

one steam generator by isolating the steam lines on high containment pressure (Hi-Hi Level) or high steam line flow. Protection is afforded for breaks inside or outside the containment even when it is assumed that there is a single failure in the steam line isolation system.

Feedwater Line Isolation

The feedwater lines are isolated upon actuation of the Safety Injection System in order to prevent excessive cooldown of the reactor coolant system. This mitigates the effect of an accident such as steam break which in itself causes excessive coolant temperature cooldown.

Feedwater line isolation also reduces the consequences of a steam line break inside the containment, by stopping the entry of feedwater.

Setting Limits

1. The Hi-Level containment pressure limit is set at 2.0 psig containment pressure. Initiation of Safety Injection protects against loss of coolant⁽²⁾ or steam line break⁽³⁾ accidents as discussed in the safety analysis.
2. The Hi-Hi Level containment pressure limit is set at about 50% of design containment pressure. Initiation of Containment Spray and Steam Line Isolation protects against large loss of coolant⁽²⁾ or steam line break accidents⁽³⁾ as discussed in the safety analysis.
3. The pressurizer low pressure limit is set substantially below system operating pressure limits. However, it is sufficiently high to protect against a loss of coolant accident as shown in the safety analysis.⁽²⁾
4. The steam line high differential pressure limit is set well below the differential pressure expected in the event of a large steam line break accident as shown in the safety analysis.⁽³⁾
5. The high steam line flow limit is set at approximately 40% of the full steam flow at the no load to 20% load. Between 20% and 100% (full) load, the trip set point is ramped linearly with respect to first stage turbine

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Change No. 4

pressure from 40% of the full steam flow to 110% of the full steam flow. These setpoints will initiate safety injection in the case of a large steam line break accident. Coincident low T_{avg} setting limit for SIS and steam line isolation initiation is set below its hot shutdown value. The coincident steam line pressure setting limit is set below the full load operating pressure. The safety analysis show that these settings provide protection in the event of a large steam line break. (3)

Instrument Operating Conditions

During plant operations, the complete instrumentation systems will normally be in service. Reactor safety is provided by the Reactor Protection System, which automatically initiates appropriate action to prevent exceeding established limits. Safety is not compromised, however, by continuing operation with certain instrumentation channels out of service since provisions were made for this in the plant design. This specification outlines limiting conditions for operation necessary to preserve the effectiveness of the Reactor Control and Protection System when any one or more of the channels is out of service.

Almost all reactor protection channels are supplied with sufficient redundancy to provide the capability for channel calibration and test at power. Exceptions are backup channels such as reactor coolant pump breakers. The removal of one trip channel on process control equipment is accomplished by placing that channel bistable in a tripped mode; e.g., a two-out-of-three circuit becomes a one-out-of-two circuit. The nuclear instrumentation system channels are not intentionally placed in a tripped mode since the test signal is superimposed on the normal detector signal to test at power. Testing of the NIS power range channel requires: (a) bypassing the Dropped Rod protection from NIS, for the channel being tested; and (b) defeating the ΔT protection CHANNEL SET that is being fed from the NIS channel and (c) defeating the power mismatch section of T_{avg} control channels when the appropriate NIS channel is being tested. However, the Rod Position System

TABLE 3-1

ENGINEERED SAFETY FEATURES INITIATION INSTRUMENT SETTING LIMITS

No.	<u>FUNCTIONAL UNIT</u>	<u>CHANNEL</u>	<u>SETTING LIMITS</u>
1.	High Containment Pressure (Hi level)	Safety Injection	< 2.0 psig
2.	High Containment Pressure (Hi-Hi level)	a. Containment Spray b. Steam Line Isolation	≤ 30 psig
3.	Pressurizer Low Pressure and Low Level	Safety Injection	≥ 1700 psig ≥ 5 percent instrument span
4.	High Differential Pressure Between Steam Lines	Safety Injection	≤ 150 psi
5.	High Steam Flow in 2/4 Steam Lines Coincident with Low T_{avg} or Low Steam Line Pressure	a. Safety Injection b. Steam Line Isolation	$\leq 40\%$ of full steam flow at zero load $\leq 40\%$ of full steam flow at 20% load $< 110\%$ of full steam at full load
			$\geq 540^\circ\text{F}$ T_{avg}
			> 600 psig steam line pressure

Item No. 2

A change in the definition of the "Cold Shutdown Condition" (Item 1.2.1 on Page 1-1) is requested.

Presently, the cold shutdown condition is defined as the reactor being subcritical by at least $1\% \Delta k/k$ and T_{avg} must be $140^{\circ}F$ or less. Con Edison requests that "cold shutdown" be redefined so that the reactor would be subcritical at least $1\% \Delta k/k$ and T_{avg} would be $200^{\circ}F$ or less. (This definition has been approved on other similar Westinghouse PWR's).

The "Cold Shutdown Condition" is provided to assure that no steam would be formed (and hence no significant pressure buildup in the Vapor Containment would occur) should a Reactor Coolant System rupture take place. Since $200^{\circ}F$ is below the steam formation point for water at atmospheric pressure, raising this temperature in the definition will not affect the usage of the "Cold Shutdown Condition" in the Technical Specifications.

In the cold shutdown condition, there is no likelihood of the occurrence of an accident which would release fission products or damage the fuel elements. Redefining the cold shutdown temperature to $200^{\circ}F$ will not make the occurrence of an accident any more probable.

TECHNICAL SPECIFICATIONS

1 DEFINITIONS

The following used terms are defined for uniform interpretation of the specifications.

1.1 a. Rated Power

A steady state reactor thermal power of 2758 MWT.

b. Thermal Power

The total core heat transfer rate from the fuel to the coolant.

1.2 Reactor Operating Conditions

1.2.1 Cold Shutdown Condition

When the reactor is subcritical by at least 1% $\Delta k/k$ and T_{avg} is $\leq 200^{\circ}\text{F}$.

1.2.2 Hot Shutdown Condition

When the reactor is subcritical, by an amount greater than or equal to the margin as specified in Technical Specification 3.10 and T_{avg} is $\geq 547^{\circ}\text{F}$.

1.2.3 Reactor Critical

When the neutron chain reaction is self-sustaining and $k_{eff} = 1.0$.

1.2.4 Power Operation Condition

When the reactor is critical and the neutron flux power range instrumentation indicates greater than 2% of rated power.

Item No. 3

A change in the persons responsible for fulfilling the non-routine reporting requirements as they are specified in Sections 6.6.4, 6.7.3 and 6.12.2 of Appendix A of the Technical Specifications is requested.

Presently, the reporting requirements on Page 6.6-1 and on Page 6.7-1 specify that the Manager, Nuclear Power Generation Department, shall report the circumstances of the event. Consolidated Edison requests that these requirements be changed so that the Manager, Nuclear Power Generation Department, or his designee shall make the the 24-hour telephone notification and that subsequent written notification and report will be submitted by the Company. This would provide for the situation in which the Manager, Nuclear Power Generation Department would not be immediately available for the 24-hour notification and would allow written notification to be in accordance with Company general practice that such written correspondence to the AEC be from an officer of the Company.

Section 6.12.2.a, the specifications for the abnormal occurrence, reports on Page 6.12-10, is similarly revised to reflect this change in reporting responsibilities.

The proposed revised Pages 6.6-1, 6.7-1 and 6.12-10 are attached.

6.6 ACTION TO BE TAKEN IN THE EVENT OF AN ABNORMAL OCCURRENCE

- 6.6.1 Any abnormal occurrence shall be promptly reported to the Manager, Nuclear Power Generation Department and promptly reviewed by the Station Nuclear Safety Committee.
- 6.6.2 The Station Nuclear Safety Committee shall prepare a report for each abnormal occurrence. This report shall describe the cause of the occurrence, the corrective action taken, and committee recommendations for appropriate action to reduce the probability of recurrence.
- 6.6.3 All such reports shall be submitted to the Manager, Nuclear Power Generation Department, with a copy to the Chairman of the Nuclear Facilities Safety Committee, for review and approval of any recommendations.
- 6.6.4 As specified in Section 6.12 "Plant Reporting Requirements", the Manager, Nuclear Power Generation Department, or his designee shall make the 24-hour report of the abnormal occurrence by telephone to the AEC. Consolidated Edison shall submit the required written notification and report to the AEC as specified in Section 6.12.

6.7 ACTION TO BE TAKEN IF A SAFETY LIMIT IS EXCEEDED

- 6.7.1 If a safety limit is exceeded, the reactor shall be promptly shut down and reactor operation shall only be resumed in accordance with the provisions of 10 CFR 50.36 (c) (1) (i).
- 6.7.2 A report of each safety limit violation shall be promptly made to the Manager, Nuclear Power Generation Department and the Chairman of the Nuclear Facilities Safety Committee.
- 6.7.3 As specified in Section 6.12 "Plant Reporting Requirements", the Manager, Nuclear Power Generation Department, or his designee, shall make the 24-hour report by telephone to the AEC in the event a safety limit is exceeded. Consolidated Edison shall submit the required written notification and report to the AEC as specified in Section 6.12.
- 6.7.4 The Station Nuclear Safety Committee shall prepare a complete report of each safety limit violation which includes appropriate analyses and evaluations of (1) applicable circumstances preceding the occurrence, (2) effects of the occurrence upon facility components, systems or structures, and (3) recommended corrective action to prevent recurrence. This report shall be submitted to the Manager, Nuclear Power Generation Department with a copy to the Chairman of the Nuclear Facilities Safety Committee.

Gross tritium in $\mu\text{Ci/ml}$
Iodine-131 in $\mu\text{Ci/ml}$
Ratio of Iodine-131 to Iodine-133
Hydrogen in cc per kg
Lithium in parts per million
Boron in parts per million
Oxygen in parts per million
Chloride in parts per million
pH at 25°C

6.12.2 NON-ROUTINE REPORTS

a. Abnormal Occurrence Reports

In the event of an abnormal occurrence as defined in Section 1.8, notification to the Region 1 Regulatory Operations Office shall be made by the Manager, Nuclear Power Generation Department or his designee, within 24 hours by telephone. A written notification shall also be promptly submitted by the Company to the Director of the Region 1 Regulatory Operations Office (copy to the Director of Licensing). A written report shall be submitted by the Company within 10 working days after the occurrence to the Director of Licensing (copy to the Director of the Region 1 Regulatory Operations Office). The written report to the Directorate of Licensing on these abnormal occurrences, and to the extent possible, the preliminary notification to Regulatory Operations shall: (a) describe, analyze and evaluate safety implications, (b) outline the measures taken to assure that the cause of the condition is determined; (c) indicate the corrective action (including any changes made to the procedures

Item No. 4

Consolidated Edison requests a rewording of the parts of Section 6 (Administrative Controls) that involve the organization of the Nuclear Power Generation Department. Because of a planned reorganization of this Department, revisions or additions of Pages 6.1-1, 6.1-2, 6.1-3, 6.2-2, 6.5-1, Figures 6.1-1 and 6.2-1 are requested. These changes would specify the positions of the persons responsible for operations of the plant and provide for notification to the Director of Licensing and the Director of Region 1 Regulatory Operations Office of any further reorganizations.

The proposed revised pages are included.

SECTION 6

ADMINISTRATIVE CONTROLS

6.0 INTRODUCTION

Administrative controls are the means by which Station operators are subject to management control. Measures specified in this section provide for the assignment of responsibilities, Station organization, staffing qualifications and related requirements, review and audit mechanism, procedural controls and reporting requirements. Each of these measures is necessary to ensure safe and efficient facility operation.

SPECIFICATIONS

6.1 RESPONSIBILITY

6.1.1 The Operations Engineer shall have direct responsibility for the safe operation of his assigned nuclear unit. This responsibility shall be expressly delegated to a specified member of the Station management staff during any off-duty status period of the Operations Engineer. | 4

6.1.2 The Chief Operations Engineer shall have direct responsibility for the safe operation of all nuclear units at the Station. This responsibility shall be expressly delegated to a specified member of the Station Management staff during any off-duty status period of the Chief Operations Engineer. | 4

- 6.1.3 The Station Manager shall have direct responsibility for the safe operation and maintenance of all facilities comprising Indian Point Station. This responsibility shall be expressly delegated to a specified member of the Station management staff during any off-duty status period of the Station Manager.
- 6.1.4 The Manager, Nuclear Services, shall have direct responsibility for the development and implementation of the Station's program in the areas of radiation safety, environmental monitoring, nuclear training, cold and hot chemical surveillance, testing and reactor engineering. This responsibility shall be expressly delegated to a specified member of the Station management staff during any off-duty status period of the Manager, Nuclear Services.
- 6.1.5 The Station Quality Assurance Engineer shall have direct responsibility for overseeing and directing the Station's quality assurance program. This responsibility shall be expressly delegated to a specified member of the Station management staff during any off-duty status period of the Station Quality Assurance Engineer.
- 6.1.6 In all matters pertaining to operation of the nuclear facility, and to these Technical Specifications, the Chief Operations Engineer shall report to and be directly responsible to the Station Manager who, in turn, shall report to the Manager, Nuclear Power Generation

Department, as indicated on the corporate management organization chart of Figure 6.1-1.

6.1.7 Changes to the corporate management organization as shown in Figure 6.1-1, may be made without prior Commission approval. A written report describing such changes shall be forwarded within thirty (30) days of each such change to the Directorate of Licensing and to the Director of the Region I Regulatory Operations Office.

CORPORATE ORGANIZATION

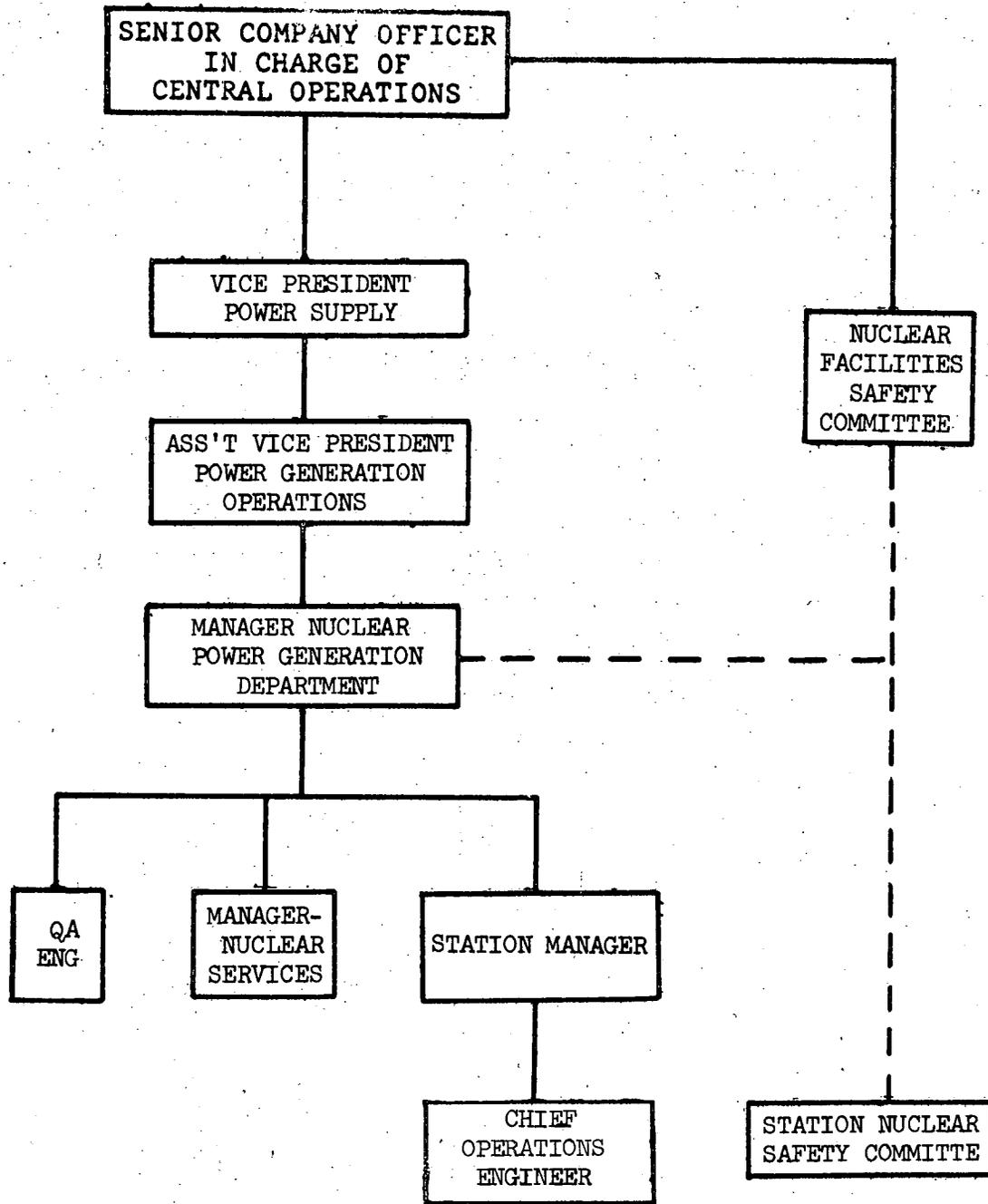
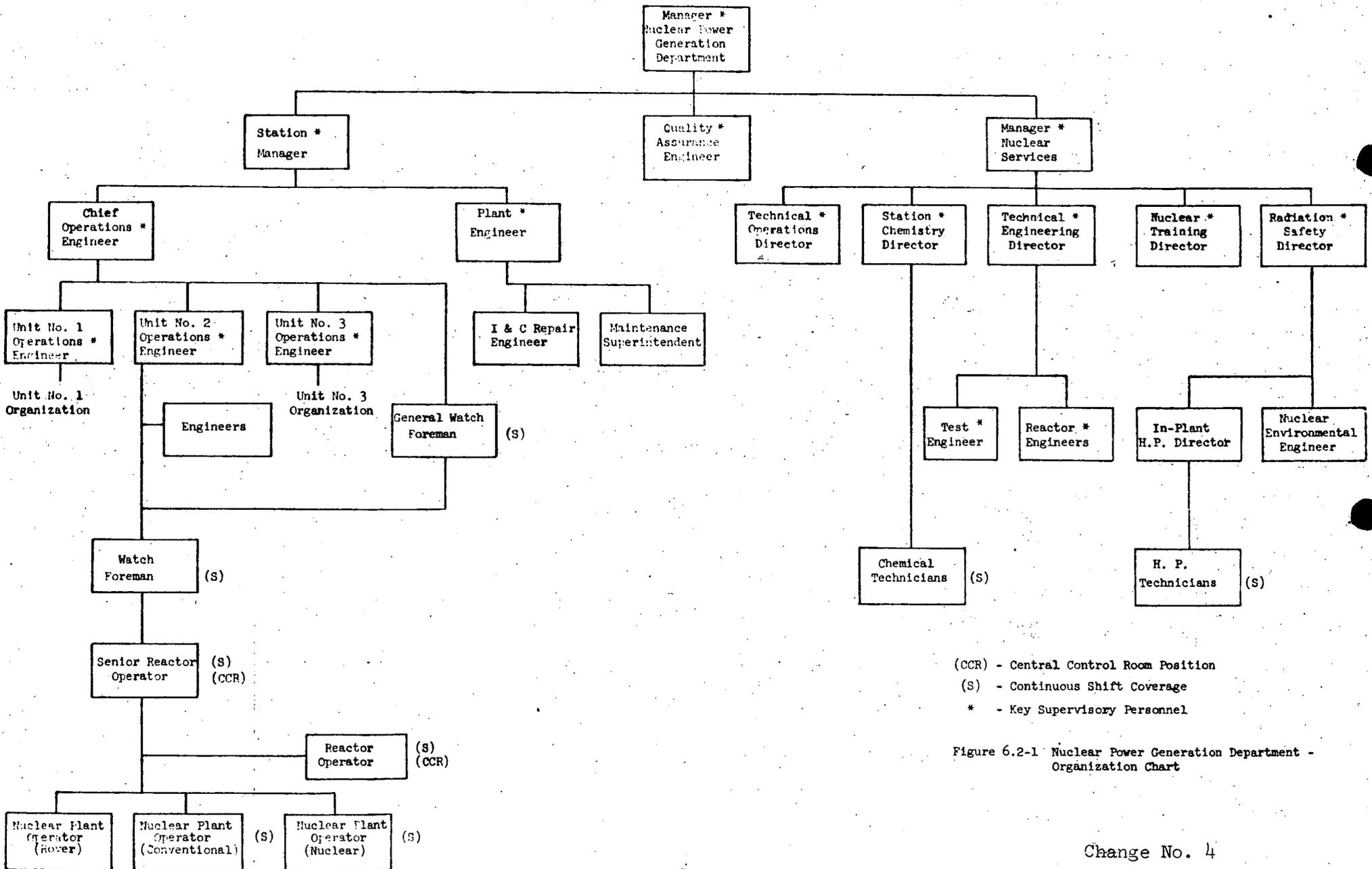


FIGURE 6

6.2.2 Changes to the Station staff organization as described in this Section may be made without prior Commission approval. A written report describing such changes shall be forwarded within thirty (30) days of each such change to the Director of Licensing and to the Director of the Region I Regulatory Operation Office.



(CCR) - Central Control Room Position
 (S) - Continuous Shift Coverage
 * - Key Supervisory Personnel

Figure 6.2-1 Nuclear Power Generation Department - Organization Chart

6.5.1 Station Nuclear Safety Committee - A Station Staff Committee shall be constituted and function as described below:

a. Membership:

1. Chairman: Individual in charge of Technical Engineering.
 2. Vice Chairman: Individual in charge of Plant Maintenance
 3. Member: Individual in charge of Radiation Safety.
 4. Member: Individual in charge of Operations.
 5. Member: Individual in charge of Technical Operations.
 6. Member: Individuals in charge of Reactor Engineering.
 7. Member: Individual in charge of Quality Assurance.
 8. Member: Additional individuals with specific responsibilities and/or expertise which would qualify them for membership.
- b. Alternates: Alternate members shall be appointed by each member; however, no more than two (2) alternate members shall serve on the committee at any one time.
- c. Consultants: Additional personnel with expertise in specific areas may serve as consultants to the Station Nuclear Safety Committee.
- d. Meeting frequency; Bi-monthly, and as required, on call of the Chairman.

Item No. 5

A clarification of one part of the definition for an abnormal occurrence is requested. Presently, the wording is such that any uncontrolled or unplanned release of radioactive material from the site constitutes an abnormal occurrence (Section 1.8.c of the Technical Specifications, Page 1-4.) We propose that only unplanned or uncontrolled releases that are in excess of specific values be defined as abnormal occurrences. This revision would preclude the necessity of reporting minor releases as abnormal occurrences.

The proposed revised page 1-4 is attached.

1.8 Abnormal Occurrence

An abnormal occurrence means the occurrence of any plant condition that:

- a. Results in a protective instrumentation setting in excess of a Limiting Safety System Setting as established in the Technical Specification, or
- b. Exceeds a Limiting Condition for Operation as established in the Technical Specifications, or
- c. Causes any uncontrolled or unplanned release of radioactive material from the site in excess of 16% and 8% of the maximum release rate limits for gaseous effluents set forth in Specification 3.9.B.1 and 3.9.B.2 respectively or in excess of the concentrations shown in Table II, Column 2, Appendix B to 10 CFR Part 20 for liquid effluents or
- d. Results in engineered safety system component failures which could render the system incapable of performing its intended safety function, or
- e. Results in abnormal degradation of one of the several boundaries which are designed to contain the radioactive materials resulting from the fission process, or
- f. Results in uncontrolled or unanticipated changes in reactivity greater than 1% $\Delta k/k$.

1.9 Quadrant Power Tilt

The quadrant power tilt is defined as the ratio of maximum to average of the upper excore detector currents or the lower excore detector currents whichever is greater. If one excore detector is out of service, the three in-service units are used in computing the average.

Item No. 6

Consolidated Edison requests a clarification of personnel requirements during core alteration operations. The intent of Section 6.2.1.e on Page 6.2-1 of the Technical Specifications was to specify the additional supervisory coverage for operations involving core alterations. A rewording of this section and in Table 6.2-1 is proposed to more accurately reflect this intent.

The proposed revised Page 6.2-1 and Table 6.2-1 are attached.

6.2 STATION STAFF ORGANIZATION

6.2.1 The Station staff organization shall be as shown in Figure 6.2-1 and shall function as follows:

- a. The minimum number and type of licensed and unlicensed operating personnel required on site for each shift shall be as shown in Table 6.2.1.
- b. One licensed Operator shall be in the control room at all times when there is fuel in the reactor.
- c. Two licensed Operators shall be in the control room during startup, scheduled shutdown and during recovery from trips caused by transients or emergencies.
- d. An individual possessing the qualifications of a Health Physics Technician shall be on site at all times nuclear fuel is located thereon.
- e. All operations involving core alterations shall be performed under the direct supervision of an individual holding a Senior Operating License. This individual shall have no other responsibilities during this assignment, and shall functionally report to the individual on-site exercising overall responsibility for the facility.

Table 6.2-1

Minimum Shift Crew Composition

<u>License Category</u>	<u>During Operations Involving Core Alterations</u>	<u>During Cold Shutdown or Refueling Periods</u>	<u>At All Other Times</u>
Senior Operator License	2*	1	1
Operator License	1	1	2
Non-Licensed	(As Required)	1	2

* Includes individual with SRO license supervising fuel movement as per Section 6.2.1(e).