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QUALITY ASSURANCE PROGRAM

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This QA 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. "Definitions" are not included. Consequently, this description begins with section 3.0.

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FOREWORD

The following quality assurance program conforms to the requirements of 10CFR50, Appendix B. Additionally, Con Edison commits to have a Quality Assurance Program satisfying the requirements of the following ANSI Standards and Regulatory Guides as modified by "Table A":

ANSI Standards

- | | |
|---------------------------------|---|
| N18.7-1976 | "Administrative Control and Quality Assurance for the Operational Phase of Nuclear Power Plants". |
| N45.2.8-1975 | "Supplementary Quality Assurance Requirements for installation, Inspection and Testing of Mechanical Equipment and Systems for the Construction Phase of Nuclear Power Plants". |
| N45-2.12
Draft 4, Rev-2-1976 | "Requirements for Auditing of Quality Assurance Programs for Nuclear Power Plants." |
| N45.2.13-1976 | "Quality Assurance Requirements for the Control of Procurement of Items and Services for Nuclear Power Plants". |

NRC Regulatory Guides

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|------|---|
| 1.8 | "Personnel Selection and Training,"
Revision 1, September, 1975 |
| 1.30 | "Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electrical Equipment," August 11, 1972 |
| 1.37 | "Quality Assurance Requirements for Cleaning of 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,"
March 16, 1973 |
| 1.39 | "Housekeeping Requirements for Water-Cooled Nuclear Power Plants,"
March 16, 1973 |

NRC Regulatory Guides (Cont'd)

- 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," August, 1973
- 1.64 "Quality Assurance Requirements for the Design of Nuclear Power Plants," Revision 1, February, 1974
- 1.74 "Quality Assurance Terms and Definitions," February, 1974
- 1.88 "Collection, Storage and Maintenance of Nuclear Power Plant Quality Assurance Records," August, 1974
- 1.94 "Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel during the Construction Phase of Nuclear Power Plants," April, 1975

A majority of these ANSI standards give QA programmatic control for the design and/or construction phases of nuclear power plants. Accordingly, Con Edison has, where practicable, adapted these standards' requirements 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 of the above ANSI Standards and Regulatory Guides, the requirements of the ANSI Standards and associated Regulatory Guides shall prevail as modified by Table "A".

QUALITY ASSURANCE PROGRAM

3.0 Owner Organization

3.1 General

Con Edison owns and operates nuclear units Indian Point #1 and #2. Con Edison operates Indian Point #3 under an agreement with the Power Authority of the State of New York (PASNY). The program for administrative controls and quality assurance for the operation of these nuclear power plants described herein is applicable to all three units. 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. 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.

3.2 Assignment of Authority & Responsibility

The President 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 the Plant Technical Specifications organizational charts. These relationships, departmental responsibilities and key personnel job descriptions are documented and up-dated as appropriate.

The major organizations or groups participating in this program are: Power Supply, Engineering, Construction, Purchasing, Quality Assurance and Reliability and the Nuclear Facilities Safety Committee.

3.2 (Cont'd)

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 Officer, Power Generation Operations and, under him, the Manager Nuclear Power Generation and the Plant Manager are responsible for the day-to-day operation, safety, security and maintenance at the plants.

The NPG Quality Assurance Engineer is responsible for quality assurance at Indian Point. He reports to the Manager, Nuclear Power Generation and has direct access for technical support to the corporate Quality Assurance organization. The NPG Quality Assurance Engineer is responsible for the indoctrination and training of personnel reporting to him.

The Nuclear Facilities Safety Committee (NFSC) is essentially an offsite group responsible for advising the Senior Officer, Power Supply regarding plant safety. The organization and duties of this Committee are described in a charter forming part of the Plant Technical Specifications and approved by the President of the Company.

The NFSC is kept fully informed by NPG 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 Standards and Reliability Organization to further assure safe operation and the adequacy of the audit program. The program is further evaluated by corporate Quality Assurance representation at Indian Point.

An on-site group known as the Station Nuclear Safety Committee (SNSC) functions within the on-site organization and advises the Plant Manager 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 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.

3.2 (Cont'd)

Construction is responsible for the accomplishment of major plant modifications and certain major repair including work where craft personnel from outside of the Company are required. This 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 and for maintaining an approved vendors' list and handling vendor negotiations.

The corporate Quality Assurance organization is responsible for assuring that quality assurance programs are established consistent with this program and Company policy and, along with the Quality Standards & Reliability organization (QS&R), assures that these programs are properly implemented. QA&R carries out these responsibilities primarily through program development and by auditing those activities which affect plant safety. QS&R develops audit plans and schedules, and administers other activities associated with auditing. QS&R also conducts reliability studies, including statistical analyses. The Director, Quality Assurance and the Director, Quality Standards and Reliability report directly to a Vice President of the Company. This provides QA&R 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 corporate 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.

Corporate 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. Corporate QA provides indoctrination and

3.2 (Cont'd)

training concerning the requirements of this quality assurance program to QA personnel, the NPG Quality Assurance Engineer 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 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. 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 at various times. 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.

Per corporate policy, each line organization trains its personnel. Accordingly, the NPG Quality Assurance Engineer trains station personnel who report to him.

For Station Staff retraining and replacement training, a program is maintained under the direction of the Nuclear Training Director.

3.4 Onsite Operating Organization

The onsite 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; radiation protection, and quality assurance. 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 training program is documented and is approved by the Plant Manager.

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

Positions requiring personnel to have a current NRC reactor operator license are as follows:

Watch Supervisor - Senior Reactor Operator License
Senior Reactor Operator - Senior Reactor Operator License
Reactor Operator - Reactor Operator License

NPG personnel who perform Quality Assurance inspection, examinations and tests are selected by the NPG Quality Assurance Engineer on the basis of their qualifications to fulfill the requirements of the job.

Certain inspection, examination and testing activities are also carried out by Construction and QA&R personnel in some instances off site as well as on site. It is the responsibility of each of these organizations to assure that those personnel within their respective organizations who perform inspection, examination and testing activities are appropriately qualified. Each of these organizations is responsible for establishing the applicable requirements for those individuals, including personnel evaluation, selection and training practices.

For particular projects, personnel resources in these organizations may be supplemented by other Company organizations or by outside forces. In these situations, NPG, Construction & QA&R, as applicable, retain the responsibility for using appropriately qualified personnel.

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 necessary continued proficiency of any particular individual. Prior to the assignment of personnel

3.4 (Cont'd)

to job function, qualification 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 and ASME Code Section III. Personnel on-the-job performance is reviewed annually, and the results are documented and retained in personnel folders.

The organizations for facility management and technical support 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 licensed 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 Plant Manager has overall responsibility for facility operation.

The NPG Quality Assurance Engineer is responsible for site Quality Assurance activities. The corporate Quality Standards and Reliability organization reviews and audits the QA program. Additionally, verification 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 are carried out in accordance with regulatory requirements, approved procedures and instructions and license provisions. These programs provide for review of significant proposed plant changes, tests and procedures; for verification that reportable events which require reporting to the NRC within twenty-four hours, are promptly investigated and corrected and for detection of trends which may not be readily apparent to a day-to-day observer. These programs are carried out by the Station Nuclear Safety Committee (SNSC) and

4.0 (Cont'd)

Quality Standards & Reliability (QS&R). 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 subjects to be audited by QS&R; 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 effective reviews and audits.

4.1 Audit Program

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

Quality Standards & Reliability (QS&R) 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 station operation to all provisions contained within the Plant Technical Specifications and applicable license conditions at least once per year.

The performance, training and qualifications of the entire station staff at least once per year.

The results of all actions taken to correct deficiencies occurring in station equipment, structures, systems or method of operation that affect nuclear safety-at least once per six months.

The Station Emergency Plan and implementing procedures at least once per two years.

Any other area of station operation considered appropriate by the NFSC, Senior Officer, Power Supply or QS&R.

4.0 (Cont'd)

The audits are conducted by QS&R 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 QS&R within thirty days of the completion of each audit. The audit report is issued to the management of the the audited group(s) for reply to the audit findings. It is distributed to the Chairman, Nuclear Facilities Safety Committee; the Assistant Vice President, Power Generation Operations; the Vice President, QA&R; the General Auditor; the Senior Officers of the activities audited; the Manager, Nuclear Power Generation; the Director, 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 Vice President, QA&R concerning the actions to be taken to resolve each finding. QS&R 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 semi-annually.

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.

Nuclear power plant structures, systems, and components 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 and components appears in Appendix A. Identification of Class A components within systems are made on a case-by-case basis, as required, via established procedures. 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

5.1 (Cont'd)

importance to safety. 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:

- 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 an 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.

5.2.1 (Cont'd)

- d. The responsibility to believe and respond conservatively to instrument indications unless they are proved to be incorrect.
- e. The responsibility to adhere to the Plant Technical Specifications.
- f. The responsibility to review routine operating data to assure safe operation.

5.2.2 Procedures 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. Although it is imperative that procedures be followed at all times, it is required that they be out in use only for the performance of tasks which are non-repetitive and/or of a significant nature.

Procedural actions which must be committed to memory are those defined as "Immediate Operator Actions" in Plant Emergency Procedures.

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

Following a unit trip or shutdown, a "Precriticality Check-Off List" 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 list.

After completion, all check-off lists 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

5.2.3 (Cont'd)

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 Generation Department as appropriate to the subject matter contained therein. 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 in the form of administrative directives and/or sub-section procedures and may deal with shift changes, control room restrictions, operator duties and requirements, maintenance instructions, inspection duties, 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 Plant Manager and the NPG Quality Assurance Engineer ensure that these reviews are accomplished and report the results to the Department Manager. In addition, these managers review biennially the administrative directives of their respective subsections and report upon their adequacy and consistency to the Manager, Nuclear Power Generation.

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.

5.2.5 (Cont'd)

The review and approval mechanisms are the same as those for normal operating procedures as described in paragraphs 5.2.2 and 5.2.15 which includes 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 for servicing, 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 relative 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. Satisfactory disposition of nonconformances by the plant Q.A. activity is required prior to release of material. Usually, tests are conducted

5.2.6 (Cont'd)

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.

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 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 (Cont'd)

Plant maintenance/modification activities are generally carried out in the following manner: Station Operations personnel normally prepare a maintenance work request 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 Engineer 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. Engineering prepares documentation specifying technical requirements - e.g., drawings, specifications, plant prerequisites and welding procedures. This modification documentation is reviewed by corporate 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 specifying and providing detailed implementing procedures to do the work rests with the Maintenance Engineer. Detailed procedures are reviewed by the SNSC and the NPG Quality Assurance Engineer to provide inspection requirements, and the Test And Performance Engineer to provide post-work test requirements. Control during installation extends to performance of inspections, tests when applicable, non-destructive examinations, recording "as-built" information, status indication, pressure testing, when applicable, and other factors associated with the particular case. The Test 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 request, 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, Supervision considers such details as the use of approved material, need for special tools or equipment, safety precautions and detailed work descriptions.

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.

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 the design and drafting group of Central Engineering. Externally supported design activities are controlled through procurement of subcontracted services as the need arises.
3. Document controls on the preparation, review, approval, release, and distribution of documents and their changes.
4. Rules concerning retention of design documents.
5. Guidance for performing design verification.

5.2.7.2 (Cont'd)

9. 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, the Central Engineering design activity 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 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.

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, cleanness and quality assurance requirements.
8. Performance characteristics.
9. Electrical layouts, cable and conduit schedules.

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:

5.2.7.2 (Cont'd)

1. Suitability of parts, equipment or processes for the application.
2. Compatibility of materials with each other and with the design environment.
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. Determining the reasonableness of results in comparison to design bases.
8. Permissibility of qualification testing alternatives as a verification technique.
9. Reasonableness of outputs when compared to inputs.
10. Approval of vendor submittals.
11. Prerequisites.
12. Requirements for welding.
13. Evaluating safety significance to assure compliance with regulatory requirements.
14. Verification that pertinent quality provisions have been incorporated.
15. Rules for utilizing original Architect-Engineer and NSSS design details in plant replacement items, additions or modifications.
16. Rules for distribution of design details to other affected interfacing organizational units, which include Nuclear Power Generation and QA&R, for comment or information.

5.2.7.2 (Cont'd)

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 major plant modifications, 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 in-service inspections, are the responsibility of Nuclear Power Generation and are accomplished in accordance with the surveillance requirements in the Plant Technical Specifications. Included in these activities are: primary 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 are reviewed by the Test Engineer 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.
6. Evaluating data for compliance with Plant Technical Specification requirements.

Included as part of the surveillance program is the in-service inspection program which is based on ASME Code Section XI. 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. The NPG Quality Assurance Engineer maintains in-service inspection 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 Generation (NPG) 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 Security Supervisor to deter or discourage penetration by unauthorized persons, to detect such penetrations should they occur, to apprehend, in a timely manner, 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 Supervisor 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.
2. A protected area administratively and procedurally under the control of the Security Supervisor 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 Chief Operations Engineer.

5.2.9 (Cont'd)

The Security Supervisor has developed a Security Force Manual, approved by the Plant Manager, and is responsible for its maintenance, up-dating, and distribution to authorized individuals and organizations. Appropriate NPG section and sub-section heads instruct their personnel in various security measures.

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

The Security Supervisor 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 Plant Manager.

The Plant Manager 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 Generation. 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.

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 Maintenance Engineer provides for separate controlled storage areas, and issue, use and return of excess Class A materials. Procedures prepared by the NPG Quality Assurance Engineer provide control of cleanliness of open primary systems. The Manager, NPG establishes policy regarding work permits and provisions for the radiological as well as conventional health and safety of all employees. The Chemistry And Radiation Safety Director 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 NPG personnel. These procedures include provisions for fire fighting and

5.2.10 (Cont'd)

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 NPG personnel. Reports of results are issued to higher management.

5.2.11 Corrective Actions

Measures have been established which ensure that conditions adverse to plant safety which may occur during work, e.g., maintenance, are promptly identified in a Quality Control Inspection Report (QCIR) or a Deficiency Report (DR) and corrected. In the case of significant conditions adverse to safety, a Deficiency Report is initiated to assure that the cause of the condition is determined and corrective action taken and appropriately documented and reported.

The action addressee on the Quality Control Inspection Report (QCIR) (see 5.2.14) 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 NPG Quality Assurance Engineer responsible for assuring that corrective actions are implemented at the site. QA&R has overall responsibility for assuring that corrective action is taken and QS&R reviews corrective actions taken during auditing operations.

Corporate QA prepares and distributes a monthly report indicating the status of all unresolved Deficiency Reports (DR's) (see 5.2.14). This report is routed to appropriate management concerned with correcting the deficiency. The distribution of the monthly status report of unresolved DR's 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 the DR 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 necessary corrective actions. When corrective action has been completed, this will be identified on the DR and forwarded to corporate QA, via the NPG Quality Assurance Engineer, by the action

5.2.11 (Cont'd)

addressee. Corrective action shall include determination of the nonconformance and the measures necessary to preclude repetition.

Corporate QA reviews the action taken and takes the initiative to resolve disagreements, if any. After agreement has been achieved, Corporate QA completes the DR by noting concurrence. Copies of a completed DR 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 Record 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.

The NPG Quality Assurance Engineer maintains records which include inspection results, retest on work completed, certain personnel qualification records, purchase orders, receipt inspection results and back-up data, and deficiency reports. Operating logs are maintained by the Operations subsections. Test procedures and results are maintained by the Test And Performance Engineer.

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

5.2.13 (Cont'd)

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 plant, 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. As appropriate, the NPG Quality Assurance Engineer or Corporate 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

5.2.13.1 (Cont'd)

as needed and determines what vendor drawings and procedures shall be submitted to Con Edison for approval.

The NPG Quality Assurance Engineer 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. The NPG Quality Assurance Engineer 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 are solicited from approved vendors only (see 5.2.13.2). Purchasing evaluates bids for non-technical content and Engineering for technical content. As appropriate, quality assurance provisions are evaluated by the NPG Quality Assurance Engineer or Corporate QA. If the bidder takes no exceptions to the specifications and requirements, the buyer may secure purchase authorization.

Vendors are evaluated 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. An approved vendors' list is maintained and updated, and purchase orders sent only to listed 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 for preparation of the purchase order. Purchase orders are issued only to approved vendors. Copies of the purchase order are distributed to the NPG Quality Assurance Engineer, the requisitioning activity, and Corporate 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 Corporate QA evaluate the capabilities of vendors on the approved vendor's list. 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 Corporate QA representative evaluates the vendor's quality assurance program. The Q.A. 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 on the approved vendors' list, 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 Corporate 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. These 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.

5.2.13.2 (Cont'd)

Material received at the site is inspected by personnel designated by the NPG Quality Assurance Engineer in accordance with written instructions approved by Station 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.

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 Generation (NPG) Engineering, Corporate 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 NPG storeroom personnel except for indication of inspection status identification ("accept" tags, etc.) which is transferred by NPG QA personnel.

5.2.13.3 (Cont'd)

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

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

In cases where identification is to be done by personnel at Indian Point Station, 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 materials or components, detailed marking procedures are established. These procedures are prepared by Power Supply, concurred in by the NPG Quality Assurance Engineer and approved by Engineering. 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. The NPG Quality Assurance Engineer is responsible for assuring that marking performed at Indian Point Station is accomplished in accordance with approved procedures.

During the course of maintenance work or system modifications, welds which form a part of a pressure boundary or join structures to a pressure boundary require permanent weld joint identification. 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.

5.2.13.3 (Cont'd)

Power Supply assigns unique weld joint numbers for other welds required during installation and site fabrication. Power Supply also permanently identifies certain pressure boundary welds and provides as-built information to Engineering in writing.

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 Generation (NPG) 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 NPG, Engineering, etc.

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 site. NPG stores personnel receive and store items for use at the site.

Upon their arrival at the site, items are checked by NPG 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

5.2.13.4 (Cont'd)

receiving, storage and installation. Appropriate records relating to packaging, shipping, receiving, storage and handling are maintained by NPG 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, NPG 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 NPG procedures. During storage, appropriate care is exercised by NPG stores personnel to maintain item integrity. Power Supply is responsible for handling items. Power Generation Maintenance, NPG and Transportation maintain handling equipment in accordance with appropriate procedures, methods and instructions.

As appropriate, handling instructions and procedures have been established by Power Supply and Engineering for items requiring special handling. As appropriate, hoisting equipment used for handling is certified by the manufacturer. Except for test purposes, hoisting equipment is not loaded beyond its rated load as certified by the manufacturer.

Safety requirements for material hoists are adhered to by NPG, 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 NPG, Power Generation Maintenance, Central Transportations, 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 Class A 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 NPG Quality Assurance Engineer. 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 disposition. 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. The NPG Quality Assurance Engineer, as appropriate, prepares a Quality Control Inspection Report (QCIR).

The QCIR 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 other affected organizations, such as Power Supply, QA&R, 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, Indian Point Station Quality Assurance personnel, or Corporate Q.A. personnel, as applicable, investigate and initiate a Deficiency Report (DR). The DR is used to document significant nonconformances with specified quality requirements when found during plant testing, or plant modification, maintenance and repair activities.

5.2.14 (Cont'd)

The DR 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 Power Supply, QA&R, Engineering, Purchasing, the Authorized Inspector and/or contractors. Nonconforming items are accepted, rejected, repaired or re-worked in accordance with documented procedures specified by the organizations involved in resolving the deficiencies identified.

5.2.15 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. These documents also include operating and special orders, operating procedures, test procedures, equipment control procedures, maintenance or modification procedures, refueling and material control procedures. These are in the form of documents such as station administrative orders, general administrative directives, administrative directives, corporate 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 Corporate 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 Power Supply, Engineering, Construction, Purchasing, Corporate Q.A., the Station Nuclear Safety Committee (SNSC) and the Nuclear Facilities Safety Committee (NFSC). 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

5.2.15 (Cont'd)

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 acceptance 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 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 Corporate Q.A. administrative documents judged necessary to implement the administrative controls and quality assurance program. The organizations responsible for these documents include Corporate Q.A. on distribution as each is issued or changed. Corporate Q.A., in a timely manner, reviews these documents for adequacy. In addition, Corporate Q.A. 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.

Power Supply maintains required standards, conducts calibrations, adjustments, and approves calibration procedures.

Appropriate subsections within Power Supply 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

5.2.17 (Cont'd)

the project managing activity (Construction or Power Supply). The NPG Quality Assurance Engineer 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.

Inspection personnel reporting to the NPG Quality Assurance Engineer have the authority to order cessation of work by maintenance personnel where continuation of work would lead to unacceptable conditions. Work may be resumed if approved by Plant Quality Assurance supervision or the Plant Manager or management levels above the Plant Manager.

The NPG Quality Assurance Engineer 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.

The NPG Quality Assurance Engineer assures the proper completion of weld inspection forms, that welds have been inspected and accepted and provides permanent record of weld acceptability.

Power Supply provides Engineering with weld "as-built" information identifying weld locations and identification numbers when they are generated by Power Supply. The NPG Quality Assurance Engineer monitors welding activities to assure compliance with approved procedures. Welding performed by contractors requires prior Engineering approval. Heat treatment is conducted in accordance with approved procedures.

5.2.18 (Cont'd)

Con Edison Non-Destructive Examination personnel are qualified in accordance with ASME Code Section III and S.N.T. 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.

The NPG Quality Assurance Engineer monitors NDE services to assure compliance with requirements and maintains appropriate records of worked performed.

Chemical cleaning may be required during certain maintenance or modification 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

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

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, 10CFR. Nuclear Power Generation 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 Tech Specs.

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

5.2.19 (Cont'd)

- (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.

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

Once approved, 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 Request (MWR) issued for Class A items is evaluated for retest requirements by the Test And Performance Engineer who provides such requirements as necessary.
- (2) Prior to the test, the Operations Engineer insures that all MWR's to which the test applies have been signed off for work completion. He also assures 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 MWR'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 Engineer monitors test results to assure that data meet acceptance requirements.

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.

Post-maintenance tests results are evaluated by station personnel. When test results are deemed satisfactory, the 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

5.2.19 (Cont'd)

MWR covered by that test are filed in the central record file. Test results are reported to the Test And Performance Engineer for his evaluation.

Power Supply 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, e.g., Power Supply, Engineering, Construction, Purchasing and Corporate Quality Assurance and are reviewed, approved and controlled in accordance with 5.2.15.

These instructions and procedures describe activities affecting safety at the plant and provide an approved, pre-planned 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.

5.3 (Cont'd)

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.
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.

5.3 (Cont'd)

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.

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<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/Exception</u>
1.	General	<p>Certain Regulatory Guides invoke or imply Regulatory Guides and standards in addition to the standard each primarily endorses.</p> <p>Certain ANSI Standards invoke or imply additional standards.</p>	<p>The Con Edison commitment refers to the Regulatory Guides and ANSI Standards, specifically identified in the "Foreword". Additional Regulatory Guides, ANSI Standards, Guides and similar documents implied or referenced in those specifically identified in the "Foreword" are not part of this commitment.</p>
2.	General	<p>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.</p>	<p>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.</p>

TABLE A

<u>tem No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
3.	General	Regulatory Guides endorsement of ANSI recommendations.	Con Edison's commitment is based upon the requirements of ANSI N18.7, 1976, the ANSI Standards referenced therein, and on the requirements of the Regulatory Guides identified in the "Foreword". Regulatory Guide endorsement of ANSI Standard recommendations is not construed by Con Edison as to cause such recommendations to be requirements. (This interpretation subject to further evaluation discussed in submittal letter).
4.	General	NRC Regulatory Guides and ANSI Standards to not provide for deviation from any requirement(s) when emergency or other urgent conditions make such deviation necessary.	The majority of ANSI Standards 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.

TABLE A

<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
4. (Cont'd)			<p>In the event of an emergency condition which, if not promptly corrected could likely affect the health and safety of the public, the Manager, Nuclear Power Generation 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.</p> <p>Waivers to specific procedures may be authorized by the Manager, NPG 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 therefor, are documented.</p>

TABLE A

<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
5.	General	Certain ANSI standards contain requirements which, under certain conditions, may conflict with limiting personnel radiation exposure.	<p>The majority of ANSI Standards 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.</p> <p>When conformance with particular standards requirements; e.g., cleaning of fluid systems, house keeping, would conflict with limiting personnel radiation exposure, the degree of conformance to the standards is determined by appropriate levels of management.</p>

TABLE A

<u>m No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
6.	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.
7.	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

<u>m No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
8.	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.
	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

<u>em No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
9.	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 18.7 and its associated references. Consistent with paragraph 5.2.14, our quality assurance program will contain provisions for controlled, documented waivers to its requirements.
10.	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

<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/Exception</u>
11.	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.
12.	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 commercial terms and conditions may not require that the revised (procurement) document receive the same review and approval as the original documents.
3.	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 foremen 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

<u>m No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
3. (Cont'd)			work are utilized. These independent examinations, checks, and inspections are comparable in extent to corresponding construction phase activities.
4.	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 document- tation requirements of Criterion XVI, Appendix "B" to 10 CFR 50, for corrective action, <u>significant</u> 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.
15.	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.

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<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
16.	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, NPG and QA.
17.	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.

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<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
18.	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.
19.	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, box or other enclosure. Tagging is employed, where necessary.

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<u>tem No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/Exception</u>
20.	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.
21.	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 inspections area environmental controls may be less stringent than storage environmental requirements for that item.
22.	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..."

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<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
23.	ANSI N45.2.2 Paragraph 5.3.3	A statement documenting the authority and <u>technical justification</u> 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.
24.	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.

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<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
25.	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.
26.	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.
27.	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.
28.	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.

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<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
29.	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 accidental removal.	In cases where plugs or caps do not snugly fit, additional securing devices or measures will be used.
30.	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 Q.A. Remaining provisions of para. 5.2.10 of 18.7 will be adhered to.
31.	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.

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<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
32.	ANSI N45.2.4 Section 5.2	Identified 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 Generation.
33.	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.
34.	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

<u>tem No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
35.	ANSI N45.2.5 Section 2.5	Requires periodic cali- bration 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".
36.	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 cali- bration, an evaluation shall be made and documented con- cerning the validity of previous tests...
37.	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 modifi- cation of only a portion of that system. The testing requirements of the Facility Technical Specifications are met for inoperable equipment.

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<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
38.	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.
39.	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.
40.	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.

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<u>tem No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
41	Regulatory Guide 1.58 ANSI N45.2.6	General requirements for inspection, examination and testing personnel.	NDE personnel meet the requirements of SNTC-1A. Other personnel are qualified as discussed in Sections 3.3 and 3.4 of the Program Description.
42.	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 knowingly install equipment lacking full identification providing deficiencies are resolved prior to its use; i.e., operation. Such action is recorded in quality control documents.
43.	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. Additionally, N45.29 will be implemented for important records such as drawings, specifications and purchase orders.

TABLE A

<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
44.	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.
45.	ANSI N45.2.9 Section 3.2.2	"The 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.	The <u>types</u> of quality assurance records shall be listed in an index. In accordance with Draft ANSI N45.2.9, paragraph 3.2.2, October 1976, the index will indicate the location of the records within the storage <u>system</u> .
46.	ANSI N45.2.9 Section 4.2	... a specific submittal plan shall be established for quality assurance records by agreement 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

<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/Exception</u>
47.	ANSI N45.2.9 Sections 4.3 4.4 and 5.3	<p>... a receipt control system shall include:</p> <ol style="list-style-type: none"> 1. A records checklist... 2. A record of... records received. 3. Procedures for receipt and inspection of... records. <p>... system shall permit... ... assessment... status... of records.</p> <p>... a method for verifying that records received are in agreement ... and are in good condition.</p> <p>... a method of verifying that the records agree with pre-established records checklist.</p>	<p>We will provide these administrative controls for our Engineering and NPG 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.</p>

TABLE A

<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
48.	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 recommendation will be followed; however, a blanket commitment is impracticable as we must retain the flexibility for final determination of storage needs.
49.	ANSI N45.2.9 Section 5.6	For storage of film... controls shall be provided... as recommended by the manufacturer.	
50.	ANSI N45.2.9 Section 5.6	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

<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/Exception</u>
51.	ANSI N45.2.9 Section 6.2	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.
53.	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 or NFPA Class 3 provisions shall be provided for records designated as non-permanent.
54.	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.

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<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/Exception</u>
55.	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.
56.	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.
57.	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 N.45.2.9. They will be stored and controlled in accordance with normal library practices.

TABLE A

<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
8.	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 in the "Foreword" of the program description, the definitions in those other standards shall apply.
9.	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.
50.	ANSI N45.2.10	Definition of "Modification".	Modification - A change to an item's configuration materials(s) or function(s) such that the item does not conform to previously approved design documents.
51.	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 a number of sources are made available to design personnel without benefit of written procedures.

TABLE A

<u>Item No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/Exception</u>
62.	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.
63.	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.
64.	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

<u>n No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/Exception</u>
5.	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."	
6.	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 it's 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

<u>m No.</u>	<u>Regulatory Guide/ANSI Std. Reference</u>	<u>Requirement</u>	<u>Interpretation/Alternate/ Exception</u>
7.	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.
8.	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.

APPENDIX A

Class "A" Items

Indian Point Unit No. 1

1. Core and Reactor Internals
2. Control Rods and Drives
3. Primary Coolant System (Includes Pressurizer System and Primary Relief System)
4. Secondary Coolant System up to Second Isolation Valve (Includes Secondary Relief, Feedwater, Emergency Boiler Feedwater and Boiler Blowdown)
5. Seal Water and Primary Makeup
6. Chemical Sampling System
7. Decay Heat Cooling System
8. Containment
9. Containment Isolation System
10. Containment Ventilation
11. Containment External Spray System
12. Containment Cooling System
13. Liquid and Gas Radwaste System
14. Nuclear Service Water
15. Instrument Air and Hydraulic Valve Operating System for Containment Ventilation Valves
16. Fuel Handling System
17. Nuclear Instrumentation and Safety System
18. Reactor Control and Safety System
19. Process Instrumentation (Only Safety-Related Portion)
20. Functional and Area Radiation Monitoring System
21. Emergency Power System
22. Containment Continuous Leakage Rate Monitoring System
23. Chemical Process Blowdown System
24. Boron Addition System
25. Purification System
26. Emergency Primary Makeup System
27. Fresh Water Cooling System
28. Spent Fuel Cooling System
29. Sweep Gas System
30. Hydrogen Gas System
31. Feedwater Control System
32. Neutron Shield System
33. Emergency Core Cooling System
34. Spent Fuel Cooling System
35. Ventilation for Safety-Related Areas
36. Reactor Vessel Service Equipment
37. All items designated in Design Specification as ASME Section III, Classes 1, 2 and 3.

APPENDIX A

Class "A" Items

Indian Point Units No. 2 and 3

1. Core and Reactor Internals
2. Control Rods and Drives
3. Primary Coolant System (Includes Pressurizer System and Primary Relief System)
4. Secondary Coolant System Up to Second Isolation Valve (Includes Secondary Relief, Auxiliary Feedwater and Boiler Blowdown)
5. Chemical and Volume Control System
6. Sampling System
7. Containment
8. Containment Isolation System
9. Containment Ventilation
10. Containment Spray System
11. Containment Air Recirculation Cooling and Filtration System
12. Waste Disposal System
13. Service Water-Essential Header
14. Instrument Air
15. Fuel Handling System
16. Reactor Protection System
17. Engineered Safety Systems Protective System
18. Regulating Systems
19. Functional and Area Radiation Monitoring System
20. Emergency Power System
21. Containment Penetration and Weld Channel Pressurization System
22. Isolation Valve Seal Water System
23. Hydrogen Recombiner System
24. Safety Injection System
25. Component Cooling System
26. Residual Heat Removal System
27. Spent Fuel Cooling System
28. Ventilation for Safety-Related Areas
29. Reactor Vessel Service Equipment
30. All items designated in Design Specification as ASME Section III, Classes 1, 2 and 3.

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