of this PI. The ORG Verifier shall refer to PI-MP3-05 for guidance in planning walkdowns, and coordinate the walkdown plan with the CRG Lead.

5.4 Bases Requirements Review


5.4.1 The ORG Verifier shall perform a detailed review of the appropriate procedures listed on the SRL to evaluate them for implementation of the bases requirements as listed on the SRC. Those procedures that contain parameters, or modes of operation, or configuration lineups, or numerical or setpoint limitations, that are not identified in the System Requirements Checklist shall be verified to be within appropriate limitations, assumptions, and calculations consistent with the system bases. The ORG Verifier shall forward these procedures to the SRG for verification of the bases before the procedures are reviewed for proper implementation. During the detailed review, the ORG Verifier should consider the need to identify specific Significant Support/Interacting Systems and Related Activities to be reviewed for implementation of the bases requirement being evaluated based on initial reviews or results of questions considered as described in Section 5.4.3.d of this PI. The Verifier shall refer to Definition 3.11 of this PI for clarification.

5.4.2 The ORG Verifier shall list each SRC requirement to be evaluated, or each modification or process change item, on each checklist used below or in Section 5.5 of this PI. The ORG Verifier shall list the procedures to be reviewed for each requirement on this same checklist. The ORG Verifier shall list the specific section of each procedure as a reference for each requirement being evaluated on this same checklist.

5.4.3 The ORG Verifier shall review relevant procedures to:

- a. Verify that the design bases features and the current licensing basis features are adequately translated into the referenced procedures. The Verifier shall list the features and document the results of his review on Checklist CK-MP3-06-02.

Any parameters, or modes of operation, or configuration lineups, or numerical or setpoint limitations, that are not identified in the System Requirements Checklist shall be verified to be within appropriate limitations, assumptions, and calculations consistent with the system bases. The ORG Verifier shall list each procedure on a copy of Checklist CK-MP3-06-10 and forward the checklist along with a marked-up copy of the procedure highlighting the requirements that need to be resolved to the SRG for verification of the appropriate bases before the procedure is reviewed for proper implementation.


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Upon return from the SRG, the ORG Verifier shall process any discrepancies for inappropriate items. Procedures with appropriate bases shall be reviewed according to the following steps of this PI.

- b. Verify by reviewing the procedures that all modes and phases of the selected system are adequately operated, maintained, and tested. Where appropriate, the review shall verify that any required manual operator actions can be performed under accident conditions. The Verifier shall list the appropriate modes and phases and any required accident conditions and manual operations and document the results of his review on Checklist CK-MP3-06-03.
- c. Verify that the various system configurations described in the procedures will perform their intended functions by reviewing the appropriate P&ID's. The ORG Verifier shall list the appropriate P&ID's and document the results of his review on Checklist CK-MP3-06-04.
- d. Verify that any required Significant Support/Interacting Systems and Related Activities(refer to Definition 3.11 of this PI for clarification) adequately provide for proper performance of the system being reviewed to accomplish its bases requirements.. The ORG Verifier shall complete Checklist CK-MP3-06-05 to evaluate the need for further items to be reviewed. The Verifier shall add any requirements to the SRC in accordance with Section 5.3 of this PI. The Verifier shall add any necessary references to the SRL in accordance with Section 5.2.4 of this PI. The Verifier shall document the results of his review on Checklist CK-MP3-06-05

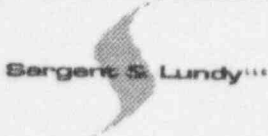
NOTE: This step is not intended to verify the adequacy of supporting systems and functions, but is merely intended to verify that procedures for supporting systems and functions reflect the ICAVP systems' requirements.

- e. Verify that sections of vendor manuals, equipment operating instructions, drawings, or other supplemental documents that are referenced, or used directly as operating or maintenance procedures receive the same level of MP3 review and approval as the initial procedures. This is not a review of the technical adequacy of the documents. The Verifier shall list any such documents and document the results of his review on Checklist CK-MP3-06-06.
- f. Verify that the instruments and controls identified in the procedures to be used for remote and local operation are consistent with the installed configuration. The Verifier shall list any such instruments

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and controls, identify whether they are local or remote, and document the results of his review on Checklist CK-MP3-06-07.


- g. Verify that vendor manuals/files adequately support the bases requirements for the system being reviewed. The Verifier shall list the appropriate vendor manuals and files, and document the results of his review on Checklist CK-MP3-06-08.
 - h. Verify that performance history files adequately support the bases requirements for the system being reviewed. This verification shall include reviews to identify recurring equipment problems, and determination of any trends. Additionally, the verification shall include review of the technical adequacy of maintenance activities, performance of appropriate post-maintenance tests, and satisfactory demonstration of equipment operability. The verifier shall list the files and specific items reviewed. Specific references shall be indicated on the checklist. The Verifier shall document the results of his review on Checklist CK-MP3-06-09.
 - i. It may be appropriate to walkdown procedure usage in the field to observe for procedure control, and to witness some of the review items from the above sections. Refer to Section 5.6.11 of this PI for a description of the walkdown arrangements. The Verifier shall clearly identify any items verified by walkdown on the appropriate Checklist, and document the results of his review with comments on the appropriate checklist.
- 5.4.4 The verifier shall note any comments identified during the review on the comment section of each checklist used in the above reviews. Additional copies of the checklists and comment sections shall be used as required to thoroughly document the results of the reviews.
- 5.4.5 The ORG Lead Verifier and the other Verifiers shall also review the findings and corrective actions that resulted from NU's Configuration Management Plan (CMP). S&L shall not duplicate findings identified by the NU CMP.
- 5.4.6 The ORG Verifier will complete the verification of the procedures versus the system requirements by dispositioning each requirement on the System Requirements Checklist (Checklist CK-MP3-02-02).
- 5.4.7 The Verifier(s) shall identify on the System Requirements Checklist, the procedures that verify the system requirements are satisfied. The Verifier(s) shall indicate that the procedure is technically adequate or describe any deficiencies. The Verifier shall also identify missing procedures, if applicable.

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- 5.4.8 The Verifier(s) shall initial and date all entries in the System Requirements Checklist, and shall sign the System Requirements Checklist when completed.
- 5.4.9 The ORG Lead shall review the disposition in the system requirements Checklist (CK-MP3-02-02) for completeness and technical accuracy. The ORG Lead shall indicate his concurrence with signature and date in the appropriate column. The ORG Lead shall notify the ARG Lead that either all critical characteristics for accident mitigation systems have been satisfied or he shall identify which have not been. The ORG Lead shall also notify the PRG Lead about the results of the PRG procedure reviews.
- 5.4.10 The Verifier(s) shall generate a Discrepancy Report per Subsection 5.7 of this PI for any discrepancies not previously identified by the NU CMP.
- 5.4.11 The ORG Lead shall verify the checklists have been properly completed and shall indicate concurrence by signing and dating the checklists. The ORG Lead will file the checklists in the project file in accordance with PI-MP3-12.

5.5 Review of Changes

- 5.5.1 The ORG Verifier shall independently review the Modification Packages and appropriate Modification Screening Checklists (CK-MP3-03-02) that have been forwarded from the SRG as described in Section 5.2.7 of this PI. The intent of this review is to identify the specific procedures to be reviewed by the ORG for those modifications that were determined to either have procedure impact, or may have procedure impact, by the SRG.
- 5.5.2 The ORG Verifier shall list the Modification Package Identification and the appropriate Modification Screening Checklist identification on any checklists used in the steps of this section of the PI. The ORG Verifier shall also list the appropriate procedures for the modification being evaluated on each checklist used in this PI.
- 5.5.3 Based on a technical review of the modification packages forwarded to the ORG from the SRG, the ORG Verifier shall confirm that the appropriate procedures for the modification being evaluated are listed on the SRL obtained from the SRG lead as described in PI Section 5.2.5. Any additional procedures that are identified during the modification review that are not on the SRL should be listed on a copy of the SRL, and forwarded to the SRG Lead for updating the SRL. The ORG Verifier shall use Checklist CK-MP3-06-11 to list all procedures for the modification being evaluated.

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- 5.5.4 The ORG Verifier shall list the change processes that the PRG is reviewing according to PI-MP3-04 on Checklist CK-MP3-06-12. The ORG Verifier shall select 1 or 2 procedure change items for each of the change processes that the PRG is reviewing and list these procedures also on Checklist CK-MP3-06-12, and provide a detailed review of those changes to verify the technical adequacy of the changed procedures to reflect the initiating change. These procedures shall be reviewed as described below in Section 5.5.8 of this PI. The results of the review of these PRG Change Process procedures shall be evaluated for discrepancies and reported as described in Section 5.5.15 of this PI. Notes about the use and disposition of Checklist CK-MP3-06-12 are included on the checklist.
- 5.5.5 Any newly identified procedures that are not in the ICAVP Library should be requested from MP3 in accordance with section 3.1 of PI-MP3-01.
- 5.5.6 The ORG Verifier shall perform a detailed review of the appropriate procedures for each modification or change process to evaluate them for implementation of the changes identified. During the detailed review, the ORG Verifier should consider the need to identify specific Significant Support/Interacting Systems and Related Activities to also be reviewed for implementation of the above identified changes, based on initial reviews or results of questions considered as described in Section 5.5.8.d of this PI. The Verifier shall refer to Definition 3.11 of this PI for clarification.
- 5.5.7 The ORG Verifier shall verify that the design and operation changes identified by the SRG in Section 5.2.7 above, or identified by the reviews of this section of the PI, or the changes identified by the PRG as described in Section 5.5.4 above, are adequately reflected in operating, maintenance, and testing procedures, in training materials, and in the simulator configuration as appropriate. The ORG Verifier shall list each modification or change process to be evaluated on each checklist used in Section 5.5.8 below. The Verifier shall list each procedure that is being evaluated for implementation of the changes also on each checklist used in Section 5.5.8. The ORG Verifier shall also list the specific procedure section as a reference for each item that is being evaluated.
- 5.5.8 The ORG Verifier will review the relevant procedures to:
- Verify that operation and maintenance of the system is consistent with any modifications to the design bases and current licensing basis features for the system being reviewed. The Verifier shall list

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the features and document the results of his review on Checklist CK-MP3-06-02.

Any parameters, or modes of operation, or configuration lineups, or numerical or setpoint limitations, that are not identified in the System Requirements Checklist shall be verified to be within appropriate limitations, assumptions, and calculations consistent with the system bases. The ORG Verifier shall list these procedures on Checklist CK-MP3-06-10 and forward the checklist to the SRG for verification of the appropriate bases before the procedures are reviewed for proper implementation. Upon return from the SRG, the ORG Verifier shall process any discrepancies for inappropriate items. Procedures with appropriate bases shall be reviewed according to the following steps of this PI.

- b. Verify by reviewing the procedures that all modes and phases of the selected system are adequately operated, maintained, and tested to reflect the changes. The Verifier shall list the appropriate modes and phases and document the results of his review on Checklist CK-MP3-06-03.
- c. Verify that the various system configurations described in the procedures will perform their intended functions to reflect the changes by reviewing the appropriate P&ID's. The ORG Verifier shall list the appropriate P&ID's and document the results of his review on Checklist CK-MP3-06-04.
- d. Verify that any required Significant Support/Interacting Systems and Related Activities (refer to Definition 3.11 of this PI for clarification) adequately provide for proper performance of the system being reviewed to accomplish the changes. The ORG Verifier shall complete Checklist CK-MP3-06-05 to evaluate the need for further items to be reviewed. The Verifier shall add any requirements to the SRC in accordance with Section 5.3 of this PI. The Verifier shall add any necessary references to the SRL in accordance with Section 5.2.4 of this PI. The Verifier shall document the results of his review on Checklist CK-MP3-06-05

NOTE: This step is not intended to verify the adequacy of supporting systems and functions, but is merely intended to verify that procedures for supporting systems and functions reflect the ICAVP systems' requirements.


- e. Verify that sections of vendor manuals, equipment operating instructions, drawings, or other supplemental documents that support

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the change that are referenced, or used directly as operating or maintenance procedures receive the same level of MP3 review and approval as the initial procedures. This is not a review of the technical adequacy of the documents. The Verifier shall list any such documents and document the results of his review on Checklist CK-MP3-06-06.

- f. Verify that the instruments and controls that support the change that are identified in the procedures to be used for remote and local operation are consistent with the installed configuration. The Verifier shall list any such instruments and controls, identify whether they are local or remote, and document the results of his review on Checklist CK-MP3-06-07.
- g. Verify that vendor manuals/files adequately support the requirements for the change. The Verifier shall list the manuals/files reviewed, and document the results of his review on Checklist CK-MP3-06-08.
- h. Verify that performance history files adequately support the change requirements for the system being reviewed. This verification shall include reviews to identify recurring equipment problems, and determination of any trends. Additionally, the verification shall include review of the technical adequacy of maintenance activities, performance of appropriate post-maintenance tests, and satisfactory demonstration of equipment operability. The verifier shall list the files and specific items reviewed. Specific references shall be indicated on the checklist. The Verifier shall document the results of his review on Checklist CK-MP3-06-09.
- i. Verify that training materials, especially operator training materials, have been appropriately updated to reflect the change. The Verifier shall also identify any required simulator configuration changes to evaluate. The Verifier shall list the training materials reviewed, and any simulator changes evaluated, and document the results of his review on Checklist CK-MP3-06-13.
- j. It may be appropriate to walkdown some of the changes in the field to observe for procedure control, and to witness some of the review items from the above sections. Refer to Section 5.6.11 of this PI for a description of the walkdown arrangements. The Verifier shall clearly identify any items verified by walkdown on the appropriate Checklist, and document the results of his review with comments on the appropriate checklist.

5.5.9 The verifier shall note any comments identified during the review on the comment section of each checklist used in the above reviews. Additional


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copies of the checklists and comment sections shall be used as required to thoroughly document the results of the reviews

- 5.5.10 The ORG Lead Verifier and the other Verifiers shall also review the findings and corrective actions that resulted from NU's Configuration Management Plan (CMP). S&L shall not duplicate findings identified by the NU CMP.
- 5.5.11 The ORG Verifier will complete the verification of the procedures versus the change requirements by dispositioning each requirement on the System Requirements Checklist (Checklist CK-MP3-02-02).
- 5.5.12 The Verifier(s) shall identify on the System Requirements Checklist, the procedures that verify the change requirements are satisfied. The Verifier(s) shall indicate that the procedure is technically adequate or describe any deficiencies. The Verifier shall also identify missing procedures, if applicable.
- 5.5.13 The Verifier(s) shall initial and date all entries in the System Requirements Checklist, and shall sign the System Requirements Checklist when completed.
- 5.5.14 The ORG Lead shall review the disposition in the system requirements Checklist (CK-MP3-02-02) for completeness and technical accuracy. The ORG Lead shall indicate his concurrence with signature and date in the appropriate column. The ORG Lead shall notify the ARG Lead that either all critical characteristics for accident mitigation systems have been satisfied or he shall identify which have not been. The ORG Lead shall also notify the PRG Lead about the results of the PRG procedure reviews.
- 5.5.15 The Verifier(s) shall generate a Discrepancy Report per Subsection 5.7 of this PI for any discrepancies not previously identified by the NU CMP.
- 5.5.16 The ORG Lead will verify the checklists have been properly completed and will indicate concurrence by signing and dating the checklists. The ORG Lead will file the checklists to the project file in accordance with PI-MP3-12.

5.6 Review of Testing

- 5.6.1 The ORG shall use input from the SRG to assist in the identification of required testing for the system. Modification functional test requirements and acceptance criteria are contained in the modification packages and are being reviewed by the SRG per PI-MP3-03. The ORG Verifier shall list the test requirements from the System Requirements Checklist, and

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the modification tests forwarded by the SRG, on Testing Requirements Review Checklist CK-MP3-06-15.

- 5.6.2 The ORG Verifier shall also identify other testing requirements for the system being reviewed by using Testing Requirements Checklist CK-MP3-06-14, as guidance. The Verifier shall review the resource material for each category on CK-MP3-06-14 to identify any additional required testing for the system being reviewed. The ORG Verifier shall list the specific test requirements for each category on Checklist CK-MP3-06-14 and the specific procedures that implement each required test as a reference on CK-MP3-06-14. The procedures identified on CK-MP3-06-14 shall be listed on CK-MP3-06-15 along with the procedures listed as described in Section 5.6.1, above, of this PI.
- 5.6.3 The ORG Verifier shall also list the Surveillance tests required to verify the critical characteristics for the Accident Mitigation Systems, forwarded by the ARG, on Checklist CK-MP3-06-15.
- 5.6.4 The ORG verifier shall use the station document index to identify the specific testing procedures and the data/calculation/review sheets for each category on the list.
- 5.6.5 The ORG Verifier shall request relevant documents, which are not in the ICAVP Library, from NU in accordance with subsection 3.1 of PI-MP3-01.
- 5.6.6 The ORG Verifier shall provide a list of required procedures that were not on the SRL to the SRG Lead so that an update to the SRL can be prepared and issued. Additionally, any requirements that were identified in Section 5.6.1 and 5.6.2 above, that were not on the System Requirements Checklist, CK-MP3-02-02, shall be listed on a copy of CK-MP3-02-02, and forwarded to the SRG Lead for updating the System Requirements Checklist.
- 5.6.7 The ORG Verifier shall list each test requirement item from Section 5.6.1, 5.6.2, and 5.6.3, above on a copy of Checklist CK-MP3-06-15, along with the specific procedure or procedure sections as references. The Verifier shall use CK-MP3-06-15 to complete the reviews described in Section 5.6.9 of this PI.
- 5.6.8 The ORG Verifier shall select periodic tests to review based on the required frequency of the specific test item. For test items with a frequency of regular intervals within each refuel cycle, select the most current three performances of the specific test. For test frequencies that are once per refuel cycle, select the last time the test was performed. The verifier shall identify the test frequency on the appropriate checklist for each item. For tests that are one-time performance, such as post

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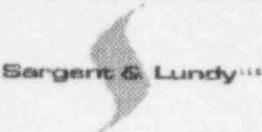
maintenance tests or special tests, the Verifier shall select three items to review for each test category as described in Section 5.6.2 above of this PI.

5.6.9 The ORG Verifier will review each test item to:


- a. Verify that test data and results have been appropriately reviewed and approved. Specific data and results identifications shall be listed for each item on CK-MP3-06-15. The Verifier shall document the results of his review on the Checklist. It may be appropriate to conduct field walkdowns to verify the results for some of the tests to be reviewed. The process for the walkdowns is described in Section 5.6.11 of this PI below.

Any parameters, or modes of operation, or configuration lineups, or numerical or setpoint limitations, that are not identified in the System Requirements Checklist shall be verified to be within appropriate limitations, assumptions, and calculations consistent with the system bases. The ORG Verifier shall list these procedures on Checklist CK-MP3-06-10 and forward the checklist to the SRG for verification of the appropriate bases before the procedures are reviewed for proper implementation. Upon return from the SRG, the ORG Verifier shall process any discrepancies for inappropriate items. Procedures with appropriate bases shall be reviewed according to the following steps of this PI.

- b. Verify that acceptance criteria have been met. The Verifier shall list the specific acceptance criteria, and document the results of his review on Checklist CK-MP3-06-15.
- c. Verify that each test appropriately tests for the requirements identified in Section 5.6.1, 5.6.2, and 5.6.3 and listed on CK-MP3-06-15. The Verifier shall list the bases requirements, and document the results of his review on Checklist CK-MP3-06-15.
- d. Assess the adequacy of the test procedure and of the actions taken as a result of the tests, (e.g., test "trend" information and root cause analyses for test failures; where appropriate, retesting; compliance with Limiting Conditions for Operations; condition reports). The Verifier shall list the items to be reviewed on Checklist CK-MP3-06-16, and document the results on the Checklist.
- e. Verify that testing records are appropriately maintained, and are retrievable. The verifier shall identify the specific records reviewed, and document the results on Checklist CK-MP3-06-17.

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- 5.6.10 The verifier shall note any comments identified during the review on the comment section of each checklist used in the above reviews. Additional copies of the checklists and comment sections shall be used as required to thoroughly document the results of the reviews
- 5.6.11 The ORG Verifier may identify activities to walkdown and observe for actual performance in the field. The walkdown may be used to aid in verifying system performance, and to aid in verifying adequate control of the appropriate procedures, and to observe for proper conduct of the activity according to the approved procedures. This walkdown can be used for witnessing conduct of any of the procedures subject to review by this PI. This includes; operating procedures, maintenance procedures, surveillance procedures, and simulator training performance. The verifier shall identify any activities to be observed on Checklist CK-MP3-06-18. The ORG Verifier shall refer to PI-MP3-05 for guidance in walkdown planning, or discuss the walkdown plan with the CRG Lead.
- 5.6.12 The ORG Verifiers shall also review the findings and corrective actions that resulted from NU's Configuration Management Plan (CMP). S&L shall not duplicate findings identified by the NU CMP.
- 5.6.13 The ORG Verifier will complete the verification of the testing procedures versus the system testing requirements by dispositioning each requirement on the System Requirements Checklist (Checklist CK-MP3-02-02).
- 5.6.14 The Verifier(s) shall identify on the System Requirements Checklist, the testing procedures that verify the system testing requirements are satisfied. The Verifier(s) shall indicate that the procedure is technically adequate or describe any deficiencies. The Verifier shall also identify missing procedures, if applicable.
- 5.6.15 The Verifier(s) shall initial and date all entries in the System Requirements Checklist, and shall sign the System Requirements Checklist when completed.
- 5.6.16 The ORG Lead shall review the disposition in the system requirements Checklist (CK-MP3-02-02) for completeness and technical accuracy. The ORG Lead shall indicate his concurrence with signature and date in the appropriate column. The ORG Lead shall notify the ARG Lead that either all critical characteristics for accident mitigation systems have been satisfied or he shall identify which have not been. The ORG Lead shall also notify the PRG Lead about the results of the PRG procedure reviews.
- 5.6.17 The Verifier(s) shall generate a Discrepancy Report per Subsection 5.7 of this PI for any discrepancies not previously identified by the NU CMP.

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5.6.18 The ORG Lead shall verify the checklists have been properly completed and shall indicate concurrence by signing and dating the checklists. The ORG Lead shall file the checklists to the project file in accordance with PI-MP3-12.

5.7 Discrepancy Report Preparation and Closure

5.7.1 Discrepancy Reports for discrepancies identified during the review process shall be prepared and processed in accordance with PI-MP3-11. Discrepancy Reports shall not be initiated for findings already identified by NU during implementation of the CMP.

5.7.2 Review of NU dispositions for the Discrepancy Reports generated during the review cycle shall be in accordance with PI-MP3-11.

5.8 Final Report

5.8.1 The ORG Lead Verifier shall draft the section of the final report summarizing the results of the ORG system reviews.

5.8.2 The report format shall be determined by the Verification Team Manager.

6 ATTACHMENTS

6.1 O&M&T Process Flow Chart page(1 page)

PLMP3-08
Attachment 6.1
Rev.1

