ATTACHMENT I

Quality Assurance Program
Revision 6

Consolidated Edison Company of New York, Inc.
Indian Point Unit No. 2
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QUALITY ASSURANCE PROGRAM

TABLE OF CONTENTS

SECTION		PAGE NO.
	Foreword	i
3.0	OWNER ORGANIZATION	1
	3.1 General	1
	3.2 Assignment of Authority and Responsibility	2
	3.3 Indoctrination and Training	5
	3.4 Onsite Operating Organization	6
4.0	REVIEWS AND AUDITS	8
	4.1 Audit Program	10
5.0	PROGRAM, POLICIES AND PROCEDURES	12
	5.1 Program Description	12
	5.2 Rules of Practice	13
	5.2.1 Responsibilities and Authorities of Operating Personnel	13
	5.2.2 Procedure Adherence	14
	5.2.3 Operating Orders	14
	5.2.4 Special Orders	15
	5.2.5 Temporary Procedures	15
	5.2.6 Equipment Control	16
	5.2.7 Maintenance and Modifications	17
	5.2.8 Surveillance Testing and Inspection Schedule	23
	5.2.9 Plant Security and Visitor Control	24
	5.2.10 Housekeeping and Cleanliness Control	25
	5.2.11 Corrective Actions	26
	5.2.12 Plant Records Management	27
	5.2.13 Procurement and Materials Control.	28
	5.2.14 Nonconforming Items	36
	5.2.15 Review, Approval, and Control of Procedures	37
	5.2.16 Control of Measuring and Test Equipment	39
	5.2.17 Inspections	40
	5.2.18 Control of Special Processes	41
	5.2.19 Test Control	42
	5.3 Preparation of Instructions and Procedures	44
	APPENDIX A Class "A" Items	
	CHART A Corporate Organization	
	CHART B Nuclear Power Organization	
	TABLE A Interpretations/Alternates/Exceptions	
	TABLE B Interpretations/Alternates	

FOREWORD

The following quality assurance program conforms to the requirements of 10CFR50, Appendix B. Additionally, Con Edison commits to having a Quality Assurance Program complying with the Regulatory Position in the following Regulatory Guides as modified by Tables A and Table B.

NRC Regulatory Guides

1.8	"Personnel Selection and Training," Revision 1, September, 1975
1.29	"Seismic Design Classifications", Revision 3, September, 1978
1.30	"Quality Assurance Requirements for the Installation, Inspection and Testing of Instrumentation and Electrical Equipment," August 11, 1972
1.33	"Quality Assurance Program Requirements (Operation)," Revision 2, February, 1978
1.37	"Quality Assurance Requirements for Cleaning Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants," March 16, 1973
1.38	"Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage and Handling of Items for Water-Cooled Nuclear Power Plants," Revision 2, May, 1977
1.39	"Housekeeping Requirements for Water-Cooled Nuclear Power Plants," Revision 2, September, 1977
1.54	"Quality Assurance Requirements for Protective Coatings Applied to Water-Cooled Nuclear Power Plants," June, 1973
1.58	"Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel," Revision 1, September 1980

NRC Regulatory Guides (cont'd)

1.64	"Quality Assurance Requirements for the Design of Nuclear Power Plants," Revision 2, June 1976
1.74	"Quality Assurance Terms and Definitions," February, 1974
1.88	"Collection, Storage and Maintenance of Nuclear Power Plant Quality Assurance Records," Revision 2, October, 1976
1.94	"Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel during the Construction Phase of Nuclear Power Plants," Revision 1, April 1976
1.116	"Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems," Revision 0-R, June, 1976
1.123	"Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants," Revision 1, July, 1977
1.144	"Auditing of Quality Assurance Programs for Nuclear Power Plants," January, 1979
1.146	"Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants," August, 1980

Many ANSI standards endorsed by these Regulatory Guides give Quality Assurance programmatic control for the design and/or construction phases of nuclear power plants. Accordingly, Con Edison has, where practicable, adapted these standards' requirements and guidelines to the operations phase of its nuclear power plants and has developed provisions for certain operations phase conditions not addressed in these standards.

Where any discrepancies exist between this program description and the requirements and guidelines of the above Regulatory Guides, the requirements and guidelines of the ANSI Standards and associated Regulatory Guides shall prevail as modified by Table A and Table B.

QUALITY ASSURANCE PROGRAM

3.0 Owner Organization

3.1 General

Con Edison owns nuclear units Indian Point No. 1 and No. 2. Unit No. 2 is in operation. This program of administrative controls and quality assurance applies to the operation of Indian Point Unit No. 2, including those activities conducted on the Unit No. 1 site that are necessary to support Unit No. 2 operation. This program is in effect at all times to assure that operational phase activities are carried out without undue risk to the health and safety of the public.

This program is documented through corporate instructions and administrative procedures developed by participating organizations and provides control of activities affecting the quality of structures, systems, and components of the nuclear plants and their operation consistent with their importance to safety.

The determination of which systems, structures and components affect safety is in accordance with 10 CFR 50 Appendix B and includes those

- which comprise or are necessary to ensure the integrity of the reactor coolant pressure boundary
- which ensure the capability to shutdown the reactor and maintain it in a safe shutdown condition
- whose failure could result in conservatively calculated offsite doses that exceed 0.5 Rem to the whole body or its equivalent to any part of the body.

and structures whose failure could reduce the functioning of plant features within the above categories to an unacceptable safety level.

These structures, systems, and components are those that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public and are designated as Con Edison Class "A". Activities affecting quality are documented within a document control system which assures that instructions, procedures and drawings are reviewed and approved for release by authorized individuals.

3.1 General (cont'd)

Included in "Class A" is the environmentally qualified (EQ) equipment on the EQ Master List which identifies those particular items that are located in a harsh environment and are in compliance with 10 CFR 50.49, the DOR Guidelines and/or NUREG-0588.

This list is maintained as a controlled document by the Manager, Regulatory Affairs and is distributed to Nuclear Power, Central Engineering, Quality Assurance and other affected organizations as changes are made.

3.2 Assignment of Authority & Responsibility

The Chairman and Chief Executive Officer of Con Edison has directed that all personnel involved in activities associated with the safety of the nuclear power plants participate in the quality assurance program.

Lines of authority, responsibility, and communication among the organizations participating in this program are shown in Charts A and B. Chart A depicts the corporate organization and Chart B the on-site organization. These relationships, departmental responsibilities and key personnel job descriptions are documented and updated as appropriate.

The major organizations or groups participating in this program are Nuclear Power, Engineering, Construction, Purchasing, Central Stores, Nuclear Fuel Supply, Quality Assurance and the Nuclear Facilities Safety Committee. Changes to the QA program, which are described in a corporate instruction, may be initiated by any of these organizations. QA coordinates overall development of this instruction and obtains concurrences of the organization(s) affected by the changes. The approval of the Senior Vice President, Central Operations is required for all changes to this corporate instruction.

Procedural controls provide for "waiving" of tests, inspections and operations previously specified by Engineering, QA or NP. These procedural controls provide authority to personnel or organizations that originally specified the test, inspection or operation to reevaluate their necessity and, where appropriate, to authorize a waiver.

In case of an emergency or a similar situation, procedural controls provide for possible waivers to inspections, tests or operational requirements. These conditions and

3.2 Assignment of Authority & Responsibility (cont'd)

controls, discussed further in item 3 of Table A, require documented authorization by the Vice President, Nuclear Power or his designated alternate.

Provisions in the QA program also provide for development of procedures for unique situations which differ from specified programmatic controls with the approval of the Senior Vice President, Central Operations.

Disputes involving quality arising from a difference of opinion between QA/QC personnel and other departments' personnel are resolved by the direct management of the personnel involved or, where necessary, by a higher level of management. The corporate QA organization, including Nuclear Power QA, by virtue of its independence within the corporate structure, can assure that significant quality disputes receive appropriate resolution satisfactory to the QA organization.

The duties and responsibilities of the participants are described in Position Guides, procedures or manuals. These duties and responsibilities are designed to assure that the attainment of program objectives is verified by qualified personnel who do not perform or directly supervise the work.

The Vice President, Nuclear Power and, reporting to him, the General Manager Nuclear Power Generation, the General Manager Technical Services and the General Manager Administrative Services are responsible for the day-to-day operation, safety, security and maintenance at the plant. |6

The Manager, Nuclear Power Quality Assurance is a personal representative of the Director, Quality Assurance and oversees the quality assurance activities at Indian Point. He has two managers reporting to him, Manager, Nuclear Power Quality Engineering and Manager, Nuclear Power Quality Control. He reports to the Director, Quality Assurance and has direct communication access to the Vice President, Nuclear Power. The Manager, Nuclear Power Quality Assurance is responsible for the indoctrination and training of personnel reporting to him.

The Nuclear Facilities Safety Committee (NFSC) is composed of Company employees the majority of which are independent of the Nuclear Power organization. The NFSC is responsible for advising the President of the Company regarding plant safety. The organization and duties of this Committee are described in a charter and in the Plant Technical Specifications and approved by the President of the Company. |6

3.2 Assignment of Authority & Responsibility (cont'd)

The NFSC is kept fully informed by Nuclear Power management personnel of matters related to nuclear safety. This information is documented and reviewed by the NFSC. The NFSC meets at least quarterly to review items related to safety and semiannually to review and evaluate the results of periodic audits performed by the Company's Quality Assurance Organization to further assure safe operation and the adequacy of the audit program.

An on-site group known as the Station Nuclear Safety Committee (SNSC) functions within the on-site organization and advises the Vice President, Nuclear Power on all matters related to nuclear safety. The organization and duties of the SNSC are described in a charter forming part of Plant Technical Specifications. This committee meets at least once per calendar month and is comprised of key station personnel.

Engineering is responsible for the design activities included in system and component modification. To exercise this responsibility, Engineering prepares, issues, revises, and controls design documents including specifications, drawings, and modification procedures.

Construction is responsible for major plant modifications funded from the company's capital budget, utilizing either company forces or outside contractor labor, and may also be given responsibility for selected repairs. In these cases, work is accomplished under the direction of designated Project Managers in accordance with Construction administrative directives.

Purchasing is responsible for preparing, issuing and controlling purchase orders, for the inventory control of "Class A" stock items, for maintaining an approved vendors' list and handling vendor negotiations.

Central Stores (Cortlandt Warehouse) provides storage facility for materials and supplies for Indian Point Station and fills orders for supplies from users and other storerooms.

Nuclear Fuel Supply is responsible for procurement and timely delivery of nuclear fuel to Indian Point 2 consistent with assuring reliable supply.

Responsibilities include planning and providing for all nuclear fuel requirements, determining the required quantities of uranium, UF6 conversion services, enrichment fabrication, shipping, storage and other nuclear fuel services, preparation of uranium specifications, arranging

3.2 Assignment of Authority & Responsibility (cont'd)

and controlling all traffic of nuclear fuel and by-products prior to fabrication and in transfer to and from the nuclear plant.

The Quality Assurance organization is responsible for assuring that quality assurance programs are established consistent with this program and company policy and, assures that these programs are properly implemented. QA carries out these responsibilities primarily through program development, site surveillance and first-line inspection and by auditing those activities which affect plant safety. QA develops audit plans and schedules, and administers other activities associated with auditing. The Director, Quality Assurance reports to the Assistant Vice President, Power Generation Services, who reports directly to the Senior Vice President, Central Operations. This provides QA with the authority and organizational freedom to identify quality problems; to initiate, recommend or provide solutions through designated channels; and to verify implementation of solutions. The Quality Assurance organization certifies Con Edison non-destructive examination personnel and is responsible for indoctrination and training of QA personnel and for reviewing proposed changes to this program. QA reviews documents which implement this program to assure that each includes adequate quality assurance principles.

Each organization participating in this program is responsible for providing indoctrination and training of its personnel performing activities affecting quality and safety to ensure that suitable proficiency is achieved and maintained. Quality assurance and quality control personnel are trained to have and maintain proficiency in skills related to their specific assignments and in their knowledge of this program. Quality assurance and quality control personnel are provided indoctrination and training in the areas of quality assurance management and quality assurance practices, procedures, and requirements, including applicable regulatory and code requirements. QA provides indoctrination and training concerning the requirements of this quality assurance program to QA personnel, and appropriate personnel in other organizations.

3.3 Indoctrination and Training

Indoctrination and training in the administrative controls and quality assurance program is conducted for Con Edison

3.3 Indoctrination and Training (cont'd)

Engineering, Purchasing, Construction, Operations, Maintenance and Quality Assurance personnel who perform activities which affect quality. This training includes:

(1) company policies, procedures and instructions which establish the program,

(2) procedures or instructions which implement the program.

Personnel participating in the Quality Assurance Program are conversant with the requirements of Appendix B to 10CFR50 and the Regulatory Guides, as appropriate, listed in the Foreword. To further their understanding of this document, such personnel participate in industry-technical society discussion groups and maintain contact with latest industry literature.

Training of Quality Assurance personnel is based on the individual needs to improve or develop new skills in performing their jobs. Accordingly, selected courses are attended by Con Edison QA Engineers, QA Examiners and Consultants. These courses are in the areas of QA management, QA requirements for the nuclear industry, engineering, auditing, reliability, non-destructive examination techniques, and welding technology. When required by Code, detailed and specific training is given to examiners in non-destructive examination in accordance with SNT specifications.

A record of training sessions, including a list of those attending and a description of the material discussed, is maintained.

For station staff retraining and replacement training, a program is maintained under the direction of the Nuclear Training Manager.

3.4 On-site Operating Organization

The on-site operating organization includes one or more individuals knowledgeable in the following fields: nuclear power plant operation, nuclear power plant mechanical, electrical and electronic systems; nuclear engineering; chemistry and radiochemistry and radiation protection. Members of the facility staff have appropriate experience, training and retraining to assure that necessary competence is maintained in accordance with the provisions of the Plant Technical Specifications. The

3.4 Onsite Operating Organization (cont'd)

training and retraining programs are documented and approved by the Nuclear Training Manager, Nuclear Power.

Qualification and training in welding is in accordance with the requirements of ASME Section IX or other applicable codes.

Positions requiring personnel to have a current NRC reactor operator license are delineated in the Plant Technical Specifications.

The bases for the qualification of personnel who perform Quality Assurance inspection, examinations and tests are the following:

a) Education: minimum required - high school graduate or, alternatively, suitable job experience in the particular area.

b) Training: minimum required - evidence of specialized training sufficient to perform a particular job, e.g., welding inspection or, alternatively, demonstrated capability via job experience.

c) Evaluation: personnel are evaluated annually to determine their capability to perform their job function. Each evaluation is documented and included in the individual's personnel folder.

d) Specific Capabilities:

1. Physical: minimum required - physically capable of performing the job function including adequate vision and other physical characteristics, if necessary for the job.

2. Technical: minimum required - familiarity with tools and equipment to be used on the job and proficiency in their use including, as necessary, measuring and test equipment calibration and control methods.

For particular projects, quality assurance personnel resources may be supplemented by other Company organizations or by outside forces. In these situations, QA retains the responsibility for using appropriately qualified personnel.

3.4 On-site Operating Organization (cont'd)

If the performance of an individual has not met the requirements specified for the particular job, supervision has recourse to provide additional training, additional supervision or to remove the individual from the job assignment. Position Guides, procedures and manuals identify major responsibilities of particular positions. On-the-job supervision and formal yearly reviews assure the necessary continued proficiency of any particular individual. Prior to the assignment of personnel to a job function, the qualifications of the personnel are evaluated by supervision. This evaluation considers previous education, training, results of past supervisory reviews and on-the-job experience and performance to assure the initial proficiency of the individual. On-the-job performance after assignment to particular job functions is monitored by supervising personnel. The qualifications of inspection personnel, including their education, experience and training, are documented. Personnel involved in particular NDE activities, including the performance evaluation and supervision in nondestructive examinations are appropriately qualified in accordance with the requirements specified in SNT-TC-1A. Personnel on-the-job performance is reviewed annually, and the results are documented and retained in personnel folders.

The facility management and technical support organizations are defined in the plant Technical Specifications. At least one licensed Operator is in the control room when fuel is in the reactor. At least two licenced Operators are present in the control room during reactor start-up, scheduled reactor shutdown and during recovery from reactor trips. An individual qualified in radiation protection procedures is on site when fuel is in the reactor. Core alterations after initial fuel loading are directly supervised by a licensed Senior Reactor Operator.

The General Manager, Nuclear Power Generation has overall responsibility for facility operation.

The Manager, Nuclear Power Quality Assurance is responsible for site Quality Assurance activities. Quality Assurance reviews and audits the QA program. Additionally, audit activities are periodically reviewed by the Nuclear Facilities Safety Committee.

4.0 Reviews and Audits

Programs for reviews and for audits of activities affecting plant safety during the operational phase have been established. These programs assure that these activities

4.0 Reviews and Audits (cont'd)

are carried out in accordance with regulatory requirements, approved procedures and instructions, and license provisions. They provide for the following:

- o review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety
- o review of tests, procedures and experiments that affect nuclear safety
- o review of proposed changes to the Technical Specifications
- o investigation of all violations of the Technical Specifications
- o review of facility operations to detect potential nuclear safety hazards
- o review of the Plant Security Plan and implementing procedures
- o review of the Emergency Plan and implementing procedures
- o verification that reportable events which require reporting to the NRC within twenty-four hours, are promptly investigated and corrected
- o review of changes to the Process Control Program and the offsite Dose Calculation Manual

These programs are carried out by the Station Nuclear Safety Committee (SNSC) and Quality Assurance (QA). The independent review program, administered by the Nuclear Facilities Safety Committee (NFSC), identifies those personnel performing reviews; standing committees functioning as independent review bodies; and the composition, meeting frequency, quorum definition of such committees; the kinds of records maintained by such committees and the documentation of reviews as provided for in the Plant Technical Specifications. These programs are, themselves, reviewed for effectiveness by management.

The NFSC charter identifies the areas to be audited by QA; the responsibilities and authorities of involved personnel; provisions for the use of specialists (consultants) or sub-groups; authorization to perform audits; distribution of reports; lines of reporting and authority; timeliness of information dissemination; requirements for follow-up and re-audit and other provisions required for effectiveness reviews and audits.

4.1 Audit Program

The audit program conducted by QA provides for a comprehensive system of planned and periodic audits to verify that operating nuclear facilities are operated, administered, and managed in accordance with applicable requirements and to assess quality program effectiveness.

Quality Assurance (QA) documents audit plans and establishes a schedule of periodic audits. These audits are designed to verify compliance with all aspects of the quality assurance program and are conducted at least once every two years or more frequently commensurate with their safety significance. These audits include the following:

- The conformance of facility operation to all provisions contained within the plant Technical Specifications and applicable license conditions at least once per 12 months.
- The conformance of all provisions contained within the Environmental Technical Specifications (Appendix B) pertaining to radiological matters and applicable license conditions at least once per 12 months.
- The performance, training and qualifications of the entire station staff at least once per 12 months.
- The results of all actions taken to correct deficiencies occurring in facility equipment, structures, systems or method of operation that affect nuclear safety at least once per 6 months.
- The Facility Fire Protection Program and its implementing procedures at least once per 24 months.
- The Facility Emergency Plan and implementing procedures at least once per 12 months.
- The Facility Security Plan and its implementing procedures at least once per 12 months.
- A fire protection and loss prevention inspection and audit performed utilizing either qualified offsite licensee personnel or an outside fire protection firm at least once per 12 months.
- An inspection and audit of the fire protection and loss prevention program performed by an outside qualified fire consultant at least once per 36 months.

4.1 Audit Program (cont'd)

- The radiological environmental monitoring program and the results thereof at least once per 12 months.
- The Offsite Dose Calculations Manual and implementing procedures at least once per 24 months.
- The Process Control Program and implementing procedures for processing and packaging of radioactive wastes at least once per 24 months.
- The performance of activities required by the Quality Assurance Program to meet the provisions of Regulatory Guide 1.21, Revision 1, June 1974 and Regulatory Guide 4.1, Revision 1, April 1975 at least once per 12 months.
- Any other area of facility operation considered appropriate by the NFSC, or the President of the Company.

The audits are conducted by QA who may utilize other Consolidated Edison employees (except those having direct responsibility in the area being audited) and/or consultants or specialists from outside the Company. The results of each audit are reviewed by the auditors with the management of the activity audited at the conclusion of the audit. A written report containing the audit findings and recommendations is issued by QA within thirty days of the completion of the audit process. The audit report is issued to the management of the audited group(s) for reply to the audit results. It is distributed to the Secretary, Nuclear Facilities Safety Committee; the Senior Vice President, Central Operations; the Vice President, Nuclear Power; the Assistant Vice President, Power Generation Services; the General Auditor; the Senior Officers of the activities audited; the Manager, Regulatory Affairs, the appropriate General Manager; the Director, QA; Manager, Nuclear Power QA and, when it involves ASME, Section III Code Requirements, to the Authorized Inspector. It is the responsibility of the activity audited to review the report and reply, in writing, within thirty days to the QA concerning the actions to be taken to resolve each finding. QA is responsible for verifying the effectiveness of these actions, including reaudit when necessary. The Nuclear Facilities Safety Committee reviews the adequacy of the audit program at least semiannually.

5.0 Program, Policies and Procedures

5.1 Program Description

Administrative controls and quality assurance requirements are described in documents such as corporate instructions, station administrative orders and station procedures. A summary document which identifies these administrative and quality assurance procedures has been compiled and is maintained current. This document is suitably indexed to identify relationships of the contents to the pertinent criteria of 10CFR50, Appendix B and applicable Regulatory Guides.

Nuclear power plant structures, systems, components and consumables covered by this program are identified as "Class A Items" and are those that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. A list of "Class A" structures, systems, components and consumables appears in Appendix A. Identification of Class A components within systems are made and documented on a case-by-case basis, as required, via established procedures. This may include declassification. In addition, Vice President, Nuclear Power has an option to utilize the above program for specific non-safety related modifications. The major organizations and their responsibilities are identified and delineated in para. 3.2 of this document.

This program provides control of activities affecting the quality of Class A items to an extent consistent with their importance to safety. In the case of consumables, adequate quality is assured by activities such as testing on arrival, review of manufacturer's certification, or vendor evaluation. Additional controls such as purchase order review by QA, vendor surveillance, and receipt inspection are not necessarily performed. These controls are described in the various documents identified in the summary document.

This program takes into account the need for special controls, processes, tests, equipment, tools and skills to attain the required quality and the need for verification of quality by inspection, evaluation or test. These needs are accommodated through the issuance of and compliance with procedures, such as:

5.1 Program Description (Cont'd)

a. Non-Destructive Examination Procedures
b. Welding Procedures
c. Operating Procedures
d. Start-up Testing Procedures
e. Calibration of Measuring and Test Equipment
f. Receiving Inspection Procedures
g. Vendor Evaluation Procedures
h. Maintenance and Modification Procedures

5.2 Rules of Practice

Rules and instructions pertaining to personnel conduct and control are contained in various procedures and operating orders issued by the on-site organization. These include special instructions and authority for normal procedural actions, emergency actions, responsibilities of key personnel, watch schedules, availability duties of key personnel at all times, preparation of procedures and documenting and retention requirements.

5.2.1 Responsibilities and Authorities of Operating Personnel

Responsibilities and authorities of the plant operating personnel are delineated in operating and administrative procedures prepared and approved by appropriate on-site management as required by the sections of the Plant Technical Specifications entitled "Administrative Controls". These include:

a. The reactor operator's authority and responsibility for reactor shutdown under various conditions.

b. The responsibility to determine safe operating procedures for reactor return to power after a trip or in unscheduled or unexplained power reduction.

c. The responsibility for a Senior Reactor Operator to be present at the plant and the authority to provide direction for returning the reactor to power following a trip or unexplained power reduction.

d. The responsibility to believe and respond conservatively to instrument indications unless they are proved to be incorrect.

e. The responsiblity to adhere to the plant Technical Specifications.

f. The responsibility to review routine operating data to assure safe operation.

5.2.2 Procedure Adherence

The requirement that procedures be adhered to is both a plant administrative requirement and a Plant Technical Specification requirement. Safety-related procedures and procedure changes are reviewed by the Station Nuclear Safety Committee. In the event of an emergency not covered by an approved procedure, operations personnel take appropriate action to protect the health and safety of the public and to minimize personnel injury and damage to the facility. Written directives identify the manner in which procedures are to be implemented.

Procedural actions which must be committed to memory are those defined as "Immediate Operator Actions" in the Emergency Operating Procedures (EOP).

Documentation of procedure use is required when specifically called for by the procedure in question. For example, a startup "Procedure Check-Off" (PCO) is completed during plant warm-ups and power ascensions from shutdown conditions; a shutdown "Procedure Check-Off" is completed during planned plant shutdowns and cooldowns.

Following a unit trip or shutdown, a precriticality "Procedure Check-Off" is completed prior to initiating control rod withdrawal for the purpose of achieving criticality if more than 24 hours have elapsed since completing the last precritical check-off procedure.

After completion, all check-off procedures are signed by the Watch Supervisor. Copies of all procedures are available to appropriate members of the plant staff.

5.2.3 Operating Orders

Dissemination to the plant staff of instructions of general and continuing applicability to the conduct of business is provided through the issuance of appropriate administrative directives and operating procedures to the affected personnel. Station administrative orders identify responsibilities and are binding upon all members of the Nuclear Power and Power Generation Maintenance Departments as appropriate to the subject matter contained therein. Procedures for activities at the nuclear facility by groups other than Nuclear Power and Power Generation Maintenance are to be consistent with the requirements of Station Administrative Orders. Additional guidance, if necessary, is issued within individual subsections or staff groups to provide for delineation of detail not covered in Station Administrative Orders. Such additional guidance is

5.2.3 Operating Orders (cont'd)

in the form of administrative directives and/or procedures and may deal with shift changes, control room restrictions, operator duties and requirements, maintenance instructions, document control and other such matters applicable to the needs for operating a safe nuclear plant.

Provisions are made for periodic review and updating of the above instructions. Station Administrative Orders are reviewed biennially. The General Managers, Nuclear Power and QA ensure that these reviews are accomplished and report the results to their respective management. In addition, the General Managers biennially review the administrative directives of their respective sections and report upon their adequacy and consistency to the Vice President, Nuclear Power.

5.2.4 Special Orders

A mechanism exists for the issuance of management instructions which have short-term applicability and which require dissemination. The Plant Technical Specifications direct that these orders, among others, be established, reviewed, implemented and maintained. These instructions, when used, are titled "Special Orders" and are written to provide direction for non-recurring events, special situations or other categories of a similar nature.

These are prepared at the appropriate management level and distributed to the affected organizations and personnel. Because of the unique nature of the contents of these instructions, they are automatically cancelled, once implemented.

5.2.5 Temporary Procedures

Temporary Operating Instructions are issued, when required, as temporary procedures and are related to the performance of special tests or operations that are applicable for a short period of time. Procedures are issued for guidance during off-normal conditions and during special circumstances, as required.

The review and approval mechanisms for these temporary procedures or changes thereto are the same as those for normal operating procedures as described in paragraphs 5.2.2 and 5.2.15 which include the assignment of approval authority to management.

5.2.6 Equipment Control

Prior approval by Operations personnel is required for the release of equipment or systems for maintenance or repair. Normally, for interfacing station activities, Maintenance Supervisors, Instrument and Control Supervision, and Watch Supervisors meet beforehand to plan the work. They verify that equipment or systems can be released and determine the time required to do the job, and safety considerations to personnel and the public. Essential elements of these details are documented in work permits.

When permission is granted to remove equipment from service, the equipment is rendered inoperative and protected for work. Operations Watch Supervisors verify that the work is completed prior to readying the equipment or system for return to service.

Shutdown and subsequent start-up procedures guide the preparation of equipment or systems for maintenance. They include cognizance of such parameters as monitoring and control of reactivity, load reduction and cooldown rates, sequencing in activating or de-activating, provisions for decay heat removal and emergency operating situations.

Specific check-lists provide the assurance that pertinent factors are considered. Entries into closed systems or vessels are controlled. This extends to accountability for items taken in and out by maintenance personnel.

Temporary alterations which include such items as bypass devices, lifted electrical contacts, varying of setpoint limits, jumping, and opening of trip links require prior approval from, and are controlled by, Watch Supervisors acting in accordance with approved directions. Entries are documented in log books.

Status of inspections in association with work on equipment or systems is controlled through utilization of procedures, travelers, work step lists, tags and labeling. Nonconformances associated with maintenance are documented on inspection reports (OIR). Acceptance of a disposition of nonconformances by Nuclear Power Quality Assurance is required prior to release of an item for service. Usually, tests are conducted upon completion of work as a preoperational activity. Test requirements are determined by the Test and Performance Engineer. Completion of tests are certified by Watch Supervisors. |6

5.2.6 Equipment Control (cont'd)

Upon completion of servicing work, operations personnel are responsible for verifying that the work is complete and that operating items are restored to prerequisite positions in accordance with applicable procedures.

5.2.7 Maintenance and Modifications

Maintenance/modifications of safety-related structures, systems, and components including the installation, inspection and testing of instrumentation, electrical equipment and structural concrete, structural steel, mechanical equipment and piping and the application of protective coatings, are controlled by station procedures and are performed in a manner that assures a level of quality consistent with precedents set by the Architect-Engineer and NSS Supplier or appropriately reviewed alternates to those precedents.

Pre-operational performance testing provides an added measure of confidence that systems and components will continue to perform their intended functions after maintenance or modification.

These activities are performed in accordance with applicable procedures, manuals, instructions, drawings, specifications and other documents that take into account, as appropriate, planning requirements, guidance of codes and standards, the levels of skills required to do the work, and the assurance that properly identified acceptable material is used. Preparation involves consideration of such factors as assigning responsibilities, identification of instructional-type documents, scheduling and interfacing with other applicable operations activities. Included in the instructional-type documents are precautions to be observed, installation instructions, identification of equipment(s), procedures, travelers, step check lists, inspection points, and cleaning, handling and housekeeping requirements, as applicable. Particular attention is paid to necessary prerequisites such as assignment of personnel, assurance that proper documentation and materials are available, need for manufacturer's manuals and preparation for documenting results. Pre-installation activities extend to assuring that only properly accepted material is used, instructional material is available and work permissions have been granted.

5.2.7 Maintenance and Modifications (cont'd)

Plant maintenance/modification activities are carried out in the following manner: Station personnel prepare a Maintenance Work Order (MWO) in which they identify required work, either maintenance or modification. There may be times where other organizations recognize the need for a modification and initiate the required action. Applicable documentation is routed through key station groups e.g., Maintenance Manager and the Test and Performance Engineer - for their review. They review and determine the extent of implementing procedures required in their areas, inspections, and post-work performance testing requirements. In the event that the work constitutes a modification to the plant, a request is prepared and forwarded to Central Engineering for preparation of the design portion of the modification package if not already issued. Engineering prepares a modification concept and scope document for review and input by affected Station, QA, and installer organizations. Engineering then prepares documentation specifying technical requirements e.g., drawings, specifications, plant prerequisites not specified by the organization doing the installing and welding procedures for welding done by Con Edison or code selection for welding done by contractors. This modification documentation is reviewed by QA to assure the inclusion of appropriate quality provisions. Concurrent with that action, pertinent plant organizations perform a critical review. Included in the review cycle are the appropriate plant organizational units. Generally, the review is geared to assure appropriate engineering guidance and to evaluate the impact of the modification in their respective areas of responsibility. Three prime factors are considered in the review; (1) to assure consistency with the Plant Technical Specifications, (2) to assure proper action concerning safety evaluation has been addressed and, (3) to account for radiological control requirements. The responsibility of planning all work, preparing work packages and specifying work procedures rests with the Projects and Planning Manager. The responsibility of implementing procedures to do the work rests with the Maintenance Manager or I&C Engineer. Detailed procedures are reviewed by Nuclear Power Quality Assurance to provide inspection requirements. Control during installation extends to performance of inspections, tests when applicable, non-destructive examinations, recording as-constructed information, status indication, pressure testing, when applicable, and other factors associated with the particular case. The Test and Performance

5.2.7 Maintenance and Modifications (cont'd)

Engineer is responsible for preparing applicable test procedures, assuring that they have been conducted properly, evaluating test results, and informing operations personnel of acceptability of the installation. Records of the completed work package are filed. Examples of the types of records are the job folder, results of inspections or tests, modification documents, maintenance work order, reference to other documents and close-out documentation. Similar controls apply to preventive, routine and corrective maintenance, as appropriate. |6

5.2.7.1 Maintenance Programs

A maintenance program to maintain structures, systems, and components at a quality level necessary for them to perform their intended function, is in effect. Maintenance activities are planned, scheduled and accomplished in a manner consistent with safety considerations and Plant Technical Specification requirements. In preparation for maintenance activities, such details as the use of approved material, need for special tools or equipment, safety precautions and detailed work descriptions are considered.

Procedures concerning maintenance of a recurring nature are contained in a maintenance procedure manual. These procedures may be revised as experience is gained.

Preventive maintenance procedures contain maintenance frequency requirements for safety-related systems, equipment or components.

Results of inspections and surveillances during maintenance, modification and repair work verifying continued functional capability of equipment on the EQ Master List will be reviewed by Engineering when these results do not meet established acceptance criteria and quantitatively evaluated to determine that age-related degradation has not compromised the ability of the equipment or system to perform its specified functions. Results of inspections and surveillances shall also be factored into future inspection intervals in order to change the frequency at which these inspections are conducted, thereby aiding in determining the qualified life of the equipment and its maintenance interval.

5.2.7.2 Modifications

The design activities related to modifications to plant safety-related structures, systems, and components are performed in accordance with a documented control system previously described in 5.2.7.

Engineering procedures are in effect concerning the control and implementation of these design activities. Examples of the subject matter covered in the procedures are:

1. Responsibilities within the Central Engineering organizational unit and its various disciplines.

2. Managing the flow of technical information between internal supporting disciplines such as Civil, Electrical and Mechanical Engineering and Design Engineering. Externally supported design activities are controlled through procurement of subcontracted services as the need arises.

3. Rules for developing and reviewing concept and scope documents and preliminary design documents with appropriate Station, QA and installer organizations.

4. Document controls on the preparation, review, approval, release, and distribution of documents and their changes.

5. Rules concerning retention of design documents.

6. Guidance for performing design verification.

7. Rules for development of design criteria, design concepts, detailed designs, integration of Field Engineering forces, and review by affected Engineering disciplines; as applicable to the scope of the particular modification.

Once the need for a modification has been determined, Engineering considers various applicable inputs. Usually, there is a three stage process for a given modification; (1) the development of design criteria, (2) the determination of the need for conceptual arrangements, and (3) the preparation of the various detailed design documents that will be used in the work. Generally, the extent to which each of these applies is

5.2.7.2 Modifications (cont'd)

dependent on the complexity of the work. Modifications are assigned to a sponsor engineer who, in addition to performing a function in his discipline, may have project responsibility for coordination of the disciplines. Some representative considerations accounted for in the formulation of modification procedures are:

1. Requirements of codes, standards, and regulatory agencies.

2. Conditions affecting design such as pressure, temperature, voltage, stress and seismic loads.

3. Functional and physical interfaces between systems.

4. Defining operating, maintenance, testing and inspection requirements, as applicable.

5. Process flow, equipment descriptions, material requirements and their compatibility.

6. Safety requirements.

7. Environmental, cleanliness and quality assurance requirements.

8. Performance characteristics.

9. Electrical layouts, cable and conduit schedules.

10. Special installation requirements for environmentally qualified equipment. These may be contained on the Design Modification Drawings, Vendors' drawings, or in special instructions.

Elements of the design process, and its subsequent verifying actions are accounted for in Central Engineering procedures. A representative sampling of the areas considered are:

1. Suitability of parts, equipment or processes for the application.

2. Compatibility of materials with each other and with the design environment.

5.2.7.2 Modifications (cont'd)

3. Control of radiation exposure, both to the public and plant personnel.

4. Provisions for handling, storage, cleaning and shipping, as applicable.

5. Computations and calculations:

   a) Numerical accuracy

   b) Consistency of results between alternate and original methods

   c) Identification of design assumptions.

6. Analytic methods.

7. Fire protection.

8. Determining the reasonableness of results in comparison to design bases.

9. Permissibility of qualification testing alternatives as a verification technique.

10. Reasonableness of outputs when compared to inputs.

11. Approval of vendor submittals.

12. Prerequisites.

13. Requirements for welding.

14. Evaluating safety significance to assure compliance with regulatory requirements.

15. Verification that pertinent quality provisions have been incorporated.

16. Rules for utilizing original Architect-Engineer and NSSS design details in plant replacement items, additions or modifications.

17. Rules for distribution of design details to other affected interfacing organizational units, which include Nuclear Power and QA, for comment or information.

5.2.7.2 Modifications (cont'd)

18. Inservice Inspection (ISI)

19. Environmental Qualification of electric equipment important to safety in accordance with the requirements of 10 CFR 50.49.

Inherent in these procedures are provisions for the control of documents and their changes. The modification detail documents carry revision level designations to afford the assurance that proper revision levels will be used in the work. For addition of new, complex systems, specification and drawing lists are prepared, issued and used. Engineering procedures provide details for the maintenance, retention and storage of these design documents.

Requirements for auditing both modifications and the performance of the engineering design activity fall within the general audit program discussed under 4.0.

5.2.8 Surveillance Testing and Inspection Schedules

Surveillance testing and inspections, including inservice testing of pumps and valves, are the responsibility of Nuclear Power and are accomplished in accordance with the surveillance requirements in the Plant Technical Specifications and Inservice Inspection and Testing Program. Included in these activities are:

reactor coolant system surveillance, reactor coolant system integrity testing, containment tests, engineered safety features, emergency power system periodic tests, main steam stop valves, auxiliary feedwater system, reactivity anomalies, environmental monitoring surveys, and radioactive materials. Upon completion of testing, surveillance test results and inservice test results are reviewed by the Test and Performance Engineer or his designated alternate. This review consists of: |6

1. Verifying that the operability and overall acceptance criteria were satisfied.

2. Ascertaining that data were entered as required.

3. Verifying the test was done on schedule.

4. Trend analysis, as appropriate.

5. Evaluating condition(s) adverse to quality.

5.2.8 Surveillance Testing and Inspection Schedules (cont'd)

6. Evaluating data for compliance with Plant Technical Specification requirements.

The NDE portion of the Inservice Inspection program is the responsibility of Nuclear Power Quality Assurance and is based on ASME Code Section XI. As required baseline data are gathered to permit a comparison of any changes occurring as a result of plant operations. The areas requiring inspections and the overall schedule are consistent with the requirements of the Plant Technical Specifications. Nuclear Power Quality Assurance maintains NDE Inservice Inspection records. Test and Performance maintains inservice testing records.

5.2.9 Plant Security and Visitor Control

A comprehensive security and visitor control program has been established, including measures to thwart attempted sabotage. Procedures have been developed by Nuclear Power which supplement features and physical barriers designed to control access to the plant and, as appropriate, to vital areas within the plant.

Measures have been established by the Fire Protection, Safety and Security Manager to deter or discourage penetration by unauthorized persons, to detect such penetrations should they occur, to apprehend in a timely manner either unauthorized persons or authorized persons acting in a manner constituting a threat of sabotage, and to provide for appropriate authorities to take custody of violators. The means by which plant security and visitor control are enforced by both security and operating personnel include measures for physical and administrative control of access to the plant site or portions thereof, selecting and retaining reliable personnel and detecting aberrant behavior, monitoring the status of vital equipment and facilities, augmenting security in the event of actual or potential threats to plant security and designing features of the plant specifically for security purposes or features which, by their nature, reduce the vulnerability of the plant to sabotage attacks.

The security program provides for the identification of the following three security areas:

1. Con Edison-owned property under the administrative and procedural control of the Security Administrator and suitably marked by signs and other means which provide reasonable assurance that persons entering the area are aware they are on Con Edison property.

5.2.9 Plant Security and Visitor Control (cont'd)

2. A protected area administratively and procedurally under the control of the Security Administrator affording clear fields of view on its perimeter.

3. Vital areas isolated from non-vital equipment and facilities to the maximum extent practicable to limit access to a minimum number of authorized persons. As part of the security program, a list of these vital areas is maintained. Vital areas are protected against intrusion by unauthorized persons. These areas are administratively and procedurally under control of the General Manager, Administrative Services in conjunction with General Manager, NPG and the Operations Manager.

The Fire Protection, Safety and Security Manager has developed a Security Force Manual, approved by the Station Nuclear Safety Committee (SNSC) and is responsible for its maintenance, up dating, and distribution to authorized individuals and organizations.

Operations personnel form a part of the security force. Accordingly, the Senior Watch Supervisor, the Support Facilities Supervisor, Reactor Operators, Nuclear Plant Operators and other operating personnel are assigned various authorities and responsibilities forming a part of the security program.

The Fire Protection, Safety and Security Manager is responsible for developing and properly locating signs and notices relating to security, for training and drills and for submitting reports relating to security to the General Manager, Administrative Services.

The Vice President, Nuclear Power has overall responsibility for the security program and its state of readiness.

5.2.10 Housekeeping and Cleanliness Control

Control procedures for housekeeping are prepared by Nuclear Power. These procedures encompass activities related to the control of cleanliness of facilities, materials and equipment; fire prevention and protection, including disposal of combustible material, radioactive contamination control; storage of solid radioactive waste, etc.

5.2.10 Housekeeping and Cleanliness Control (cont'd)

Procedures are prepared for and particular attention is given to work and storage areas where important items are handled and stored to preclude damage or contamination. The General anager, Administrative Services provides for separate controlled storage areas, and issue, use and return of excess Class A materials. Procedures prepared by the Manager, Nuclear Power quality Assurance verify control of the cleanliness of open primary systems. The Vice President, Nuclear Power establishes policy regarding work permits and provisions for the radiological as well as conventional health and safety of all employees. The General Manager, Technical Services establishes policy for removal of equipment and material from the Controlled Area and its shipment, and the method of handling solid radioactive waste material for its removal from the controlled area at Indian Point Station. 6

Fire protection and prevention procedures are prepared and implemented by responsible NP Personnel. These procedures include provisions for fire fighting and fire watches during and immediately following welding, enforcement of good housekeeping practices, building and maintenance care and outdoor housekeeping. Periodic inspections and surveillances are performed by Nuclear Power Quality Assurance personnel. Reports of results are issued to higher management.

5.2.11 Corrective Actions

Measures have been established which ensure that conditions adverse to quality which may occur during work, e.g., maintenance, are promptly identified in nonconformance reports or significant nonconformance reports and corrected. In the case of significant conditions adverse to quality, the cause of the condition is determined and corrective action taken and appropriately documented and reported.

The action addressee on nonconformance reports is responsible for either correcting the nonconformance or designating the organization responsible for completing the necessary corrective actions. The managements of these designated organizations are responsible for taking the necessary corrective actions.

The Manager, Nuclear Power Quality Assurance is responsible for verifying that corrective actions are implemented at the site. QA has overall responsibility for verifying that corrective action is taken and for reviewing corrective actions taken during auditing operations.

5.2.11 Corrective Actions (cont'd)

QA prepares and distributes a quarterly report indicating the status of all unresolved significant nonconformance reports. This report is routed to appropriate management concerned with correcting the deficiency. The distribution of the quarterly status report of unresolvede non conformance reports assures that the identification of significant conditions adverse to quality and corrective actions initiated are documented and reported to appropriate levels of management.

The action addressee on significant nonconformance reports is responsible for either correcting the deficiencies or designating the organization responsible for completing the necessary corrective actions. The managements of these designated organizations are responsible for taking the appropriate corrective actions. When corrective action has been completed, this will be identified on the report and forwarded to the Manager, Nuclear Power Quality Assurance, by the action addressee. Corrective action shall include determination of the cause of the nonconformance and the measures necessary to preclude repetition.

Nuclear Power QA reviews the action taken and takes the initiative to resolve disputes and disagreements, if any. After agreement has been achieved, Nuclear Power QA completes the report by noting concurrence. Copies of completed reports are then routed to the action addressee and other appropriate Con Edison organizations.

Conditions adverse to safety found during operations are reported as required by the Plant Technical Specification. This report includes a description of the condition, its cause and corrective action taken or recommended. The distribution of this report includes the Nuclear Facilities Safety Committee (NFSC).

5.2.12 Plant Records Management

Con Edison's policy is to maintain documentary evidence of the quality of items and activities affecting plant safety. Consequently, a system for records preparation and retention, as necessary, has been established.

Quality assurance records located in the Nuclear Records Management Center, together with other files of other Con Edison organizations and at contracted storage facilities are retained for periods specified in the Indian Point Records Type List.

5.2.12 Plant Records Management (cont'd)

The Manager, Nuclear Power Quality Assurance maintains records which include certain personnel qualification records, receipt inspection results and back-up data, and nonconformance reports. Operating logs are maintained by the Operations section. Test procedures and results are maintained by the Test and Performance Engineer. |6

Inspection reports include the signature of the inspector, the type of observation, the results, the acceptability, and the action taken in connection with any deficiencies noted.

Documented procedures establish the requirements and responsibilities for record maintenance and retention subsequent to completion of work. The records are filed and maintained to minimize deterioration, damage and to prevent loss.

5.2.13 Procurement and Materials Control

Measures have been established for procurement documentation and control of materials and components which affect plant safety, including spare and replacement parts. Procedures and appropriate instructions assure that purchased materials and components associated with safety-related structures or systems are purchased to appropriate specifications and codes; produced or fabricated to proper requirements; packaged and transported in a manner that will maintain their quality; properly documented, completed, identified and stored; and correctly controlled to assure the identification, segregation, and disposition of nonconforming material. These procedures, as appropriate, provide for procurement document preparation, review and change control; selection of procurement sources; bid evaluation and award; control of supplier's performance, verification of material quality, control of nonconforming items, acceptance of items and services, maintenance of quality assurance records; evaluation of the procurement process and corrective action.

Procurement documents include, as appropriate, provisions for the scope of work to be accomplished; technical requirements; quality assurance program requirements; a statement of right of access to a supplier's plan, facility and records; special quality assurance requirements; documentation and, as applicable, provisions for processing nonconformances.

5.2.13.1 Procurement Document Control

Measures are provided for a procurement document control system which assures that applicable regulatory requirements, design bases, and other requirements which are necessary to assure adequate quality are suitably included or referenced in the purchase orders for material, equipment and services, whether purchased by Con Edison or by vendors or sub-vendors. QA verifies that adequate quality assurance requirements are included or referenced in requisitions. These quality assurance program requirements are imposed on a vendor by means such as specifying applicable provisions of Con Edison's quality assurance specifications, pertinent Code quality assurance requirements, such as, ASME Section III, ANSI N45.2 or unique requirements for the specific purchase order.

Engineering assures that applicable technical and regulatory requirements are included or referenced in procurement documents. Where improvements or changes in specifications or other technical requirements are indicated, Engineering identifies and includes these requirements, as appropriate, in the procurement documents. As appropriate, Engineering verifies that specifications and requirements contained in the requisition are correct, recommends additional technical requirements as needed and determines what vendor drawings and procedures shall be submitted to Con Edison for approval.

Quality Assurance identifies on the requisition appropriate quality assurance documentation, such as, material certifications, acceptance test reports, and certain data reports which must be provided by the vendor. Quality Assurance verifies that adequate quality assurance requirements are included in the requisition. Quality assurance requirements are imposed on contractors by specifying applicable Code quality assurance provisions, such as, ASME Section III, ANSI N45.2 or unique quality control requirements for the specific requisition.

Bids and Proposals are solicited from approved vendors only (see 5.2.13.2). Purchasing evaluates Bids and Proposals for commercial content and Engineering for technical content. As appropriate, quality assurance provisions are evaluated by QA. If the bidder or proposer takes no exceptions to the specifications and requirements, the buyer may secure purchase authorization.

5.2.13.1 Procurement Document Control (cont'd)

Vendors are evaluated and approved prior to issuance of a purchase order to provide assurance that the vendor is capable of manufacturing and delivering a product conforming to the requirements of applicable purchase specifications. Vendor approval documentation is maintained and updated, and purchase orders sent only to the approved vendors. In addition, after a purchase order is issued, the vendor may be reviewed on a surveillance basis during the manufacturing stage to assure conformance to specification requirements.

Upon receipt of purchase authorization, the cognizant buyer releases the requisition along with other appropriate documents e.g. Standard Terms and Conditions, for preparation of the purchase order. Purchase orders are issued only to approved vendors. Copies of the purchase order are distributed to the Nuclear Power Quality Assurance, the requisitioning activity, and QA.

If an outstanding purchase order must be modified, a properly authorized modification to the Purchase Requisition must be prepared and reviewed. Copies of modified purchase orders are distributed to those who received copies of the original purchase order.

5.2.13.2 Control of Purchased Material, Equipment and Services

Measures have been established which assure that purchased items and services, whether purchased directly or through contractors, conform to procurement documents. These measures include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor, inspection and audit at the source and examination of items upon delivery.

Representatives from Purchasing, Engineering, and QA evaluate the capabilities of approved vendors. The Engineering Department representative evaluates the overall manufacturing capability of the vendor, including his particular technical ability to produce the item or component delineated in the specification. The Purchasing Department representative evaluates the vendor's financial and administrative capabilities. The QA representative evaluates the vendor's quality

5.2.13.2 Control of Purchased Material, Equipment and Services (cont'd)

assurance program. The QA review includes consideration of the following:

1. QA personnel qualifications.
2. Review and control of design documents.
3. Documented manufacturing procedures.
4. QA procedures, acceptance criteria and calibration practices.
5. QA records and their retention.
6. Vendor receipt inspection.
7. QA requirements imposed by the vendor on his subcontractors.

For a vendor to be maintained as an approved vendor, an evaluation of that vendor is made at least once every five years. Additional reviews of a vendor's facilities or his performance may be conducted by QA on a more frequent basis. During the course of production, manufacturing or service activities, surveillance of the vendor's performance may be conducted.

Vendor surveillance plans are prepared for complex equipment. The surveillance plans identify the areas such as, tests and records to be reviewed. The applicable purchase order, including the specifications and drawings, forms the basis for determining the areas for review.

Material received at the Indian Point offsite receiving and storage facility is inspected by personnel designated by the Manager Nuclear Power Quality Assurance in accordance with written instructions approved by Nuclear Power Quality Assurance. Documentary evidence that material and equipment conform to the procurement requirements is available at the Nuclear Power Plant site prior to use of such material and equipment. Receiving inspection written instructions require, as appropriate, checking that objective evidence of quality required from the vendor has been received. Results of receiving inspections are documented on a checklist.

5.2.13.2 Control of Purchased, Material, Equipment and Services (cont'd)

This documentation includes, as a minimum, the identity of the inspector, the type and results of inspection, the acceptability, and the action taken in connection with any deficiencies noted.

Material which is accepted is green tagged. Nonconforming material is yellow tagged until the nonconformance is dispositioned. Rejected material is red tagged and returned to the supplier or scrapped. Nonconformance and corrective actions are controlled in accordance with 5.2.14.

Green tagged components or materials retain their green tag until they have been satisfactorily installed and the installation check has been completed or until green tag removal is necessary for installation purposes. Records of control of purchased material, equipment and services are maintained in accordance with 5.2.12.

5.2.13.3 Identification and Control of Materials, Parts and Components

Measures have been established for the identification and control of material, parts and components. Procedures are provided by Nuclear Power, Engineering, QA and, as appropriate, other involved organizations which insure that only accepted items are used and installed and which, where applicable, relate an item

to an applicable drawing, specification or other pertinent technical document. Identification marking is applied by suppliers and/or Con Edison organizations in a clear, unambiguous manner which does not adversely affect the function of the item. When groups of items are sub-divided, identification marking is appropriately transferred to smaller groups or individual items by NP storeroom personnel except for indication of inspection status identification ("accept" tags, etc.) which is transferred by Nuclear Power QA personnel.

Where required for receipt identification and traceability purposes, materials and shipping containers bear specific marking prior to use at Indian Point.

Where such identification by the vendor is deemed necessary, the vendor is instructed by the Purchase Order documents concerning the identification required.

5.2.13.3 Identification and Control of Materials, Parts and Components (cont'd)

In cases where identification is to be done by personnel at Indian Point, written instructions are issued to accomplish the identification.

Shipping containers are identified and marked by the vendor in accordance with instructions included in the purchase order document in order to permit positive identification. Component or material identification numbers may also be required for traceability and these requirements are also specified by the Purchase Order. Where it becomes necessary to provide identification of material or components, detailed marking procedures are established. These procedures, if applicable, are prepared by Engineering and concurred in by Nuclear Power Quality Assurance. Care is taken to assure that marking methods will not adversely affect the material or design characteristics. For example, marking materials containing sulfur and low melting point elements, such as, lead and mercury are not used for identifying nickel alloys and stainless steel.

Care is also taken to apply the markings prior to modification or cutting operations to assure that traceability is not destroyed or lost. Nuclear Power Quality Assurance is responsible for assuring that marking performed at Indian Point is accomplished in accordance with approved procedures.

During the course of maintenance, repair, or modification work, it will be necessary for traceability purposes to identify new or repaired weld joints. This identification is accomplished in accordance with procedures approved by the Mechanical Engineering Department.

Engineering provides unique weld joint numbers for all welds shown on single line diagrams which carry piece numbers traceable to bills of material and weld joint numbers for piping fabrication and installation at Indian Point.

Construction is responsible for assuring that unique weld joint identification numbers are provided in accordance with Engineering's numbering system or Contractor's equivalent for welds of Construction managed field run piping work. Nuclear Power is responsible for assigning unique weld joint numbers

5.2.13.3 Identification and Control of Materials, Parts and Components (cont'd)

for other welds required during installation and site fabrication including field run piping work managed by Nuclear Power and shall also be responsible for permanent weld identification.

The applicable Project Management Authority (PMA), Nuclear Power or Construction, shall assure that weld joint identification is accomplished by identifying the welds on piping sketches or drawings prepared by Engineering, Nuclear Power, or Contractors, as applicable, or where precise traceability cannot be assured by these methods, by permanently marking the weld at or near the weld joint. Where pipe size, accessibility or other limitations make physical marking impractical, metal tags shall be secured at or near the weld joint. The tags shall be permanently marked with weld identification information including directional information if tags are offset from the weld. The applicable PMA shall provide "as constructed" information to Engineering in writing for updating engineering drawings.

Adequate records of identification and control are retained for periods in accordance with 5.2.12 above.

5.2.13.4 Handling, Storage and Shipping

Measures have been established which provide control of handling, storage and shipping. These measures include, where applicable, provisions for cleaning, packaging and preservation of material and equipment in accordance with appropriate instructions, procedures, drawings or other documents to prevent damage, deterioration and loss. Included are measures for very expensive, critical, sensitive and perishable items. Engineering and other organizations, such as Nuclear Power establish or reference requirements for handling, storage and shipping. These requirements are identified in applicable requisitioning/procurement documents.

Items are packaged in a manner adequate to protect them against corrosion, contamination, physical damage or any effect which would lower their quality or cause the item to deteriorate during shipping, handling and storage. The specific requirements for packaging, etc., are determined by the procurement document review system and the requirements identified or referenced in the procurement document by NP, Engineering, etc.

5.2.13.4 Handling, Storage and Shipping (cont'd)

The degree of protection varies according to storage condition and duration, shipping environment and handling conditions. Items are protected against damage during loading, shipping, and handling by the supplier, shipper, and appropriate Con Edison organization. Modes of transportation are consistent with the degree of protection required and with the packaging methods employed.

Items are received at the Indian Point offsite receiving and storage facility. Central Stores personnel receive and store items for use at the site.

Upon their arrival, items are checked by Nuclear Power QA personnel for damage and for general compliance with purchase order requirements or internal documents where items are manufactured by Con Edison. Results of inspection are documented in a receipt inspection checklist by the receiving inspector. Required marking is verified to provide positive identification during receiving, storage and installation. Appropriate records relating to packaging, shipping, receiving, storage and handling are maintained by NP in accordance with 5.2.12.

Storage is accomplished in a manner sufficient to minimize the possibility of damage or lowering quality due to corrosion, contamination, deterioration or physical damage from the time an item is stored until the time the item is removed from storage and installed at its final location. Storage requirements are based on supplier recommendations, NP requirements and/or instructions supplemented, as appropriate, by Engineering recommendations.

Results of storage examination and inspections are documented and deficiencies corrected in accordance with established NP procedures. During storage, appropriate care is exercised by Central Stores personnel to maintain item integrity. Central Stores is responsible for handling items. Power Generation Maintenance, NP, and Transportation maintain handling equipment in accordance with appropriate procedures, methods and instructions.

As appropriate, handling instructions and procedures have been established by Nuclear Power and Engineering for items requiring special handling. As appropriate, hoisting equipment used for handling is initially

5.2.13.4 Handling, Storage and Shipping (cont'd)

certified by the manufacturer. Except for test purposes, hoisting equipment is not loaded beyond rated load as certified by the manufacturer.

Safety requirements for material hoists are adhered to by NP, Power Generation Maintenance and Central Transportation. Re-rated equipment is given a dynamic load test over the full range of the lift. Normally, the test weight used in temporarily re-rating hoisting equipment for special lifts is at least equal to 110% of the lift weight.

Records pertaining to packing, shipping, receiving, storage and handling, including procedures, reports, personnel qualification, test equipment calibration, nonconformances and inspection and examination are prepared and maintained by NP, Central Stores etc., in accordance with the provisions of 5.2.12 and applicable guides and regulatory requirements.

5.2.14 Nonconforming Items

A system, including appropriate instructions, has been established for identifying, documenting, segregating and dispositioning nonconformances. This system provides for notification of affected organizations, for review and acceptance, rejection, repair or re-work of nonconforming items and establishes the responsibilities for the disposition of nonconforming items. This system also provides for identifying an item as nonconforming and controlled and as accepted "as is", as scrap or as held for further disposition. This system provides for documenting the acceptability of nonconforming items which have been repaired, re-worked or used "as is".

Incoming items are tagged as received. The items are receipt-inspected in accordance with documented instructions by an inspector reporting to the Manager, Nuclear Power Quality Assurance. Items which are acceptable are given an "accept" tag and put in separate locked storage. Items which cannot be accepted are "hold" tagged and stored in segregated locked storage to await dispostion. Items "hold" tagged but too large for segregated, locked storage or indoor storage are suitably identified to prevent their use. Items which are to be scrapped are "reject" tagged and kept in separate locked storage. Only items which have been properly receipt inspected and accepted can be used. Items which do not meet acceptance criteria are evaluated for disposition. Nuclear Power Quality Assurance, as appropriate, prepares a nonconformance report.

5.2.14 Nonconforming Items (cont'd)

The report identifies the nonconformance and recommends corrective action to the organization (action addressee) responsible to initiate action or resolve the nonconformance. Copies are forwarded or made available to affected organizations, such as Nuclear Power, QA, Engineering and Purchasing. Nonconforming items are accepted, rejected, repaired or re-worked in accordance with documented procedures specified by the organizations involved in resolving the deficiencies identified.

When significant nonconformances are identified, Nuclear Power Quality Assurance personnel, or other QA personnel, as applicable, investigate and initiate a significant nonconformance report. This report is used to document significant nonconformances with specified quality requirements when found during plant testing, or plant modification, maintenance and repair activities.

The significant nonconformance report identifies the deficiency and recommends corrective action to the organization (action addressee) responsible to initiate action or resolve the deficiency. Copies are forwarded to other affected organizations such as Nuclear Power, QA, Engineering, Purchasing or contractors. Nonconforming items are accepted, rejected, repaired or reworked in accordance with documented procedures specified by the organizations involved in resolving the deficiencies identified. Items which have been reworked or repaired are reinspected and/or retested in a manner identical to the original inspection and/or test or in an alternate manner approved by NP, QA or Engineering, as applicable. SNSC and QA participate, on a periodic basis, in systematic reviews of equipment malfunctions and their repairs. The reviews are based upon malfunction and repair information given in closed out nonconformance report for the period. Results of the reviews including any recommended actions are documented and submitted, as a minimum, to the manager of the affected organization. Additionally, analyses of trends may be initiated independently by QA as part of its audit review program.

5.2.15 Review, Approval and Control of Procedures

The administrative controls and quality assurance program provide measures which control and coordinate the approval and issuance of documents, including changes thereto, which prescribe activities affecting quality. These documents include those which describe organizational interfaces or which prescribe activities affecting safety-related structure systems or components.

5.2.15 Review, Approval and Control of Procedures (cont'd)

These documents also include operating and special orders, operating procedures, test procedures, equipment control procedures, fire protection procedures, emergency procedures, maintenance or modification procedures, refueling and material control procedures. These are in the form of documents such as station administrative orders, administrative directives, Quality Assurance operating procedures, Purchasing, Engineering and Construction procedures and corporate instructions.

The administrative controls and quality assurance program requires that activities affecting quality be prescribed by documented instructions or procedures of a type appropriate to the circumstances, and accomplished in accordance with these instructions or procedures.

The total program definition is reviewed by QA at least every two years to assure continued program adequacy.

Procedures or instructions are reviewed by other than the originating individual. Included in the review organizations are Nuclear Power, Engineering, Construction, Purchasing, QA, the Station Nuclear Safety Committee (SNSC) and the Nuclear Facilities Safety Committee (NFSC). The SNSC reviews changes to procedures or instructions to verify that such changes do not constitute an unreviewed safety question as defined in Section 50.59, 10CFR. Following an unusual incident during operations, testing, etc., an unexpected transient, significant operator's error or equipment malfunction or modification of a system, applicable procedures or instructions are reviewed by appropriate individuals or organizations. Changes to procedures or instructions are reviewed and approved by the appropriate organization. The system for review, approval and control of instructions or procedures provides for the identification of individuals and organizations involved, identification, as appropriate, of documents to be used in performing the activity, coordination and control of interface documents and the maintenance and updating of distribution lists.

These instructions or procedures include, as appropriate, quantitative or qualitative accceptance criteria for determining that certain activities have been satisfactorily accomplished. This administrative controls and quality assurance program establishes measures for controlling the issuance of documents such as procedures or instructions, including changes thereto, which prescribe

5.2.15 Review, Approval and Control of Procedures (cont'd)

activities affecting quality. These measures assure that documents, including changes, are reviewed for adequacy and approved for release by authorized personnel and are distributed to and used at the location where the prescribed activity is performed.

Each organization participating in this administrative controls and quality assurance program identifies to QA administrative documents judged necessary to implement the administrative controls and quality assurance program. The organizations responsible for these documents include QA on distribution as each is issued or changed. QA in a timely manner, reviews these documents for adequacy. In addition, QA maintains an index of documents that define the basic structure of the administrative controls and quality assurance program.

5.2.16 Control of Measuring and Test Equipment

Measuring tools, gages and test equipment used at the site on items which affect plant safety are controlled and recalled for calibration at prescribed intervals.

Nuclear Power and Nuclear Power QA, as appropriate, maintain required standards, conducts calibrations, adjustments, and approves calibration procedures.

QA and Nuclear Power maintain records of measuring and test equipment under their control. These records include:

1. Identification number
2. Description of the item
3. Manufacturer's name and model number
4. Calibration frequency
5. Reference to method or procedure

Only after items are listed on the measuring and testing list can they be used on Class A systems. Each measuring tool, gage, and test equipment bears a tag or a sticker which indicates the next calibration due date.

Calibration requirements are based on the type of equipment, usage, and any other conditions affecting accuracy control requirements.

5.2.16 Control of Measuring and Test Equipment (cont'd)

Calibrations are made against certified measurement standards which have known relationship to national standards where such standards exist. Where no such standards exist, the basis for calibration is documented. The accuracy of each calibrating standard is at least equal to the accuracy requirement for the equipment being calibrated. If called for by engineering specification or drawing or other written instruction, calibrating standards of a specified greater accuracy will be used.

Discrepancies discovered in examination or test equipment are reported in accordance with procedures for reporting nonconformances and corrective actions. A documented review is initiated of all work accomplished with the equipment since the previous calibration. To determine if applicable requirements have been satisfied, a review is conducted of all material, components and equipment checked with discrepant examination or test equipment since its last acceptable calibration or periodic check. Nuclear Power Quality Assurance issue a nonconformance report if required.

5.2.17 Inspections

Programs for inspection of items and activities affecting safety have been established and are implemented by personnel reporting to the Test and Performance Engineer, Instrument and Control Engineer, the Manager, Nuclear Power Quality Assurance, by Contractors under the direction of the Construction Department, or by other properly authorized personnel. |6

For plant maintenance and modification, examination, checks and inspections are normally accomplished by Supervisors responsible for the work. When independent examinations are deemed necessary the examinations are accomplished by personnel who did not perform the work and who did not directly supervise the work.

Quality requirements are estabished by Engineering or Nuclear Power Quality Assurance. Nuclear Power Quality Assurance verifies that requirements are identified and determines the independent inspections to be performed to assess compliance.

Nuclear Power Quality Assurance determines the independent inspection required and prepares work inspection instructions. Work inspection instructions specify the inspections, documentation required and hold points for a job.

5.2.17 Inspections (cont'd)

For large and complex work, travelers are issued by the Project Managing Activity (Construction or Nuclear Power). Nuclear Power Quality Assurance concurs in the traveler. The traveler identifies the operations to be performed on an item after it is drawn from Stores. Mandatory independent inspection hold points are identified on the traveler.

The Manager, Nuclear Power Quality Assurance has the authority to order cessation of work where continuation of work would lead to unacceptable conditions. Work may be resumed if approved by the Manager, Nuclear Power Quality Assurance; General Manager, NPG; or management levels above the General Manager.

Nuclear Power Quality Assurance maintains records of required independent inspection activities.

5.2.18 Control of Special Processes

Measures have been established and documented which assure that special processes are accomplished under controlled conditions employing appropriately qualified personnel and procedures.

Engineering prepares in-house welding procedures and acceptance criteria. Power Generation Maintenance qualifies welding procedures and personnel to applicable ASME Codes and maintains appropriate records in accordance with ASME Code Section IX.

Welding materials are specified, purchased, receipt inspected, stored, identified, and issued in accordance with written procedures. Engineering provides weld joint identification and authorizes weld modifications or repair.

For welds accomplished by Company forces at Indian Point or at Van Nest shops, the proper completion of weld inspection forms, weld inspection and acceptance, and permanent recording of weld acceptance, is the responsibility of the Nuclear Power Quality Assurance inspector or PGM Quality Control inspector respectively.

For welds accomplished by contractor personnel, the contractor weld process control form for welds shall require the approval of contractor QA. As the welding proceeds, the appropriate section of weld inspection form shall be completed by the Nuclear Power Quality Assurance inspector or PGM Technical Engineer Inspection

5.2.18 Control of Special Processes (cont'd)

and Quality Control, as appropriate, to indicate that inspection requirements have been satisfied and to provide permanent record of traceability of material and inspection information, as required.

Nuclear Power, PGM, or Construction, as appropriate, prepare "as-constructed" information (marked-up drawings) showing weld locations and respective weld identification numbers. The "as-constructed" information for modifications is forwarded to Nuclear Records Management Center who verify that these drawings conform to the latest modification package drawing list and then forward them to Design Engineering. Design Engineering revises the affected original drawings, and distributes copies to the Nuclear Records Management Center and Mechanical Engineering. NP forwards "as constructed" information for repairs to Field Engineering for reporting to Design Engineering as necessary. Nuclear Power Quality Assurance monitors welding activities to assure compliance with approved procedures. Welding codes or requirements for work performed by contractors requires prior Engineering approval. Heat treatment is conducted in accordance with approved procedures.

Con Edison Non-Destructive Examination personnel are qualified in accordance with ASME Code Section III and ASNT - TC-1A.

The Director, Quality Assurance or his designee certifies Level III Non-Destructive Examiners. Level III examiners are responsible for examinations of Level I and Level II personnel. All NDE personnel must meet the required physical fitness criteria, pass a written examination, satisfactorily operate test equipment and interpret or analyze collected indications. Engineering identifies the type of NDE to be performed.

Nuclear Power Quality Assurance monitors NDE services to assure compliance with requirements and maintains appropriate records of work performed.

Chemical cleaning may be required during certain maintenance or modificaton work. The maintenance procedure identifies the approved process to be followed as well as any inspections and other controls required.

5.2.19 Test Control

Nuclear Power provides, and maintains control over operating procedures and test procedures to assure that they are appropriately prepared, authorized, implemented, documented and evaluated.

5.2.19 Test Control (cont'd)

The Plant Technical Specifications incorporate various engineering requirements and parameter limits that are applicable during operation of the plant. Procedures include measures to report conditions adverse to quality and to assure adequate corrective action. The NFSC reviews proposed changes to procedures which involve an unreviewed safety question as defined in Section 50.59, 10CFR50. Nuclear Power establishes procedures for indicating the status of inoperable equipment; for example, tagging valves and switches to prevent inadvertent operation.

A series of periodic tests have been prepared to satisfy the requirements of the Plant Technical Specifications.

Test procedures contain:

(1) The test objective
(2) The acceptance or operability criteria to be used in evaluating test results.
(3) Pertinent references, as appropriate
(4) Precautions
(5) Limitations
(6) Check-off sheets, as appropriate
(7) Technical specifications, as required
(8) Special equipment, as required
(9) Step-by-step instructions

Each test procedure is approved by the Test and Performance Engineer. |6

The Test and Performance Engineer sends a copy of the test procedure to the chairman of the Station Nuclear Safety Committee (SNSC) who arranges a SNSC review.

Once approved by SNSC, these test procedures are maintained in a central file and updated, as required, for possible future use.

Maintenance and preoperational test control consists of the following:

(1) Each Maintenance Work Order (MWO) issued for Class A items is evaluated for retest requirements by the Test and Performance Engineer who provides such requirements as necessary. |6

(2) Prior to the test, the Operations Manager insures that all MWO's to which the test applies have been signed off for work completion. He also assures

5.2.19 Test Control (cont'd)

that there are no unresolved conditions adverse to quality for any item within the boundary of the test.

(3) For refueling or other major shutdowns, a total test program is developed including an overall schedule for tests to be performed. The program is based on a review of all MWO's and associated test requirements by the appropriate organizational units.

(4) Test procedure results are submitted to the Test and Performance Engineer for review. The Test and Performance Manager monitors test results to assure that data meet acceptance requirements. |6

The Test and Performance Engineer or his representative monitors the performance of test procedures, as necessary, to assure that the tests are performed in accordance with written procedures. |6

Post-maintenance test results are evaluated by station personnel. When test results are deemed satisfactory, the Senior Watch Supervisor certifies the test results by signing and dating the appropriate sections of the approval sheet. The record copy of the test results and the applicable MWO covered by that test are filed in the central record file. Test results are reported to the Test and Performance Engineer for his evaluation. |6

Nuclear Power prepares and controls operating records in accordance with requirements of the Plant Technical Specifications. These records provide documentation for all operations, test inspections, shutdowns, changes and other pertinent activities associated with daily operations listed in the Plant Technical Specifications. These records are maintained at the site in a manner convenient for review and are retained for five years or longer, as required by applicable codes or regulations.

5.3 Preparation of Instructions and Procedures

The administrative controls and quality assurance program is carried out in accordance with written instructions and procedures. These instructions and procedures are prepared by organizations participating in the program, i.e., Nuclear Power, Engineering, Construction, Purchasing, Nuclear Fuel Supply and Quality Assurance and are reviewed, approved and controlled in accordance with 5.2.15.

5.3 Preparation of Instructions and Procedures (cont'd)

These instructions and procedures describe activities affecting safety at the plant and provide an approved, preplanned method of conducting operations. Procedures are in documents such as general administrative directives, station administrative orders, administrative directives, plant technical procedures, QA procedures, Engineering and Purchasing operating procedures, Construction field directives and corporate instructions. Each instruction and procedure is of a detail appropriate to the circumstance and permits the user to perform the required activity without direct supervision; is appropriately titled, dated, and approved; contains a clear, concise statement of purpose; and, as appropriate, contains in its body the titles and identifying numbers of applicable reference documents; and identifies prerequisite activities, precautions to be taken, limitations to be applied, corrective action to be implemented, step-by-step instructions, acceptance criteria and check-off lists.

Procedures fall into the following general categories:

1. System procedures describing operation related to the safety of the plant.

2. General plant procedures providing instructions for the integrated operation of the plant.

3. Startup procedures which provide for starting the reactor from hot or cold condition and recovery from reactor trips.

4. Shutdown procedures which provide for controlled reactor shutdown or shutdown following reactor trips.

5. Power operation and load changing procedures which provide for steady-state power operation and load changing, including response to unanticipated load changes.

6. Process monitoring procedures which provide for monitoring plant system performance and which, as appropriate, identify limits for significant process parameters.

7. Fuel-handling procedures which provide for such activities as core alterations, refueling, fuel accountability, receipt and shipment of fuel and safety measures.

5.3 Preparation of Instructions and Procedures (cont'd)

8. Maintenance procedures which provide for preparation for maintenance, performance of maintenance, post-maintenance checks and return to service, and maintenance records.

9. Radiation control procedures which provide for implementation of the radiation control program including the acquisition of radiation data, and which identify equipment for performing radiation surveys and for measurement, evaluation and assessment of radiation hazards.

10. Calibration and test procedures which provide for periodic calibration and testing of safety-related instrumentation and control systems and of measuring and test equipment used in activities affecting safety.

11. Chemical-radiochemical control procedures which provide for activities such as sampling and analyses, coolant quality maintenance, control of deleterious agents and for the control, treatment and management of radioactive wastes and the control of radioactive calibration sources.

12. Emergency procedures which provide guidance for operations during potential emergencies in a manner that will allow a trained operator to identify in advance the course of events signalling an emergency as well as describing the action he should take; and for distinguishing, at least initially, between abnormal and emergency conditions; for identifying symptoms of a particular kind of emergency condition; for automatic action; for immediate operator action; for subsequent operator action; and for categories of events of particular kinds of emergencies, such as loss of coolant.

13. Procedures for implementing the emergency plan which provide for assignment of authorities and responsibilities; protective measures; specific action; medical treatment; equipment requirements; identification of emergency communications network; description of alarm signals, restoration of the plant to normal conditions; and for testing of procedures, communications network and alarm system.

14. Test and inspection procedures which provide a description of objectives, acceptance criteria; prerequisite and special conditions, limiting conditions, the test or inspection procedure; specify any special equipment or calibration required; and which, as appropriate, identify hold points.

APPENDIX A

Class A Items

1. Core and Reactor Internals

2. Control Rods and Control Rod Drives and Drive Housings

3. Primary Coolant System

   - Pressurizer System
   - Primary Relief System
   - Reactor Coolant Pump Shaft
   - Reactor Coolant Pump Flywheel
   - Reactor Coolant Pump Seals
   - All pressure boundaries (vessels, pumps, piping and valves) through the second pressure boundary isolation device.

4. Secondary Coolant System

   - Main Steam Lines up to and including the second Main Steam Isolation Valves (MS-2).
   - Main Feedwater System to the Steam Generator downstream of and including the system's second Isolation Valve
   - Boiler Blowdown from the Steam Generators up to and including the system's isolation valves.
   - The Main Steam line to the Auxiliary Feedwater Turbine Drive.
   - Turbine Stop and Control Valves
   - First Stage Turbine Pressure Transmitters
   - Independent Electrical Overspeed Protection System
   - Feedwater Regulator Valves (Main & Low Flow Bypass)
   - Main Boiler Feedwater Pump Motor Operated Discharge Valves (BFD-2-21 & BFD-2-22)
   - Main Steam Traps and Atmospheric Dump Drains and Silencer Drains.
   - Feedwater Leading Edge Flowmeters and associated pressure transmitters (PT-3101 through 3104).

5. Auxiliary Boiler Feedwater System

   Includes:

   - Condensate Storage Tank, supply piping and valves to the Auxiliary Feedwater pumps
   - City water to Auxiliary Feedwater pump up to and including valve CT-49.

6. Chemical and Volume Control System

7. Containment Building

   Includes:

   - o Access Air locks
   - o All piping and electrical penetrations
   - o Internal floors, walls and structural steel

8. Containment Isolation System

9. Containment Spray System

10. Containment Air Recirculation Cooling and Filtration System.

11. Gaseous Waste Processing System

12. Liquid Waste Processing System

13. Nuclear Service Water System

    - o All cooling paths to and from nuclear safety related equipment.

14. Instrument Air System

    - o Compressor and associated equipment and essential air header to nuclear instruments, control and valves.
    - o Closed Cooling Water System

15. Fuel Handling System

16. Reactor Control and Instrumentation System.

17. Reactor Protection/Trip System

18. Sampling System

    - o Including only pressurized lines up to the second Containment Isolation Valve.

19. On-site Emergency A.C. Power System

    Includes:

    - o Electrical components and circuitry up to and including isolation devices for non-emergency loads.
    - o Emergency Diesel Generators and Diesel General Auxiliary Systems. ie: fuel oil, Cooling Water and Startup Air Systems.

(6.9 Kv Buses and Lighting Systems are both Non-Class A)

20. On-site D.C. Power Systems

    Includes:
    - o Electrical components and circuitry up to and including isolation devices for non-emergency loads.
    - o Batteries, battery chargers, D.C. power panels, D.C. distribution panels and associated cabling.

21. Process and Area Radiation Monitoring Systems

22. Containment Penetration and Weld Channel Pressurization System.

23. Hot Penetration Cooling System

24. Isolation Valve Seal Water System

25. Post Accident Hydrogen Control System

    Includes:
    - o Hydrogen Recombiner System
    - o Post accident containment vent system
    - o Containment Building Post Accident Containment Air Sampling System (H_2-O_2 Analyzers)

26. Safety Injection System

    - o High Head Injection for ECCS
    - o Low Head Injection for ECCS
    - o Recirculation and Containment Sumps
    - o Accumulators
    - o External & Internal ECCS Recirculation Systems

27. Residual Heat Removal System

    Includes:
    - o Low head injection for ECCS
    - o External and Internal Recirculation Systems
    - o Recirculation & Containment Sumps

28. Component Cooling System

    Includes:
    - o Auxiliary Component Cooling Pumps and Piping.

29. Refueling Water Storage Tank

30. Spent Fuel Pool Cooling and Make-up System

31. Ventilation/Filtration System for Areas Containing Safety Related Systems and Systems containing Radioactivity.

32. Reactor Vessel Service and Inspection Equipment

    Includes:
    - o Polar Crane
    - o Equipment that is used over the core and that could cause damage to the nuclear fuel assemblies during the time the reactor head is removed.
    - o Reactor Vessel and head inspection tools.

33. Containment Sump System

    Includes:
    - o Sump Pumps
    - o Piping, flow and level Instruments
    - o Level Instrumentation in the reactor cavity sump.

34. Primary Coolant Leak Detection System

35. Nitrogen Supply to Nuclear Equipment

36. Hydrogen Supply to Nuclear Equipment

37. Primary Water Makeup System

38. Supports required for all the above listed items

    Includes:
    - o Structures and Seismic Restraining Devices

39. All Regulating Systems, Controlling Systems and instrumentation use with the above listed items.

    Includes:
    - o Indications used to determine operator action before (normal operation), during and following a postulated accident.

40. All items designed in Design Specification as per ASME Section III, Classes 1, 2 and 3, MC and CS.

41. All equipment performing Category 1 or 2 functions per Regulatory Guide 1.97.

42. Any fuses and circuit breakers which provide protection (limit electrical fault currents) for containment electrical penetrations.

The following consumables are used in conjunction with the items listed above:

43. Diesel Generator Fuel Oil

44. Boric Acid

45. Lubricating Fluids whose loss could degrade critical components

46. Demineralizer Resin

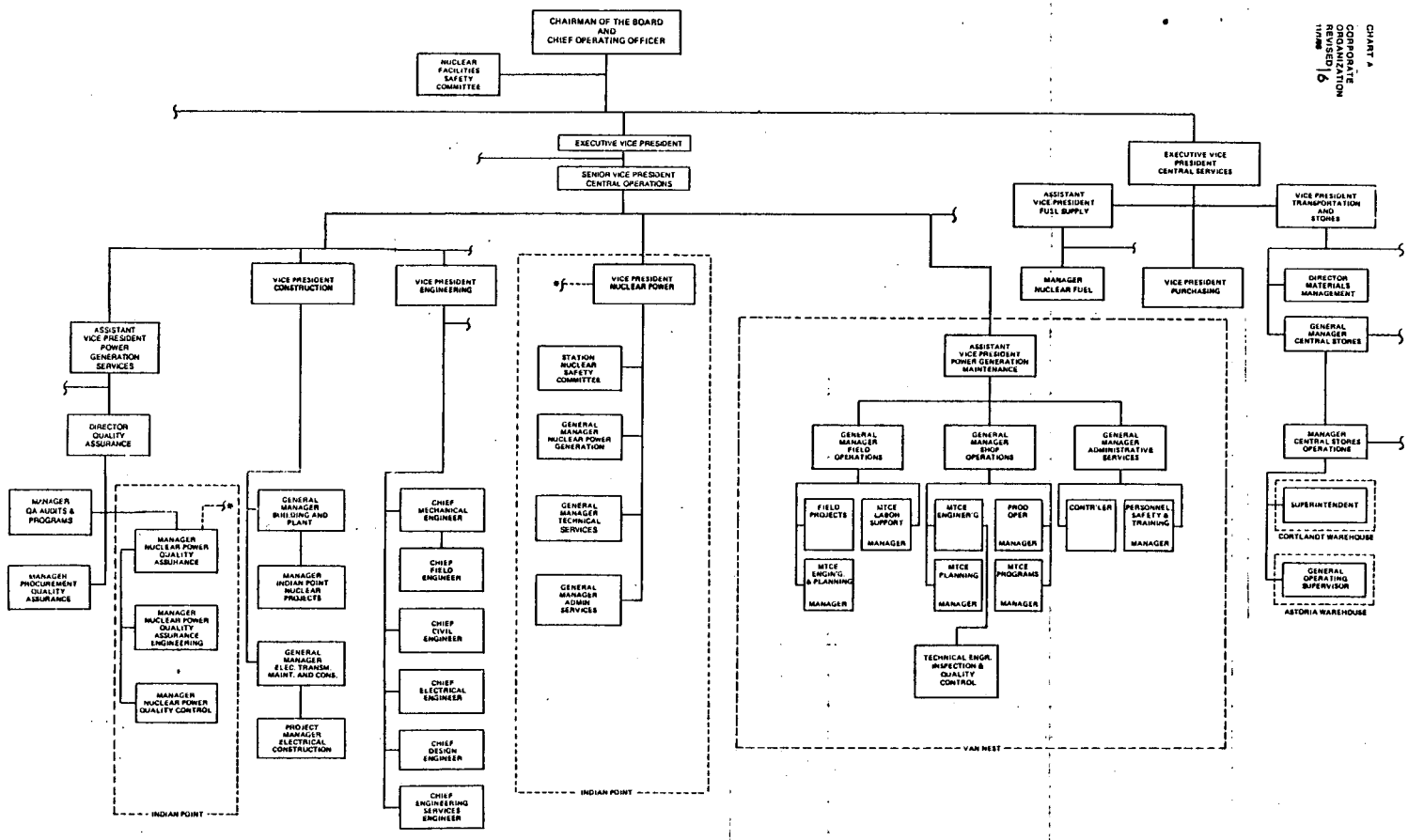
    Includes:
    - o Resins used in the Chemical and Volume Control Systems.

47. Sodium Hydroxide for use in the Containment Spray System.

48. Weld Rod and Weld Filler Material.

49. Hydraulic Snubber Fluids and Seals.

CHART A
CORPORATE ORGANIZATION
REVISED 11/1/88 | 6



*INDICATES THAT MANAGER, NUCLEAR POWER QUALITY ASSURANCE HAS DIRECT COMMUNICATION ACCESS TO VICE PRESIDENT, NUCLEAR POWER

CHART B
NUCLEAR POWER
ORGANIZATION
REVISED 6
11/1/88

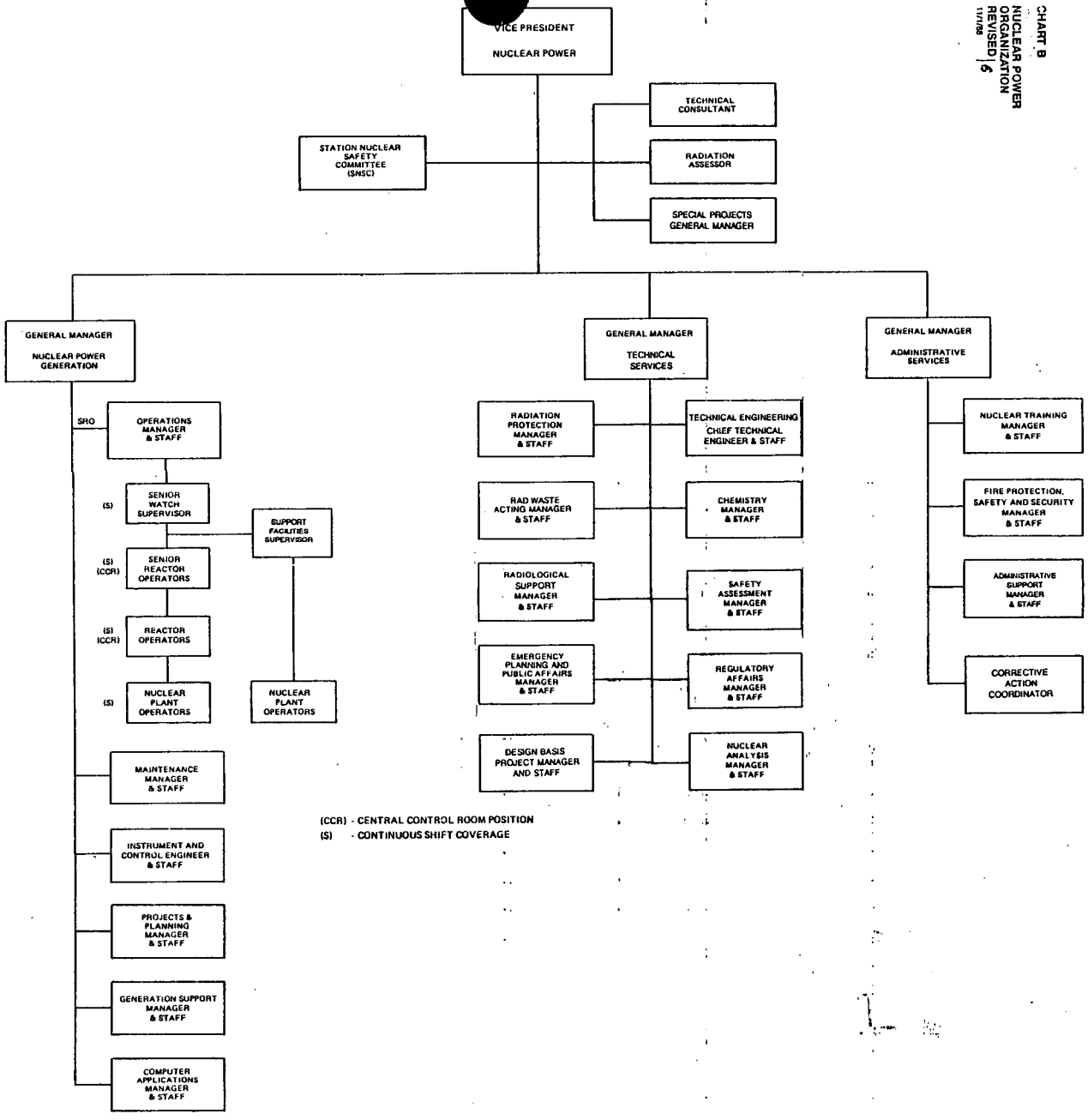


TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
1.	General	Certain Regulatory Guides invoke or imply Regulatory Guides and standards in addition to the standard each primarily endorses. Certain ANSI Standards invoke or imply additional standards.	The Con Edison commitment refers to the Regulatory Guides (and the ANSI Standards they endorse), specifically identified in the "Foreword". Additional Regulatory Guides, other guides and similar documents implied or referenced in those specifically identified in the "Foreword" are not part of this commitment.
2.	General	Certain ANSI Standards extend the scope of applicability to include systems, structures, and components whose satisfactory performance is required for a plant to operate reliably.	Our commitment to these standards applies only to those systems, structures, and components whose satisfactory performance is required to prevent postulated accidents that could cause undue risk to the health and safety of the public; or to mitigate the consequences of such accidents. Reliable operation of the plant may depend upon other systems, structures and components which are not covered by this commitment.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
3.	General	NRC Regulatory Guides, and ANSI Standards do not provide for deviation from any requirement(s) when emergency or other urgent conditions make such deviation necessary.	The majority of ANSI Standards endorsed by the Regulatory Guides to which Con Edison has committed are concerned with the design and/or construction phases of nuclear power plants. Consequently, Con Edison has adapted these standards to its operations phase, where practicable, and has developed provisions for certain conditions not addressed in the standards. In the event of an emergency condition which, if not promptly corrected could likely affect the health and safety of the public, the Vice President, Nuclear Power or his designated alternate(s) may authorize emergency repairs and deviations from written procedures. The nature of the emergency, its cause and the corrective action taken are documented.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
3 (cont'd)			Waivers to specific procedures may be authorized by the Vice President, Nuclear Power or his designated alternate if necessary to avoid significant loss of unit capacity with due consideration for public health and safety. Such waivers, including the need therefore, are documented. The above provisions assure procedural control for bypassing critical inspections, tests, and operations.
4.	General	Certain ANSI standards contain requirements which, under certain conditions, may conflict with limiting personnel radiation exposure.	The majority of ANSI Standards endorsed by the Regulatory Guides to which Con Edison has committed are concerned with the design and/or construction phases of nuclear power plants. Consequently, Con Edison has adapted these standards to its operations phase, where practicable, and has developed provisions for certain conditions not addressed in the standards. When conformance with particular standards requirements e.g.,

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
4 (cont'd)			cleaning of fluid systems, housekeeping, would conflict with limiting personnel radiation exposure, the degree of conformance to the standards is determined by appropriate levels of management.
5.	General	Various standards require inspections, examinations and tests, but do not specify the frequencies of these activities.	Except in ANSI N45.2.5, the frequencies of required inspections, examinations and tests are not specified in the standards. Accordingly, the frequency of inspections, examinations and tests required by the standards - other than ANSI N45.2.5 - is identified on a job-by-job basis. The amount of inspections, examinations and tests identified is based upon the safety significance of the item involved.
6.	ANSI N18.7 Section 5.2.2	"Temporary changes which clearly do not change the intent of the approved procedure shall, as a minimum, be approved by two members of the plant staff knowledgeable in the areas affected by the procedures."	Temporary changes will be authorized per the provisions of the Administrative Controls Section of the Facility Technical Specifications.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference		Requirement	Interpretation/Alternate/ Exception
7.	ANSI N.18.7 First Sentence of 5.2.7	(a)	"Maintenance or Modification...shall be performed in a manner to ensure quality at least equivalent to that specified in original design bases and requirements, materials specifications, and inspection requirements..."	Requirements (a), (b) and (c), as a whole, require a degree of quality for replacement items consistent with their function. Our program allows this degree of quality to be more or less stringent than the original, provided the specified quality requirements are reviewed and approved by Engineering prior to use.
	First Sentence of 5.2.7.1	(b)	"A maintenance program shall be developed to maintain safety related structures, systems and components at the quality required for them to perform their intended functions."	
	ANSI N18.7 Para (1) of 5.2.13	(c)	"Purchased to specifications and codes equivalent to those specified for the original equipment, or those specified by a properly reviewed and approved revision."	

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
8.	ANSI N18.7 Section 5.2.14	General requirements for nonconforming items	Paragraph 5.2.14 applies to programmatic as well as to specific provisions of ANSI N18.7 and its associated references. Consistent with paragraph 5.2.14, our quality assurance program will contain provisions for controlled, documented waivers to its requirements.
9.	ANSI N18.7 Section 5.2.13.1	Requires certain provisions in procurement documents.	Per 5.2.13 procurement document contents for replacement items will be based primarily on original procurement document contents. The provisions of 5.2.13.1 will be included if required by original procurement document or warranted by performance of the item. Procurement document content for new items will meet the requirements of 5.2.13.1. When requirements of ANSI standards are included in procurement documents, the requirements may not be identified as excerpts from ANSI standards. Procurement documents are developed and reviewed in accordance with paragraph 5.2.13 of the Q.A. Program description.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
10.	ANSI N18.7 Section 5.2.13.1, (2)	"... drawings, specification and industrial codes and standards... shall be identified by titles and dates of issue..."	Drawings are identified by drawing number, revision number, and title.
11.	ANSI N18.7 Section 5.2.13.1 1st Para.	Where changes are made to procurement documents, they shall be subject to the same degree of control as was used in the preparation of the original documents.	Consistent with the requirements of ANSI N45.2.11, paragraph 7.2, minor changes to (procurement) documents, such as, inconsequential editorial corrections, or changes to commerical terms and conditions may not require that the revised (procurement) document receive the same review and approval as the original documents.
12.	ANSI N18.7 Section 5.2.17	"Inspection shall be performed by qualified individuals other than those who performed or directly supervised the activity being inspected."	Examinations, checks, and inspections of work at Indian Point Station are normally accomplished and documented by Supervisors responsible for the work. Where independent examinations, checks, and inspections are determined appropriate, personnel who do not perform the work and do not directly supervise the

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
12 (cont'd)			work are utilized. These independent examinations, checks, and inspections are comparable in extent to corresponding construction phase activities.
13.	ANSI N18.7 Section 5.2.17 Last Paragraph, next to last sentence	Deviations, their cause, and any corrective action completed or planned shall be documented.	Consistent with the documentation requirements of Criterion XVI, Appendix "B" to 10 CFR 50, for corrective action, significant deviations, their cause and any corrective action completed or planned are documented. Results of inspections used to accept or reject items shall be documented in all cases.
14.	ANSI N18.7 Section 6 References	"When the preceding American National Standards referred to in this document are superseded by a revision approved by the American National Standards Institute, Inc., the revision shall apply."	Our commitment to ANSI standards does not extend beyond the standards (date, revision, etc.) identified in that commitment.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
15.	ANSI N18.7 ANSI N45.2 ANSI N45.2.2 ANSI N45.2.13	General and specific procurement requirements.	Alternate methods to those specified in these standards may be used in special cases to support procurement of items; e.g. those items urgently needed, items where commercial quality is sufficient or sole source items. In these cases, prior to procurement, exceptions to the standard requirements will be documented and concurred in by Engineering, NP and QA&R.
16.	ANSI N45.2.2 Section 2.1	"The specific items to be governed by this standard shall be identified."	Items governed by this standard or portions thereof are identified on a case-by-case basis during the design document and procurement document development processes.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
17.	ANSI N45.2.2 Section 2.7	Each of the specific items governed by this standard shall be classified into one of four levels.	All safety-related items are protected to an extent commensurate with their sensitivity and importance to safety, but are not specifically classified in various levels per the guidance of paragraph 2.7. Therefore, satisfaction of requirements for packaging, shipping, receiving, storage and handling for particular items could be different than those suggested.
18.	ANSI N45.2.2 Subsection 3.9	General marking requirements.	Some items are of a size, shape or consistency which preclude marking. Marking in such cases is applied to box or other enclosure. Tagging is employed, where necessary.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
19.	ANSI N45.2.2 Subsection 5.2.1	"Preliminary visual inspection or examination shall be performed prior to unloading..."	Inspection after unloading is sufficient to determine the condition of many items. In special instances, pre-unloading examination is performed.
20.	ANSI N45.2.2 Section 5.2.2	The (receiving) inspections shall be performed in an area equivalent to the level of storage requirement for the item.	Receiving inspection is performed in a manner and in an environment which does not endanger the requisite quality of an item; however, receiving inspection area environmental controls may be less stringent than storage environmental requirements for that item.
21.	ANSI N45.2.2 Paragraph 5.2.3	..."The 'Special Inspection' procedure, complete with documentation instructions shall be attached to the item or container..."	The "Special Inspection" procedure shall be readily available to inspection personnel and may be attached to the item or container.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
22.	ANSI N45.2.2 Paragraph 5.3.3	"A statement documenting the authority and technical justification for the conditional release... shall be prepared..."	A statement documenting the authority and justification for the conditional release is prepared. Justification may not always be of a technical nature.
23.	ANSI N45.2.2 Subsection 6.2.4	The use or storage of food, drinks and salt tablet dispensers in any storage area is prohibited.	People working in storage areas have a right of access to water dispensers per OSHA requirements. Additionally, due to location and layout of the building, personnel temporarily store lunches in the workplace. This area is regularly policed for sanitation.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
24.	ANSI N45.2.2 Appendix (A-3) A.3.9 (1) Second Group	"Container markings shall appear on a minimum of two sides of the container, preferably on one side and one end."	Containers are adequately marked for storage, identification and retrieval. Multiple marking requirements are imposed, where necessary.
25.	ANSI N45.2.2 Appendix (A-3) A.3.9 (4) Second Group	"Container markings shall be... no less than 3/4" high container permitting."	Container markings are of a size which permits easy recognition.
26.	ANSI N45.2.2 Appendix (A-3) A.3.9 (6)	"Container marking shall include the following information: ..."	The information required in container marking is evaluated on a case-by-case basis. Marking is adequate in each case.
27.	ANSI N45.2.2 Appendix (A-3) Section A 3.5.1 (1)	"Non-metallic plugs and caps shall be brightly colored."	Non-metal plugs and caps are of a suitably visible color.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
28.	ANSI N45.2.2 Appendix (A-3) Section A 3.5.1 (5)	Plugs or caps shall be secured with tape or other means as necessary to prevent accidential removal.	In cases where plugs or caps do not snugly fit, additional securing devices or measures will be used.
29.	ANSI N45.2.3	Identifies various house-keeping requirements, including cleanliness, fire prevention and fire protection which must be accomplished during the progress of construction.	When this standard is applied, its requirements are implemented in those areas affected by work activities associated with modifications or maintenance as determined necessary by Engineering or QA&R. Remaining provisions of para. 5.2.10 of 18.7 will be adhered to.
30.	ANSI N45.2.4 Section 3.0	Pre-construction verification.	This section requires verification that items are in satisfactory condition for installation and have not suffered since initial receipt inspection. Documentation of that verification in addition to the documentation of the initial receipt inspection is not required.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
31.	ANSI N45.2.4 Section 5.2	Identifies various tests to be performed.	Consistent with section 5.2 of IEEE 336, Draft 1, Revision 2, 1976, these tests will be performed "as appropriate" as determined by Engineering or Nuclear Power.
32.	ANSI N45.2.4 Subsection 5.2.2 Mechanical Tests	"Mechanical tests shall be performed to ascertain that... components or systems can withstand system pressure ratings".	For the plant operational phase "system pressure ratings" is interpreted to mean system operating pressure. For the Reactor Coolant System, Facility Technical Specifications identify testing requirements.
33.	ANSI N45.2.4 Subsection 6.2.1	"Items requiring calibration shall be tagged... indicating date of calibration and identity of person..."	Items requiring calibration are tagged indicating date of calibration. Identity of person that performed the calibration shall be indicated on tag or traceable through records.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
34.	ANSI N45.2.5 Section 2.5	Requires periodic calibration of thermometers.	The initial accuracy of liquid-in-glass thermometers is established and, because of their inherent stability, they need not be "adjusted or calibrated at prescribed intervals".
35.	ANSI N45.2.5 Section 2.5.2 Second paragraph	"...when discrepancies... are found all items inspected shall be considered unacceptable."	Consistent with ANSI N18.7, 5.2.16 when devices are found to be out of calibration, an evaluation shall be made and documented concerning the validity of previous tests.
36.	ANSI N45.2.4 Subsection 6.2.2 Systems Tests	"These tests shall be made to verify that all parts of a system properly coordinate with each other."	For the plant operation phase, this requirement is interpreted as not requiring that an entire system be re-tested after completion of modification of only a portion of that system. The testing requirements of the Facility Technical Specifications are for inoperable equipment.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
37.	ANSI N45.2.5 Section 3.3.4	"Inspections shall be performed to ... verify that the process is suitable for the particular application. Verify that manpower, equipment and materials are available..."	Design controls verify qualifications of processes and suitability for particular applications. Verification of availability of manpower equipment, etc. is performed by project management rather than inspection personnel.
38.	ANSI N45.2.5 Section 4.2	This section specifies inspections of storage, handling facilities, stock piles, water, etc.	Quality of materials is verified prior to batching in lieu of these inspections.
39.	ANSI N45.2.5 Section 5.4	Various wrenches require calibration twice daily or weekly.	This requirement will be conformed with in the case of continued use. For intermittent use calibration frequency is based upon usage and calibration intervals may be greater than days or weeks.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
40.	Regulatory Guide 1.58 ANSI N45.2.6	General requirements for inspection, examination and testing personnel.	NDE personnel meet the requirements of ASNT-TC-1A. Other personnel are qualified as discussed in Sections 3.3 and 3.4 of the Program Description.
41.	ANSI N45.2.8 Section 3.2	If checks disclose apparent loss of identification, affirm identification prior to release for installation.	We will check identification of an item prior to release for installation; however, option is maintained to knowledgeably install equipment lacking full identification providing deficiencies are resolved prior to its use; i.e., operation. Such action is recorded in quality control documents.
42.	ANSI N45.2.9 Section 1.1	"This standard provides general requirements... of nuclear power plants".	The requirements of this standard will be applied to records generated after this standard is implemented.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
43.	ANSI N45.2.9 Section 1.4	Definition of Quality Assurance Records.	This definition results in unreasonable requirements regarding time of application of the record system. Con Edison will introduce records into the system as soon as practical after completion of the document.
44.	ANSI N45.2.9 Section 3.2.2	The quality assurance records shall be listed in an index.	The types of quality assurance records shall be listed in an index.
		The index shall indicate, as a minimum, record retention times, where the records are to be stored and the location of the records within the storage area.	In accordance with ANSI N45.2.9, paragraph 3.2.2, the index will indicate the location of the records within the record system.
45.	ANSI N45.2.9 Section 4.2	A specific submittal plan shall be established for quality assurance records by management between the purchaser and supplier.	Purchase orders identify any particular record submittal requirements, as applicable. Acceptance of the purchase order by the supplier constitutes agreement with the purchaser.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
46.	ANSI N45.2.9 Sections 4.3 4.4 and 5.3	"... a receipt control system shall include: 1. A records checklist... 2. A record of... records received. 3. Procedures for receipt and inspection of... records. ... system shall permit ... assessment... status... of records. ... a method for verifying that records received are in agreement ... and are in good condition. ... a method of verifying that the records agree with pre-established records checklist."	We will provide these administrative controls for our Engineering, NP, and Nuclear Power QA record storage area (s) but, where only a small number of non-permanent records are controlled by individual organization(s), these auxiliary administrative controls are unnecessary.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
47.	ANSI N45.2.9 Section 5.4	"Special processed records shall be stored... as recommended by the manufacturer of these materials."	In determining storage requirements, we will take into account recommendations of the manufacturer if available. Normally, these recommendations will be followed; however, a blanket commitment is impracticable as we must retain the flexibility for final determination of storage needs.
48.	ANSI N45.2.9 Section 5.6	"For storage of film... controls shall be provided... as recommended by the manufacturer."	See Above
49.	ANSI N45.2.9 Section 5.5	A full time security system shall be established to preclude the entry of unauthorized personnel into the storage area. This system shall guard against larceny and vandalism.	For the purpose of this commitment "storage area" is interpreted to mean a Con Edison facility which contains records; e.g., the Indian Point site, 4 Irving Place, etc. and "security system" is interpreted to mean security measures.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
50.	ANSI N45.2.9 Section 5.6	Requires a "Facility" or duplicate records.	Non-permanent records need not be duplicated or stored in a "Facility" but are required to be stored per NFPA Class I record provisions.
51.	ANSI N45.2.9 Section 6.2	"Storage system shall provide for the accurate retrieval of information without undue delay."	In accordance with ANSI N45.2.9, paragraph 6.2, the storage system shall provide for the accurate retrieval of information.
52.	Regulatory Guide 1.88	"When NFPA 232-1975 is used, Quality Assurance Records should be classified as NFPA Class I Records".	When a single record storage facility is maintained, permanent (lifetime) records will be afforded fire protection in accordance with NFPA Class I record provisions. Fire protection in accordance with NFPA Class 2 provisions shall be provided for records designated as non-permanent.
53.	ANSI N45.2.9 Section 5.6	"An alternative to... a record storage facility... is...duplicate records stored in a separate remote location."	Our duplicate records may be stored in separate rooms distant from one another but within the same building providing their simultaneous exposure to hazards is unlikely.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
53 (cont'd)			If records are stored in the same building, protection will be provided to assure that simultaneous exposure to hazards is unlikely.
54.	ANSI N45.2.9 Section 6.2	A list shall be generated designating those personnel who shall have access to the files.	Lock and key controls, duplication of records in separate locations and other security measures could obviate the need for access lists. In cases where access lists are utilized, they are not required in all cases to identify specific individuals.
55.	ANSI N45.2.9 Section 7.2	"Upon final transfer the owner shall... acknowledge receipt..."	Except for special cases as agreed to by Con Edison and the vendor, acknowledgment of receipt of vendor Q.A. records is unnecessary.
56.	ANSI N45.2.9 Appendix A	Applicable Codes and Standards used in Design.	Codes and standards used in design are not considered "records" to be stored and controlled per the requirements of N45.2.9. They will be stored and controlled in accordance with normal library practices.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
57.	ANSI N45.2.10	"Quality Assurance Terms and Definitions."	Where terms defined in ANSI N45.2.10 are also defined in other standards to which Con Edison has referred via commitments to Regulatory Guides in the "Foreword" of the program description, the definitions in those other standards shall apply.
58.	ANSI N45.2.10	Definitions of "Certificate of Conformance" and "Certificate of Compliance".	Based upon the guidance of ANSI N45.2.13, 10.2, the definitions of these two terms will be exchanged.
59.	ANSI N45.2.10	Definition of "Modification".	Modification - A change to an item's configuration, material(s) or function(s) such that the item does not conform to previously approved design documents.
60.	ANSI N45.2.11 Section 2.2	Program procedures shall cover making experience reports available to cognizant design personnel.	A variety of experience reports from number of sources are made available to design personnel without benefit of written procedures.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
61.	ANSI N45.2.11 Section 2.2	"Program procedures shall cover necessary training of personnel performing activities covered by this standard."	Procedures describing technical training are unnecessary. However, our program includes procedures for programmatic training of Engineers.
62.	ANSI N45.2.11 Section 6.3	"The results of the review shall be documented... a number of basic questions that shall be addressed..."	Con Edison documents completion of the design verification activity, but does not necessarily document that each of the questions listed has been considered in the verification process. The subjects required to be considered during design review are identified in procedures.
63.	ANSI N45.2.13 Section 5.2	Specifies subjects to be evaluated during bid evaluation.	Except in special cases items d., e., and f. may be evaluated prior to submittal to bids.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
64.	ANSI N45.2.11 Section 3.1	"Changes from specified design inputs including the reason for the changes shall be identified, approved, documented and controlled."	Changes from specified design inputs and quality standards are identified, approved, documented and controlled. The reasons for the changes need not be documented.
	Section 4.2	"Changes from specified quality standards including reasons for the changes shall be identified, approved, documented and controlled.	
65.	ANSI N101.4	Identifies numerous detailed, specific requirements that must be accomplished in the course of procuring, applying and inspecting protective coatings.	When N101.4 is applied, new quality requirements will be developed based on its provisions, but specific requirements, such as documented site meetings, field demonstrations, substrate priming, applicator reporting, inspection reporting and report forms will be considered on a job-by-job basis.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
66.	Regulatory Guide 1.37 Section C.4	Prohibits chemical compounds that contain chlorides, fluorides, lead, zinc, copper, sulphur or mercury.	Use of cleaning agents containing only trace amounts of these compounds is acceptable.
67.	Regulatory Guide 1.64 Section C.2	Restriction on design verification.	Considering the various duties of a supervisor, both administrative and technical, universal prohibition of design verification by the originator's supervisor is inappropriate. Design verification is performed by an individual(s) other than the originator if that individual(s) did not specify a singular design approach, rule out certain design considerations or establish the design inputs for the particular design aspect being verified.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
68.	ANSI N45.2.12	Requirements for Auditing of Quality Assurance Programs for Nuclear Power Plants.	This standard is primarily applicable to audits conducted of utilities' QA programs by internal auditing organizations. Some of its provisions are impractical and unnecessary to apply when conducting vendor surveillance and vendor evaluations and in these cases all of provisions of this standard will not apply.
69.	ANSI N45.2.13 Section 4.2a	"Information which shall be evaluated shall include 1) Experience of users of identical or similar products of the prospective supplier."	"Experience of users" is interpreted to mean Con Edison or other utility experience at conventional plants and nuclear plants.
70.	ANSI N45.2.13 Section 10.2	General requirements for Certificate of Conformance.	Vendor certifications that do not necessarily contain all of the requirements of section 10.2 may also be used as a basis for receiving inspection.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
71.	ANSI N45.2.13 Section 10.2d	"The certificate shall be attested to by a person who is responsible for this quality assurance function and whose function and position are described in the Purchaser's or Supplier's quality assurance program".	Certificates may be signed at times by company president, staff personnel, or Engineering and not necessarily persons directly responsible for the quality assurance function as described in the supplier's quality assurance program.
72.	ANSI N45.2.13 Section 10.2e	"The certification system, including the procedures to be followed in filling out a certificate and the administrative procedures for review and approval of the certificates shall be described in Purchaser's or supplier's quality assurance program".	The vendors overall quality assurance program is reviewed during the vendor evaluation activity. Specific procedures related to the details of the certification system, if applicable, may not necessarily be reviewed.
73.	ANSI N45.2.13 Section 10.2f	"Means shall be provided to verify the validity of suppliers certificates".	Verification of validity of suppliers certificates is conducted if past quality performance indicates the need for such verification.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
74.	ANSI N45.2.23 1.4.3	An audit is a documented activity performed in accordance with written procedures or checklists to verify, by examination, that applicable elements of the quality assurance program have been developed, documented, and effectively implemented in accordance with specified requirements. An audit should not be confused with surveillance or inspection for the sole purpose of process control or product acceptance.	The requirements of ANSI 45.2.23 apply to personnel who perform audits involving QA Program elements. They do not apply to personnel who perform audits involving compliance with Technical Specifications in areas such as Auxiliary Electrical Systems, Steam & Power Conversion and Containment Integrated Leak Testing etc., nor to personnel who perform vendor evaluations or surveillance.
75.	ANSI N45.2.23 2.3.1.1	"...in addition score one (1) credit for a masters degree in engineering, physical sciences, business management, or quality assurance from an accredited institution."	Also score one(1) credit for a Masters Degree in mathematics.
76.	ANSI N45.2.23 2.3.1.2	"...if two(2) or more years of this experience have been in quality assurance, score two(2) additional credits, or..."	Also score two(2) additional credits for two(2) or more years reliability experience.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
76 (cont'd)		"...If two(2) or more years of this experience have been in nuclear quality assurance, score three(3) additional credits, or..."	Also score three(3) additional credits for two(2) or more years nuclear reliability experience.
77.	ANSI N45.2.23 2.3.1.3	"...Certification of competency in engineering, science, or quality assurance specialties issued and approved by a State Agency, or National Professional or Technical Society, score (2) credits."	Also score two(2) credits for ASQ certification as a Reliability Engineer.
78.	ANSI N45.2.23 2.3.2	"...The prospective Lead Auditors shall have the capability to communicate effectively, both written and oral. These skills shall be attested to in writing by the Lead Auditor's employer."	Separate attestment regarding communications skill shall not be made. Designation as Lead Auditor shall constitute indication of adequate communication skill.
79.	ANSI N45.2.23 2.3.3	"...Prospective Lead Auditors shall have training to the extent necessary to assure their competence in auditing skills.	Previous on-the-job training at prior companies, organizations or Con Edison shall constitute credit towards Lead Auditor designation. Contractor

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
79 (Cont'd)			personnel used as Lead Auditors shall be certified by their employers whose training program shall have been reviewed and found satisfactory by Con Edison.
80.	ANSI N45.2.23 2.3.4	"The prospective Lead Auditor shall have participated in a minimum of five(5) quality assurance audits within a period of time not to exceed three(3) years prior to the date of qualification, one audit of which shall be a nuclear quality assurance audit within the year prior to his qualification."	Participation in vendor QA program evaluations, vendor surveillance, site QA/QC monitoring or ASME "N" stamp nuclear surveys, shall constitute credit towards meeting this requirement.
81.	ANSI N45.2.23 2.3.5	"...The prospective Lead Auditor shall pass an examination which shall evaluate his comprehension of and ability to apply the body of knowledge identified in paragraph 2.3.3.	Audit management may waive the requirements of ANSI N45.2.23, paragraph 2.3.4 and 2.3.5 requiring participation in audits and examination, when the individual has demonstrated, by past experience and/or knowledge, an obvious capability to conduct audits.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
82.	ANSI N45.2.23 3.2	"Lead Auditors shall maintain their proficiency through one or more of the following: regular and active participation in the audit process; review and study of codes, standards procedures, instructions, and other documents related to quality assurance programs and program auditing; participation in training programs. Based on management annual assessment, management may extend the qualification, required training, or require requalification. These evaluations shall be documented."	Participation in vendor QA Program evaluations, vendor surveillance, site QA/QC monitoring, or ASME "N" stamp nuclear surveys, shall constitute credit towards maintenance of proficiency. Documented annual assessment of auditors is not required for personnel whose ongoing responsibilities include auditing, vendor evaluation, vendor surveillance, site QA/QC monitoring, or ASME nuclear surveys.
83.	ANSI N45.2.23 3.3	"Lead Auditors who fail to maintain their proficiency for a period of two years or more shall require requalification. Requalification shall include retraining in accordance with the requirements of paragraph 2.3.3, reexamination in accordance with paragraph 2.3.5, and participation as an Auditor in at least one nuclear quality assurance audit."	Management shall determine the basis for requalification on a case-by-case basis, and may elect to waive retraining, reexamination and audit participation based upon a review of the individual's knowledge capability prior performance and recent experience.

TABLE B

Item No.	Reg. Guide/ANSI Std. Ref.	Guideline	Interpretation/Alternate
	ANSI N45.2.1, 1973 "Cleaning of Fluid Systems..."		
1.	Subsection 3.1.1	"Such items should receive their required level of cleanliness..."	This "should" is beyond the scope of this standard as indicated by the last sentence on the page.
2.	Subsection 3.1.2.1	Under "NOTE", "Localized rusting...should be evaluated metallurgically."	Laboratory type tests on localized rusting will be conducted when the need for such tests is determined by Engineering or QA.
3.	Section 5	The fourth "should" requires fabrication of a complete unit where inspection can be blocked. The fifth "should" requires inspection of the completed unit immediately prior to closing access points.	The special fabrication and inspection requirements will be complied with as required by Engineering or QA.

TABLE B

Item No.	Reg. Guide/ANSI Std. Ref.	Guideline	Interpretation/Alternate
	ANSI N45.2.1, 1973 "Cleaning of Fluid Systems..." (cont'd)		
4.	Section 5 (cont'd)	The sixth "should" requires cleaning of surfaces before proceding to the next installation or construction step.	The degree of surface cleanliness and the frequency of cleaning will be as determined by Engineering or QA.
5.	Section 5	The seventh "should" prohibits the use of mineral or organic acids on stainless steel.	Organic acids will be used only as permitted by Engineering. After their use, however, all residual traces of the acid will be removed.
6.	Section 5	The eighth "should" requires removal of local rusting from corrosion-resistant alloys by mechanical means.	When the need for removal of rust is determined, it shall be removed by mechanical means.
7.	Section 6	The second "should" requires personnel entering the system to wear clean outer clothing and shoe covers.	We interpret system to mean the primary coolant system.

TABLE B

Item No.	Reg. Guide/ANSI Std. Ref.	Guideline	Interpretation/Alternate
	ANSI N45.2.1, 1973 "Cleaning of Fluid Systems..." (cont'd)		
8.	Subsection 7.1	The first "should" requires attachment of loose tools "to either the workman or the exterior of the system with a lanyard."	Loose tools will be controlled as specified by procedure or by QA&R. Precautionary measures such as barriers between work areas, and tool check-in and check-out controls may obviate the need for attachment.
9.	Subsection 7.2.2	The first "should" specifies a method for determining the effectiveness of alkaline cleaning.	When alkaline cleaning is performed, it will be accomplished in accordance with the requirements of Engineering.
10.	Subsection 7.2.2 (cont'd)	The second "should" requires flushing of pockets and dead legs. The third "should" requires that attention be given to removal of solution. The fourth "should" requires system to be sealed.	When alkaline cleaning is performed, it will be accomplished in accordance with the requirements of Engineering.

TABLE B

Item No.	Reg. Guide/ANSI Std. Ref.	Guideline	Interpretation/Alternate
	ANSI N45.2.1, 1973 "Cleaning of Fluid Systems..." (cont'd)		
11.	Subsection 7.2.3	The first "should" requires flushing to removal chelating agents. The second "should" requires flushing of pockets and deadlegs. The third "should" requires that attention be given to removal of solution. The fourth "should" requires system to be sealed.	When chelate cleaning is performed, it will be accomplished in accordance with the requirements of Engineering.
	ANSI N45.2.2, 1972 "...Packaging, Shipping, Receiving, Storage, and Handling..."		
12.	Subsection 4.3.6	Requires location and stacking limits to be specified on crates and boxes.	Consistent with the provisions of ANSI N45.2.2, 1972 Appendix "A", A.3.9.6 (e), such requirements will be specified, "as appropriate."

TABLE B

Item No.	Reg. Guide/ANSI Std. Ref.	Guideline	Interpretation/Alternate
	ANSI N45.2.2, 1972 "...Packaging, Shipping, Receiving, Storage, and Handling..." (cont'd)		
13.	Appendix A, A.3.5.2, (1), (a)	Limits halogen and sulphur content of tape.	Engineering may allow the use of tapes containing greater amounts of halogen after appropriate evaluation.
	ANSI N45.2.9, 1974 "...Records..."		
14.	Subsection 3.2.2	The second "should" requires compatability between the organization's system and the owner's system.	Special compatability requirements of organization's records index system will be identified, where necessary, in procurement documents.
15.	Subsection 5.6	The first "should" requires that records shall be protected by NFPA, Class A, four hour minimum rated facility.	See Table A, Page A-22, #52.

TABLE B

Item No.	Reg. Guide/ANSI Std. Ref.	Guideline	Interpretation/Alternate
	ANSI N45.2.9, 1974 "...Records..." (cont'd)		
16.	Subsection 7.3	Requires that non-permanent records be retained for the time specified in Appendix A.	Procedures will identify retention times of nonpermanent records.
17.	Regulatory Guide 1.58, Revision 1, 9/80 "...Examination and Testing Personnel"	Endorses the recommendations and requirements of ANSI N45.2.6, 1978.	See Table A, Page A-18, #40. |6
18.	ANSI N45.2.5, 1974 "...Concrete...Structural Steel..."	The requalification procedure for cadweld splices should be identical to the original qualification procedure.	The content of the requalification procedure shall be determined by Engineering.

ATTACHMENT II

Summary of Changes

Consolidated Edison Company of New York, Inc.
Indian Point Unit No. 2
Docket No. 50-247
November 30, 1988

RTW3:JW-55

ATTACHMENT II

Following is a summary of the changes to Revision 5 of the Quality Assurance Program description and reflected in Revision - 6, dated November 30, 1988 (Attachment I).

o To increase efficiency, Environmental Health & Safety and Technical Support have been combined in a single organization, Technical Services, under one General Manager. This has resulted in no change in function.	Corporate Organization Charts A & B, Pages 3, 26.
o Editorial change to reflect that majority of NFSC members are independent of Nuclear Power, and that independence, not location, is the significant factor.	Page 3
o The title Chief Plant Engineer has been changed to Chief Technical Engineer. This has resulted in no change in job function.	Corporate Organization Chart B.
o The Test and Performance Manager formerly reported directly to the General Manager Technical Support. This position was shown in a box on the organization chart reporting directly to the General Manager Technical Support. To increase efficiency this title has been changed to the Test and Performance Engineer reporting to the Chief Technical Engineer. This has resulted in no change in job function.	Corporate Organization Chart B, Pages 16, 18, 19, 23, 28, 40, 43, 44.
o The Reactor Engineer formerly reported directly to the General Manager Technical Support. This position was shown in a box on the organization chart reporting directly to the General Manager Technical Support. To insure efficiency this position now reports to the Nuclear Analysis Manager. This has resulted in no change in job function.	Corporate Organization Chart B.

o The title of Radiological Engineering Manager has been changed to Radiological Support Manager. This has resulted in no change in job function.	Corporate Organization Chart B.
o For increased effectiveness QA Engineering & Program Development and QA Auditing have been combined under one Manager. This new group is called QA Audits and Programs.	Corporate Organization Chart A.
o Editorial change to reflect current conditions. Our current commitment to Regulatory Guide 1.58, Revision 1, dated September 1980 is indicated in the Foreword on page (i).	Table B, Page B-6, Item No. 17.
o The title of Systems & Procedures Manager has been changed to Special Projects General Manager. This has resulted in no change in job function.	Corporate Organization, Chart B.

Note: Excluded from the above list are minor editorial and grammatical changes which have no effect on the Quality Assurance Program.

QUALITY ASSURANCE PROGRAM

This Quality Assurance Program description generally follows the format of ANSI N18.7, 1976 including the sequential identification of its sections, except that sections 1. "Scope" and 2. "Definition" are not included. Consequently, this description begins with section 3.0.

TABLE OF CONTENTS

SECTION		PAGE NO.
	Foreword	i
3.0	OWNER ORGANIZATION	1
	3.1 General	1
	3.2 Assignment of Authority and Responsibility	2
	3.3 Indoctrination and Training	5
	3.4 Onsite Operating Organization	6
4.0	REVIEWS AND AUDITS	8
	4.1 Audit Program	10
5.0	PROGRAM, POLICIES AND PROCEDURES	12
	5.1 Program Description	12
	5.2 Rules of Practice	13
	5.2.1 Responsibilities and Authorities of Operating Personnel	13
	5.2.2 Procedure Adherence	14
	5.2.3 Operating Orders	14
	5.2.4 Special Orders	15
	5.2.5 Temporary Procedures	15
	5.2.6 Equipment Control	16
	5.2.7 Maintenance and Modifications	17
	5.2.8 Surveillance Testing and Inspection Schedule	23
	5.2.9 Plant Security and Visitor Control	24
	5.2.10 Housekeeping and Cleanliness Control	25
	5.2.11 Corrective Actions	26
	5.2.12 Plant Records Management	27
	5.2.13 Procurement and Materials Control	28
	5.2.14 Nonconforming Items	36
	5.2.15 Review, Approval, and Control of Procedures	37
	5.2.16 Control of Measuring and Test Equipment	39
	5.2.17 Inspections	40
	5.2.18 Control of Special Processes	41
	5.2.19 Test Control	42
	5.3 Preparation of Instructions and Procedures	44
	APPENDIX A Class "A" Items	
	CHART A Corporate Organization	
	CHART B Nuclear Power Organization	
	TABLE A Interpretations/Alternates/Exceptions	
	TABLE B Interpretations/Alternates	

FOREWORD

The following quality assurance program conforms to the requirements of 10CFR50, Appendix B. Additionally, Con Edison commits to having a Quality Assurance Program complying with the Regulatory Position in the following Regulatory Guides as modified by Tables A and Table B.

NRC Regulatory Guides

1.8	"Personnel Selection and Training," Revision 1, September, 1975
1.29	"Seismic Design Classifications", Revision 3, September, 1978
1.30	"Quality Assurance Requirements for the Installation, Inspection and Testing of Instrumentation and Electrical Equipment," August 11, 1972
1.33	"Quality Assurance Program Requirements (Operation)," Revision 2, February, 1978
1.37	"Quality Assurance Requirements for Cleaning Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants," March 16, 1973
1.38	"Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage and Handling of Items for Water-Cooled Nuclear Power Plants," Revision 2, May, 1977
1.39	"Housekeeping Requirements for Water-Cooled Nuclear Power Plants," Revision 2, September, 1977
1.54	"Quality Assurance Requirements for Protective Coatings Applied to Water-Cooled Nuclear Power Plants," June, 1973
1.58	"Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel," Revision 1, September 1980

NRC Regulatory Guides (cont'd)

1.64	"Quality Assurance Requirements for the Design of Nuclear Power Plants," Revision 2, June 1976
1.74	"Quality Assurance Terms and Definitions," February, 1974
1.88	"Collection, Storage and Maintenance of Nuclear Power Plant Quality Assurance Records," Revision 2, October, 1976
1.94	"Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel during the Construction Phase of Nuclear Power Plants," Revision 1, April 1976
1.116	"Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems," Revision 0-R, June, 1976
1.123	"Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants," Revision 1, July, 1977
1.144	"Auditing of Quality Assurance Programs for Nuclear Power Plants," January, 1979
1.146	"Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants," August, 1980

Many ANSI standards endorsed by these Regulatory Guides give Quality Assurance programmatic control for the design and/or construction phases of nuclear power plants. Accordingly, Con Edison has, where practicable, adapted these standards' requirements and guidelines to the operations phase of its nuclear power plants and has developed provisions for certain operations phase conditions not addressed in these standards.

Where any discrepancies exist between this program description and the requirements and guidelines of the above Regulatory Guides, the requirements and guidelines of the ANSI Standards and associated Regulatory Guides shall prevail as modified by Table A and Table B.

QUALITY ASSURANCE PROGRAM

3.0 Owner Organization

3.1 General

Con Edison owns nuclear units Indian Point No. 1 and No. 2. Unit No. 2 is in operation. This program of administrative controls and quality assurance applies to the operation of Indian Point Unit No. 2, including those activities conducted on the Unit No. 1 site that are necessary to support Unit No. 2 operation. This program is in effect at all times to assure that operational phase activities are carried out without undue risk to the health and safety of the public.

This program is documented through corporate instructions and administrative procedures developed by participating organizations and provides control of activities affecting the quality of structures, systems, and components of the nuclear plants and their operation consistent with their importance to safety.

The determination of which systems, structures and components affect safety is in accordance with 10 CFR 50 Appendix B and includes those

- which comprise or are necessary to ensure the integrity of the reactor coolant pressure boundary
- which ensure the capability to shutdown the reactor and maintain it in a safe shutdown condition
- whose failure could result in conservatively calculated offsite doses that exceed 0.5 Rem to the whole body or its equivalent to any part of the body.

and structures whose failure could reduce the functioning of plant features within the above categories to an unacceptable safety level.

These structures, systems, and components are those that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public and are designated as Con Edison Class "A". Activities affecting quality are documented within a document control system which assures that instructions, procedures and drawings are reviewed and approved for release by authorized individuals.

3.1 General (cont'd)

Included in "Class A" is the environmentally qualified (EQ) equipment on the EQ Master List which identifies those particular items that are located in a harsh environment and are in compliance with 10 CFR 50.49, the DOR Guidelines and/or NUREG-0588.

This list is maintained as a controlled document by the Manager, Regulatory Affairs and is distributed to Nuclear Power, Central Engineering, Quality Assurance and other affected organizations as changes are made. |5

3.2 Assignment of Authority & Responsibility

The Chairman and Chief Executive Officer of Con Edison has directed that all personnel involved in activities associated with the safety of the nuclear power plants participate in the quality assurance program.

Lines of authority, responsibility, and communication among the organizations participating in this program are shown in Charts A and B. Chart A depicts the corporate organization and Chart B the on-site organization. These relationships, departmental responsibilities and key personnel job descriptions are documented and updated as appropriate.

The major organizations or groups participating in this program are Nuclear Power, Engineering, Construction, Purchasing, Central Stores, Nuclear Fuel Supply, Quality Assurance and the Nuclear Facilities Safety Committee. |5
Changes to the QA program, which are described in a corporate instruction, may be initiated by any of these organizations. QA coordinates overall development of |5
this instruction and obtains concurrences of the organization(s) affected by the changes. The approval of the Senior Vice President, Central Operations is required |5
for all changes to this corporate instruction.

Procedural controls provide for "waiving" of tests, inspections and operations previously specified by Engineering, QA or NP. These procedural controls pro- |5
vide authority to personnel or organizations that originally specified the test, inspection or operation to reevaluate their necessity and, where appropriate, to authorize a waiver.

In case of an emergency or a similar situation, procedural controls provide for possible waivers to inspections, tests or operational requirements. These conditions and

3.2 Assignment of Authority & Responsibility (cont'd)

controls, discussed further in item 3 of Table A, require documented authorization by the Vice President, Nuclear Power or his designated alternate.

Provisions in the QA program also provide for development of procedures for unique situations which differ from specified programmatic controls with the approval of the Senior Vice President, Central Operations. |5

Disputes involving quality arising from a difference of opinion between QA/QC personnel and other departments' personnel are resolved by the direct management of the personnel involved or, where necessary, by a higher level of management. The corporate QA organization, including Nuclear Power QA, by virtue of its independence within the corporate structure, can assure that significant quality disputes receive appropriate resolution satisfactory to the QA organization. |5

The duties and responsibilities of the participants are described in Position Guides, procedures or manuals. These duties and responsibilities are designed to assure that the attainment of program objectives is verified by qualified personnel who do not perform or directly supervise the work.

The Vice President, Nuclear Power and, reporting to him, the General Manager Nuclear Power Generation, the General Manager Environmental Health and Safety, the General Manager Technical Support and the General Manager Administrative Services are responsible for the day-to-day operation, safety, security and maintenance at the plant.

The Manager, Nuclear Power Quality Assurance is a personal representative of the Director, Quality Assurance and oversees the quality assurance activities at Indian Point. He has two managers reporting to him, Manager, Nuclear Power Quality Engineering and Manager, Nuclear Power Quality Control. He reports to the Director, Quality Assurance and has direct communication access to the Vice President, Nuclear Power. The Manager, Nuclear Power Quality Assurance is responsible for the indoctrination and training of personnel reporting to him. |5 |5

The Nuclear Facilities Safety Committee (NFSC) is essentially an off-site group responsible for advising the President of the Company regarding plant safety. The organization and duties of this Committee are described in a charter and in the Plant Technical Specifications and approved by the President of the Company.

3.2 Assignment of Authority & Responsibility (cont'd)

The NFSC is kept fully informed by Nuclear Power management personnel of matters related to nuclear safety. This information is documented and reviewed by the NFSC. The NFSC meets at least quarterly to review items related to safety and semiannually to review and evaluate the results of periodic audits performed by the Company's Quality Assurance Organization to further assure safe operation and the adequacy of the audit program. |5

An on-site group known as the Station Nuclear Safety Committee (SNSC) functions within the on-site organization and advises the Vice President, Nuclear Power on all matters related to nuclear safety. The organization and duties of the SNSC are described in a charter forming part of Plant Technical Specifications. This committee meets at least once per calendar month and is comprised of key station personnel.

Engineering is responsible for the design activities included in system and component modification. To exercise this responsibility, Engineering prepares, issues, revises, and controls design documents including specifications, drawings, and modification procedures.

Construction is responsible for major plant modifications funded from the company's capital budget, utilizing either company forces or outside contractor labor, and may also be given responsibility for selected repairs. In these cases, work is accomplished under the direction of designated Project Managers in accordance with Construction administrative directives.

Purchasing is responsible for preparing, issuing and controlling purchase orders, for the inventory control of "Class A" stock items, for maintaining an approved vendors' list and handling vendor negotiations.

Central Stores (Cortlandt Warehouse) provides storage facility for materials and supplies for Indian Point Station and fills orders for supplies from users and other storerooms.

Nuclear Fuel Supply is responsible for procurement and timely delivery of nuclear fuel to Indian Point 2 consistent with assuring reliable supply.

Responsibilities include planning and providing for all nuclear fuel requirements, determining the required quantities of uranium, UF6 conversion services, enrichment fabrication, shipping, storage and other nuclear fuel services, preparation of uranium specifications, arranging

3.2 Assignment of Authority & Responsibility (cont'd)

and controlling all traffic of nuclear fuel and by-products prior to fabrication and in transfer to and from the nuclear plant.

The Quality Assurance organization is responsible for assuring that quality assurance programs are established consistent with this program and company policy and, assures that these programs are properly implemented. QA carries out these responsibilities primarily through program development, site surveillance and first-line inspection and by auditing those activities which affect plant safety. QA develops audit plans and schedules, and administrates other activities associated with auditing. The Director, Quality Assurance reports to the Assistant Vice President, Power Generation Services, who reports directly to the Senior Vice President, Central Operations. This provides QA with the authority and organizational freedom to identify quality problems; to initiate, recommend or provide solutions through designated channels; and to verify implementation of solutions. The Quality Assurance organization certifies Con Edison non-destructive examination personnel and is responsible for indoctrination and training of QA personnel and for reviewing proposed changes to this program. QA reviews documents which implement this program to assure that each includes adequate quality assurance principles. |5 |5 |5 |5 |5

Each organization participating in this program is responsible for providing indoctrination and training of its personnel performing activities affecting quality and safety to ensure that suitable proficiency is achieved and maintained. Quality assurance and quality control personnel are trained to have and maintain proficiency in skills related to their specific assignments and in their knowledge of this program. Quality assurance and quality control personnel are provided indoctrination and training in the areas of quality assurance management and quality assurance practices, procedures, and requirements, including applicable regulatory and code requirements. QA provides indoctrination and training concerning the requirements of this quality assurance program to QA personnel, and appropriate personnel in other organizations. |5

3.3 Indoctrination and Training

Indoctrination and training in the administrative controls and quality assurance program is conducted for Con Edison

3.3 Indoctrination and Training (cont'd)

Engineering, Purchasing, Construction, Operations, Maintenance and Quality Assurance personnel who perform activities which affect quality. This training includes:

(1) company policies, procedures and instructions which establish the program,

(2) procedures or instructions which implement the program.

Personnel participating in the Quality Assurance Program are conversant with the requirements of Appendix B to 10CFR50 and the Regulatory Guides, as appropriate, listed in the Foreword. To further their understanding of this document, such personnel participate in industry-technical society discussion groups and maintain contact with latest industry literature.

Training of Quality Assurance personnel is based on the individual needs to improve or develop new skills in performing their jobs. Accordingly, selected courses are attended by Con Edison QA Engineers, QA Examiners and Consultants. These courses are in the areas of QA management, QA requirements for the nuclear industry, engineering, auditing, reliability, non-destructive examination techniques, and welding technology. When required by Code, detailed and specific training is given to examiners in non-destructive examination in accordance with SNT specifications.

A record of training sessions, including a list of those attending and a description of the material discussed, is maintained.

For station staff retraining and replacement training, a program is maintained under the direction of the Nuclear Training Manager.

3.4 On-site Operating Organization

The on-site operating organization includes one or more individuals knowledgeable in the following fields: nuclear power plant operation, nuclear power plant mechanical, electrical and electronic systems; nuclear engineering; chemistry and radiochemistry and radiation protection. Members of the facility staff have appropriate experience, training and retraining to assure that necessary competence is maintained in accordance with the provisions of the Plant Technical Specifications. The

3.4 Onsite Operating Organization (cont'd)

training and retraining programs are documented and approved by the Nuclear Training Manager, Nuclear Power.

Qualification and training in welding is in accordance with the requirements of ASME Section IX or other applicable codes.

Positions requiring personnel to have a current NRC reactor operator license are delineated in the Plant Technical Specifications.

The bases for the qualification of personnel who perform Quality Assurance inspection, examinations and tests are the following:

a) Education: minimum required - high school graduate or, alternatively, suitable job experience in the particular area.

b) Training: minimum required - evidence of specialized training sufficient to perform a particular job, e.g., welding inspection or, alternatively, demonstrated capability via job experience.

c) Evaluation: personnel are evaluated annually to determine their capability to perform their job function. Each evaluation is documented and included in the individual's personnel folder.

d) Specific Capabilities:

1. Physical: minimum required - physically capable of performing the job function including adequate vision and other physical characteristics, if necessary for the job.

2. Technical: minimum required - familiarity with tools and equipment to be used on the job and proficiency in their use including, as necessary, measuring and test equipment calibration and control methods.

For particular projects, quality assurance personnel resources may be supplemented by other Company organizations or by outside forces. In these situations, QA retains the responsibility for using appropriately qualified personnel. |5

3.4 On-site Operating Organization (cont'd)

If the performance of an individual has not met the requirements specified for the particular job, supervision has recourse to provide additional training, additional supervision or to remove the individual from the job assignment. Position Guides, procedures and manuals identify major responsibilities of particular positions. On-the-job supervision and formal yearly reviews assure the necessary continued proficiency of any particular individual. Prior to the assignment of personnel to a job function, the qualifications of the personnel are evaluated by supervision. This evaluation considers previous education, training, results of past supervisory reviews and on-the-job experience and performance to assure the initial proficiency of the individual. On-the-job performance after assignment to particular job functions is monitored by supervising personnel. The qualifications of inspection personnel, including their education, experience and training, are documented. Personnel involved in particular NDE activities, including the performance evaluation and supervision in nondestructive examinations are appropriately qualified in accordance with the requirements specified in SNT-TC-1A. Personnel on-the-job performance is reviewed annually, and the results are documented and retained in personnel folders.

The facility management and technical support organizations are defined in the plant Technical Specifications. At least one licensed Operator is in the control room when fuel is in the reactor. At least two licenced Operators are present in the control room during reactor start-up, scheduled reactor shutdown and during recovery from reactor trips. An individual qualified in radiation protection procedures is on site when fuel is in the reactor. Core alterations after initial fuel loading are directly supervised by a licensed Senior Reactor Operator.

The General Manager, Nuclear Power Generation has overall responsibility for facility operation.

The Manager, Nuclear Power Quality Assurance is responsible for site Quality Assurance activities. Quality Assurance reviews and audits the QA program. Additionally, audit activities are periodically reviewed by the Nuclear Facilities Safety Committee. 5

4.0 Reviews and Audits

Programs for reviews and for audits of activities affecting plant safety during the operational phase have been established. These programs assure that these activities

4.0 Reviews and Audits (cont'd)

are carried out in accordance with regulatory requirements, approved procedures and instructions, and license provisions. They provide for the following:

- o review of all proposed changes or modifications to plant systems or equipment that effect nuclear safety |5
- o review of tests, procedures and experiments that affect nuclear safety
- o review of proposed changes to the Technical Specifications
- o investigation of all violations of the Technical Specifications
- o review of facility operations to detect potential nuclear safety hazards
- o review of the Plant Security Plan and implementing procedures
- o review of the Emergency Plan and implementing procedures
- o verification that reportable events which require reporting to the NRC within twenty-four hours, are promptly investigated and corrected
- o review of changes to the Process Control Program and the offsite Dose Calculation Manual

These programs are carried out by the Station Nuclear Safety Committee (SNSC) and Quality Assurance (QA). The |5
independent review program, administered by the Nuclear Facilities Safety Committee (NFSC), identifies those personnel performing reviews; standing committees functioning as independent review bodies; and the composition, meeting frequency, quorum definition of such committees; the kinds of records maintained by such committees and the documentation of reviews as provided for in the Plant Technical Specifications. These programs are, themselves, reviewed for effectiveness by management.

The NFSC charter identifies the areas to be audited by QA; the responsibilities and authorities of involved |5
personnel; provisions for the use of specialists (consultants) or sub-groups; authorization to perform audits; distribution of reports; lines of reporting and authority; timeliness of information dissemination; requirements for follow-up and re-audit and other provisions required for effectiveness reviews and audits.

4.1 Audit Program

The audit program conducted by QA provides for a comprehensive system of planned and periodic audits to verify that operating nuclear facilities are operated, administered, and managed in accordance with applicable requirements and to assess quality program effectiveness. |5

Quality Assurance (QA) documents audit plans and establishes a schedule of periodic audits. These audits are designed to verify compliance with all aspects of the quality assurance program and are conducted at least once every two years or more frequently commensurate with their safety significance. These audits include the following: |5

- The conformance of facility operation to all provisions contained within the plant Technical Specifications and applicable license conditions at least once per 12 months.
- The conformance of all provisions contained within the Environmental Technical Specifications (Appendix B) pertaining to radiological matters and applicable license conditions at least once per 12 months. |5
- The performance, training and qualifications of the entire station staff at least once per 12 months.
- The results of all actions taken to correct deficiencies occurring in facility equipment, structures, systems or method of operation that affect nuclear safety at least once per 6 months.
- The Facility Fire Protection Program and its implementing procedures at least once per 24 months.
- The Facility Emergency Plan and implementing procedures at least once per 12 months. |5
- The Facility Security Plan and its implementing procedures at least once per 12 months. |5
- A fire protection and loss prevention inspection and audit performed utilizing either qualified offsite licensee personnel or an outside fire protection firm at least once per 12 months.
- An inspection and audit of the fire protection and loss prevention program performed by an outside qualified fire consultant at least once per 36 months.

4.1 Audit Program (cont'd)

- The radiological environmental monitoring program and the results thereof at least once per 12 months.
- The Offsite Dose Calculations Manual and implementing procedures at least once per 24 months.
- The Process Control Program and implementing procedures for processing and packaging of radioactive wastes at least once per 24 months.
- The performance of activities required by the Quality Assurance Program to meet the provisions of Regulatory Guide 1.21, Revision 1, June 1974 and Regulatory Guide 4.1, Revision 1, April 1975 at least once per 12 months.
- Any other area of facility operation considered appropriate by the NFSC, or the President of the Company.

The audits are conducted by QA who may utilize other Consolidated Edison employees (except those having direct responsibility in the area being audited) and/or consultants or specialists from outside the Company. The results of each audit are reviewed by the auditors with the management of the activity audited at the conclusion of the audit. A written report containing the audit findings and recommendations is issued by QA within thirty days of the completion of the audit process. The audit report is issued to the management of the audited group(s) for reply to the audit results. It is distributed to the Secretary, Nuclear Facilities Safety Committee; the Senior Vice President, Central Operations; the Vice President, Nuclear Power; the Assistant Vice President, Power Generation Services; the General Auditor; the Senior Officers of the activities audited; the Manager, Regulatory Affairs, the appropriate General Manager; the Director, QA; Manager, Nuclear Power QA and, when it involves ASME, Section III Code Requirements, to the Authorized Inspector. It is the responsibility of the activity audited to review the report and reply, in writing, within thirty days to the QA concerning the actions to be taken to resolve each finding. QA is responsible for verifying the effectiveness of these actions, including reaudit when necessary. The Nuclear Facilities Safety Committee reviews the adequacy of the audit program at least semiannually.

5.0 Program, Policies and Procedures

5.1 Program Description

Administrative controls and quality assurance requirements are described in documents such as corporate instructions, station administrative orders and station procedures. A summary document which identifies these administrative and quality assurance procedures has been compiled and is maintained current. This document is suitably indexed to identify relationships of the contents to the pertinent criteria of 10CFR50, Appendix B and applicable Regulatory Guides.

Nuclear power plant structures, systems, components and consumables covered by this program are identified as "Class A Items" and are those that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. A list of "Class A" structures, systems, components and consumables appears in Appendix A. Identification of Class A components within systems are made and documented on a case-by-case basis, as required, via established procedures. This may include declassification. In addition, Vice President, Nuclear Power has an option to utilize the above program for specific non-safety related modifications. The major organizations and their responsibilities are identified and delineated in para. 3.2 of this document.

This program provides control of activities affecting the quality of Class A items to an extent consistent with their importance to safety. In the case of consumables, adequate quality is assured by activities such as testing on arrival, review of manufacturer's certification, or vendor evaluation. Additional controls such as purchase order review by QA, vendor surveillance, and receipt inspection are not necessarily performed. These controls are described in the various documents identified in the summary document.

This program takes into account the need for special controls, processes, tests, equipment, tools and skills to attain the required quality and the need for verification of quality by inspection, evaluation or test. These needs are accommodated through the issuance of and compliance with procedures, such as:

5.1 Program Description (Cont'd)

a. Non-Destructive Examination Procedures
b. Welding Procedures
c. Operating Procedures
d. Start-up Testing Procedures
e. Calibration of Measuring and Test Equipment
f. Receiving Inspection Procedures
g. Vendor Evaluation Procedures
h. Maintenance and Modification Procedures

5.2 Rules of Practice

Rules and instructions pertaining to personnel conduct and control are contained in various procedures and operating orders issued by the on-site organization. These include special instructions and authority for normal procedural actions, emergency actions, responsibilities of key personnel, watch schedules, availability duties of key personnel at all times, preparation of procedures and documenting and retention requirements.

5.2.1 Responsibilities and Authorities of Operating Personnel

Responsibilities and authorities of the plant operating personnel are delineated in operating and administrative procedures prepared and approved by appropriate on-site management as required by the sections of the Plant Technical Specifications entitled "Administrative Controls". These include:

a. The reactor operator's authority and responsibility for reactor shutdown under various conditions.

b. The responsibility to determine safe operating procedures for reactor return to power after a trip or in unscheduled or unexplained power reduction.

c. The responsibility for a Senior Reactor Operator to be present at the plant and the authority to provide direction for returning the reactor to power following a trip or unexplained power reduction.

d. The responsibility to believe and respond conservatively to instrument indications unless they are proved to be incorrect.

e. The responsiblity to adhere to the plant Technical Specifications.

f. The responsibility to review routine operating data to assure safe operation.

5.2.2 Procedure Adherence

The requirement that procedures be adhered to is both a plant administrative requirement and a Plant Technical Specification requirement. Safety-related procedures and procedure changes are reviewed by the Station Nuclear Safety Committee. In the event of an emergency not covered by an approved procedure, operations personnel take appropriate action to protect the health and safety of the public and to minimize personnel injury and damage to the facility. Written directives identify the manner in which procedures are to be implemented.

Procedural actions which must be committed to memory are those defined as "Immediate Operator Actions" in the Emergency Operating Procedures (EOP).

Documentation of procedure use is required when specifically called for by the procedure in question. For example, a startup "Procedure Check-Off" (PCO) is completed during plant warm-ups and power ascensions from shutdown conditions; a shutdown "Procedure Check-Off" is completed during planned plant shutdowns and cooldowns.

Following a unit trip or shutdown, a precriticality "Procedure Check-Off" is completed prior to initiating control rod withdrawal for the purpose of achieving criticality if more than 24 hours have elapsed since completing the last precritical check-off procedure.

After completion, all check-off procedures are signed by the Watch Supervisor. Copies of all procedures are available to appropriate members of the plant staff.

5.2.3 Operating Orders

Dissemination to the plant staff of instructions of general and continuing applicability to the conduct of business is provided through the issuance of appropriate administrative directives and operating procedures to the affected personnel. Station administrative orders identify responsibilities and are binding upon all members of the Nuclear Power and Power Generation Maintenance Departments as appropriate to the subject matter contained therein. Procedures for activities at the nuclear facility by groups other than Nuclear Power and Power Generation Maintenance are to be consistent with the requirements of Station Administrative Orders. Additional guidance, if necessary, is issued within individual subsections or staff groups to provide for delineation of detail not covered in Station Administrative Orders. Such additional guidance is

5.2.3 Operating Orders (cont'd)

in the form of administrative directives and/or procedures and may deal with shift changes, control room restrictions, operator duties and requirements, maintenance instructions, document control and other such matters applicable to the needs for operating a safe nuclear plant.

Provisions are made for periodic review and updating of the above instructions. Station Administrative Orders are reviewed biennially. The General Managers, Nuclear Power and QA ensure that these reviews are accomplished and report the results to their respective management. In addition, the General Managers biennially review the administrative directives of their respective sections and report upon their adequacy and consistency to the Vice President, Nuclear Power. |5

5.2.4 Special Orders

A mechanism exists for the issuance of management instructions which have short-term applicability and which require dissemination. The Plant Technical Specifications direct that these orders, among others, be established, reviewed, implemented and maintained. These instructions, when used, are titled "Special Orders" and are written to provide direction for non-recurring events, special situations or other categories of a similar nature.

These are prepared at the appropriate management level and distributed to the affected organizations and personnel. Because of the unique nature of the contents of these instructions, they are automatically cancelled, once implemented.

5.2.5 Temporary Procedures

Temporary Operating Instructions are issued, when required, as temporary procedures and are related to the performance of special tests or operations that are applicable for a short period of time. Procedures are issued for guidance during off-normal conditions and during special circumstances, as required.

The review and approval mechanisms for these temporary procedures or changes thereto are the same as those for normal operating procedures as described in paragraphs 5.2.2 and 5.2.15 which include the assignment of approval authority to management.

5.2.6 Equipment Control

Prior approval by Operations personnel is required for the release of equipment or systems for maintenance or repair. Normally, for interfacing station activities, Maintenance Supervisors, Instrument and Control Supervision, and Watch Supervisors meet beforehand to plan the work. They verify that equipment or systems can be released and determine the time required to do the job, and safety considerations to personnel and the public. Essential elements of these details are documented in work permits.

When permission is granted to remove equipment from service, the equipment is rendered inoperative and protected for work. Operations Watch Supervisors verify that the work is completed prior to readying the equipment or system for return to service.

Shutdown and subsequent start-up procedures guide the preparation of equipment or systems for maintenance. They include cognizance of such parameters as monitoring and control of reactivity, load reduction and cooldown rates, sequencing in activating or de-activating, provisions for decay heat removal and emergency operating situations.

Specific check-lists provide the assurance that pertinent factors are considered. Entries into closed systems or vessels are controlled. This extends to accountability for items taken in and out by maintenance personnel.

Temporary alterations which include such items as bypass devices, lifted electrical contacts, varying of setpoint limits, jumping, and opening of trip links require prior approval from, and are controlled by, Watch Supervisors acting in accordance with approved directions. Entries are documented in log books.

Status of inspections in association with work on equipment or systems is controlled through utilization of procedures, travelers, work step lists, tags and labeling. Nonconformances associated with maintenance are documented on inspection reports (OIR). Acceptance of a disposition of nonconformances by Nuclear Power Quality Assurance is required prior to release of an item for service. Usually, tests are conducted upon completion of work as a preoperational activity. Test requirements are determined by the Test and Performance Manager. Completion of tests are certified by Watch Supervisors.

5.2.6 Equipment Control (cont'd)

Upon completion of servicing work, operations personnel are responsible for verifying that the work is complete and that operating items are restored to prerequisite positions in accordance with applicable procedures.

5.2.7 Maintenance and Modifications

Maintenance/modifications of safety-related structures, systems, and components including the installation, inspection and testing of instrumentation, electrical equipment and structural concrete, structural steel, mechanical equipment and piping and the application of protective coatings, are controlled by station procedures and are performed in a manner that assures a level of quality consistent with precedents set by the Architect-Engineer and NSS Supplier or appropriately reviewed alternates to those precedents.

Pre-operational performance testing provides an added measure of confidence that systems and components will continue to perform their intended functions after maintenance or modification.

These activities are performed in accordance with applicable procedures, manuals, instructions, drawings, specifications and other documents that take into account, as appropriate, planning requirements, guidance of codes and standards, the levels of skills required to do the work, and the assurance that properly identified acceptable material is used. Preparation involves consideration of such factors as assigning responsibilities, identification of instructional-type documents, scheduling and interfacing with other applicable operations activities. Included in the instructional-type documents are precautions to be observed, installation instructions, identification of equipment(s), procedures, travelers, step check lists, inspection points, and cleaning, handling and housekeeping requirements, as applicable. Particular attention is paid to necessary prerequisites such as assignment of personnel, assurance that proper documentation and materials are available, need for manufacturer's manuals and preparation for documenting results. Pre-installation activities extend to assuring that only properly accepted material is used, instructional material is available and work permissions have been granted.

5.2.7 Maintenance and Modifications (cont'd)

Plant maintenance/modification activities are carried out in the following manner: Station personnel prepare a Maintenance Work Order (MWO) in which they identify required work, either maintenance or modification. There may be times where other organizations recognize the need for a modification and initiate the required action. Applicable documentation is routed through key station groups e.g., Maintenance Manager and the Test and Performance Manager - for their review. They review and determine the extent of implementing procedures required in their areas, inspections, and post-work performance testing requirements. In the event that the work constitutes a modification to the plant, a request is prepared and forwarded to Central Engineering for preparation of the design portion of the modification package if not already issued. Engineering prepares a modification concept and scope document for review and input by affected Station, QA, |5
and installer organizations. Engineering then prepares documentation specifying technical requirements e.g., drawings, specifications, plant prerequisites not specified by the organization doing the installing and welding procedures for welding done by Con Edison or code selection for welding done by contractors. This modification documentation is reviewed by QA to assure |5
the inclusion of appropriate quality provisions. Concurrent with that action, pertinent plant organizations perform a critical review. Included in the review cycle are the appropriate plant organizational units. Generally, the review is geared to assure appropriate engineering guidance and to evaluate the impact of the modification in their respective areas of responsibility. Three prime factors are considered in the review; (1) to assure consistency with the Plant Technical Specifications, (2) to assure proper action concerning safety evaluation has been addressed and, (3) to account for radiological control requirements. The responsibility of planning all work, preparing work packages and specifying work procedures rests with the Projects and Planning Manager. The responsibility of implementing procedures to do the work rests with the Maintenance Manager or I&C Engineer. Detailed procedures are reviewed by Nuclear Power Quality Assurance to provide inspection requirements. Control during installation extends to performance of inspections, tests when applicable, non-destructive examinations, recording as-constructed information, status indication, pressure testing, when applicable, and other factors associated with the particular case. The Test and Performance

5.2.7 Maintenance and Modifications (cont'd)

Manager is responsible for preparing applicable test procedures, assuring that they have been conducted properly, evaluating test results, and informing operations personnel of acceptability of the installation. Records of the completed work package are filed. Examples of the types of records are the job folder, results of inspections or tests, modification documents, maintenance work order, reference to other documents and close-out documentation. Similar controls apply to preventive, routine and corrective maintenance, as appropriate.

5.2.7.1 Maintenance Programs

A maintenance program to maintain structures, systems, and components at a quality level necessary for them to perform their intended function, is in effect. Maintenance activities are planned, scheduled and accomplished in a manner consistent with safety considerations and Plant Technical Specification requirements. In preparation for maintenance activities, such details as the use of approved material, need for special tools or equipment, safety precautions and detailed work descriptions are considered.

Procedures concerning maintenance of a recurring nature are contained in a maintenance procedure manual. These procedures may be revised as experience is gained.

Preventive maintenance procedures contain maintenance frequency requirements for safety-related systems, equipment or components.

Results of inspections and surveillances during maintenance, modification and repair work verifying continued functional capability of equipment on the EQ Master List will be reviewed by Engineering when these results do not meet established acceptance criteria and quantitatively evaluated to determine that age-related degradation has not compromised the ability of the equipment or system to perform its specified functions. Results of inspections and surveillances shall also be factored into future inspection intervals in order to change the frequency at which these inspections are conducted, thereby aiding in determining the qualified life of the equipment and its maintenance interval.

5.2.7.2 Modifications

The design activities related to modifications to plant safety-related structures, systems, and components are performed in accordance with a documented control system previously described in 5.2.7.

Engineering procedures are in effect concerning the control and implementation of these design activities. Examples of the subject matter covered in the procedures are:

1. Responsibilities within the Central Engineering organizational unit and its various disciplines.

2. Managing the flow of technical information between internal supporting disciplines such as Civil,

   Electrical and Mechanical Engineering and Design Engineering. Externally supported design activities are controlled through procurement of subcontracted services as the need arises.

3. Rules for developing and reviewing concept and scope documents and preliminary design documents with appropriate Station, QA and installer organizations. |5

4. Document controls on the preparation, review, approval, release, and distribution of documents and their changes.

5. Rules concerning retention of design documents.

6. Guidance for performing design verification.

7. Rules for development of design criteria, design concepts, detailed designs, integration of Field Engineering forces, and review by affected Engineering disciplines; as applicable to the scope of the particular modification.

   Once the need for a modification has been determined, Engineering considers various applicable inputs. Usually, there is a three stage process for a given modification; (1) the development of design criteria, (2) the determination of the need for conceptual arrangements, and (3) the preparation of the various detailed design documents that will be used in the work. Generally, the extent to which each of these applies is

5.2.7.2 Modifications (cont'd)

dependent on the complexity of the work. Modifications are assigned to a sponsor engineer who, in addition to performing a function in his discipline, may have project responsibility for coordination of the disciplines. Some representative considerations accounted for in the formulation of modification procedures are:

1. Requirements of codes, standards, and regulatory agencies.

2. Conditions affecting design such as pressure, temperature, voltage, stress and seismic loads.

3. Functional and physical interfaces between systems.

4. Defining operating, maintenance, testing and inspection requirements, as applicable.

5. Process flow, equipment descriptions, material requirements and their compatibility.

6. Safety requirements.

7. Environmental, cleanliness and quality assurance requirements.

8. Performance characteristics.

9. Electrical layouts, cable and conduit schedules.

10. Special installation requirements for environmentally qualified equipment. These may be contained on the Design Modification Drawings, Vendors' drawings, or in special instructions.

Elements of the design process, and its subsequent verifying actions are accounted for in Central Engineering procedures. A representative sampling of the areas considered are:

1. Suitability of parts, equipment or processes for the application.

2. Compatibility of materials with each other and with the design environment.

5.2.7.2 Modifications (cont'd)

3. Control of radiation exposure, both to the public and plant personnel.

4. Provisions for handling, storage, cleaning and shipping, as applicable.

5. Computations and calculations:

   a) Numerical accuracy

   b) Consistency of results between alternate and original methods

   c) Identification of design assumptions.

6. Analytic methods.

7. Fire protection.

8. Determining the reasonableness of results in comparison to design bases.

9. Permissibility of qualification testing alternatives as a verification technique.

10. Reasonableness of outputs when compared to inputs.

11. Approval of vendor submittals.

12. Prerequisites.

13. Requirements for welding.

14. Evaluating safety significance to assure compliance with regulatory requirements.

15. Verification that pertinent quality provisions have been incorporated.

16. Rules for utilizing original Architect-Engineer and NSSS design details in plant replacement items, additions or modifications.

17. Rules for distribution of design details to other affected interfacing organizational units, which include Nuclear Power and QA, for comment or information. |5

5.2.7.2 Modifications (cont'd)

18. Inservice Inspection (ISI)

19. Environmental Qualification of electric equipment important to safety in accordance with the requirements of 10 CFR 50.49.

Inherent in these procedures are provisions for the control of documents and their changes. The modification detail documents carry revision level designations to afford the assurance that proper revision levels will be used in the work. For addition of new, complex systems, specification and drawing lists are prepared, issued and used. Engineering procedures provide details for the maintenance, retention and storage of these design documents.

Requirements for auditing both modifications and the performance of the engineering design activity fall within the general audit program discussed under 4.0.

5.2.8 Surveillance Testing and Inspection Schedules

Surveillance testing and inspections, including inservice testing of pumps and valves, are the responsibility of Nuclear Power and are accomplished in accordance with the surveillance requirements in the Plant Technical Specifications and Inservice Inspection and Testing Program. Included in these activities are:

reactor coolant system surveillance, reactor coolant system integrity testing, containment tests, engineered safety features, emergency power system periodic tests, main steam stop valves, auxiliary feedwater system, reactivity anomalies, environmental monitoring surveys, and radioactive materials. Upon completion of testing, surveillance test results and inservice test results are reviewed by the Test and Performance Manager or his designated alternate. This review consists of:

1. Verifying that the operability and overall acceptance criteria were satisfied.

2. Ascertaining that data were entered as required.

3. Verifying the test was done on schedule.

4. Trend analysis, as appropriate.

5. Evaluating condition(s) adverse to quality.

5.2.8 Surveillance Testing and Inspection Schedules (cont'd)

6. Evaluating data for compliance with Plant Technical Specification requirements.

The NDE portion of the Inservice Inspection program is the responsibility of Nuclear Power Quality Assurance and is based on ASME Code Section XI. As required baseline data are gathered to permit a comparison of any changes occurring as a result of plant operations. The areas requiring inspections and the overall schedule are consistent with the requirements of the Plant Technical Specifications. Nuclear Power Quality Assurance maintains NDE Inservice Inspection records. Test and Performance maintains inservice testing records.

5.2.9 Plant Security and Visitor Control

A comprehensive security and visitor control program has been established, including measures to thwart attempted sabotage. Procedures have been developed by Nuclear Power which supplement features and physical barriers designed to control access to the plant and, as appropriate, to vital areas within the plant.

Measures have been established by the Fire Protection, Safety and Security Manager to deter or discourage penetration by unauthorized persons, to detect such penetrations should they occur, to apprehend in a timely manner either unauthorized persons or authorized persons acting in a manner constituting a threat of sabotage, and to provide for appropriate authorities to take custody of violators. The means by which plant security and visitor control are enforced by both security and operating personnel include measures for physical and administrative control of access to the plant site or portions thereof, selecting and retaining reliable personnel and detecting aberrant behavior, monitoring the status of vital equipment and facilities, augmenting security in the event of actual or potential threats to plant security and designing features of the plant specifically for security purposes or features which, by their nature, reduce the vulnerability of the plant to sabotage attacks.

The security program provides for the identification of the following three security areas:

1. Con Edison-owned property under the administrative and procedural control of the Security Administrator and suitably marked by signs and other means which provide reasonable assurance that persons entering the area are aware they are on Con Edison property.

5.2.9 Plant Security and Visitor Control (cont'd)

2. A protected area administratively and procedurally under the control of the Security Administrator affording clear fields of view on its perimeter.

3. Vital areas isolated from non-vital equipment and facilities to the maximum extent practicable to limit access to a minimum number of authorized persons. As part of the security program, a list of these vital areas is maintained. Vital areas are protected against intrusion by unauthorized persons. These areas are administratively and procedurally under control of the General Manager, Administrative Services in conjunction with General Manager, NPG and the Operations Manager. 5

The Fire Protection, Safety and Security Manager has developed a Security Force Manual, approved by the Station Nuclear Safety Committee (SNSC) and is responsible for its maintenance, up dating, and distribution to authorized individuals and organizations.

Operations personnel form a part of the security force. Accordingly, the Senior Watch Supervisor, the Support Facilities Supervisor, Reactor Operators, Nuclear Plant Operators and other operating personnel are assigned various authorities and responsibilities forming a part of the security program. 5

The Fire Protection, Safety and Security Manager is responsible for developing and properly locating signs and notices relating to security, for training and drills and for submitting reports relating to security to the General Manager, Administrative Services.

The Vice President, Nuclear Power has overall responsibility for the security program and its state of readiness.

5.2.10 Housekeeping and Cleanliness Control

Control procedures for housekeeping are prepared by Nuclear Power. These procedures encompass activities related to the control of cleanliness of facilities, materials and equipment; fire prevention and protection, including disposal of combustible material, radioactive contamination control; storage of solid radioactive waste, etc.

5.2.10 Housekeeping and Cleanliness Control (cont'd)

Procedures are prepared for and particular attention is given to work and storage areas where important items are handled and stored to preclude damage or contamination. The General Manager, Administrative Services provides for separate controlled storage areas, and issue, use and return of excess Class A materials. Procedures prepared by the Manager, Nuclear Power Quality Assurance verify control of the cleanliness of open primary systems. The Vice President, Nuclear Power establishes policy regarding work permits and provisions for the radiological as well as conventional health and safety of all employees. The General Manager, Environmental Health & Safety establishes policy for removal of equipment and material from the Controlled Area and its shipment, and the method of handling solid radioactive waste material for its removal from the controlled area at Indian Point Station.

Fire protection and prevention procedures are prepared and implemented by responsible NP Personnel. These procedures include provisions for fire fighting and fire watches during and immediately following welding, enforcement of good housekeeping practices, building and maintenance care and outdoor housekeeping. Periodic inspections and surveillances are performed by Nuclear Power Quality Assurance personnel. Reports of results are issued to higher management.

5.2.11 Corrective Actions

Measures have been established which ensure that conditions adverse to quality which may occur during work, e.g., maintenance, are promptly identified in nonconformance reports or significant nonconformance reports and corrected. In the case of significant conditions adverse to quality, the cause of the condition is determined and corrective action taken and appropriately documented and reported.

The action addressee on nonconformance reports is responsible for either correcting the nonconformance or designating the organization responsible for completing the necessary corrective actions. The managements of these designated organizations are responsible for taking the necessary corrective actions.

The Manager, Nuclear Power Quality Assurance is responsible for verifying that corrective actions are implemented at the site. QA has overall responsibility for verifying that corrective action is taken and for reviewing corrective actions taken during auditing operations. |5

5.2.11 Corrective Actions (cont'd)

QA prepares and distributes a quarterly report indicating the status of all unresolved significant nonconformance reports. This report is routed to appropriate management concerned with correcting the deficiency. The distribution of the quarterly status report of unresolved non conformance reports assures that the identification of significant conditions adverse to quality and corrective actions initiated are documented and reported to appropriate levels of management. |5

The action addressee on significant nonconformance reports is responsible for either correcting the deficiencies or designating the organization responsible for completing the necessary corrective actions. The managements of these designated organizations are responsible for taking the appropriate corrective actions. When corrective action has been completed, this will be identified on the report and forwarded to the Manager, Nuclear Power Quality Assurance, by the action addressee. Corrective action shall include determination of the nonconformance and the measures necessary to preclude repetition.

Nuclear Power QA reviews the action taken and takes the initiative to resolve disputes and disagreements, if any. After agreement has been achieved, Nuclear

Power QA completes the report by noting concurrence. Copies of completed reports are then routed to the action addressee and other appropriate Con Edison organizations.

Conditions adverse to safety found during operations are reported as required by the Plant Technical Specification. This report includes a description of the condition, its cause and corrective action taken or recommended. The distribution of this report includes the Nuclear Facilities Safety Committee (NFSC).

5.2.12 Plant Records Management

Con Edison's policy is to maintain documentary evidence of the quality of items and activities affecting plant safety. Consequently, a system for records preparation and retention, as necessary, has been established.

Quality assurance records located in the Nuclear Records Management Center, together with other files of other Con Edison organizations and at contracted storage facilities are retained for periods specified in the Indian Point Records Type List.

5.2.12 Plant Records Management (cont'd)

The Manager, Nuclear Power Quality Assurance maintains records which include certain personnel qualification records, receipt inspection results and back-up data, and nonconformance reports. Operating logs are maintained by the Operations section. Test procedures and results are maintained by the Test and Performance Manager.

Inspection reports include the signature of the inspector, the type of observation, the results, the acceptability, and the action taken in connection with any deficiencies noted.

Documented procedures establish the requirements and responsibilities for record maintenance and retention subsequent to completion of work. The records are filed and maintained to minimize deterioration, damage and to prevent loss.

5.2.13 Procurement and Materials Control

Measures have been established for procurement documentation and control of materials and components which affect plant safety, including spare and replacement parts. Procedures and appropriate instructions assure that purchased materials and components associated with safety-related structures or systems are purchased to appropriate specifications and codes; produced or fabricated to proper requirements; packaged and transported in a manner that will maintain their quality; properly documented, completed, identified and stored; and correctly controlled to assure the identification, segregation, and disposition of nonconforming material. These procedures, as appropriate, provide for procurement document preparation, review and change control; selection of procurement sources; bid evaluation and award; control of supplier's performance, verification of material quality, control of nonconforming items, acceptance of items and services, maintenance of quality assurance records; evaluation of the procurement process and corrective action.

Procurement documents include, as appropriate, provisions for the scope of work to be accomplished; technical requirements; quality assurance program requirements; a statement of right of access to a supplier's plan, facility and records; special quality assurance requirements; documentation and, as applicable, provisions for processing nonconformances.

5.2.13.1 Procurement Document Control

Measures are provided for a procurement document control system which assures that applicable regulatory requirements, design bases, and other requirements which are necessary to assure adequate quality are suitably included or referenced in the purchase orders for material, equipment and services, whether purchased by Con Edison or by vendors or sub-vendors. QA verifies that adequate quality assurance requirements are included or referenced in requisitions. These quality assurance program requirements are imposed on a vendor by means such as specifying applicable provisions of Con Edison's quality assurance specifications, pertinent Code quality assurance requirements, such as, ASME Section III, ANSI N45.2 or unique requirements for the specific purchase order. |5

Engineering assures that applicable technical and regulatory requirements are included or referenced in procurement documents. Where improvements or changes in specifications or other technical requirements are indicated, Engineering identifies and includes these requirements, as appropriate, in the procurement documents. As appropriate, Engineering verifies that specifications and requirements contained in the requisition are correct, recommends additional technical requirements as needed and determines what vendor drawings and procedures shall be submitted to Con Edison for approval.

Quality Assurance identifies on the requisition appropriate quality assurance documentation, such as, material certifications, acceptance test reports, and certain data reports which must be provided by the vendor. Quality Assurance verifies that adequate quality assurance requirements are included in the requisition. Quality assurance requirements are imposed on contractors by specifying applicable Code quality assurance provisions, such as, ASME Section III, ANSI N45.2 or unique quality control requirements for the specific requisition. |5 |5

Bids and Proposals are solicited from approved vendors only (see 5.2.13.2). Purchasing evaluates Bids and Proposals for commercial content and Engineering for technical content. As appropriate, quality assurance provisions are evaluated by QA. If the bidder or proposer takes no exceptions to the specifications and requirements, the buyer may secure purchase authorization. |5

5.2.13.1 Procurement Document Control (cont'd)

Vendors are evaluated and approved prior to issuance of a purchase order to provide assurance that the vendor is capable of manufacturing and delivering a product conforming to the requirements of applicable purchase specifications. Vendor approval documentation is maintained and updated, and purchase orders sent only to the approved vendors. In addition, after a purchase order is issued, the vendor may be reviewed on a surveillance basis during the manufacturing stage to assure conformance to specification requirements.

Upon receipt of purchase authorization, the cognizant buyer releases the requisition along with other appropriate documents e.g. Standard Terms and Conditions, for preparation of the purchase order. Purchase orders are issued only to approved vendors. Copies of the purchase order are distributed to the Nuclear Power Quality Assurance, the requisitioning activity, and QA. |5

If an outstanding purchase order must be modified, a properly authorized modification to the Purchase Requisition must be prepared and reviewed. Copies of modified purchase orders are distributed to those who received copies of the original purchase order.

5.2.13.2 Control of Purchased Material, Equipment and Services

Measures have been established which assure that purchased items and services, whether purchased directly or through contractors, conform to procurement documents. These measures include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor, inspection and audit at the source and examination of items upon delivery.

Representatives from PurchasinxW Tngineering, and QA evaluate the capabilities of approved vendors. |5
The Engineering Department representative evaluates the overall manufacturing capability of the vendor, including his particular technical ability to produce the item or component delineated in the specification. The Purchasing Department representative evaluates the vendor's financial and administrative capabilities. The QA representative evaluates the vendor's quality |5

5.2.13.2 Control of Purchased Material, Equipment and Services (cont'd)

assurance program. The QA review includes consideration of the following:

1. QA personnel qualifications.
2. Review and control of design documents.
3. Documented manufacturing procedures.
4. QA procedures, acceptance criteria and calibration practices.
5. QA records and their retention.
6. Vendor receipt inspection.
7. QA requirements imposed by the vendor on his subcontractors.

For a vendor to be maintained as an approved vendor, an evaluation of that vendor is made at least once every five years. Additional reviews of a vendor's facilities or his performance may be conducted by QA on a more frequent basis. During the course of production, manufacturing or service activities, surveillance of the vendor's performance may be conducted. |5

Vendor surveillance plans are prepared for complex equipment. The surveillance plans identify the areas

such as, tests and records to be reviewed. The applicable purchase order, including the specifications and drawings, forms the basis for determining the areas for review.

Material received at the Indian Point offsite receiving and storage facility is inspected by personnel designated by the Manager Nuclear Power Quality Assurance in accordance with written instructions approved by Nuclear Power Quality Assurance. Documentary evidence that material and equipment conform to the procurement requirements is available at the Nuclear Power Plant site prior to use of such material and equipment. Receiving inspection written instructions require, as appropriate, checking that objective evidence of quality required from the vendor has been received. Results of receiving inspections are documented on a checklist.

5.2.13.2 Control of Purchased, Material, Equipment and Services (cont'd)

This documentation includes, as a minimum, the identity of the inspector, the type and results of inspection, the acceptability, and the action taken in connection with any deficiencies noted.

Material which is accepted is green tagged. Nonconforming material is yellow tagged until the nonconformance is dispositioned. Rejected material is red tagged and returned to the supplier or scrapped. Nonconformance and corrective actions are controlled in accordance with 5.2.14.

Green tagged components or materials retain their green tag until they have been satisfactorily installed and the installation check has been completed or until green tag removal is necessary for installation purposes. Records of control of purchased material, equipment and services are maintained in accordance with 5.2.12.

5.2.13.3 Identification and Control of Materials, Parts and Components

Measures have been established for the identification and control of material, parts and components. Procedures are provided by Nuclear Power, Engineering, QA and, as appropriate, other involved organizations which insure that only accepted items are used and installed and which, where applicable, relate an item |5

to an applicable drawing, specification or other pertinent technical document. Identification marking is applied by suppliers and/or Con Edison organizations in a clear, unambiguous manner which does not adversely affect the function of the item. When groups of items are sub-divided, identification marking is appropriately transferred to smaller groups or individual items by NP storeroom personnel except for indication of inspection status identification ("accept" tags, etc.) which is transferred by Nuclear Power QA personnel.

Where required for receipt identification and traceability purposes, materials and shipping containers bear specific marking prior to use at Indian Point.

Where such identification by the vendor is deemed necessary, the vendor is instructed by the Purchase Order documents concerning the identification required.

5.2.13.3 Identification and Control of Materials, Parts and Components (cont'd)

In cases where identification is to be done by personnel at Indian Point, written instructions are issued to accomplish the identification.

Shipping containers are identified and marked by the vendor in accordance with instructions included in the purchase order document in order to permit positive identification. Component or material identification numbers may also be required for traceability and these requirements are also specified by the Purchase Order. Where it becomes necessary to provide identification of material or components, detailed marking procedures are established. These procedures, if applicable, are prepared by Engineering and concurred in by Nuclear Power Quality Assurance. Care is taken to assure that marking methods will not adversely affect the material or design characteristics. For example, marking materials containing sulfur and low melting point elements, such as, lead and mercury are not used for identifying nickel alloys and stainless steel.

Care is also taken to apply the markings prior to modification or cutting operations to assure that traceability is not destroyed or lost. Nuclear Power Quality Assurance is responsible for assuring that marking performed at Indian Point is accomplished in accordance with approved procedures.

During the course of maintenance, repair, or modification work, it will be necessary for traceability purposes to identify new or repaired weld joints. This identification is accomplished in accordance with procedures approved by the Mechanical Engineering Department.

Engineering provides unique weld joint numbers for all welds shown on single line diagrams which carry piece numbers traceable to bills of material and weld joint numbers for piping fabrication and installation at Indian Point.

Construction is responsible for assuring that unique weld joint identification numbers are provided in accordance with Engineering's numbering system or Contractor's equivalent for welds of Construction managed field run piping work. Nuclear Power is responsible for assigning unique weld joint numbers

5.2.13.3 Identification and Control of Materials, Parts and Components (cont'd)

for other welds required during installation and site fabrication including field run piping work managed by Nuclear Power and shall also be responsible for permanent weld identification.

The applicable Project Management Authority (PMA), Nuclear Power or Construction, shall assure that weld joint identification is accomplished by identifying the welds on piping sketches or drawings prepared by Engineering, Nuclear Power, or Contractors, as applicable, or where precise traceability cannot be assured by these methods, by permanently marking the weld at or near the weld joint. Where pipe size, accessibility or other limitations make physical marking impractical, metal tags shall be secured at or near the weld joint. The tags shall be permanently marked with weld identification information including directional information if tags are offset from the weld. The applicable PMA shall provide "as constructed" information to Engineering in writing for updating engineering drawings.

Adequate records of identification and control are retained for periods in accordance with 5.2.12 above.

5.2.13.4 Handling, Storage and Shipping

Measures have been established which provide control of handling, storage and shipping. These measures include, where applicable, provisions for cleaning, packaging and preservation of material and equipment in accordance with appropriate instructions, procedures, drawings or other documents to prevent damage, deterioration and loss. Included are measures for very expensive, critical, sensitive and perishable items. Engineering and other organizations, such as Nuclear Power establish or reference requirements for handling, storage and shipping. These requirements are identified in applicable requisitioning/procurement documents.

Items are packaged in a manner adequate to protect them against corrosion, contamination, physical damage or any effect which would lower their quality or cause the item to deteriorate during shipping, handling and storage. The specific requirements for packaging, etc., are determined by the procurement document review system and the requirements identified or referenced in the procurement document by NP, Engineering, etc.

5.2.13.4 Handling, Storage and Shipping (cont'd)

The degree of protection varies according to storage condition and duration, shipping environment and handling conditions. Items are protected against damage during loading, shipping, and handling by the supplier, shipper, and appropriate Con Edison organization. Modes of transportation are consistent with the degree of protection required and with the packaging methods employed.

Items are received at the Indian Point offsite receiving and storage facility. Central Stores personnel receive and store items for use at the site.

Upon their arrival, items are checked by Nuclear Power QA personnel for damage and for general compliance with purchase order requirements or internal documents where items are manufactured by Con Edison. Results of inspection are documented in a receipt inspection checklist by the receiving inspector. Required marking is verified to provide positive identification during receiving, storage and installation. Appropriate records relating to packaging, shipping, receiving, storage and handling are maintained by NP in accordance with 5.2.12.

Storage is accomplished in a manner sufficient to minimize the possibility of damage or lowering quality due to corrosion, contamination, deterioration or physical damage from the time an item is stored until the time the item is removed from storage and installed at its final location. Storage requirements are based on supplier recommendations, NP requirements and/or instructions supplemented, as appropriate, by Engineering recommendations.

Results of storage examination and inspections are documented and deficiencies corrected in accordance with established NP procedures. During storage, appropriate care is exercised by Central Stores personnel to maintain item integrity. Central Stores is responsible for handling items. Power Generation Maintenance, NP, and Transportation maintain handling equipment in accordance with appropriate procedures, methods and instructions.

As appropriate, handling instructions and procedures have been established by Nuclear Power and Engineering for items requiring special handling. As appropriate, hoisting equipment used for handling is initially

5.2.13.4 Handling, Storage and Shipping (cont'd)

certified by the manufacturer. Except for test purposes, hoisting equipment is not loaded beyond rated load as certified by the manufacturer.

Safety requirements for material hoists are adhered to by NP, Power Generation Maintenance and Central Transportation. Re-rated equipment is given a dynamic load test over the full range of the lift. Normally, the test weight used in temporarily re-rating hoisting equipment for special lifts is at least equal to 110% of the lift weight.

Records pertaining to packing, shipping, receiving, storage and handling, including procedures, reports, personnel qualification, test equipment calibration, nonconformances and inspection and examination are prepared and maintained by NP, Central Stores etc., in accordance with the provisions of 5.2.12 and applicable guides and regulatory requirements.

5.2.14 Nonconforming Items

A system, including appropriate instructions, has been established for identifying, documenting, segregating and dispositioning nonconformances. This system provides for notification of affected organizations, for review and acceptance, rejection, repair or re-work of nonconforming items and establishes the responsibilities for the disposition of nonconforming items. This system also provides for identifying an item as nonconforming and controlled and as accepted "as is", as scrap or as held for further disposition. This system provides for documenting the acceptability of nonconforming items which have been repaired, re-worked or used "as is".

Incoming items are tagged as received. The items are receipt-inspected in accordance with documented instructions by an inspector reporting to the Manager, Nuclear Power Quality Assurance. Items which are acceptable are given an "accept" tag and put in separate locked storage. Items which cannot be accepted are "hold" tagged and stored in segregated locked storage to await dispostion. Items "hold" tagged but too large for segregated, locked storage or indoor storage are suitably identified to prevent their use. Items which are to be scrapped are "reject" tagged and kept in separate locked storage. Only items which have been properly receipt inspected and accepted can be used. Items which do not meet acceptance criteria are evaluated for disposition. Nuclear Power Quality Assurance, as appropriate, prepares a nonconformance report.

5.2.14 Nonconforming Items (cont'd)

The report identifies the nonconformance and recommends corrective action to the organization (action addressee) responsible to initiate action or resolve the nonconformance. Copies are forwarded or made available to affected organizations, such as Nuclear Power, QA, Engineering and Purchasing. Nonconforming items are accepted, rejected, repaired or re-worked in accordance with documented procedures specified by the organizations involved in resolving the deficiencies identified. |5

When significant nonconformances are identified, Nuclear Power Quality Assurance personnel, or other QA personnel, as applicable, investigate and initiate a significant nonconformance report. This report is used to document significant nonconformances with specified quality requirements when found during plant testing, or plant modification, maintenance and repair activities. |5

The significant nonconformance report identifies the deficiency and recommends corrective action to the organization (action addressee) responsible to initiate action or resolve the deficiency. Copies are forwarded to other affected organizations such as Nuclear Power, QA, Engineering, Purchasing or contractors. Nonconforming items are accepted, rejected, repaired or reworked in accordance with documented procedures specified by the organizations involved in resolving the deficiencies identified. Items which have been reworked or repaired are reinspected and/or retested in a manner identical to the original inspection and/or test or in an alternate manner approved by NP, QA or Engineering, as applicable. SNSC and QA participate, on a periodic basis, in systematic reviews of equipment malfunctions and their repairs. The reviews are based upon malfunction and repair information given in closed out nonconformance report for the period. Results of the reviews including any recommended actions are documented and submitted, as a minimum, to the manager of the affected organization. Additionally, analyses of trends may be initiated independently by QA as part of its audit review program. |5 |5 |5

5.2.15 Review, Approval and Control of Procedures

The administrative controls and quality assurance program provide measures which control and coordinate the approval and issuance of documents, including changes thereto, which prescribe activities affecting quality. These documents include those which describe organizational interfaces or which prescribe activities affecting safety-related structure systems or components.

5.2.15 Review, Approval and Control of Procedures (cont'd)

These documents also include operating and special orders, operating procedures, test procedures, equipment control procedures, fire protection procedures, emergency procedures, maintenance or modification procedures, refueling and material control procedures. These are in the form of documents such as station administrative orders, administrative directives, Quality Assurance operating procedures, Purchasing, Engineering and Construction procedures and corporate instructions. |5

The administrative controls and quality assurance program requires that activities affecting quality be prescribed by documented instructions or procedures of a type appropriate to the circumstances, and accomplished in accordance with these instructions or procedures.

The total program definition is reviewed by QA at least every two years to assure continued program adequacy. |5

Procedures or instructions are reviewed by other than the originating individual. Included in the review organizations are Nuclear Power, Engineering, Construction, Purchasing, QA, the Station Nuclear Safety Committee (SNSC) and the Nuclear Facilities Safety Committee (NFSC). The SNSC reviews changes to procedures or instructions to verify that such changes do not constitute an unreviewed safety question as defined in Section 50.59, 10CFR. Following an unusual incident during operations, testing, etc., an unexpected transient, significant operator's error or equipment malfunction or modification of a system, applicable procedures or instructions are reviewed by appropriate individuals or organizations. Changes to procedures or instructions are reviewed and approved by the appropriate organization. The system for review, approval and control of instructions or procedures provides for the identification of individuals and organizations involved, identification, as appropriate, of documents to be used in performing the activity, coordination and control of interface documents and the maintenance and updating of distribution lists. |5 |5

These instructions or procedures include, as appropriate, quantitative or qualitative accceptance criteria for determining that certain activities have been satisfactorily accomplished. This administrative controls and quality assurance program establishes measures for controlling the issuance of documents such as procedures or instructions, including changes thereto, which prescribe

5.2.15 Review, Approval and Control of Procedures (cont'd)

activities affecting quality. These measures assure that documents, including changes, are reviewed for adequacy and approved for release by authorized personnel and are distributed to and used at the location where the prescribed activity is performed.

Each organization participating in this administrative controls and quality assurance program identifies to QA administrative documents judged necessary to implement the administrative controls and quality assurance program. The organizations responsible for these documents include QA on distribution as each is issued or changed. QA in a timely manner, reviews these documents for adequacy. In addition, QA maintains an index of documents that define the basic structure of the administrative controls and quality assurance program.

5.2.16 Control of Measuring and Test Equipment

Measuring tools, gages and test equipment used at the site on items which affect plant safety are controlled and recalled for calibration at prescribed intervals.

Nuclear Power and Nuclear Power QA, as appropriate, maintain required standards, conducts calibrations, adjustments, and approves calibration procedures.

QA and Nuclear Power maintain records of measuring and test equipment under their control. These records include:

1. Identification number
2. Description of the item
3. Manufacturer's name and model number
4. Calibration frequency
5. Reference to method or procedure

Only after items are listed on the measuring and testing list can they be used on Class A systems. Each measuring tool, gage, and test equipment bears a tag or a sticker which indicates the next calibration due date.

Calibration requirements are based on the type of equipment, usage, and any other conditions affecting accuracy control requirements.

5.2.16 Control of Measuring and Test Equipment (cont'd)

Calibrations are made against certified measurement standards which have known relationship to national standards where such standards exist. Where no such standards exist, the basis for calibration is documented. The accuracy of each calibrating standard is at least equal to the accuracy requirement for the equipment being calibrated. If called for by engineering specification or drawing or other written instruction, calibrating standards of a specified greater accuracy will be used.

Discrepancies discovered in examination or test equipment are reported in accordance with procedures for reporting nonconformances and corrective actions. A documented review is initiated of all work accomplished with the equipment since the previous calibration. To determine if applicable requirements have been satisfied, a review is conducted of all material, components and equipment checked with discrepant examination or test equipment since its last acceptable calibration or periodic check. Nuclear Power Quality Assurance issue a nonconformance report if required.

5.2.17 Inspections

Programs for inspection of items and activities affecting safety have been established and are implemented by personnel reporting to the Test and Performance Manager, Instrument and Control Engineer, the Manager, Nuclear Power Quality Assurance, by Contractors under the direction of the Construction Department, or by other properly authorized personnel.

For plant maintenance and modification, examination, checks and inspections are normally accomplished by Supervisors responsible for the work. When independent examinations are deemed necessary the examinations are accomplished by personnel who did not perform the work and who did not directly supervise the work.

Quality requirements are estabished by Engineering or Nuclear Power Quality Assurance. Nuclear Power Quality Assurance verifies that requirements are identified and determines the independent inspections to be performed to assess compliance.

Nuclear Power Quality Assurance determines the independent inspection required and prepares work inspection instructions. Work inspection instructions specify the inspections, documentation required and hold points for a job.

5.2.17 Inspections (cont'd)

For large and complex work, travelers are issued by the Project Managing Activity (Construction or Nuclear Power). Nuclear Power Quality Assurance concurs in the traveler. The traveler identifies the operations to be performed on an item after it is drawn from Stores. Mandatory independent inspection hold points are identified on the traveler.

The Manager, Nuclear Power Quality Assurance has the authority to order cessation of work where continuation of work would lead to unacceptable conditions. Work may be resumed if approved by the Manager, Nuclear Power Quality Assurance; General Manager, NPG; or management levels above the General Manager. |5

Nuclear Power Quality Assurance maintains records of required independent inspection activities.

5.2.18 Control of Special Processes

Measures have been established and documented which assure that special processes are accomplished under controlled conditions employing appropriately qualified personnel and procedures.

Engineering prepares in-house welding procedures and acceptance criteria. Power Generation Maintenance qualifies welding procedures and personnel to applicable ASME Codes and maintains appropriate records in accordance with ASME Code Section IX.

Welding materials are specified, purchased, receipt inspected, stored, identified, and issued in accordance with written procedures. Engineering provides weld joint identification and authorizes weld modifications or repair.

For welds accomplished by Company forces at Indian Point or at Van Nest shops, the proper completion of weld inspection forms, weld inspection and acceptance, and permanent recording of weld acceptance, is the responsibility of the Nuclear Power Quality Assurance inspector or PGM Quality Control inspector respectively. |5

For welds accomplished by contractor personnel, the contractor weld process control form for welds shall require the approval of contractor QA. As the welding proceeds, the appropriate section of weld inspection form shall be completed by the Nuclear Power Quality Assurance inspector or PGM Technical Engineer Inspection |5

5.2.18 Control of Special Processes (cont'd)

and Quality Control, as appropriate, to indicate that inspection requirements have been satisfied and to provide permanent record of traceability of material and inspection information, as required. 5

Nuclear Power, PGM, or Construction, as appropriate, prepare "as-constructed" information (marked-up drawings) showing weld locations and respective weld identification numbers. The "as-constructed" information for modifications is forwarded to Nuclear Records Management Center who verify that these drawings conform to the latest modification package drawing list and then forward them to Design Engineering. Design Engineering revises the affected original drawings, and distributes copies to the Nuclear Records Management Center and Mechanical Engineering. NP forwards "as constructed" information for repairs to Field Engineering for reporting to Design Engineering as necessary. Nuclear Power Quality Assurance monitors welding activities to assure compliance with approved procedures. Welding codes or requirements for work performed by contractors requires prior Engineering approval. Heat treatment is conducted in accordance with approved procedures.

Con Edison Non-Destructive Examination personnel are qualified in accordance with ASME Code Section III and ASNT - TC-1A.

The Director, Quality Assurance or his designee certifies Level III Non-Destructive Examiners. Level III examiners are responsible for examinations of Level I and Level II personnel. All NDE personnel must meet the required physical fitness criteria, pass a written examination, satisfactorily operate test equipment and interpret or analyze collected indications. Engineering identifies the type of NDE to be performed. 5

Nuclear Power Quality Assurance monitors NDE services to assure compliance with requirements and maintains appropriate records of work performed.

Chemical cleaning may be required during certain maintenance or modificaton work. The maintenance procedure identifies the approved process to be followed as well as any inspections and other controls required.

5.2.19 Test Control

Nuclear Power provides, and maintains control over operating procedures and test procedures to assure that they are appropriately prepared, authorized, implemented, documented and evaluated.

5.2.19 Test Control (cont'd)

The Plant Technical Specifications incorporate various engineering requirements and parameter limits that are applicable during operation of the plant. Procedures include measures to report conditions adverse to quality and to assure adequate corrective action. The NFSC reviews proposed changes to procedures which involve an unreviewed safety question as defined in Section 50.59, 10CFR50. Nuclear Power establishes procedures for indicating the status of inoperable equipment; for example, tagging valves and switches to prevent inadvertent operation.

A series of periodic tests have been prepared to satisfy the requirements of the Plant Technical Specifications.

Test procedures contain:

(1) The test objective
(2) The acceptance or operability criteria to be used in evaluating test results.
(3) Pertinent references, as appropriate
(4) Precautions
(5) Limitations
(6) Check-off sheets, as appropriate
(7) Technical specifications, as required
(8) Special equipment, as required
(9) Step-by-step instructions

Each test procedure is approved by the Test and Performance Manager.

The Test and Performance Engineer sends a copy of the test procedure to the chairman of the Station Nuclear Safety Committee (SNSC) who arranges a SNSC review.

Once approved by SNSC, these test procedures are maintained in a central file and updated, as required, for possible future use.

Maintenance and preoperational test control consists of the following:

(1) Each Maintenance Work Order (MWO) issued for Class A items is evaluated for retest requirements by the Test and Performance Manager who provides such requirements as necessary.

(2) Prior to the test, the Operations Manager insures that all MWO's to which the test applies have been signed off for work completion. He also assures

5.2.19 Test Control (cont'd)

that there are no unresolved conditions adverse to quality for any item within the boundary of the test.

(3) For refueling or other major shutdowns, a total test program is developed including an overall schedule for tests to be performed. The program is based on a review of all MWO's and associated test requirements by the appropriate organizational units.

(4) Test procedure results are submitted to the Test and Performance Manager for review. The Test and Performance Manager monitors test results to assure that data meet acceptance requirements.

The Test and Performance Manager or his representative monitors the performance of test procedures, as necessary, to assure that the tests are performed in accordance with written procedures.

Post-maintenance test results are evaluated by station personnel. When test results are deemed satisfactory, the Senior Watch Supervisor certifies the test results by signing and dating the appropriate sections of the approval sheet. The record copy of the test results and the applicable MWO covered by that test are filed in the central record file. Test results are reported to the Test and Performance Manager for his evaluation.

Nuclear Power prepares and controls operating records in accordance with requirements of the Plant Technical Specifications. These records provide documentation for all operations, test inspections, shutdowns, changes and other pertinent activities associated with daily operations listed in the Plant Technical Specifications. These records are maintained at the site in a manner convenient for review and are retained for five years or longer, as required by applicable codes or regulations.

5.3 Preparation of Instructions and Procedures

The administrative controls and quality assurance program is carried out in accordance with written instructions and procedures. These instructions and procedures are prepared by organizations participating in the program, i.e., Nuclear Power, Engineering, Construction, Purchasing, Nuclear Fuel Supply and Quality Assurance and are reviewed, approved and controlled in accordance with 5.2.15. |5

5.3 Preparation of Instructions and Procedures (cont'd)

These instructions and procedures describe activities affecting safety at the plant and provide an approved, preplanned method of conducting operations. Procedures are in documents such as general administrative directives, station administrative orders, administrative directives, plant technical procedures, QA procedures, Engineering and Purchasing operating procedures, Construction field directives and corporate instructions. Each instruction and procedure is of a detail appropriate to the circumstance and permits the user to perform the required activity without direct supervision; is appropriately titled, dated, and approved; contains a clear, concise statement of purpose; and, as appropriate, contains in its body the titles and identifying numbers of applicable reference documents; and identifies prerequisite activities, precautions to be taken, limitations to be applied, corrective action to be implemented, step-by-step instructions, acceptance criteria and check-off lists.

Procedures fall into the following general categories:

1. System procedures describing operation related to the safety of the plant.

2. General plant procedures providing instructions for the integrated operation of the plant.

3. Startup procedures which provide for starting the reactor from hot or cold condition and recovery from reactor trips.

4. Shutdown procedures which provide for controlled reactor shutdown or shutdown following reactor trips.

5. Power operation and load changing procedures which provide for steady-state power operation and load changing, including response to unanticipated load changes.

6. Process monitoring procedures which provide for monitoring plant system performance and which, as appropriate, identify limits for significant process parameters.

7. Fuel-handling procedures which provide for such activities as core alterations, refueling, fuel accountability, receipt and shipment of fuel and safety measures.

5.3 Preparation of Instructions and Procedures (cont'd)

8. Maintenance procedures which provide for preparation for maintenance, performance of maintenance, post-maintenance checks and return to service, and maintenance records.

9. Radiation control procedures which provide for implementation of the radiation control program including the acquisition of radiation data, and which identify equipment for performing radiation surveys and for measurement, evaluation and assessment of radiation hazards.

10. Calibration and test procedures which provide for periodic calibration and testing of safety-related instrumentation and control systems and of measuring and test equipment used in activities affecting safety.

11. Chemical-radiochemical control procedures which provide for activities such as sampling and analyses, coolant quality maintenance, control of deleterious agents and for the control, treatment and management of radioactive wastes and the control of radioactive calibration sources.

12. Emergency procedures which provide guidance for operations during potential emergencies in a manner that will allow a trained operator to identify in advance the course of events signalling an emergency as well as describing the action he should take; and for distinguishing, at least initially, between abnormal and emergency conditions; for identifying symptoms of a particular kind of emergency condition; for automatic action; for immediate operator action; for subsequent operator action; and for categories of events of particular kinds of emergencies, such as loss of coolant.

13. Procedures for implementing the emergency plan which provide for assignment of authorities and responsibilities; protective measures; specific action; medical treatment; equipment requirements; identification of emergency communications network; description of alarm signals, restoration of the plant to normal conditions; and for testing of procedures, communications network and alarm system.

14. Test and inspection procedures which provide a description of objectives, acceptance criteria; prerequisite and special conditions, limiting conditions, the test or inspection procedure; specify any special equipment or calibration required; and which, as appropriate, identify hold points.

APPENDIX A

Class A Items

1. Core and Reactor Internals

2. Control Rods and Control Rod Drives and Drive Housings

3. Primary Coolant System

   - Pressurizer System
   - Primary Relief System
   - Reactor Coolant Pump Shaft
   - Reactor Coolant Pump Flywheel
   - Reactor Coolant Pump Seals
   - All pressure boundaries (vessels, pumps, piping and valves) through the second pressure boundary isolation device.

4. Secondary Coolant System

   - Main Steam Lines up to and including the second Main Steam Isolation Valves (MS-2).
   - Main Feedwater System to the Steam Generator downstream of and including the system's second Isolation Valve
   - Boiler Blowdown from the Steam Generators up to and including the system's isolation valves.
   - The Main Steam line to the Auxiliary Feedwater Turbine Drive.
   - Turbine Stop and Control Valves
   - First Stage Turbine Pressure Transmitters
   - Independent Electrical Overspeed Protection System
   - Feedwater Regulator Valves (Main & Low Flow Bypass)
   - Main Boiler Feedwater Pump Motor Operated Discharge Valves (BFD-2-21 & BFD-2-22)
   - Main Steam Traps and Atmospheric Dump Drains and Silencer Drains.
   - Feedwater Leading Edge Flowmeters and associated pressure transmitters (PT-3101 through 3104).

5. Auxiliary Boiler Feedwater System

   Includes:

   - Condensate Storage Tank, supply piping and valves to the Auxiliary Feedwater pumps
   - City water to Auxiliary Feedwater pump up to and including valve CT-49.

6. Chemical and Volume Control System

7. Containment Building

   Includes:

   - Access Air locks
   - All piping and electrical penetrations
   - Internal floors, walls and structural steel

8. Containment Isolation System

9. Containment Spray System

10. Containment Air Recirculation Cooling and Filtration System.

11. Gaseous Waste Processing System

12. Liquid Waste Processing System

13. Nuclear Service Water System

    - All cooling paths to and from nuclear safety related equipment.

14. Instrument Air System

    - Compressor and associated equipment and essential air header to nuclear instruments, control and valves.
    - Closed Cooling Water System

15. Fuel Handling System

16. Reactor Control and Instrumentation System.

17. Reactor Protection/Trip System

18. Sampling System

    - Including only pressurized lines up to the second Containment Isolation Valve.

19. On-site Emergency A.C. Power System

    Includes:

    - Electrical components and circuitry up to and including isolation devices for non-emergency loads.
    - Emergency Diesel Generators and Diesel General Auxiliary Systems. ie: fuel oil, Cooling Water and Startup Air Systems.

(6.9 Kv Buses and Lighting Systems are both Non-Class A)

20. On-site D.C. Power Systems

    Includes:
    - o Electrical components and circuitry up to and including isolation devices for non-emergency loads.
    - o Batteries, battery chargers, D.C. power panels, D.C. distribution panels and associated cabling.

21. Process and Area Radiation Monitoring Systems

22. Containment Penetration and Weld Channel Pressurization System.

23. Hot Penetration Cooling System

24. Isolation Valve Seal Water System

25. Post Accident Hydrogen Control System

    Includes:
    - o Hydrogen Recombiner System
    - o Post accident containment vent system
    - o Containment Building Post Accident Containment Air Sampling System (H_2-O_2 Analyzers)

26. Safety Injection System

    - o High Head Injection for ECCS
    - o Low Head Injection for ECCS
    - o Recirculation and Containment Sumps
    - o Accumulators
    - o External & Internal ECCS Recirculation Systems

27. Residual Heat Removal System

    Includes:
    - o Low head injection for ECCS
    - o External and Internal Recirculation Systems
    - o Recirculation & Containment Sumps

28. Component Cooling System

    Includes:
    - o Auxiliary Component Cooling Pumps and Piping.

29. Refueling Water Storage Tank

30. Spent Fuel Pool Cooling and Make-up System

31. Ventilation/Filtration System for Areas Containing Safety Related Systems and Systems containing Radioactivity.

32. Reactor Vessel Service and Inspection Equipment

    Includes:
    - o Polar Crane
    - o Equipment that is used over the core and that could cause damage to the nuclear fuel assemblies during the time the reactor head is removed.
    - o Reactor Vessel and head inspection tools.

33. Containment Sump System

    Includes:
    - o Sump Pumps
    - o Piping, flow and level Instruments
    - o Level Instrumentation in the reactor cavity sump.

34. Primary Coolant Leak Detection System

35. Nitrogen Supply to Nuclear Equipment

36. Hydrogen Supply to Nuclear Equipment

37. Primary Water Makeup System

38. Supports required for all the above listed items

    Includes:
    - o Structures and Seismic Restraining Devices

39. All Regulating Systems, Controlling Systems and instrumentation use with the above listed items.

    Includes:
    - o Indications used to determine operator action before (normal operation), during and following a postulated accident.

40. All items designed in Design Specification as per ASME Section III, Classes 1, 2 and 3, MC and CS.

41. All equipment performing Category 1 or 2 functions per Regulatory Guide 1.97.

42. Any fuses and circuit breakers which provide protection (limit electrical fault currents) for containment electrical penetrations.

The following consumables are used in conjunction with the items listed above:

43. Diesel Generator Fuel Oil

44. Boric Acid

45. Lubricating Fluids whose loss could degrade critical components

46. Demineralizer Resin

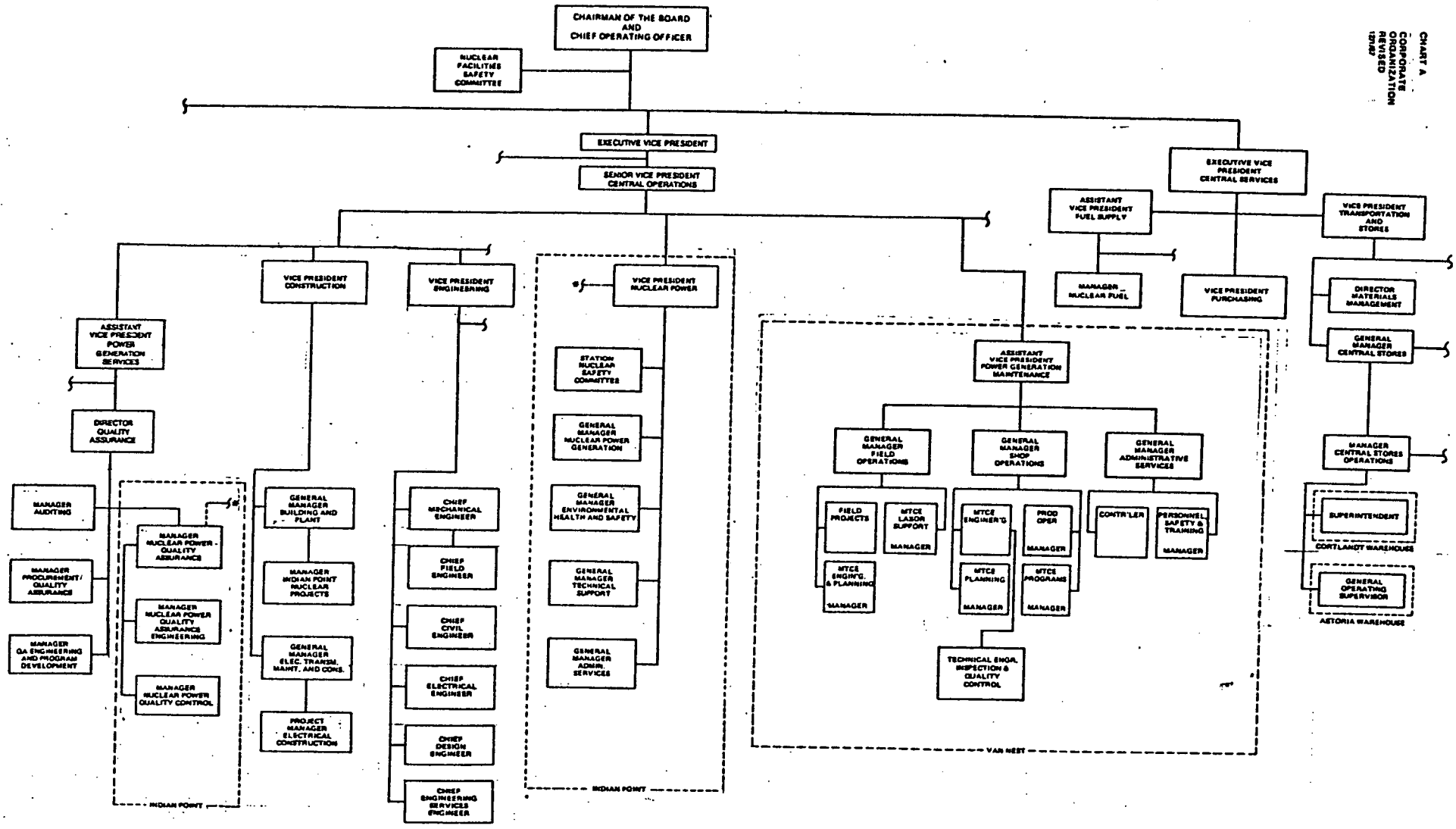
    Includes:
    - o Resins used in the Chemical and Volume Control Systems.

47. Sodium Hydroxide for use in the Containment Spray System.

48. Weld Rod and Weld Filler Material.

49. Hydraulic Snubber Fluids and Seals.

CHART A
CORPORATE ORGANIZATION
REVISED
12/80



*INDICATES THAT MANAGER, NUCLEAR POWER QUALITY ASSURANCE HAS DIRECT COMMUNICATION ACCESS TO VICE PRESIDENT, NUCLEAR POWER

CHART B

NUCLEAR POWER ORGANIZATION REVISED 10/1/87

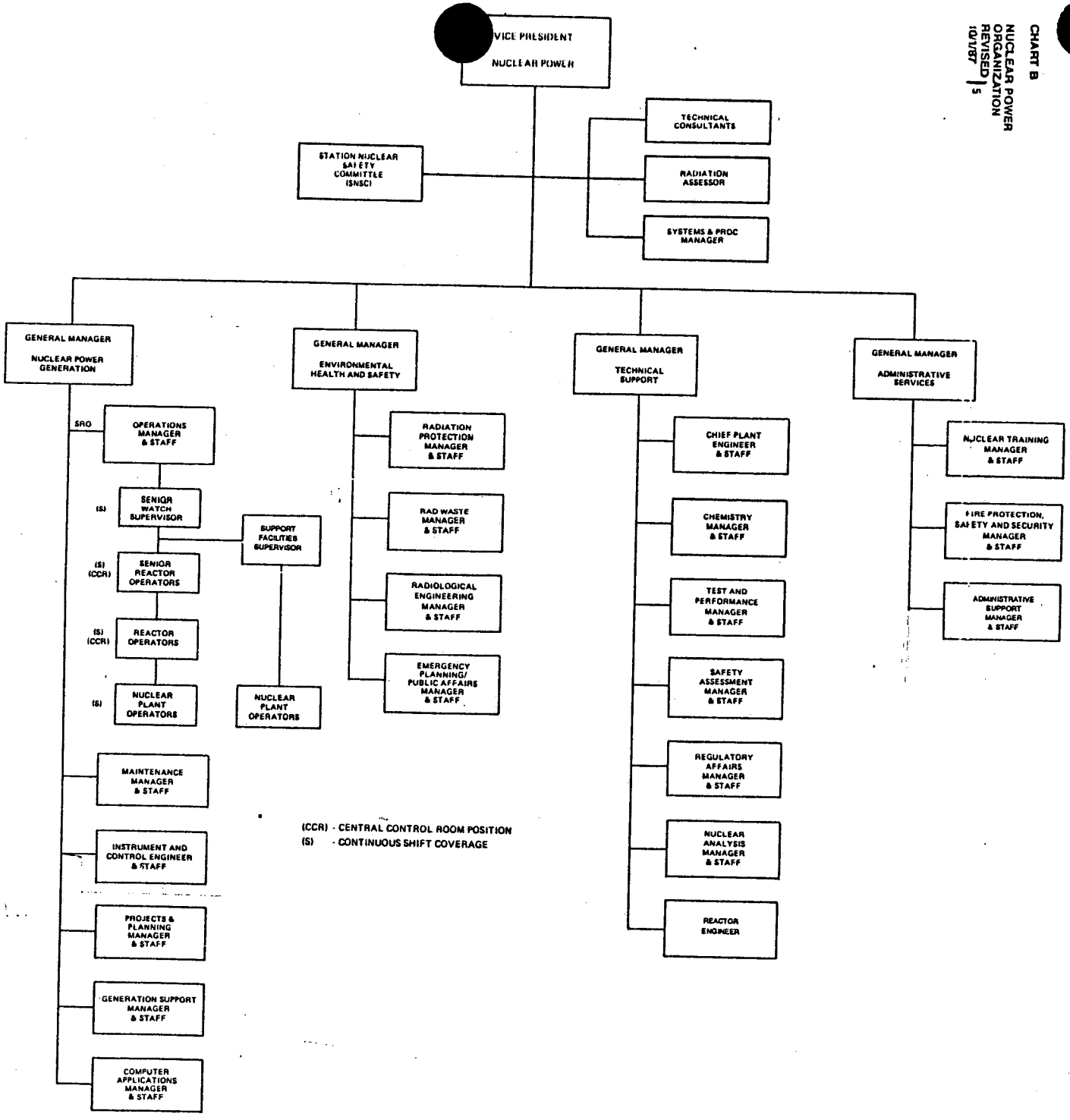


TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
1.	General	Certain Regulatory Guides invoke or imply Regulatory Guides and standards in addition to the standard each primarily endorses. Certain ANSI Standards invoke or imply additional standards.	The Con Edison commitment refers to the Regulatory Guides (and the ANSI Standards they endorse), specifically identified in the "Foreword". Additional Regulatory Guides, other guides and similar documents implied or referenced in those specifically identified in the "Foreword" are not part of this commitment.
2.	General	Certain ANSI Standards extend the scope of applicability to include systems, structures, and components whose satisfactory performance is required for a plant to operate reliably.	Our commitment to these standards applies only to those systems, structures, and components whose satisfactory performance is required to prevent postulated accidends that could cause undue risk to the health and safety of the public; or to mitigate the consequences of such accidents. Reliable operation of the plant may depend upon other systems, structures and components which are not covered by this commitment.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
3.	General	NRC Regulatory Guides, and ANSI Standards do not provide for deviation from any requirement(s) when emergency or other urgent conditions make such deviation necessary.	The majority of ANSI Standards endorsed by the Regulatory Guides to which Con Edison has committed are concerned with the design and/or construction phases of nuclear power plants. Consequently, Con Edison has adapted these standards to its operations phase, where practicable, and has developed provisions for certain conditions not addressed in the standards. In the event of an emergency condition which, if not promptly corrected could likely affect the health and safety of the public, the Vice President, Nuclear Power or his designated alternate(s) may authorize emergency repairs and deviations from written procedures. The nature of the emergency, its cause and the corrective action taken are documented.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
3 (cont'd)			Waivers to specific procedures may be authorized by the Vice President, Nuclear Power or his designated alternate if necessary to avoid significant loss of unit capacity with due consideration for public health and safety. Such waivers, including the need therefore, are documented. The above provisions assure procedural control for bypassing critical inspections, tests, and operations.
4.	General	Certain ANSI standards contain requirements which, under certain conditions, may conflict with limiting personnel radiation exposure.	The majority of ANSI Standards endorsed by the Regulatory Guides to which Con Edison has committed are concerned with the design and/or construction phases of nuclear power plants. Consequently, Con Edison has adapted these standards to its operations phase, where practicable, and has developed provisions for certain conditions not addressed in the standards. When conformance with particular standards requirements; e.g.,

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
4 (cont'd)			cleaning of fluid systems, housekeeping, would conflict with limiting personnel radiation exposure, the degree of conformance to the standards is determined by appropriate levels of management.
5.	General	Various standards require inspections, examinations and tests, but do not specify the frequencies of these activities.	Except in ANSI N45.2.5, the frequencies of required inspections, examinations and tests are not specified in the standards. Accordingly, the frequency of inspections, examinations and tests required by the standards - other than ANSI N45.2.5 - is identified on a job-by-job basis. The amount of inspections, examinations and tests identified is based upon the safety significance of the item involved.
6.	ANSI N18.7 Section 5.2.2	"Temporary changes which clearly do not change the intent of the approved procedure shall, as a minimum, be approved by two members of the plant staff knowledgeable in the areas affected by the procedures."	Temporary changes will be authorized per the provisions of the Administrative Controls Section of the Facility Technical Specifications.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference		Requirement	Interpretation/Alternate/ Exception
7.	ANSI N.18.7 First Sentence of 5.2.7	(a)	"Maintenance or Modification...shall be performed in a manner to ensure quality at least equivalent to that specified in original design bases and requirements, materials specifications, and inspection requirements..."	Requirements (a), (b) and (c), as a whole, require a degree of quality for replacement items consistent with their function. Our program allows this degree of quality to be more or less stringent than the original, provided the specified quality requirements are reviewed and approved by Engineering prior to use.
	First Sentence of 5.2.7.1	(b)	"A maintenance program shall be developed to maintain safety related structures, systems and components at the quality required for them to perform their intended functions."	
	ANSI N18.7 Para (1) of 5.2.13	(c)	"Purchased to specifications and codes equivalent to those specified for the original equipment, or those specified by a properly reviewed and approved revision."	

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
8.	ANSI N18.7 Section 5.2.14	General requirements for nonconforming items	Paragraph 5.2.14 applies to programmatic as well as to specific provisions of ANSI N18.7 and its associated references. Consistent with paragraph 5.2.14, our quality assurance program will contain provisions for controlled, documented waivers to its requirements.
9.	ANSI N18.7 Section 5.2.13.1	Requires certain provisions in procurement documents.	Per 5.2.13 procurement document contents for replacement items will be based primarily on original procurement document contents. The provisions of 5.2.13.1 will be included if required by original procurement document or warranted by performance of the item. Procurement document content for new items will meet the requirements of 5.2.13.1. When requirements of ANSI standards are included in procurement documents, the requirements may not be identified as excerpts from ANSI standards. Procurement documents are developed and reviewed in accordance with paragraph 5.2.13 of the Q.A. Program description.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
10.	ANSI N18.7 Section 5.2.13.1, (2)	"... drawings, specification and industrial codes and standards... shall be identified by titles and dates of issue..."	Drawings are identified by drawing number, revision number, and title.
11.	ANSI N18.7 Section 5.2.13.1 1st Para.	Where changes are made to procurement documents, they shall be subject to the same degree of control as was used in the preparation of the original documents.	Consistent with the requirements of ANSI N45.2.11, paragraph 7.2, minor changes to (procurement) documents, such as, inconsequential editorial corrections, or changes to commerical terms and conditions may not require that the revised (procurement) document receive the same review and approval as the original documents.
12.	ANSI N18.7 Section 5.2.17	"Inspection shall be performed by qualified individuals other than those who performed or directly supervised the activity being inspected."	Examinations, checks, and inspections of work at Indian Point Station are normally accomplished and documented by Supervisors responsible for the work. Where independent examinations, checks, and inspections are determined appropriate, personnel who do not perform the work and do not directly supervise the

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
12 (cont'd)			work are utilized. These independent examinations, checks, and inspections are comparable in extent to corresponding construction phase activities.
13.	ANSI N18.7 Section 5.2.17 Last Paragraph, next to last sentence	Deviations, their cause, and any corrective action completed or planned shall be documented.	Consistent with the documentation requirements of Criterion XVI, Appendix "B" to 10 CFR 50, for corrective action, significant deviations, their cause and any corrective action completed or planned are documented. Results of inspections used to accept or reject items shall be documented in all cases.
14.	ANSI N18.7 Section 6 References	"When the preceding American National Standards referred to in this document are superseded by a revision approved by the American National Standards Institute, Inc., the revision shall apply."	Our commitment to ANSI standards does not extend beyond the standards (date, revision, etc.) identified in that commitment.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
15.	ANSI N18.7 ANSI N45.2 ANSI N45.2.2 ANSI N45.2.13	General and specific procurement requirements.	Alternate methods to those specified in these standards may be used in special cases to support procurement of items; e.g. those items urgently needed, items where commercial quality is sufficient or sole source items. In these cases, prior to procurement, exceptions to the standard requirements will be documented and concurred in by Engineering, NP and QA&R.
16.	ANSI N45.2.2 Section 2.1	"The specific items to be governed by this standard shall be identified."	Items governed by this standard or portions thereof are identified on a case-by-case basis during the design document and procurement document development processes.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
17.	ANSI N45.2.2 Section 2.7	Each of the specific items governed by this standard shall be classified into one of four levels.	All safety-related items are protected to an extent commensurate with their sensitivity and importance to safety, but are not specifically classified in various levels per the guidance of paragraph 2.7. Therefore, satisfaction of requirements for packaging, shipping, receiving, storage and handling for particular items could be different than those suggested.
18.	ANSI N45.2.2 Subsection 3.9	General marking requirements.	Some items are of a size, shape or consistency which preclude marking. Marking in such cases is applied to box or other enclosure. Tagging is employed, where necessary.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
19.	ANSI N45.2.2 Subsection 5.2.1	"Preliminary visual inspection or examination shall be performed prior to unloading..."	Inspection after unloading is sufficient to determine the condition of many items. In special instances, pre-unloading examination is performed.
20.	ANSI N45.2.2 Section 5.2.2	The (receiving) inspections shall be performed in an area equivalent to the level of storage requirement for the item.	Receiving inspection is performed in a manner and in an environment which do not endanger the requisite quality of an item; however, receiving inspection area environmental controls may be less stringent than storage environmental requirements for that item.
21.	ANSI N45.2.2 Paragraph 5.2.3	..."The 'Special Inspection' procedure, complete with documentation instructions shall be attached to the item or container..."	The "Special Inspection" procedure shall be readily available to inspection personnel and may be attached to the item or container.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
22.	ANSI N45.2.2 Paragraph 5.3.3	"A statement documenting the authority and technical justification for the conditional release... shall be prepared..."	A statement documenting the authority and justification for the conditional release is prepared. Justification may not always be of a technical nature.
23.	ANSI N45.2.2 Subsection 6.2.4	The use or storage of food, drinks and salt tablet dispensers in any storage area is prohibited.	People working in storage areas have a right of access to water dispensers per OSHA requirements. Additionally, due to location and layout of the building, personnel temporarily store lunches in the workplace. This area is regularly policed for sanitation.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
24.	ANSI N45.2.2 Appendix (A-3) A.3.9 (1) Second Group	"Container markings shall appear on a minimum of two sides of the container, preferably on one side and one end."	Containers are adequately marked for storage, identification and retrieval. Multiple marking requirements are imposed, where necessary.
25.	ANSI N45.2.2 Appendix (A-3) A.3.9 (4) Second Group	"Container markings shall be... no less than 3/4" high container permitting."	Container markings are of a size which permits easy recognition.
26.	ANSI N45.2.2 Appendix (A-3) A.3.9 (6)	"Container marking shall include the following information: ..."	The information required in container marking is evaluated on a case-by-case basis. Marking is adequate in each case.
27.	ANSI N45.2.2 Appendix (A-3) Section A 3.5.1 (1)	"Non-metallic plugs and caps shall be brightly colored."	Non-metal plugs and caps are of a suitably visible color.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
28.	ANSI N45.2.2 Appendix (A-3) Section A 3.5.1 (5)	Plugs or caps shall be secured with tape or other means as necessary to prevent accidential removal.	In cases where plugs or caps do not snugly fit, additional securing devices or measures will be used.
29.	ANSI N45.2.3	Identifies various housekeeping requirements, including cleanliness, fire prevention and fire protection which must be accomplished during the progress of construction.	When this standard is applied, its requirements are implemented in those areas affected by work activities associated with modifications or maintenance as determined necessary by Engineering or QA&R. Remaining provisions of para. 5.2.10 of 18.7 will be adhered to.
30.	ANSI N45.2.4 Section 3.0	Pre-construction verification.	This section requires verification that items are in satisfactory condition for installation and have not suffered since initial receipt inspection. Documentation of that verification in addition to the documentation of the initial receipt inspection is not required.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
31.	ANSI N45.2.4 Section 5.2	Identifies various tests to be performed.	Consistent with section 5.2 of IEEE 336, Draft 1, Revision 2, 1976, these tests will be performed "as appropriate" as determined by Engineering or Nuclear Power.
32.	ANSI N45.2.4 Subsection 5.2.2 Mechanical Tests	"Mechanical tests shall be performed to ascertain that... components or systems can withstand system pressure ratings".	For the plant operational phase "system pressure ratings" is interpreted to mean system operating pressure. For the Reactor Coolant System, Facility Technical Specifications identify testing requirements.
33.	ANSI N45.2.4 Subsection 6.2.1	"Items requiring calibration shall be tagged... indicating date of calibration and identity of person..."	Items requiring calibration are tagged indicating date of calibration. Identity of person that performed the calibration shall be indicated on tag or traceable through records.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
34.	ANSI N45.2.5 Section 2.5	Requires periodic calibration of thermometers.	The initial accuracy of liquid-in-glass thermometers is established and, because of their inherent stability, they need not be "adjusted or calibrated at prescribed intervals".
35.	ANSI N45.2.5 Section 2.5.2 Second paragraph	"...when discrepancies... are found all items inspected shall be considered unacceptable."	Consistent with ANSI N18.7, 5.2.16 when devices are found to be out of calibration, an evaluation shall be made and documented concerning the validity of previous tests.
36.	ANSI N45.2.4 Subsection 6.2.2 Systems Tests	"These tests shall be made to verify that all parts of a system properly coordinate with each other."	For the plant operation phase, this requirement is interpreted as not requiring that an entire system be re-tested after completion of modification of only a portion of that system. The testing requirements of the Facility Technical Specifications are for inoperable equipment.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
37.	ANSI N45.2.5 Section 3.3.4	"Inspections shall be performed to ... verify that the process is suitable for the particular application. Verify that manpower, equipment and materials are available..."	Design controls verify qualifications of processes and suitability for particular applications. Verification of availability of manpower equipment, etc. is performed by project management rather than inspection personnel.
38.	ANSI N45.2.5 Section 4.2	This section specifies inspections of storage, handling facilities, stock piles, water, etc.	Quality of materials is verified prior to batching in lieu of these inspections.
39.	ANSI N45.2.5 Section 5.4	Various wrenches require calibration twice daily or weekly.	This requirement will be conformed with in the case of continued use. For intermittent use calibration frequency is based upon usage and calibration intervals may be greater than days or weeks.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
40.	Regulatory Guide 1.58 ANSI N45.2.6	General requirements for inspection, examination and testing personnel.	NDE personnel meet the requirements of ASNT-TC-1A. Other personnel are qualified as discussed in Sections 3.3 and 3.4 of the Program Description.
41.	ANSI N45.2.8 Section 3.2	If checks disclose apparent loss of identification, affirm identification prior to release for installation.	We will check identification of an item prior to release for installation; however, option is maintained to knowledgeably install equipment lacking full identification providing deficiencies are resolved prior to its use; i.e., operation. Such action is recorded in quality control documents.
42.	ANSI N45.2.9 Section 1.1	"This standard provides general requirements... of nuclear power plants".	The requirements of this standard will be applied to records generated after this standard is implemented.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
43.	ANSI N45.2.9 Section 1.4	Definition of Quality Assurance Records.	This definition results in unreasonable requirements regarding time of application of the record system. Con Edison will introduce records into the system as soon as practical after completion of the document.
44.	ANSI N45.2.9 Section 3.2.2	The quality assurance records shall be listed in an index.	The types of quality assurance records shall be listed in an index.
		The index shall indicate, as a minimum, record retention times, where the records are to be stored and the location of the records within the storage area.	In accordance with ANSI N45.2.9, paragraph 3.2.2, the index will indicate the location of the records within the record system.
45.	ANSI N45.2.9 Section 4.2	A specific submittal plan shall be established for quality assurance records by management between the purchaser and supplier.	Purchase orders identify any particular record submittal requirements, as applicable. Acceptance of the purchase order by the supplier constitutes agreement with the purchaser.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
46.	ANSI N45.2.9 Sections 4.3 4.4 and 5.3	"... a receipt control system shall include: 1. A records checklist... 2. A record of... records received. 3. Procedures for receipt and inspection of... records. ... system shall permit ... assessment... status... of records. ... a method for verifying that records received are in agreement ... and are in good condition. ... a method of verifying that the records agree with pre-established records checklist."	We will provide these administrative controls for our Engineering, NP, and Nuclear Power QA record storage area (s) but, where only a small number of non-permanent records are controlled by individual organization(s), these auxiliary administrative controls are unnecessary.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
47.	ANSI N45.2.9 Section 5.4	"Special processed records shall be stored... as recommended by the manufacturer of these materials."	In determining storage requirements, we will take into account recommendations of the manufacturer if available. Normally, these recommendations will be followed; however, a blanket commitment is impracticable as we must retain the flexibility for final determination of storage needs.
48.	ANSI N45.2.9 Section 5.6	"For storage of film... controls shall be provided... as recommended by the manufacturer."	See Above
49.	ANSI N45.2.9 Section 5.5	A full time security system shall be established to preclude the entry of unauthorized personnel into the storage area. This system shall guard against larceny and vandalism.	For the purpose of this commitment "storage area" is interpreted to mean a Con Edison facility which contains records; e.g., the Indian Point site, 4 Irving Place, etc. and "security system" is interpreted to mean security measures.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
50.	ANSI N45.2.9 Section 5.6	Requires a "Facility" or duplicate records.	Non-permanent records need not be duplicated or stored in a "Facility" but are required to be stored per NFPA Class I record provisions.
51.	ANSI N45.2.9 Section 6.2	"Storage system shall provide for the accurate retrieval of information without undue delay."	In accordance with ANSI N45.2.9, paragraph 6.2, the storage system shall provide for the accurate retrieval of information.
52.	Regulatory Guide 1.88	"When NFPA 232-1975 is used, Quality Assurance Records should be classified as NFPA Class I Records".	When a single record storage facility is maintained, permanent (lifetime) records will be afforded fire protection in accordance with NFPA Class I record provisions. Fire protection in accordance with NFPA Class 2 provisions shall be provided for records designated as non-permanent.
53.	ANSI N45.2.9 Section 5.6	"An alternative to... a record storage facility... is...duplicate records stored in a separate remote location."	Our duplicate records may be stored in separate rooms distant from one another but within the same building providing their simultaneous exposure to hazards is unlikely.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
53 (cont'd)			If records are stored in the same building, protection will be provided to assure that simultaneous exposure to hazards is unlikely.
54.	ANSI N45.2.9 Section 6.2	A list shall be generated designating those personnel who shall have access to the files.	Lock and key controls, duplication of records in separate locations and other security measures could obviate the need for access lists. In cases where access lists are utilized, they are not required in all cases to identify specific individuals.
55.	ANSI N45.2.9 Section 7.2	"Upon final transfer the owner shall... acknowledge receipt..."	Except for special cases as agreed to by Con Edison and the vendor, acknowledgment or receipt of vendor Q.A. records is unnecessary.
56.	ANSI N45.2.9 Appendix A	Applicable Codes and Standards used in Design.	Codes and standards used in design are not considered "records" to be stored and controlled per the requirements of N45.2.9. They will be stored and controlled in accordance with normal library practices.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
57.	ANSI N45.2.10	"Quality Assurance Terms and Definitions."	Where terms defined in ANSI N45.2.10 are also defined in other standards to which Con Edison has referred via commitments to Regulatory Guides in the "Foreword" of the program description, the definitions in those other standards shall apply.
58.	ANSI N45.2.10	Definitions of "Certificate of Conformance" and "Certificate of Compliance".	Based upon the guidance of ANSI N45.2.13, 10.2, the definitions of these two terms will be exchanged.
59.	ANSI N45.2.10	Definition of "Modification".	Modification - A change to an item's configuration, material(s) or function(s) such that the item does not conform to previously approved design documents.
60.	ANSI N45.2.11 Section 2.2	Program procedures shall cover making experience reports available to cognizant design personnel.	A variety of experience reports from number of sources are made available to design personnel without benefit of written procedures.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
61.	ANSI N45.2.11 Section 2.2	"Program procedures shall cover necessary training of personnel performing activities covered by this standard."	Procedures describing technical training are unnecessary. However, our program includes procedures for programmatic training of Engineers.
62.	ANSI N45.2.11 Section 6.3	"The results of the review shall be documented... a number of basic questions that shall be addressed..."	Con Edison documents completion of the design verification activity, but does not necessarily document that each of the questions listed has been considered in the verification process. The subjects required to be considered during design review are identified in procedures.
63.	ANSI N45.2.13 Section 5.2	Specifies subjects to be evaluated during bid evaluation.	Except in special cases items d., e., and f. may be evaluated prior to submittal to bids.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
64.	ANSI N45.2.11 Section 3.1	"Changes from specified design inputs including the reason for the changes shall be identified, approved, documented and controlled."	Changes from specified design inputs and quality standards are identified, approved, documented and controlled. The reasons for the changes need not be documented.
	Section 4.2	"Changes from specified quality standards including reasons for the changes shall be identified, approved, documented and controlled.	
65.	ANSI N101.4	Identifies numerous detailed, specific requirements that must be accomplished in the course of procuring, applying and inspecting protective coatings.	When N101.4 is applied, new quality requirements will be developed based on its provisions, but specific requirements, such as documented site meetings, field demonstrations, substrate priming, applicator reporting, inspection reporting and report forms will be considered on a job-by-job basis.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
66.	Regulatory Guide 1.37 Section C.4	Prohibits chemical compounds that contain chlorides, fluorides, lead, zinc, copper, sulphur or mercury.	Use of cleaning agents containing only trace amounts of these compounds is acceptable.
67.	Regulatory Guide 1.64 Section C.2	Restriction on design verification.	Considering the various duties of a supervisor, both administrative and technical, universal prohibition of design verification by the originator's supervisor is inappropriate. Design verification is performed by an individual(s) other than the originator if that individual(s) did not specify a singular design approach, rule out certain design considerations or establish the design inputs for the particular design aspect being verified.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
68.	ANSI N45.2.12	Requirements for Auditing of Quality Assurance Programs for Nuclear Power Plants.	This standard is primarily applicable to audits conducted of utilities' QA programs by internal auditing organizations. Some of its provisions are impractical and unnecessary to apply when conducting vendor surveillance and vendor evaluations and in these cases all of provisions of this standard will not apply.
69.	ANSI N45.2.13 Section 4.2a	"Information which shall be evaluated shall include 1) Experience of users of identical or similar products of the prospective supplier."	"Experience of users" is interpreted to mean Con Edison or other utility experience at conventional plants and nuclear plants.
70.	ANSI N45.2.13 Section 10.2	General requirements for Certificate of Conformance.	Vendor certifications that do not necessarily contain all of the requirements of section 10.2 may also be used as a basis for receiving inspection.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
71.	ANSI N45.2.13 Section 10.2d	"The certificate shall be attested to by a person who is responsible for this quality assurance function and whose function and position are described in the Purchaser's or Supplier's quality assurance program".	Certificates may be signed at times by company president, staff personnel, or Engineering and not necessarily persons directly responsible for the quality assurance function as described in the supplier's quality assurance program.
72.	ANSI N45.2.13 Section 10.2e	"The certification system, including the procedures to be followed in filling out a certificate and the administrative procedures for review and approval of the certificates shall be described in Purchaser's or supplier's quality assurance program".	The vendors overall quality assurance program is reviewed during the vendor evaluation activity. Specific procedures related to the details of the certification system, if applicable, may not necessarily be reviewed.
73.	ANSI N45.2.13 Section 10.2f	"Means shall be provided to verify the validity of suppliers certificates".	Verification of validity of suppliers certificates is conducted if past quality performance indicates the need for such verification.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
74.	ANSI N45.2.23 1.4.3	An audit is a documented activity performed in accordance with written procedures or checklists to verify, by examination, that applicable elements of the quality assurance program have been developed, documented, and effectively implemented in accordance with specified requirements. An audit should not be confused with surveillance or inspection for the sole purpose of process control or product acceptance.	The requirements of ANSI 45.2.23 apply to personnel who perform audits involving QA Program elements. They do not apply to personnel who perform audits involving compliance with Technical Specifications in areas such as Auxiliary Electrical Systems, Steam & Power Conversion and Containment Integrated Leak Testing etc., nor to personnel who perform vendor evaluations or surveillance.
75.	ANSI N45.2.23 2.3.1.1	"...in addition score one (1) credit for a masters degree in engineering, physical sciences, business management, or quality assurance from an accredited institution."	Also score one(1) credit for a Masters Degree in mathematics.
76.	ANSI N45.2.23 2.3.1.2	"...if two(2) or more years of this experience have been in quality assurance, score two(2) additional credits, or..."	Also score two(2) additional credits for two(2) or more years reliability experience.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
76 (cont'd)		"...If two(2) or more years of this experience have been in nuclear quality assurance, score three(3) additional credits, or..."	Also score three(3) additional credits for two(2) or more years nuclear reliability experience.
77.	ANSI N45.2.23 2.3.1.3	"...Certification of competency in engineering, science, or quality assurance specialties issued and approved by a State Agency, or National Professional or Technical Society, score (2) credits."	Also score two(2) credits for ASQ certification as a Reliability Engineer.
78.	ANSI N45.2.23 2.3.2	"...The prospective Lead Auditors shall have the capability to communicate effectively, both written and oral. These skills shall be attested to in writing by the Lead Auditor's employer."	Separate attestment regarding communications skill shall not be made. Designation as Lead Auditor shall constitute indication of adequate communication skill.
79.	ANSI N45.2.23 2.3.3	"...Prospective Lead Auditors shall have training to the extent necessary to assure their competence in auditing skills.	Previous on-the-job training at prior companies, organizations or Con Edison shall constitute credit towards Lead Auditor designation. Contractor

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
79 (Cont'd)			personnel used as Lead Auditors shall be certified by their employers whose training program shall have been reviewed and found satisfactory by Con Edison.
80.	ANSI N45.2.23 2.3.4	"The prospective Lead Auditor shall have participated in a minimum of five(5) quality assurance audits within a period of time not to exceed three(3) years prior to the date of qualification, one audit of which shall be a nuclear quality assurance audit within the year prior to his qualification."	Participation in vendor QA program evaluations, vendor surveillance, site QA/QC monitoring or ASME "N" stamp nuclear surveys, shall constitute credit towards meeting this requirement.
81.	ANSI N45.2.23 2.3.5	"...The prospective Lead Auditor shall pass an examination which shall evaluate his comprehension of and ability to apply the body of knowledge identified in paragraph 2.3.3.	Audit management may waive the requirements of ANSI N45.2.23, paragraph 2.3.4 and 2.3.5 requiring participation in audits and examination, when the individual has demonstrated, by past experience and/or knowledge, an obvious capability to conduct audits.

TABLE A

Item No.	Regulatory Guide/ANSI Std. Reference	Requirement	Interpretation/Alternate/ Exception
82.	ANSI N45.2.23 3.2	"Lead Auditors shall maintain their proficiency through one or more of the following: regular and active participation in the audit process; review and study of codes, standards procedures, instructions, and other documents related to quality assurance programs and program auditing; participation in training programs. Based on management annual assessment, management may extend the qualification, required training, or require requalification. These evaluations shall be documented."	Participation in vendor QA Program evaluations, vendor surveillance, site QA/QC monitoring, or ASME "N" stamp nuclear surveys, shall constitute credit towards maintenance of proficiency. Documented annual assessment of auditors is not required for personnel whose ongoing responsibilities include auditing, vendor evaluation, vendor surveillance, site QA/QC monitoring, or ASME nuclear surveys.
83.	ANSI N45.2.23 3.3	"Lead Auditors who fail to maintain their proficiency for a period of two years or more shall require requalification. Requalification shall include retraining in accordance with the requirements of paragraph 2.3.3, reexamination in accordance with paragraph 2.3.5, and participation as an Auditor in at least one nuclear quality assurance audit."	Management shall determine the basis for requalification on a case-by-case basis, and may elect to waive retraining, reexamination and audit participation based upon a review of the individual's knowledge capability prior performance and recent experience.

TABLE B

Item No.	Reg. Guide/ANSI Std. Ref.	Guideline	Interpretation/Alternate
	ANSI N45.2.1, 1973 "Cleaning of Fluid Systems..."		
1.	Subsection 3.1.1	"Such items should receive their required level of cleanliness..."	This "should" is beyond the scope of this standard as indicated by the last sentence on the page.
2.	Subsection 3.1.2.1	Under "NOTE", "Localized rusting...should be evaluated metallurgically."	Laboratory type tests on localized rusting will be conducted when the need for such tests is determined by Engineering or QA.
3.	Section 5	The fourth "should" requires fabrication of a complete unit where inspection can be blocked. The fifth "should" requires inspection of the completed unit immediately prior to closing access points.	The special fabrication and inspection requirements will be complied with as required by Engineering or QA.

TABLE B

Item No.	Reg. Guide/ANSI Std. Ref.	Guideline	Interpretation/Alternate
	ANSI N45.2.1, 1973 "Cleaning of Fluid Systems..." (cont'd)		
4.	Section 5 (cont'd)	The sixth "should" requires cleaning of surfaces before proceding to the next installation or construction step.	The degree of surface cleanliness and the frequency of cleaning will be as determined by Engineering or QA.
5.	Section 5	The seventh "should" prohibits the use of mineral or organic acids on stainless steel.	Organic acids will be used only as permitted by Engineering. After their use, however, all residual traces of the acid will be removed.
6.	Section 5	The eighth "should" requires removal of local rusting from corrosion-resistant alloys by mechanical means.	When the need for removal of rust is determined, it shall be removed by mechanical means.
7.	Section 6	The second "should" requires personnel entering the system to wear clean outer clothing and shoe covers.	We interpret system to mean the primary coolant system.

TABLE B

Item No.	Reg. Guide/ANSI Std. Ref.	Guideline	Interpretation/Alternate
	ANSI N45.2.1, 1973 "Cleaning of Fluid Systems..." (cont'd)		
8.	Subsection 7.1	The first "should" requires attachment of loose tools "to either the workman or the exterior of the system with a lanyard."	Loose tools will be controlled as specified by procedure or by QA&R. Precautionary measures such as barriers between work areas, and tool check-in and check-out controls may obviate the need for attachment.
9.	Subsection 7.2.2	The first "should" specifies a method for determining the effectiveness of alkaline cleaning.	When alkaline cleaning is performed, it will be accomplished in accordance with the requirements of Engineering.
10.	Subsection 7.2.2 (cont'd)	The second "should" requires flushing of pockets and dead legs. The third "should" requires that attention be given to removal of solution. The fourth "should" requires system to be sealed.	When alkaline cleaning is performed, it will be accomplished in accordance with the requirements of Engineering.

TABLE B

Item No.	Reg. Guide/ANSI Std. Ref.	Guideline	Interpretation/Alternate
	ANSI N45.2.1, 1973 "Cleaning of Fluid Systems..." (cont'd)		
11.	Subsection 7.2.3	The first "should" requires flushing to removal chelating agents. The second "should" requires flushing of pockets and deadlegs. The third "should" requires that attention be given to removal of solution. The fourth "should" requires system to be sealed.	When chelate cleaning is performed, it will be accomplished in accordance with the requirements of Engineering.
	ANSI N45.2.2, 1972 "...Packaging, Shipping, Receiving, Storage, and Handling..."		
12.	Subsection 4.3.6	Requires location and stacking limits to be specified on crates and boxes.	Consistent with the provisions of ANSI N45.2.2, 1972 Appendix "A", A.3.9.6 (e), such requirements will be specified, "as appropriate."

TABLE B

Item No.	Reg. Guide/ANSI Std. Ref.	Guideline	Interpretation/Alternate
	ANSI N45.2.2, 1972 "...Packaging, Shipping, Receiving, Storage, and Handling..." (cont'd)		
13.	Appendix A, A.3.5.2, (1), (a)	Limits halogen and sulphur content of tape.	Engineering may allow the use of tapes containing greater amounts of halogen after appropriate evaluation.
	ANSI N45.2.9, 1974 "...Records..."		
14.	Subsection 3.2.2	The second "should" requires compatability between the organization's system and the owner's system.	Special compatability requirements of organization's records index system will be identified, where necessary, in procurement documents.
15.	Subsection 5.6	The first "should" requires that records shall be protected by NFPA, Class A, four hour minimum rated facility.	See Table A, Page A-22, #52.

TABLE B

Item No.	Reg. Guide/ANSI Std. Ref.	Guideline	Interpretation/Alternate
	ANSI N45.2.9, 1974 "...Records..." (cont'd)		
16.	Subsection 7.3	Requires that nonpermanent records be retained for the time specified in Appendix A.	Procedures will identify retention times of nonpermanent records.
17.	Regulatory Guide 1.58, 8/73 "...Examination and Testing Personnel"	Endorses the recommendations and requirements of ANSI N45.2.6, 1973.	See Table A, Page A-18, #40.
18.	ANSI N45.2.5, 1974 "...Concrete...Structural Steel..."	The requalification procedure for cadweld splices should be identical to the original qualification procedure.	The content of the requalification procedure shall be determined by Engineering.

ATTACHMENT II

Summary of Changes

Consolidated Edison Company of New York, Inc.
Indian Point Unit No. 2
Docket No. 50-247
December 31, 1987

The following changes were made in the attached Revision 5 of Quality Assurance Program Description, dated December 31, 1987:

o	Organization title change from QA&R to QA with no change in function or independence.	pages 2, 3, 4, 5, 7, 8, 9, 10, 11, 15, 18, 20, 22, 26, 29, 30, 31, 32, 37, 38, 39, 42, 44
o	Title change due to promotion. Director, Power Generation Services to Assistant Vice President, Power Generation Services.	Corporate Organization, Chart A pages 5, 11
o	Editorial change to reflect actual conditions. SNSC reviews changes to procedures or instructions, not NFSC.	page 38
o	Editorial change to reflect actual conditions. "Stop work authority" resumption of work has to be approved by the Manager, NPQA; not anyone else in QA.	page 41
	Editorial change to reflect actual condition. Added a paragraph on welds accomplished by contractor personnel which are handled differently than the welds accomplished by company forces.	pages 41, 42
o	For increased efficiency Administrative Services has combined Financial and Material Controls, Personnel Administration and Records Management under one Manager. This new group is called Administrative Support and its function or independence remains the same.	Nuclear Power Organization, Chart B
o	Title change due to promotion of Executive Vice President, Central Operations to the Executive Vice President, Division Operations and Central Operations. This promotion created the new position of Senior Vice President, Central Operations.	Corporate Organization, Chart A pages 2, 3, 5, 11

	Editorial change to reflect actual conditions. Vital areas are administratively under control of General Manager, Administrative Services in conjunction with General Manager, NPG and the Operations Manager.	page 25
o	Editorial change to reflect actual conditions. The Facility Emergency Plan and the Facility Security Plan and their implementing procedures are audited at least once per 12 months.	page 10
o	Editorial change to reflect actual conditions. Due to reorganization of QA&R to QA, the reliability studies, including statistical analysis, are performed, if required by the Reliability & Technical Support. Reference to QA&R performing this task has been eliminated.	page 5, first paragraph, 10th line
o	Editorial change to reflect actual conditions. All proposed changes or modifications to plant systems or equipment that effect nuclear safety are being reviewed.	page 9, first bullet
o	Editorial change to reflect actual conditions. Added bullet to indicate that the provisions contained within the Environmental Technical Specifications (Appendix B) pertaining to radiological matters and applicable license conditions are being audited at least once per 12 months.	page 10
o	Editorial change to reflect actual conditions. The Support Facilities Supervisor participates in the security program.	page 25

Note: Excluded from the above list are minor editorial and grammatical changes which have no effect on the Quality Assurance Program.