Sargent & Lundy

AUDIT PLAN
FOR
INDEPENDENT CORRECTIVE ACTION VERIFICATION PROGRAM
(ICAVP)

REVISION 4

NORTHEAST UTILITIES
MILLSTONE UNIT 3

PROJECT NO. 9583-100

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1.0 OBJECTIVE

The objective of this project is to implement an Independent Corrective Action Verification Program (ICAVP) at Northeast Utilities Millstone - Unit 3 in accordance with the Nuclear Regulatory Commission's (NRC) August 14, 1996 confirmatory order. The ICAVP will be an independent verification of the adequacy of results of the Configuration Management Plan (CMP) currently being implemented by Northeast Utilities which is directed at resolving existing design and configuration management deficiencies. The ICAVP will provide independent verification that, for selected systems, Northeast Utilities' CMP has identified and resolved existing problems, documented and utilized licensing and design bases, and established programs, processes and procedures for effective configuration management in the future. The ICAVP will be comprehensive, incorporating all of the appropriate engineering disciplines, such that the NRC can be confident that Northeast Utilities has been thorough in identification and resolution of problems. The ICAVP review will be conducted independently of Northeast Utilities and its design contractors.

2.0 SCOPE OF WORK

The scope of work for the ICAVP as described in the NRC's August 14, 1996 confirmatory order to Northeast Utilities includes:

a. A review of engineering and design control processes,

b. verification of current as modified plant conditions against design bases and licensing bases documentation.

c. verification that design and licensing bases requirements are translated into operating procedures and maintenance and testing procedures.

d. verification of system performance through review of specific test records and/or observation of selected testing of particular systems, and

e. review of proposed and implemented corrective actions for design deficiencies identified by Northeast Utilities.

The NRC's December 19, 1996 oversight inspection plan provides further direction on the scope of the ICAVP. In addition to the above items, the oversight inspection further requires a review of accident mitigation systems that assesses the

critical design characteristics to ensure that these systems and components can perform their specified safety functions.

S&L will implement the above scope of work as follows:

a. The review of engineering and design control processes will consist of an assessment of the current Northeast Utilities change processes, procedures, a technical review of past changes other than modifications and a technical review of all plant modifications to the systems selected for a vertical slice review by the ICAVP that were prepared after issuance of the operating license. The review of the plant modifications will include:

- A technical review of the changes contained in the modification packages to system specific analysis and output documents and to topical engineering programs.
- Verification that current design output documents have incorporated the changes identified in the modification packages.
- Verification that current system operating, maintenance, testing and training procedures adequately reflect the modifications.
- Verification that the physical installation conforms with the modification package.
- Verification that the post modification test procedure and test results demonstrate the system is capable of performing its function.
- Verification that no unreviewed safety question exists for the modification as documented in the 50.59 safety evaluation.

b. The verification of current as modified plant conditions against the design bases and licensing bases will include:

- Review of calculations, analysis, specifications and design output documents for consistency and for conformance with the design and licensing bases.
- A physical walkdown of the system to verify conformance with the design output documents.

c. The verification that the design and licensing bases are translated into operating, maintenance and testing procedures will include a cross-check of functional and performance requirements identified in the licensing and design bases versus those identified in the operating, maintenance, testing and training procedures.

d. The verification of system performance will be accomplished through a review of specific test records for recently completed surveillance and post modification functional tests.

e. The review of proposed and implemented corrective actions for deficiencies identified by Northeast Utilities during the CMP will include a review of all corrective actions for systems selected for a vertical slice review by the ICAVP and a review of randomly selected corrective actions for systems outside the scope of the vertical slice review.

f. The review of the accident mitigation systems will include an assessment of the critical design characteristics to ensure that the systems and components can perform their specified safety functions.

Successful completion of items b, c, d, e and the technical plant modification reviews of item a will ensure the systems selected for the vertical slice review (Tier 1) are capable of performing their functional requirements as specified in the design and licensing basis documentation. Successful completion of the reviews described in item a and the reviews described in item e will ensure the adequacy of the NU design control process (Tier 3). The successful completion of item f will ensure the accident mitigation systems are capable of performing their specified functions (Tier 2).

3.0 PROJECT ORGANIZATION

The organizational structure will facilitate both the internal and external interfaces of the Project Team. Exhibit 1 shows the project organization. This section describes how the organization will function and the expected interfaces. The roles and responsibilities of the different parts of the organization are provided.

3.1 Management Team

The Sargent & Lundy management team for this project is comprised of the Project Director, Bryan Erler; the Verification Team (VT) Manager, Don Schopfer; and the Chairman of the Internal Review Committee,

A. K. Singh. They are collectively responsible for ensuring that the project is properly planned and implemented, that it meets the requirements of the NRC Confirmatory Order, and that the process and the results are open and credible to the NRC and the public.

The Project Director will have the overall responsibility for Sargent & Lundy's performance for the work. He will be responsible for facilitating the resolution of any differences between the VT Manager and the Internal Review Committee. The Project Director along with the VT Manager, will be the primary external spokesmen for the ICAVP Team and will meet with and report to the NRC, and Northeast Utilities as required and as allowed by the approved protocol. He will be available to the press, the media, and the public when requested by the NRC and NU. The Project Director will also be signatory to the final report produced by the ICAVP Team.

The VT Manager will be responsible for directing the development of and approving the plans and procedures for implementing the review, including recommended system selection criteria and the protocol covering communications between Sargent & Lundy project personnel and the other organizations. He will manage the work through the technical leads on the VT. He will be responsible for reviewing the findings produced by the VT, and, upon acceptance, submitting them to the Internal Review Committee. He may also return them to the VT Leads for additional information or further review. The VT Manager will be responsible for distributing the findings, including posting them on the electronic bulletin board as established in the approved protocol after acceptance of the findings by IRC. Similarly, the VT Manager will review, accept and distribute/post the VT's evaluation of the NU responses to the findings. He will be responsible for preparing the final report documenting the work of the VT. The VT Manager will also serve the role of S&L spokesman with respect to communication with the NRC, and NU when necessary.

The Chairman of the Internal Review Committee will be responsible for coordinating the activities of that group. The roles and responsibilities of the Internal Review Committee is provided later in this section of the audit plan. The IRC Chairman will also make himself available to the NRC, and NU when requested.

3.2 Verification Team

The VT is the core of the organization and is the group that does the actual review of the design and licensing bases and the effectiveness of the NU corrective actions. The VT is organized into four functional groups. Each subgroup will be headed by a Lead engineer and will be responsible for a portion of the overall verification program. There will be a System Review Group (SRG), a Programmatic Review Group (PRG), an Operations and Maintenance and Testing Review Group (ORG), and an Accident Mitigation Systems Group (ARG).

The VT has been organized functionally in accordance with the review processes instead of by traditional engineering disciplines. However, this is not to imply a strict compartmentalized group structure or review process. It will function as a single project team with significant cross utilization of personnel among groups. It is expected that SRG and ORG personnel will perform review functions associated with the ARG and PRG. In addition, there will be significant interfacing among the team members and the Review Group Leads. Periodic full project team meetings will be conducted by the VT Manager in addition to periodic review group meetings conducted by the Leads. During the review and discrepancy resolution process, it is expected that the VT Manager will have daily briefings with the VT leads to discuss potential findings, share lessons learned, and discuss other project issues. Teamwork and frequent communications is a fundamental attribute for the conduct of the ICAVP and will be facilitated by the location of nearly all of the Chicago office project team members on the same floor of Sargent & Lundy's (S&L) offices.

The SRG will perform the in-depth review of the selected systems. This group will review the current system output documents and analysis to verify conformance with the design and licensing bases. The SRG will also review design modifications to the selected systems made since receipt of the OL, focusing on the validity of the design process, identification of system interface requirements, potential synergistic effects of the modifications, and appropriate design document controls.

The SRG will also be responsible for verifying that the current, as-built condition of the plant matches the current design output documents. This task includes physical and functional walkdowns of the selected systems

and will be performed by the Physical Configuration Review subgroup (CRG) of the SRG.

The ORG will be responsible for reviewing system operating procedures, surveillance procedures, maintenance procedures, and training documents to confirm that the design bases and any changes made to the design bases have been translated correctly into these documents. This group will also confirm that current testing requirements and post modification testing requirements are adequate to verify system performance.

The ARG group will be responsible for reviewing the accident analysis contained in the FSAR to determine the accident mitigation systems and their critical design characteristics. The ARG will then review the accident mitigation systems and their critical characteristics to ensure the systems can perform their safety functions specified to mitigate the FSAR accident scenarios.

The PRG group will be responsible for the review of select NU processes for changing the facility design and for changing characteristics, procedures, or practices for maintaining, operating, testing, and training to ensure the adequacy of the change process. The PRG will also be responsible for the review of NU's corrective actions resulting from their configuration management plan review. This review will determine the adequacy of the corrective actions.

3.3 Role of the Internal Review Committee

The Internal Review Committee will provide a S&L management technical oversight role. It will also help to provide consistency in the review results. It will be comprised of four very senior personnel within the organization that have specialized expertise in the areas being reviewed. The IRC Chairman will be responsible for obtaining the IRC's review of the planning documents and procedures for performing the verification program. This includes the audit plan, the protocol, and the individual procedures required for the work. The IRC will review the findings of the VT for extent and for significance. They will also review the responses by NU after they have been accepted by the VT. The IRC may also make specific recommendations regarding the scope or methodology of the verification process as the work progresses. The IRC will also review the final report of the ICAVP.

4.0 METHODOLOGY

This section of the audit plan describes the methodology S&L will use to implement the ICAVP. Exhibit 2 depicts the review process. In general, the ICAVP will consist of the following tasks:

- Defining System Boundaries
- Document Gathering
- System Review
- Physical Walkdowns
- Operation, Maintenance and Testing Procedure Review
- Accident Mitigation System Review
- Programmatic Reviews
- Processing VT Findings
- Review of NU Resolutions
- Issuing Final Report

Note: The intent of this review is to review only those systems for which NU's CMP process has been completed. Accordingly, if during the conduct of S&L's review, it becomes necessary to review items related to systems for which the NU CMP process has not been completed, a "place-holder" shall be utilized to discontinue that portion of S&L's review until such time that NU completes the CMP process for that system. Place-holders shall not be communicated outside of S&L.

4.1 Defining System Boundaries

The systems to be included in the scope of the ICAVP program will be defined by the Nuclear Regulatory Commission. At the beginning of the system review process, a meeting will be held with the NRC, Nuclear Energy Advisory Council (NEAC) and NU to finalize the boundaries of the selected systems and interfacing systems. In general, the systems boundary will be limited to the safety related portion of the selected systems. S&L's review for the vertical slice system will address interfaces with the selected systems as follows:

- Mechanical Interfaces - S&L will review the interfacing system calculations to the extent needed to verify that the functions required to support the selected system were addressed in the design of the

interfacing system. S&L will review the interfacing systems drawings and procedures to the extent needed to verify the support functions are addressed. This review will not include technical verification of the adequacy of the interfacing systems calculations, procedures or drawings. This review will address both direct interfaces (those which interface with the selected systems pressure boundary) and indirect interfaces such as HVAC.

- I&C Interfaces I&C interfaces will be treated in a slightly different manner compared to mechanical interfaces section above. We will review input signals from interfacing systems through to their signal source to verify that the functions required to support the system under review were addressed in the design of the interfacing system. We will review the output I&C signals for the system under review through to the input point of the interfacing system. The extent of this review is described in detail in Attachment 6.3 of PI-MP3-02.

- Electrical Interfaces - Electrical interfaces will be treated in a slightly different manner. A detailed review of the electrical distribution system from the motor control center or switchgear, as applicable, to the load is included as part of the selected system review. A load path review will be performed for the remainder of the electrical distribution system (diesel generator to switchgear or MCC). The extent of this review is described in detail in Attachment 6.2 of PI-MP3-02.

4.2. Document Gathering

The next step in the ICAVP review process will be to gather the licensing and design bases documents, procedures, design process documents and design output documents needed to perform the review. The following top level controlled documents have been obtained and are stored in both the S&L Chicago office and the local offsite office:

- Configuration Management Program
- Design Control Process Procedures
- Current FSAR
- FSAR at O/L
- SER and all revisions
- 10 CFR 50.59 Safety Evaluation Procedure
- Procedures for and System Specific Assessments

- Corrective Action Procedures
- List or database of licensing commitments contained in docketed correspondence
- Description of document system and hierarchy system
- List of all modifications designed since receipt of O/L for Maintenance Rule Category 1 and 2 systems, sorted by primary affected system, including the organization responsible for the design
- Complete index of the Unit 3 controlled documents, including calculations and drawings
- Complete index of the procedure system for Unit 3, including corporate/administrative procedures, engineering procedures, maintenance procedures, and operating procedures including emergency operating procedures
- Complete listing of Adverse Condition Reports, sorted by system
- Documents describing specific engineering programs that may not be included in the above listing, such as MOV program, ISI/IST program etc.
- NRC inspection reports, QA audit reports and the NU responses to them

The following system specific documents for the systems chosen for review will be requested in accordance with the protocol outlined in PI-MP3-01.

- Engineering Calculations (Mech, Elect, Struct, I&C and Piping Analysis)
- Equipment Procurement Specifications
- Modification Packages
- System Descriptions
- Equipment List
- Environmental and Seismic Qualification Reports
- P&IDs
- Logic Drawings
- Electrical Schematics
- Piping Drawings
- Electrical Single Line Drawings
- Panel Wiring Drawings
- Cable Routing Drawings and Databases
- Pipe Support Drawings
- Structural Equipment Mounting Details
- General Arrangement/Equipment Location Drawings

- Instrument Location Drawings
- Zone Maps (Environment/Fire Protection, etc).
- Operating Procedures including Emergency Operating Procedures
- Maintenance Procedures
- Surveillance Test Procedures
- Vendor Manuals
- System Training Procedures

4.3 System Reviews

The vertical slice system reviews will be performed by the SRG in accordance with PI-MP3-02 and 03. System reviews will focus on two objectives, 1) to verify the system design elements being reviewed are technically adequate and consistent with the licensing and design bases (PI-MP3-02) and 2) to verify the modifications implemented after receipt of the operating license are technically adequate and that configuration control of design documents was maintained (PI-MP3-03).

The first step of the process is to review the licensing and design bases documentation to identify the functional, design, performance, operational and testing requirements of the system. These requirements will be individually tabulated on a system requirements checklist by the SRG. The ORG will review the licensing and design basis documentation to identify the system operating, maintenance and testing requirements. The ORG will also use the system requirements checklist to tabulate their requirements. The system requirements checklist will be independently verified prior to its use by the SRG and ORG as the bases for verifying design conformance to the design and licensing bases. Discrepancies between the design and licensing bases documentation identified during the development of the system requirements checklist will be processed as discrepancy reports in accordance with Subsection 4.8.

Following the development of the system requirements checklists, the SRG will perform the four reviews described below. The purpose of these reviews is to verify the current system design is capable of the functional and performance requirements identified in the design and licensing basis documentation and to ensure consistency between the various design output documents and design process documents. Verification that current system operating, maintenance and testing practices and that current configuration is in accordance with the design and licensing basis

documentation will be performed per sections 4.5 and 4.4, respectively. These four reviews include:

a. A review of design process documents to verify the technical adequacy of each document and its conformance to the design and licensing bases. This review will include mechanical, electrical, I&C, and structural calculations, piping analysis and equipment EQ/SQ reports. The design process document conclusions and/or assumptions will be verified against actual operating data, where available.

   Note: If a large population of repetitive standard type calculations are identified during the review process, S&L may request the NRC to approve an appropriate sampling in lieu of a 100% review of these repetitive calculations. The request shall be submitted with a sufficient technical basis for why a sample is justified based on safety significance and the overall ICAVP process. Alternatively, for identical supports, S&L may perform a detailed review of the calculation for the support with the highest load. For the other identical supports, S&L will only verify the analyzed load is consistent with the stress analysis.

b. An upper tier drawing review including P&IDs, electrical schematics, electrical single line drawings, instrument loop diagrams and logic diagrams to verify the system design is capable of performing the functional requirements described in the design and licensing bases and to verify the drawings are consistent with the design process documents.

c. A component review to verify consistency between the licensing and design bases documents and the design output documents such as, component specifications, system calculations, and vendor component drawings.

d. A review of hazards resulting from postulated pipe breaks in the selected systems including pipe whip, jet impingement, missiles and flooding. This review will verify that the effects of these hazards on adjacent safety systems have been included in the hazards analysis. In addition, the SRG will evaluate the components of the selected systems to verify they are capable of performing station blackout

coping functions and Appendix R safe shutdown functions, if required.

The SRG will also assist the ORG with their review of procedures for the selected systems. The SRG will verify the technical adequacy of all parameters, including operating ranges and/or limitations contained in the procedures. Additionally, the SRG will review all operating modes not explicitly identified in the system requirements checklist to verify the design and analysis support operation in this mode. The ORG will define the parameters and modes to be reviewed by the SRG.

Once the reviews are completed, the SRG will enter on the systems requirements checklist how each of the design, functional and performance requirements is satisfied. The ORG will complete the portion of the checklist relative to operating and testing requirements.

The next step will be to review the plant modifications issued after receipt of the operating license. The scope of the modification review will include all major modifications (DCR's), Minor Modifications (MMOD's) and all DCN's generated to support the DCR/MMOD processes. The modification review will include only the modifications to the selected systems. Modifications to systems which interface with the selected systems are not included. DCN's generated to support like for like replacements, maintenance support engineering evaluations and NCR disposition's are not included in the scope of this review. Each modification will first be screened to identify the lead discipline (mechanical, electrical or I&C). A lead verifier from the affected design discipline will then perform a modification screening process to identify which design elements are affected by the modification. The lead verifier will complete a checklist consisting of general questions to facilitate the determination of which design elements are affected by the modification. The design elements that will be screened include:

a. Mechanical Design
b. Electrical Design
c. I&C Design
d. Structural Design
e. ALARA Design
f. Security
g. Appendix R Compliance
h. Electrical Equipment Qualification

i. Seismic Qualification
j. Radiological Environment
k. Non-Radiological Environment
l. Station Blackout
m. Control Panel Design
n. Piping Design
o. Setpoint Database
p. Hazards/HELB Program
q. Fire Protection
r. PRA
s. Training Procedures
t. Plant Procedures (OPS, Maintenance, Surveillance)
u. Configuration Change Review
v. Quality Software Design Review

For each design element that is affected, a VT member with the appropriate technical background will perform a detailed review to verify that the design element was adequately addressed in the modification. This review will verify the technical adequacy of the design inputs and of the calculations, specifications and design documents impacted by the modifications. All reviews will be performed by the SRG with the exception of Items s and t which will be performed by the ORG.

The SRG will then perform a detailed review of the changes to licensing documents that were generated for each modification to ensure the modification is adequately incorporated into the FSAR, Technical Specifications, Environmental Plan, Security Plan and Emergency Plan. The SRG will also review the 10 CFR 50.59 safety evaluation prepared for each modification to ensure the unreviewed safety question determination was thorough and well documented.

Finally, the SRG will review the installation and testing requirements including acceptance test criteria to determine that appropriate installation and testing requirements were specified. The ORG will be responsible for verifying that satisfactory post- modification testing was implemented.

4.4 Physical Configuration Review

The physical configuration review will be performed by the CRG in accordance with PI-MP3-05. This review will focus on verifying the current as built condition of the plant matches the current design

documents. This group will perform a physical and functional walkdown of the systems in the scope of the vertical slice review. This group will also review plant modifications implemented after issuance of the OL to verify the as built condition conforms to the modification documents and to verify the modification documents have been accurately incorporated into the affected design drawings or are posted against the affected design drawings. The walkdown of system modifications will be a more in-depth walkdown than the system functional walkdown described above. Key critical dimensions such as analysis/calculation bases and/or dimensional restrictions identified on drawings will be verified during the modification walkdowns.

After retrieving the system design drawings and outstanding changes, the CRG will create a set of walkdown documents by redlining the open amendments onto the physical drawings. The CRG will then perform a review of the lower tier drawings such as piping drawings, wiring diagrams, electrical physical drawings and cable schedules etc., to verify conformance to the upper tier P&IDs and schematics. This review is required to ensure the lower tier documents being used for configuration walkdowns are functionally in agreement with the upper tier documents that are checked for technical accuracy by the SRG. The SRG as part of their calculation reviews will also verify calculations such as stress reports and lower tier drawings such as piping isometrics are in conformance. Discrepancies identified by the SRG in this area will be communicated to the CRG. This review is not intended to be a line by line review of the lower tier documents, but only a functional check.

Prior to performing the walkdowns, the CRG will identify system boundaries on the walkdown drawings. These boundaries will be reviewed with the SRG to ensure consistency with the system boundaries previously agreed to by the NRC, NEAC, NU and the VT.

The next step will be to perform physical plant walkdowns of the systems. The walkdown will check the following attributes:

a. System component location and identification are as indicated on the P&IDs and other schematic type documents

b. Component nameplate data is consistent with component specifications and drawings.

c. System components are not physically damaged.

d. System configuration is functionally consistent with design output documents by verifying:

- Line size
- Configuration of piping including number and location of bends, location of valves, supports and other in-line components
- Valve orientation and flow direction
- Pipe support type and configuration
- Equipment and instrumentation mounting details
- Configuration of conduit and tray routing
- Cable "To and From" routings
- Conduit and cable size
- Conduit and tray support type and configuration
- Tubing/electrical configuration to instruments
- HVAC ductwork size and routing

e. Divisional trains of the system are physically separated by barriers and or distance. Electrical separation will be checked by verifying cable is routed through applicable divisional raceway.

f. Based on NRC Approval Letter dated 4-7-97, S&L is precluded from performing reviews of seismic II/I related issues due to prior S&L involvement. This review if required must be performed outside the S&L scope for the ICAVP.

As stated previously, this walkdown is not intended to check all dimensions, but is merely intended to be a functional verification.

The CRG will also perform a review of the modifications identified by the SRG as impacting system configuration drawings. The SRG will provide/identify drawing changes resulting from system modifications. The SRG will also clearly identify which portions of the modification packages are presently installed. Upon receipt of this data, the CRG shall first review the drawing changes to ensure they are either incorporated into the current drawings or are identified as open amendments against the drawings. The CRG will then perform a detailed walkdown of the modifications which have been installed. This walkdown will include a

check of critical dimensions and a review of seismic II/I attributes in addition to the other walkdown attributes described above for the functional walkdown.

4.5 Operation & Maintenance and Testing Review

The operating & maintenance and testing review will be performed by the ORG in accordance with PI-MP3-06. This review will focus on verifying that the system operating procedures, maintenance procedures, surveillance procedures and training documents conform to the systems design and licensing bases. This group will also review the post modification tests performed following the installation of plant modifications to the system to verify the testing was adequate to maintain the design and licensing bases.

The ORG will perform a review of the O&M&T system requirements to verify the following:

a. The operating procedures are in conformance with the systems functional requirements described in the Licensing and Design Bases. This review will include all modes of system operation including normal, abnormal and emergency system operations. This review will include, where applicable:

a.1 Review of the operating procedures against the system P&IDs.

a.2 Verification that instrumentation and controls described in the procedure are consistent with the installed condition.

a.3 Verification that procedures for support systems are adequate to support the operation of the system.

a.4 Verification that manual operator actions can be performed under accident conditions.

b. The maintenance procedures for key system components are in conformance with the maintenance requirements described in the Licensing and Design Bases. The review will:

b.1 Verify that maintenance procedures and vendor manuals exist for key system components.

b.2 Check the maintenance procedures for technical adequacy.

b.3 Review vendor manuals, generic communications (i.e., Bulletin, Information Notices, Generic Letters, NSSS Technical Bulletins) and verify applicable items have been implemented into the maintenance program.

b.4 Review recent component history files for key components to identify recurring equipment problems and determine if any trends exist.

b.5 Review past maintenance activities and verify technical adequacy, performance of the appropriate post maintenance testing, and satisfactory demonstration of equipment operability.

c. The review will verify that test procedures and surveillance procedures are in conformance with the Design and Licensing Bases. The review will focus on the following:

c.1 Review the technical adequacy of Technical Specification Surveillance Test Procedures and verification of the adequacy of test results completed during the last operating cycle.

c.2 Verify the system tests adequately ensure the system will operate as intended under postulated conditions.

c.3 Determine if surveillance test procedures comprehensively address system responses addressed in the licensing bases.

Upon completion of the above reviews, the ORG will complete the system requirements checklist to document how the Licensing and Design Bases requirements related to Operation & Maintenance and Testing are satisfied.

The ORG will also review plant modifications implemented after issuance of the Operating Licensing. As stated in Section 4.2 of this audit plan, the SRG screening process will determine if plant modifications may affect the operation, maintenance or inspection requirements of a system. The ORG will independently evaluate the modifications to identify the required

changes. The ORG will then review the operating, maintenance and testing procedures to verify the changes due to the modification have been reflected in the procedures. Additionally, the ORG will review the post modification test results for each modification to verify the adequacy of the test results.

4.6 Accident Mitigation Systems Review

The process discussed in this section will be used by the ARG to develop the critical characteristics or parameters for the accident mitigation systems. This process shall be implemented in accordance with PI-MP3-07.

The ARG Lead and Verifiers will review the initiating events in the FSAR, as they apply to Millstone Unit 3 and identify the accident mitigating systems and components within the system. The reload analysis and the FSAR shall be used to identify the specific critical parameters which are required to mitigate the event. As a result of this review, the ARG Lead will create a database consisting of the following items: a) Analyzed Accidents, b) Mitigating Systems, c) Components, d) Critical Parameters and e) References to the accidents and associated documents contained in the SAR. The list of systems and associated critical characteristics shall be submitted to the NRC for approval prior to ARG verification of the parameters.

The portion of the database consisting of the accident mitigation systems in the scope of the vertical slice system reviews (Subsection 4.3) will be given to the ORG and SRG for their review of the Critical Parameters.

The ARG Verifiers will verify the Critical Characteristics (Parameters) using a documented System/Component test, and or Surveillance test from the Millstone Unit 3 Technical Specification or Post Maintenance Tests. For example, Technical Specifications Surveillance Tests results shall be used to verify the instrument setpoint pressures and associated delay times for initiation of the Safety Injection signal assumed in the analysis.

In addition, the Critical Characteristics (Parameters) will be verified using the design calculations, specifications, and vendor documents for acceptability. For example, the maximum heat removal rate of the containment fan coil units shall be verified by reviewing vendor

tests/calculations to assure the functional capability of the units following a postulated LOCA.

4.7 Programmatic Reviews

The programmatic reviews will be conducted by the PRG on a horizontal bases (across systems) for the purpose of determining if the actions taken by Northeast Utilities (NU) to correct previously identified problems have been effective and if the NU change processes are effective. The programmatic reviews will be performed in accordance with PI-MP3-04.

Licensee Initiated Corrective Actions

As part of its Configuration Management Program (CMP), NU has performed a vertical slice review of safety-significant systems and has identified degraded or non-conforming conditions. For each of these degraded or non-conforming conditions NU is initiating corrective actions. Additionally, NU has implemented corrective actions for design deficiencies identified by the architect engineer before initial operation (E&DCR's). The programmatic review will assess the adequacy of these corrective actions. This review will be conducted for corrective actions associated with the systems included in the scope of the ICAVP vertical slice system reviews, and for a representative sample of corrective actions associated with the other NU completed CMP vertical slice systems.

The NU CMP findings/corrective action documents will be obtained both for the systems in the scope of the ICAVP vertical slice system review and for systems outside the ICAVP vertical slice system review.

A checklist will be prepared for the review of corrective actions. Using the checklist, the PRG Verifier will assess the corrective actions for adequacy of the following:

a. Root cause determination - the extent to which plant processes and procedures are affected.

b. Extent of condition determination - the extent to which other systems, structures or components are affected.

c. Plant restart - is the corrective action required prior to restart?

d. Content - is the corrective action adequate in resolving the issue?

Change Processes

NU's current plant change processes will be reviewed for both their adequacy with respect to industry standards and for the effectiveness by which they are being implemented. Both design change processes and procedure change processes will be included in this review.

As part of the ICAVP system reviews, the SRG and the ORG will assess the plant modifications made on the selected systems. This review will evaluate the effectiveness of the change processes involved in these modifications (i.e. if the resulting modification is found to be acceptable, it can be inferred that the process used in performing the modification is acceptable). In addition to this system review, specific process related reviews will also be performed by the PRG. The various change processes reviewed will include the following:

Process	**Corresponding MP3 Procedure**
drawings	NUC DCM Chapter 7
specifications	NUC DCM Chapter 6
calculations	NUC DCM Chapter 5
procedures	DC1, DC2, DC3, DC4
temporary alterations	NGP 8.05
minor modifications	NUC DCM Chapter 3
modifications	NUC DCM Chapter 3
licensing documents	NGP-4.03
vendor manuals	NUC DCM Chapter 8
like for like replacements	NGP 6.12
setpoint changes	NUC DCM Chapter 3

The current MP3 procedure for the processes listed above will be evaluated for its content and completeness. This evaluation will determine if the procedure exercises adequate controls on the change process and invokes appropriate interface reviews to assure the plant design bases and configuration is maintained consistent with the licensing bases. The evaluation will be based on guidance provided in the following:

Reg Guide 1.33, Quality Assurance Program Requirements (Operation)
NRC Inspection Manual
INPO guidelines
INPO 87-006, Report on Configuration Management in the Nuclear Industry
NEI guidelines

The adequacy of NU's implementation of the change process procedure will also be evaluated. Since the system review will assess the technical adequacy of the change, the programmatic review is intended to evaluate only the procedural adequacy of the change. The evaluation will determine if the current procedure is being followed, that the required checklists are being accurately and completely filled in, and that all other documentation is complete and accurate. This evaluation shall be performed for the changes made to the selected systems using the current procedures. If a suitable sample of these changes for a particular process is not captured in the system reviews, a suitable sample outside the ICAVP systems will be reviewed for both process implementation and technical adequacy

In addition to the process and implementation reviews noted above, a review of select past changes on a plant-wide basis will also be made. For each of the change processes not generally associated with modifications, a sample of changes made during each five-year interval following receipt of OL will be reviewed for their technical adequacy. The changes generally will be selected from various systems other than the selected systems in order to maximize plant coverage. This review will assure that these past changes did not compromise the unit's design or licensing basis. The "process specific questions" in checklist CK-MP3-04-02 in conjunction with applicable checklists from the SRG and ORG will be used to evaluate the technical adequacy of the changes.

4.8 Processing Verification Team Findings

When a member of the VT identifies a discrepancy which does not appear to meet the requirements, he shall initiate a discrepancy report (DR) per PI-MP3-11. Exhibit 3 of this Audit Plan depicts the DR process. A discrepancy is a condition, such as an error, omission or oversight which prevents consistency among the physical configuration and information sources (e.g. documentation and databases), design basis and/or regulatory requirements. Examples of discrepant conditions are a disagreement between the system design bases and the FSAR, the as-built configuration of a piping system and the piping analysis, or a change to maintenance procedures, which should have been made due to a plant modification, but was not. The DR will document the discrepant condition and the documents or walkdown reports that were reviewed to arrive at that conclusion. Other technical and administrative items will be included on the DR form to help track, trend and analyze the results of the verification program. The DR will be signed by the VT member and forwarded to the VT Group Lead.

The VT Group Lead will review each DR with the VT member for technical adequacy, completeness, and whether that specific issue has already been addressed by another DR or by an existing NU corrective action document. The DR could be returned to the VT member for additional information or investigation; or it could be accepted and signed by the VT Group Lead; or it could be determined to be not valid. For any DR's determined to be not valid, the justification for this decision will be documented on the DR and the DR will be signed by the VT member and the VT Group Lead. If valid the VT Group Lead will forward the DR to the VT Manager.

The VT Manager will review each DR with the Group Leads for technical adequacy, completeness, and whether that specific issue has already been addressed by another DR or by an existing NU corrective action document. The DR could be returned to the VT member for additional information or investigation; or it could be accepted and signed by the VT Manager; or it could be determined to be not valid. For any DR's determined to be not valid, the justification for this decision will be documented on the DR and the DR will be signed by the VT member, VT Group Lead and VT Manager.

The VT Manager will submit accepted DR's to the IRC for their review. They will review the DR's for extent of the condition to confirm that the VT looked deep enough into the issue to ensure that the problem is fully scoped; they may make recommendations to the VT to look for similar conditions in other areas or systems. The IRC may request that the VT member obtain additional information; they could accept the DR as written, whereupon the IRC Chairman would sign the DR and return it to the VT Manager, or the IRC may conclude the DR is not valid. If the VT member, VT Group Lead, and the VT Manager agree with the conclusion that the DR is not valid based on additional information, those justifications shall be documented on the DR and signed by the VT member, VT Group Lead, and the VT Manager.

All DR's will be transmitted to the NRC, NEAC, and NU when the above process is completed. The DR's will be transmitted in accordance with the approved protocol. Since an important part of this project is to keep the public informed of the status and results, in addition to expected monthly meetings with the public, all DR's which are sent to NU and the NRC will be posted on the Internet World Wide Web approximately 48 hours after their submittal to the NRC/NEAC/NU.

4.9 Review NU Resolution to Verification Team Findings

As shown in Exhibit 3 the handling of NU's proposed resolution of the VT findings will follow a similar process as the generation of the findings. The resolution will be posted on the Internet Bulletin Board when received and will be submitted to the VT member who initiated the DR, the VT Group Lead and the VT Manager. If the proposed resolution is determined acceptable, it is forwarded to the IRC for their review. If both the VT Team and the IRC find the NU resolution of the DR to be adequate, NU, the NEAC and the NRC will be notified by the method established in the protocol. At this point the acceptance of the NU resolutions to the findings will be posted on the Internet bulletin board established for public access. If NU's resolution to the finding is not considered adequate by the VT member, VT management, or the IRC, it will be returned to NU with a written explanation and bases for why the team did not consider it to be adequate. The acceptance of the NU resolution or explanation of S&L's inadequate determination will be sent in parallel to the NRC and NEAC and will be posted on the Internet Bulletin Board. It is expected that NU would reconsider the information and resubmit it to the VT. Meetings

between NU and the VT may be required to reach an understanding and resolution of particular issues. These meetings would be requested and held in accordance with the established protocol.

5.0 SYSTEM SELECTION CRITERIA

At the public meetings on September 24, 1996, the NRC indicated that they would select the systems for review rather than S&L. They also stated at those meetings that the NRC would decide on the number of systems to be selected for review. As input to the NRC staff, S&L recommendations on the number and selection of the systems for review are provided below.

Sargent & Lundy's system selection criteria are based on NRC Inspection Manual Chapter 2535, Design Verification Program, modified to be appropriate to this situation of an operating unit. These criteria would be applied to the list of approximately 20 systems for which the NU line organization and the NU oversight organization will have completed their review also.

1) The systems should be in the top quartile of risk significant or safety related systems.

2) The systems should involve a full cross section of engineering disciplines with internal and external organizational interfaces, such as NSSS supplier, component vendor, and engineering service organization.

3) The concept and implementation of the design should not be limited to the NSSS supplier or another single component supplier.

4) The systems should be generally representative of the safety related features of other systems.

5) The systems should be reasonably complex, requiring multiple operating modes.

6) The systems should have multiple, non-trivial modifications performed on it since initial licensing, preferable by different design organizations.

With the likely selection of four systems, it is not necessary that every system meet all of the above criteria. However, each system should meet as many of the criteria as possible and each of the criteria should be met by at least two of the selected

systems. The system selection may of course also be weighed more heavily to concentrate on specific known problem issues at Millstone Unit 3.

6.0 PROJECT DELIVERABLES

Deliverables for this project will include a final report which describes the scope of the ICAVP, the methodology used, the results of the review and the conclusions regarding the adequacy of the configuration management program and the corrective action program at Millstone Unit 3. Exhibit 4 of this audit plan presents an outline of the final report.

7.0 PROJECT TEAM

The current project team members are identified on the project roster included herein as Exhibit 5. The project organization chart is included herein as Exhibit 1. Changes or additions to the project team will be communicated to the NRC in accordance with PI-MP3-08, when applicable, and will not require a revision to the audit plan. The compilation of Project Team position descriptions, personnel resumes, and conflict of interest statements is provided in Appendix A to this Audit Plan.

The selection of personnel for the ICAVP was based on their qualifications to perform the assigned reviews, their financial and technical independence from the Unit being reviewed, and NRC acceptance of the personnel. Substitution of existing personnel on the team may be required to add expertise or manpower to fully investigate issues which are identified during the course of the program. A specific procedure (PI-MP3-08) has been written to govern the substitution and addition of personnel to the project team. NRC notification and approval is required.

8.0 GOVERNING PROCEDURES AND TRAINING

The work for this project is classified as Nuclear Safety Related and shall be performed in accordance with this audit plan, S&L's Quality Assurance Program and the following project instructions:

Project Instruction No.	Title
PI-MP3-01	ICAVP Communications Protocol
PI-MP3-02	Review of System Design for Compliance with Design and Licensing Bases

PI-MP3-03	Review of Plant Modifications Prepared After Receipt of Operating License for Technical Adequacy and for Configuration Control
PI-MP3-04	Programmatic Reviews
PI-MP3-05	Physical Plant Configuration Walkdowns
PI-MP3-06	Operations and Maintenance and Testing Procedures and Training Documentation Reviews
PI-MP3-07	Review of Accident Mitigation Systems
PI-MP3-08	ICAVP Team Personnel Substitution and/or Addition
PI-MP3-09	Preparation and Approval of Checklists
PI-MP3-10	Differing Professional Opinions
PI-MP3-11	Discrepancy Report Submittal and Closure
PI-MP3-12	Project File Index

The project team members will be trained on the applicable S&L QA procedures and on the ICAVP project instructions. The project team members will also be trained on any revisions to the applicable project instructions. Training will also include background information about NU's activities over the recent years that led up to issuance of the NRC order requiring the ICAVP to be conducted. This portion of the training will include a review of the order itself, and the subsequent documents that have provided details and supporting information about the order. Project team members will be trained in the fundamentals of inspection processes and techniques. New personnel added to the project team will be trained in the applicable items prior to beginning their review activities. Training records will be maintained in accordance with S&L QA procedures.

The project team members are expected to conduct their evaluations with a questioning attitude about the adequacy of items that are being reviewed and evaluated. Additionally, they are expected to use a conservative threshold for data interpretation and decision about adequacy of items reviewed.

The Manager of the S&L Quality Assurance Division will select an audit team to monitor the activities of the project as it progresses. Their review will be to ensure that the process used by the project team is in accordance with the NRC Confirmatory Order and the procedures developed to implement those requirements. The QA auditors will review selected DR's identified by the VT and will pay particular attention to any DR's that are determined to be not valid. A

summary of the QA activities related to the ICAVP and their conclusions will be included as part of the ICAVP final report.

9.0 EXTERNAL PROJECT INTERFACES

The purpose of this project is to obtain an unbiased assessment of the Millstone - Unit 3 configuration management and corrective action programs. Therefore, every reasonable effort must be made to assure that the observations and conclusions made are the result of our Project Team's own independent assessment and not influenced or biased by outside organizations. To maintain this assurance of independence, communications with outside organizations will be in accordance with PI-MP3-01, "ICAVP Communication Protocol."

10.0 LOCATION OF WORK

The S&L VT with the exception of the CRG subgroup of the SRG will be stationed in S&L's Chicago offices. The CRG will be stationed at an offsite office located near the Millstone station.

The project team members stationed in the Chicago offices may make periodic trips to the S&L offsite office and to the station as needed to gather documentation, interview NU personnel, or to attend meetings to discuss NU proposed resolutions to S&L discrepancy reports.

11.0 PROJECT SCHEDULE

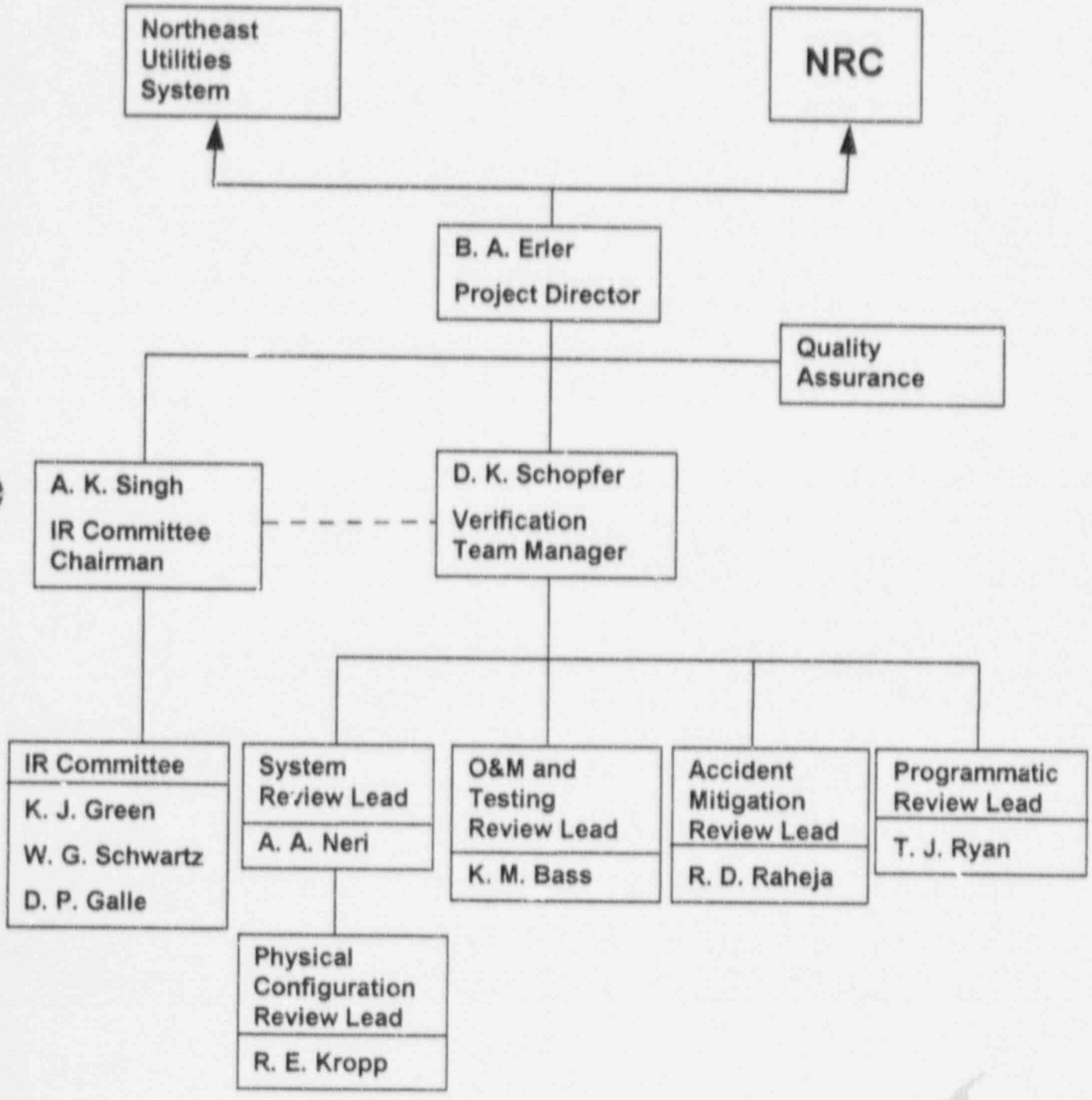
The current project schedule is illustrated in the bar chart included herein as Exhibit 6 for information only. Schedule changes will be communicated with NU, NRC and NEAC directly, when appropriate, and will not require a revision to this audit plan.

12.0 BUDGET DATA

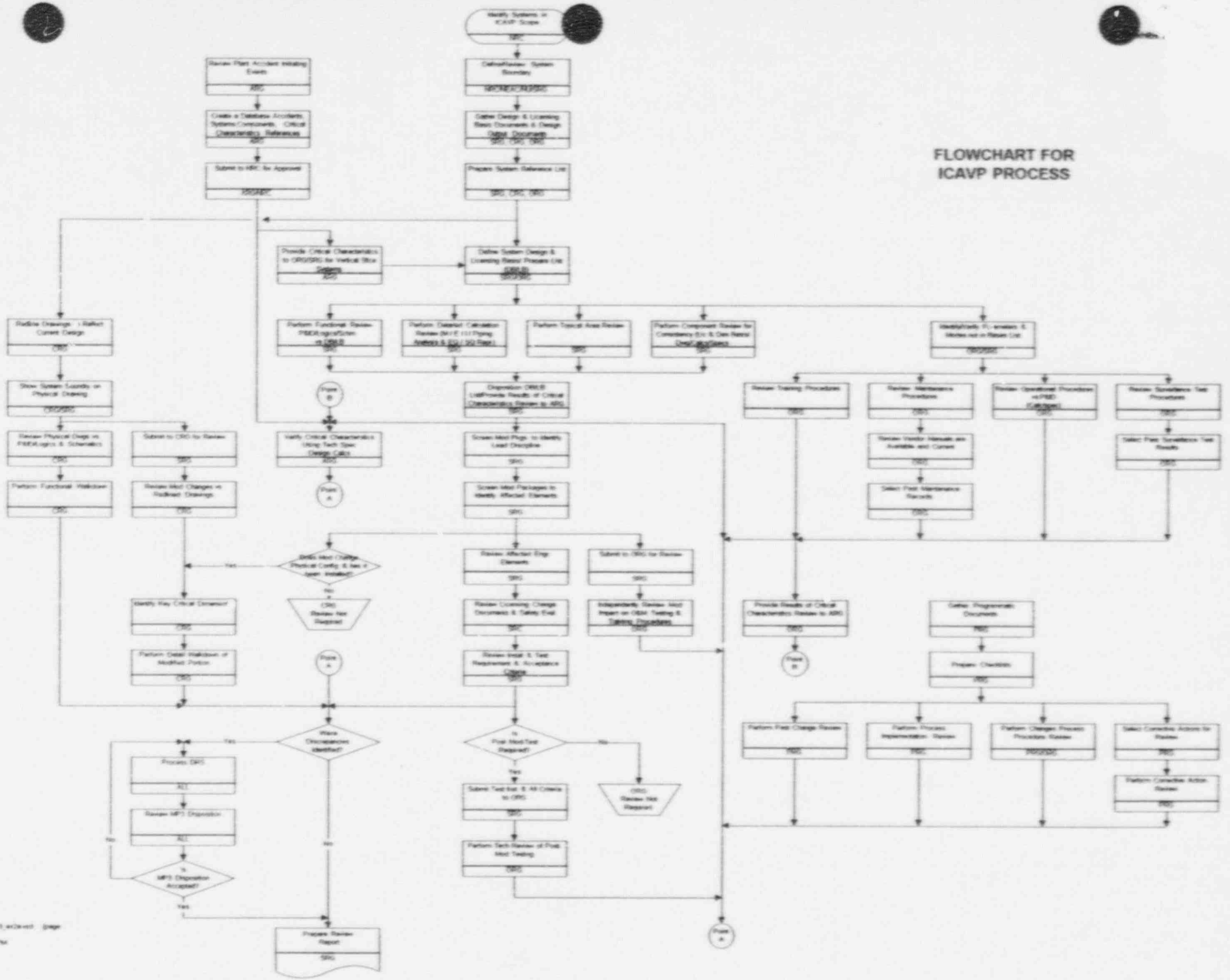
Applicable project number and task codes for this project are listed in Exhibit 7.

Exhibit 1

ICAVP Project
Organization Chart

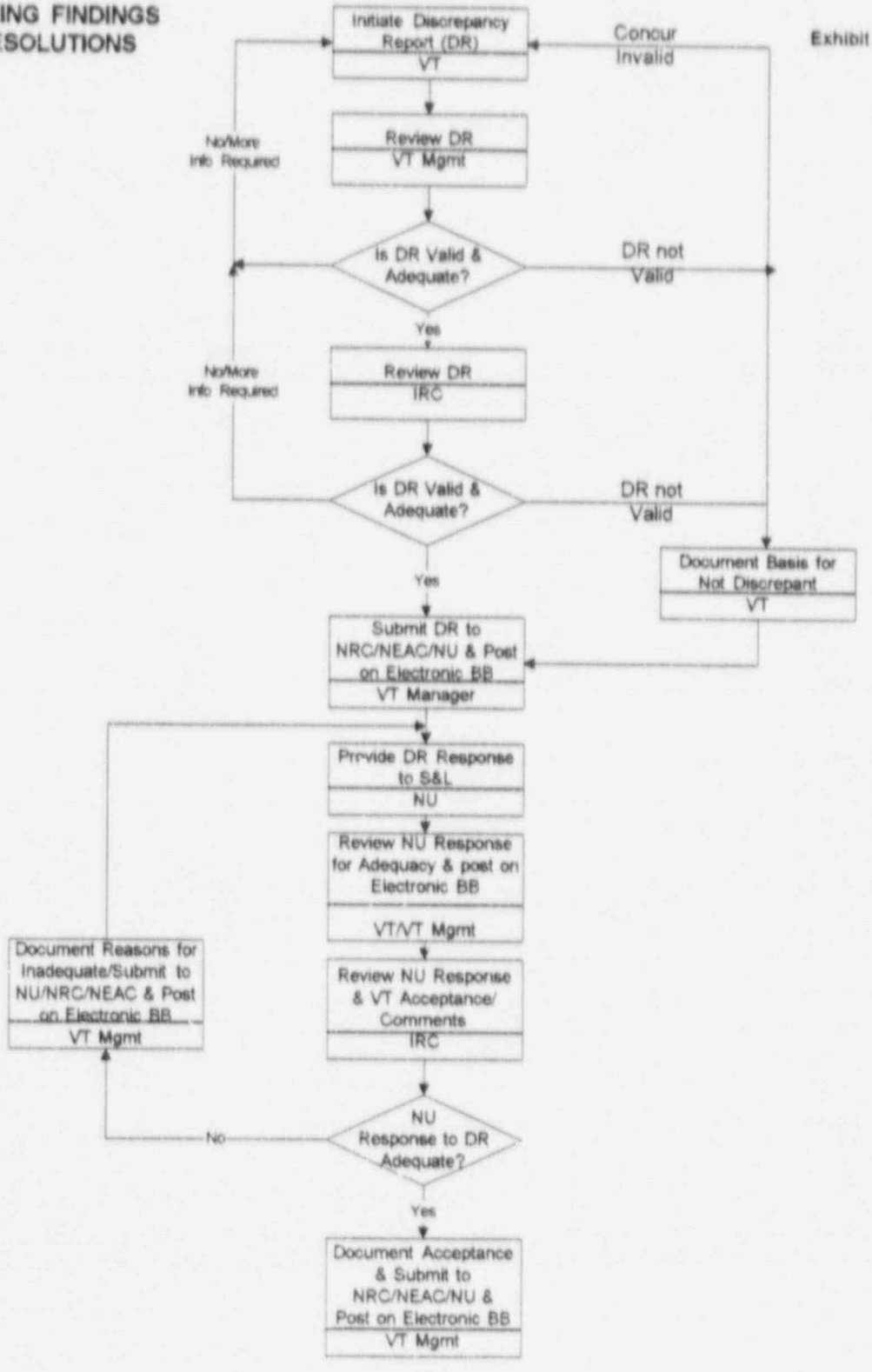


FLOWCHART FOR ICAVP PROCESS



PROCESSING FINDINGS AND RESOLUTIONS

Exhibit 3, Rev. 4



Outline ICAVP Final Report

Executive Summary

ICAVP Oversight Team Report

Sargent & Lundy Quality Assurance Division Report

I. Introduction

- A. Background
- B. Objective
- C. Scope
- D. Methodology
- E. Project Organization

II. Conclusions

- A. Overall Conclusion
- B. Design Control Process
- C. Design Basis/Licensing Basis Consistency
- D. Design Adequacy
- E. As-built Plant Configuration
- F. Translation of design into plant maintenance and operation
- G. Adequacy of Testing Programs
- H. Applicability of selected sample to all Millstone 3 systems
- I. Corrective Action Program

III. Review Results

- A. System 1
- B. System 2
- C. System 3
- D. System 4
- E. Accident Migitation Systems
- F. Corrective Action Program
- G. Change Processes

Appendices

1. Project Team
2. Objectivity Questionnaires
3. Review Records
4. Discrepancy Reports
5. NU Resolutions
6. Project Manual
7. List of Checklists

Millstone Unit 3 ICAVP Personnel

ICAVP Project Team		Position	NRC Interview	C-O-I Statement	Resume	
Management Team						
	Erler, B. A.	Project Director	X	X	X	
	Schopfer, D. K.	Verification Team Manager	X	X	X	
Internal Review Committee						
	Singh, A. K.	IRC Chairman	X	X	X	
	Galle, D. P.	IRC Member	X	X	X	
	Green, K. J.	IRC Member	X	X	X	
	Schwartz, W. G.	IRC Member	X	X	X	
Verification Team						
SRG	Neri, A. A.	SRG Lead	X	X	X	
	Hameetman, R. A.	Lead Verifier (Mechanical)	X	X	X	
	Feingold, D. J.	Lead Verifier (Mechanical)	X	X	X	
	M. D. Stout	Lead Verifier (HVAC)	X	X	X	
	Schroeder, D. A.	Lead Verifier (Electrical)	X	X	X	
	Warner, I.	Lead Verifier (Electrical)	X	X	X	
	DeMarco, J.	Lead Verifier (I&C)	X	X	X	
	Klaic, N.	Lead Verifier (Structural)	X	X	X	
	Terwinkel, J. L.	Verifier (Mechanical)	X	X	X	
	Obersnell, B.	Verifier (Mechanical)		X	X	Addition
	Dionne, B. J.	Verifier (Mech. Calc)	X	X	X	
	Wakeland, J. F.	Verifier (Mech. Calc)	X	X	X	
	Langul, D. E.	Verifier (Mech. Calc)	X	X	X	Addition
	Russ, E.	Verifier (Mech. Calc)		X	X	Addition
	Kujawski, T.	Verifier (Mech. Calc)		X	X	Addition
	Speer, M.	Verifier (Mech. Calc)		X		Addition
	Parker, J.	Verifier (HVAC Calc)		X		Addition
	Olson, P. R.	Verifier (Piping)	X	X	X	
	Prakash, A.	Verifier (Piping)	X	X	X	
	Jain, R.	Verifier (Piping)	X	X	X	Addition
	Singh, R	Verifier (Piping)	X	X	X	Addition
	Patel, R. D.	Verifier (Piping)		X	X	Addition
	Johnson, J. W.	Verifier (EQ/SQ)	X	X	X	
	Yassin, S.	Verifier (EQ/SQ)	X	X	X	
	Patel, R. P.	Verifier (EQ/SQ)		X	X	Addition
	Patel, A.	Verifier (Structural)	X	X	X	
	Singh, Y.	Verifier (Structural)	X	X	X	Addition
	Hanna, M.	Verifier (Structural)	X	X	X	Addition
	Jeswani, G. T.	Verifier (Structural)	X	X	X	Addition
	Parikh, R.	Verifier (Structural)		X	X	Addition
	Hindia, R. K.	Verifier (I&C)	X	X	X	
	Pinelas, H.	Verifier (I&C)	X	X	X	Addition
	Shah, N.	Verifier (I&C)	X	X	X	Addition
	Patel, S.	Verifier (I&C)		X	X	Addition
	Launi, C. M.	Verifier (Licensing)	X	X	X	
	Rich, J. M.	Verifier (Licensing)	X	X	X	
	Kendall, D. J.	Verifier (Electrical)	X	X	X	
	Morton, R.	Verifier (Electrical)	X	X	X	
	Higdon, R. M.	Verifier (Electrical)	X	X	X	Addition

Millstone Unit 3 ICAVP Personnel

ICAVP	Project Team	Position	NRC Interview	C-O-I Statement	Resume	
	Bloethe, W G.	Verifier (Electrical)		X	X	Addition
	Moghis, S.	Verifier (Electrical)		X	X	Addition
	Edano, C.	Verifier (Electrical)		X	X	Addition
	Herndanez, R.	Verifier (Electrical)		X	X	Addition
	D'Ambrosio, S.	Verifier (Electrical)		X		Addition
CRG	Kropp, R. E.	CRG Lead	X	X	X	
	Sarver, T. L.	Lead Verifier	X	X	X	
	Read, J. W.	Lead Verifier	X	X	X	
	Tamera, R. M.	Verifier	X	X	X	
	Lukes, R.	Verifier	X	X	X	
	Serrano, A.	Verifier	X	X	X	
	Gallegos, F.	Verifier	X	X	X	
	Grulke, S.	Verifier	X	X	X	
	Yantz, R. L.	Verifier		X	X	Addition
	Rauiston, C.	Verifier		X	X	Addition
	Bucci, D.	Verifier		X	X	Addition
ARG	Raheja, R. D.	ARG Lead	X	X	X	
	Peebles, W. R.	Mech. Discipline Verifier	X	X	X	
	Johnson, W. J.	Radiological Discipline Verifier	X	X	X	
	Kane, T. J.	System Verifier	X	X	X	
	Bennett, L. A.	System Verifier	X	X	X	
	Balodis, V. E.	System Verifier	X	X	X	
	Kish, J.	System Verifier	X	X	X	
	Schwartz, B. C.	System Verifier	X	X	X	Addition
	Zwyner, J. G.	System Verifier		X	X	Addition
PRG	Ryan, T. J.	PRG Lead	X	X	X	
	Caruso, A. S.	Verifier	X	X	X	
	Sheppard, R. P.	Verifier	X	X	X	
	Wrona, S. P.	Verifier	X	X	X	
	Dombrowski, J. E.	Verifier	X	X	X	
	Navarro, M.	Verifier	X	X	X	Addition
ORG	Bass, K. M.	ORG Lead	X	X	X	Substitution
	Tamlyn, T.	Lead Verifier / Verifier	X	X	X	
	Spear, R.	Lead Verifier / Verifier	X	X	X	
	Ungeran, R. J.	Lead Verifier / Verifier	X	X	X	
	Kleam, J. A.	Lead Verifier / Verifier	X	X	X	
	Pinner, W.	Lead Verifier / Verifier	X	X	X	
	Pleniwiecz, R.	Lead Verifier / Verifier	X	X	X	Addition
	Mercer, J.	Verifier		X	X	Addition
	Pertosky, A.	Verifier		X	X	Addition
	Hanley, M.	Lead Verifier / Verifier		X	X	Addition
	Johns, J. III	Lead Verifier / Verifier		X	X	Addition

Northeast Utilities - Millstone Unit 3
ICAVP Implementation Schedule

Sargent & Lundy
9/18/97
Status as of 9/16/97

ID	Task Name	Start	Finish
1	Submit Unit 3 Audit Plan to NRC for approval	3/17/97	3/17/97
2	NRC finalize approval of NU selection	4/7/97	4/7/97
3	Develop Unit 3 Checklists	3/20/97	4/4/97
4	NRC review Audit Plan & PIs and provide comments	3/20/97	4/11/97
5	S&L resolve / incorporate NRC comments & resubmit	4/14/97	4/28/97
6	Obtain non-system specific documents	4/17/97	5/14/97
7	NRC Approve Audit Plan	4/29/97	5/16/97
8	Mobilize and Train Project Team	5/12/97	5/23/97
9	NU completes CMP on Wave 1 systems	5/27/97	5/27/97
10	NRC Select first 2 systems	5/27/97	5/28/97
11	Obtain system specific documents for first 2 systems	5/29/97	7/24/97
12	Mtg w/ NU, NRC, NEAC to agree on 1st 2 syst. boundaries	6/19/97	6/19/97
13	Begin ARG review (Tier 2) / select critical characteristics	5/27/97	6/27/97
14	NRC review and accep ritical characteristics	6/30/97	7/21/97
15	PRG perform process review	5/27/97	6/25/97
16	PRG prepare implementation review checklist	6/12/97	6/25/97
17	PRG submit implementation checklist to NRC for approval	6/27/97	6/27/97
18	NRC approve PRG process implementation checklist	6/30/97	8/4/97
19	Complete ARG review	6/30/97	9/16/97
20	SRG, CRG, ORG review first 2 systems (Tier 1)	6/12/97	9/26/97
21	NRC ICAVP Implementation Inspection of S&L - Phase 1	7/28/97	8/1/97
22	NRC ICAVP Implementation Inspection of S&L - Phase 2	9/15/97	9/19/97
23	NU completes CMP on Wave 2 & 3 systems	7/16/97	7/16/97
24	NRC / NEAC Select remaining systems	7/17/97	7/17/97
25	Obtain system specific documents for remaining systems	7/18/97	8/21/97
26	Mtg w/ NU, NRC, NEAC to agree on rem. syst. boundaries	8/13/97	8/13/97
27	PRG perform implementation review	9/2/97	9/26/97
28	PRG perform corrective action review	6/26/97	9/5/97
29	PRG review past design changes	7/14/97	9/26/97
30	SRG, CRG, ORG review remaining systems (Tier 1)	7/18/97	10/24/97
31	Process and Report Findings	7/3/97	10/31/97
32	NU Provide Proposed Resolution to findings	7/23/97	11/7/97
33	Review NU Proposed Resolution to findings	6/8/97	11/14/97
34	Prepare Final Report	10/27/97	11/21/97

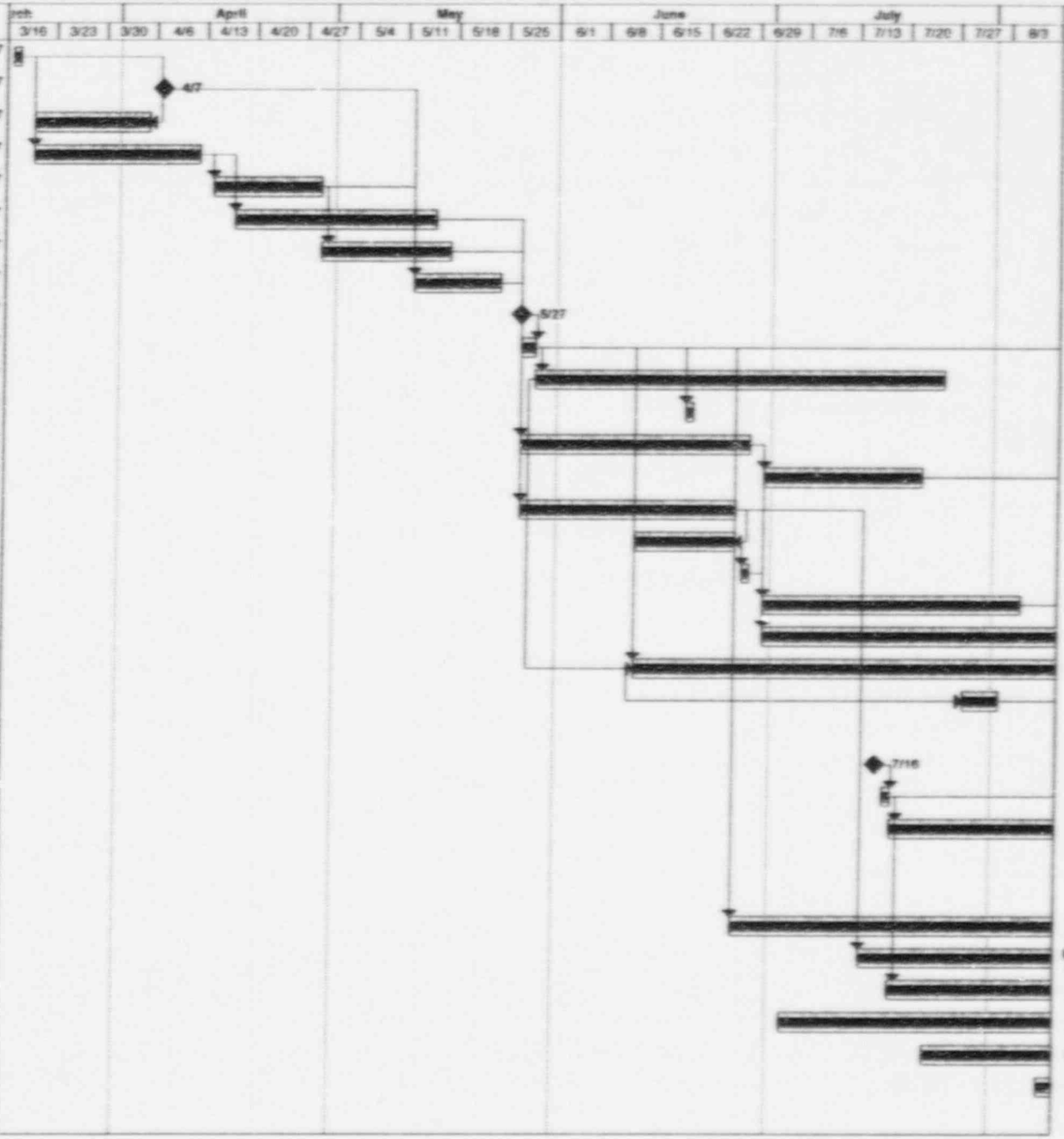


Exhibit 6
Page 1 of 2

Northeast Utilities - Millstone Unit 3
ICAVP Implementation Schedule

Sargent & Lundy
9/18/97
Status as of 9/18/97

ID	Task Name
1	Submit Unit 3 Audit Plan to NRC for approval
2	NRC finalize approval of NU selection
3	Develop Unit 3 Checklists
4	NRC review Audit Plan & PIs and provide comments
5	S&L resolve / incorporate NRC comments & resubmit
6	Obtain non-system specific documents
7	NRC Approve Audit Plan
8	Mobilize and Train Project Team
9	NU completes CMP on Wave 1 systems
10	NRC Select first 2 systems
11	Obtain system specific documentr for first 2 systems
12	Mtg w/ NU, NRC, NEAC to agree on 1st 2 syst. boundaries
13	Begin ARG review (Tier 2) / select critical characteristics
14	NRC review and accept critical characteristics
15	PRG perform process review
16	PRG prepare implementation review checklist
17	PRG submit implementation checklist to NRC for approval
18	NRC approve PRG process implementation checklist
19	Complete ARG review
20	SRG, CRG, ORG review first 2 systems (Tier 1)
21	NRC ICAVP Implementation Inspection of S&L - Phase 1
22	NRC ICAVP Implementation Inspection of S&L - Phase 2
23	NU completes CMP on Wave 2 & 3 systems
24	NRC / NEAC Select remaining systems
25	Obtain system specific documents for remaining systems
26	Mtg w/ NU, NRC, NEAC to agree on rem. syst. boundaries
27	PRG perform implementation review
28	PRG perform corrective action review
29	PRG review past design changes
30	SRG, CRG, ORG review remaining sy[illegible]me (Tier 1)
31	Process and Report Findings
32	NU Provide Proposed Resolution to findings
33	Review NU Proposed Resolution to findings
34	Prepare Final Report

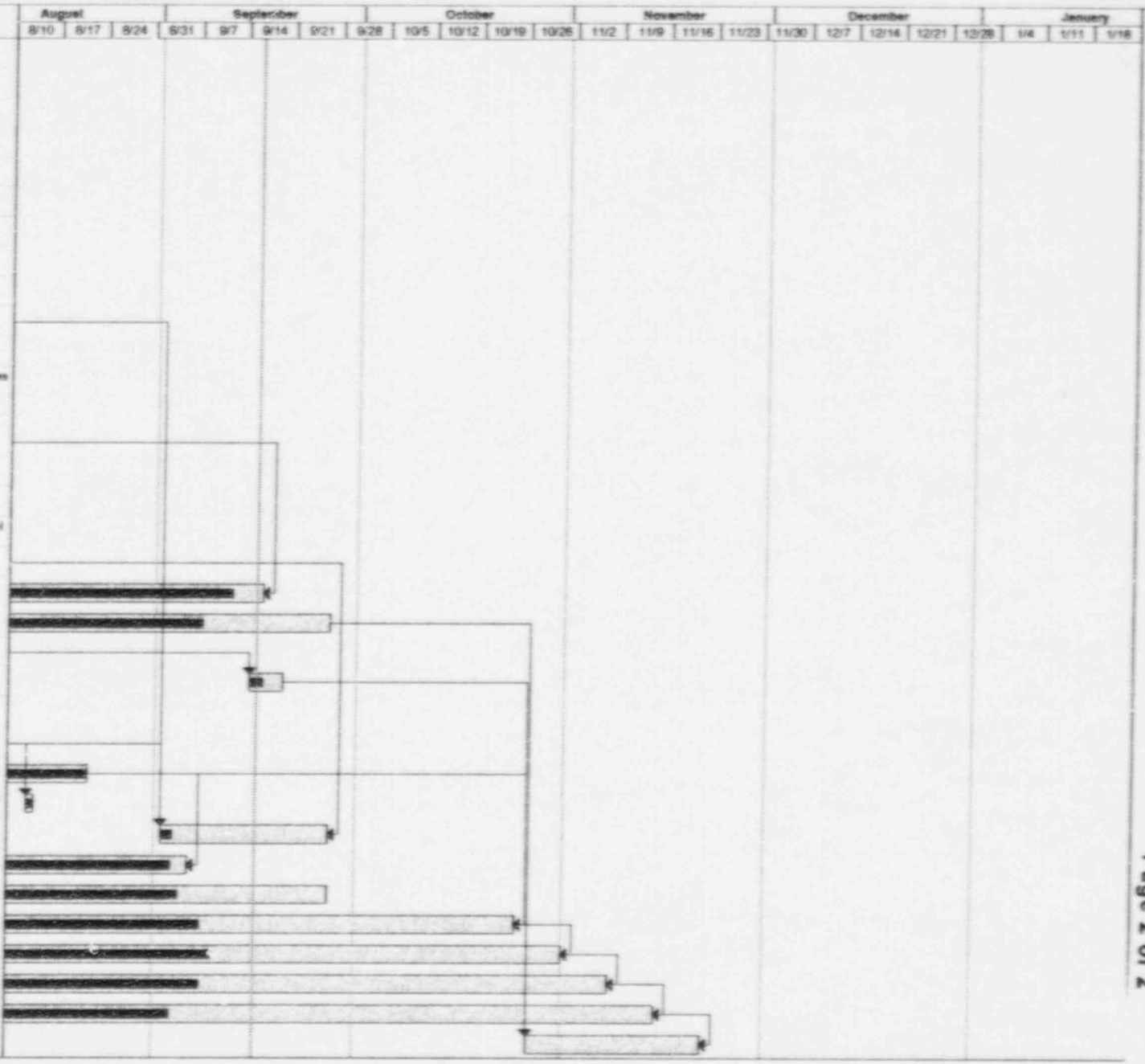


Exhibit 6
Page 2 of 2

Exhibit 7

ICAVP Budget Data

Project No.: 9583-100
Task Codes: As follows:

Task Code	Description
A00311	Development of Project Manual
A30020	Project Administration
A30022	IRC Review of DRs and Disposition
A30027	Development of Communications
A30028	Development of Web Site
A30055	Training & Mobilization
A30056ARG	ARG - Perform Reviews/Report Findings
A30056CRG	CRG - Perform Reviews/Report Findings
A30056ORG	ORG - Perform Reviews/Report Findings
A30056PRG	PRG - Perform Reviews/Report Findings
A30056SRG	SRG - Perform Reviews/Report Findings
A30057	Evaluate Resolution of Findings
A30058	Final Report
A30420	Document Receipt & Maintenance