



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-280

SURRY POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 53
License No. DPR-32

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company (the licensee) dated August 31, 1978 as supplemented December 28, 1978, January 19 and May 4, 1979, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to the license amendment, and paragraph 3.B of Facility Operating License No. DPR-32 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 53, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Attachment:
Changes to the
Technical Specifications

Date of Issuance: September 11, 1979

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-281

SURRY POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 52
License No. DPR-37

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company (the licensee) dated August 31, 1978 as supplemented December 28, 1978, January 19 and May 4, 1979, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

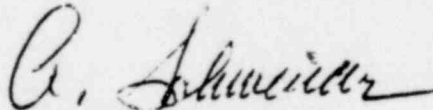
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to the license amendment, and paragraph 3.B of Facility Operating License No. DPR-37 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 52, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Attachment:
Changes to the
Technical Specifications

Date of Issuance: September 11, 1979

ATTACHMENT TO LICENSE AMENDMENT NOS. 53 AND 52

FACILITY OPERATING LICENSE NOS. DPR-32 AND DPR-37

DOCKET NOS. 50-280 AND 50-281

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

<u>Remove</u>	<u>Insert</u>
1.0-1	1.0-1
1.0-2	1.0-2
3.3-6	3.3-6
3.6-1	3.6-1
3.6-3	3.6-3
3.8-2	3.8-2
3.13-2	3.13-2
4.17-6	4.17-6
6.1-1	6.1-1
6.1-2b	6.1-2b
6.1-3	6.1-3
6.1-6	6.1-6
TS Fig. 6.1-1	TS Fig. 6.1-1
TS Fig. 6.1-2	TS Fig. 6.1-2
TS Fig. 6.1-3	TS Fig. 6.1-3
6.3-1	6.3-1
6.4-3	6.4-3
6.4-4	6.4-4
6.4-5	6.4-5
6.4-6	6.4-6
6.4-7a	---
6.4-7b	---
6.4-7c	---
6.4-8	---
6.4-9	---
6.4-10	---

1.0 DEFINITIONS

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

A. Rated Power

A steady state reactor core heat output of 2441 MWt.

B. Thermal Power

The total core heat transferred from the fuel to the coolant.

C. Reactor Operation1. Refueling Shutdown Condition

When the reactor is subcritical by at least 10% $\Delta k/k$ and T_{avg} is $\leq 140^{\circ}\text{F}$ and fuel is scheduled to be moved to or from the reactor core.

2. Cold Shutdown Condition

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

3. Intermediate Shutdown Condition

When the reactor is subcritical by an amount greater than or equal to 1.77% $\Delta k/k$ and $200^{\circ}\text{F} < T_{avg} < 547^{\circ}\text{F}$.

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4. Hot Shutdown Condition

When the reactor is subcritical by an amount greater than or equal to 1.77% $\Delta k/k$ and T_{avg} is $\geq 547^{\circ}F$.

5. Reactor Critical

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

6. Power Operation

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

7. Refueling Operation

Any operation involving movement of core components when the vessel head is unbolted or removed.

D. Operable

A system or component is operable when it is capable of performing its intended function within the required range. The system or component shall be considered to have this capability when: (1) it satisfies the limiting conditions for operation defined in Section 3, and (2) it has been tested periodically in accordance with Section 4 and meets its performance requirements.

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Amendment No. 52, Unit 2

Basis

The normal procedure for starting the reactor is, first, to heat the reactor coolant to near operating temperature by running the reactor coolant pumps. The reactor is then made critical by withdrawing control rods and/or diluting boron in the coolant. With this mode of startup the Safety Injection System is required to be operable as specified. During low power physics tests there is a negligible amount of energy stored in the system; therefore an accident comparable in severity to the Design Basis Accident is not possible, and the full capacity of the Safety Injection System is not required.

The operable status of the various systems and components is to be demonstrated by periodic tests, detailed in TS Section 4.1. A large fraction of these tests are performed while the reactor is operating in the power range. If a component is found to be inoperable, it will be possible in most cases to effect repairs and restore the system to full operability within a relatively short time. A single component being inoperable does not negate the ability of the system to perform its function, but it reduces the redundancy provided in the reactor design and thereby limits the ability to tolerate additional equipment failures. To provide maximum assurance that the redundant component(s) will operate if required to do so, the redundant component(s) are to be tested prior to initiating repair of the inoperable component and, in some cases are to be retested at intervals during the repair period. In some cases, i.e. charging pumps, additional components are installed to allow a component to be inoperable without affecting system redundancy. For those cases which are not so designed, if it develops that (a) the inoperable component is not repaired within the

3.6 TURBINE CYCLE

Applicability

Applies to the operating status of the Main Steam and Auxiliary Feed Systems

Objective

To define the conditions required in the Main Steam System and Auxiliary Feed System for protection of the steam generator and to assure the capability to remove residual heat from the core during a loss of station power.

Specification

A unit's Reactor Coolant System temperature or pressure shall not exceed 350°F or 450 psig, respectively, or the reactor shall not be critical unless the five main steam line code safety valves associated with each steam generator in unisolated reactor coolant loops, are operable.

B. To assure residual heat removal capabilities, the following conditions shall be met prior to the commencement of any unit operation that would establish reactor coolant system conditions of 350°F and 450 psig which would preclude operation of the Residual Heat Removal System.

1. Two of the three auxiliary feedwater pumps shall be operable.

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450 psig, respectively, residual heat removal requirements are normally satisfied by steam bypass to the condenser. If the condenser is unavailable, steam can be released to the atmosphere through the safety valves, power operated relief valves, or the 4 inch decay heat release line.

The capability to supply feedwater to the generators is normally provided by the operation of the Condensate and Feedwater Systems. In the event of complete loss of electrical power to the station, residual heat removal would continue to be assured by the availability of either the steam driven auxiliary feedwater pump or one of the motor driven auxiliary feedwater pumps and the 100,000 gallon condensate storage tank.

A minimum of 92,000 gallons of water in the 110,000 gallon condensate tank is sufficient for 8 hours of residual heat removal following a reactor trip and loss of all off-site electrical power. If the protected condensate storage tank level is reduced to 60,000 gallons, the immediately available replenishment water in the 300,000 gallon condensate tank can be gravity-feed to the protected tank if required for residual heat removal. An alternate supply of feedwater to the auxiliary feedwater pump suction is also available from the Fire Protection System Main in the auxiliary feedwater pump cubicle.

The five main steam code safety valves associated with each steam generator have a total combined capacity of 3,725,575 pounds per hour at their individual set pressure; the total combined capacity of all fifteen main steam code safety valves is 11,176,725 pounds per hour. The ultimate power rating steam flow is 11,167,923 pounds per hour. The combined capacity of the safety valves required by Specification 3.6 always exceeds the total steam flow corresponding to the maximum steady-state power than can be obtained during one, two or three reactor

4. The containment integrity shall not be violated when the reactor vessel head is unbolted unless a shutdown margin greater than 10 percent $\Delta k/k$ is maintained.
5. Positive reactivity changes shall not be made by rod drive motion or boron dilution unless the containment integrity is intact.

B. Internal Pressure

1. If the internal air partial pressure rises to a point 0.25 psi above the preset value of the air partial pressure (TS Figure 3.8-1), the reactor shall be brought to the hot shutdown condition.
2. If the leakage condition cannot be corrected without violating the containment integrity or if the internal partial pressure continues to rise, the reactor shall be brought to the cold shutdown condition utilizing normal operating procedures.
3. If the internal pressure falls below 8.25 psia the reactor shall be placed in the cold shutdown condition.

Basis

The Reactor Coolant System temperature and pressure being below 350°F and 450 psig, respectively, ensures that no significant amount of flashing steam will be formed and hence that there would be no significant pressure buildup in the containment if there is a loss-of-coolant accident.

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- heat exchangers shall be operable.
2. For two unit operation, three component cooling water pumps and heat exchangers shall be operable.
 3. The Component Cooling Water Subsystem shall be operable for immediate supply of cooling water to the following components, if required:
 - a. Two operable residual heat removal heat exchangers.
 4. During power operation, Specification A-1, A-2, or A-3 above may be modified to allow one of the required components to be inoperable provided immediate attention is directed to making repairs. If the system is not restored within 24 hours to the requirements of Specification A-1, A-2, or A-3, an operating reactor shall be placed in the hot shutdown condition. If the repairs are not completed within an additional 48 hours, the affected reactor shall be placed in the cold shutdown condition.
 5. Whenever the component cooling water radiation monitor is inoperable, the surge tank vent valve shall remain closed.
- B. For each unit whose Reactor Coolant System exceeds a temperature of 350°F and a pressure of 450 psig, or when a unit's reactor is critical,

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Amendment No. 52, Unit 2

LEGEND

ACCESSIBILITY CATEGORY

- A = Accessible
- I = Inaccessible

RADIATION CATEGORY

- H = High radiation area only during periods of reactor operation. In acceptable radiation work area during periods of reactor shutdown.
- N = Acceptable radiation work area during period of both reactor operation and shutdown.

REMOVAL CATEGORY

- D = Difficult to remove, i.e., large line size, large component, physical location (overhead), lines under load, jacks necessary
- R = Can be removed

* Modifications to this table due to changes in high radiation areas should be submitted to the NRC as part of the next license amendment.

Amendment No. 53, Unit 1
Amendment No. 52, Unit 2

6.0 ADMINISTRATIVE CONTROLS

6.1 ORGANIZATION, SAFETY, AND OPERATION REVIEW

Specification

- A. The Station Manager shall be responsible for the safe operation of the facility. The Station Manager shall report to the Director-Nuclear Operations. The relationship between this Director and other levels of company management is shown in TS Figures 6.1-1 and 6.1-2.
- B. The Station organization shall conform to the chart as shown in TS Figure 6.1-3.
1. Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N.18.1-1971 for comparable positions, except for the Supervisor-Health Physics who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975.

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Amendment No. 52, Unit 2

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5. A training program for the fire brigade and fire teams shall be maintained under the directions of a Fire Marshall and shall meet or exceed the requirements of the NFPA Code Section 27 (1975), except that training sessions and drills shall be held at least once per 92 days.

C. Organization units to provide a continuing review of the operational and safety aspects of the nuclear facility shall be constituted and have the authority and responsibilities outlined below:

1. Station Nuclear Safety and Operation Committee

a. Membership

- (1) Chairman - Station Manager
- (2) Vice Chairman - Superintendent Operations.

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3. Member - Superintendent-Maintenance
4. Member - Superintendent-Technical Services

- b. Qualifications: The qualifications of the regular members of the Station Nuclear Safety and Operating Committee with regard to the combined experience and technical specialties of the individual members shall be maintained at a level at least equal to those described in Section 6.1.B.1 of the Specifications.
- c. Meeting frequency: As called by the Chairman but not less than monthly.
- d. Quorum: Chairman or Vice Chairman, and two others to provide a quorum of three members. The Chairman or Vice Chairman may appoint a similarly qualified designee to represent a member other than the Chairman or Vice Chairman on a temporary basis. No more than two alternates shall participate as voting members in SNSOC activities at any one time.
- e. Responsibilities
 1. Periodically review all proposed normal, abnormal, and emergency operating procedures and all proposed maintenance procedures. Review proposed changes to those procedures, and any other proposed procedures or changes thereto as determined by the Station Manager which affect nuclear safety.

Safety and Operating Committee and copies shall be sent to the Director Nuclear Operation and to all members of the Station and System Nuclear Safety and Operating Committees.

h. Procedures

Written administrative procedures for committee operation shall be prepared and maintained describing the method of submission, and the content of presentations to the committee, provisions for the use of subcommittees; review and approval by members of written committee evaluations and recommendations; the distributions of minutes; and, such other matters as may be appropriate.

2. System Nuclear Safety and Operating Committee (SyNSOC)

a. Composition

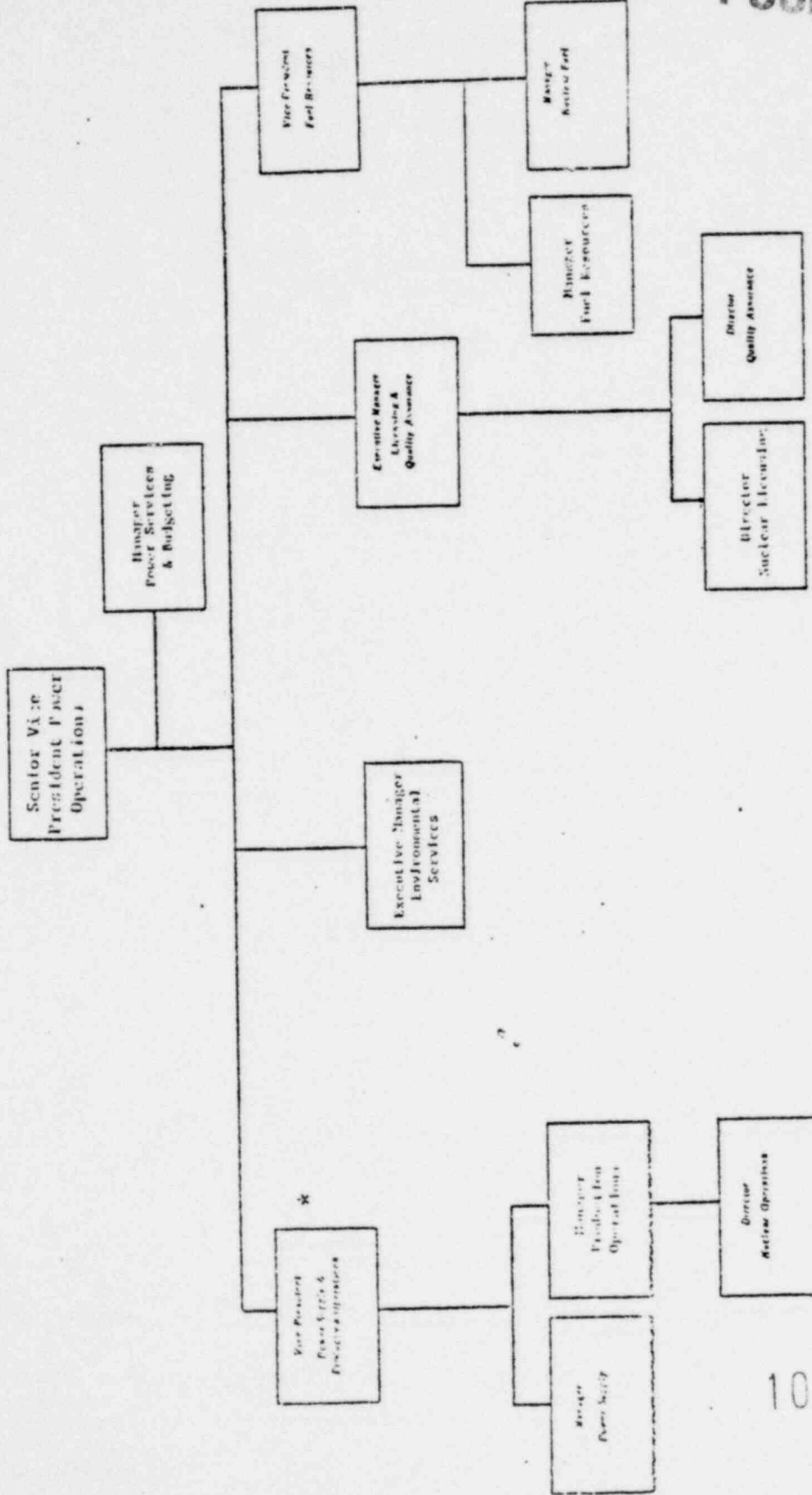
1. The SyNSOC shall be composed of the Chairman and four other members. Membership shall be composed of the Managers of the Power Station Engineering, Fuel Resources and Production Operations Departments, and Executive Manager Licensing and Quality Assurance or qualified designees from these departments and a fifth qualified member selected by the four other members.

b. Qualifications

The minimum qualifications of the members of the SyNSOC will be: An engineering graduate or equivalent with combined nuclear and conventional experience in power station design and/or operation

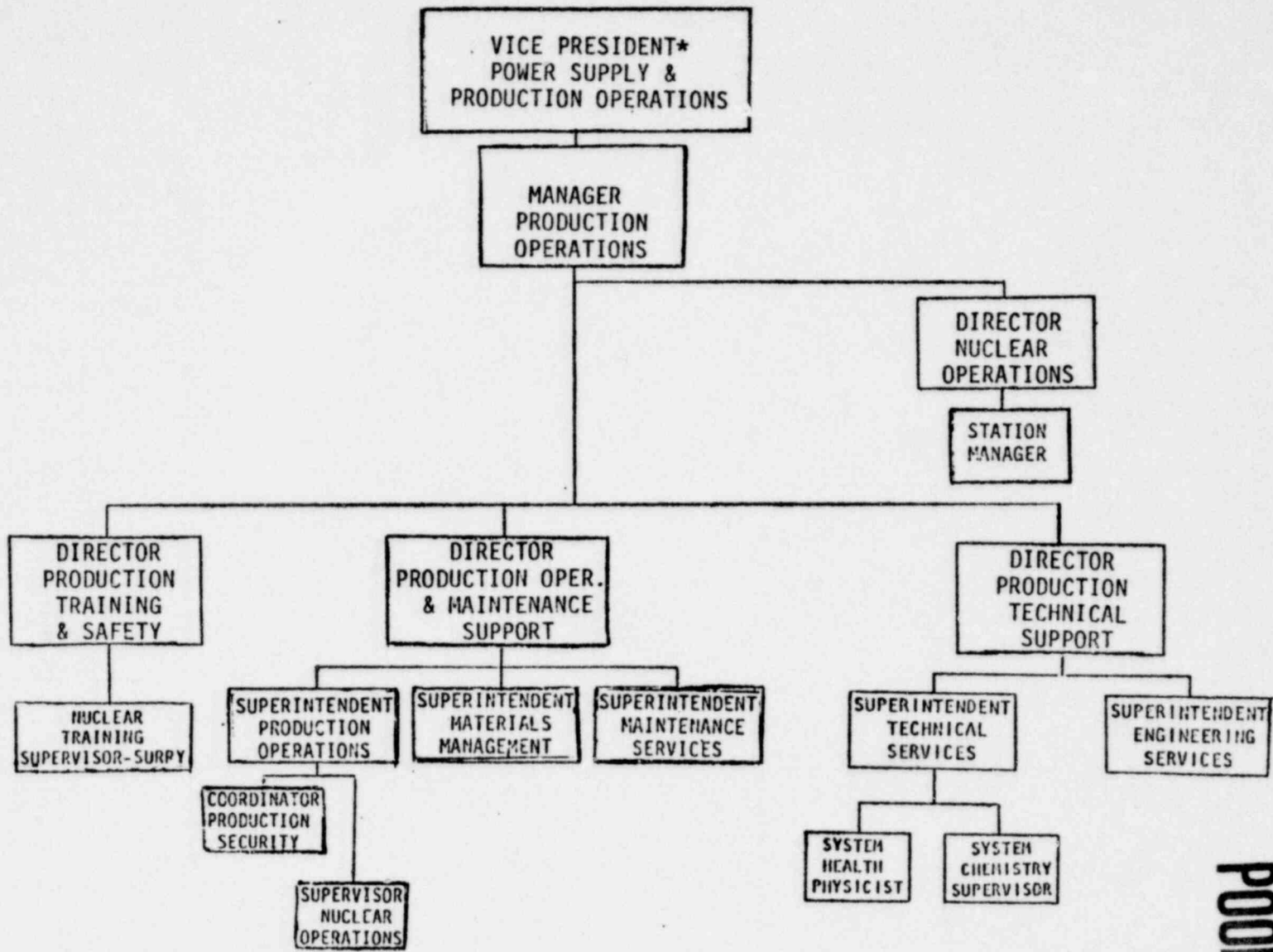
POOR ORIGINAL

VIRGINIA ELECTRIC AND POWER COMPANY
ORGANIZATION CHART
POWER OPERATIONS



* Responsible for Corporate Fire Protection Program

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*Responsible for Corporate Fire Protection Program

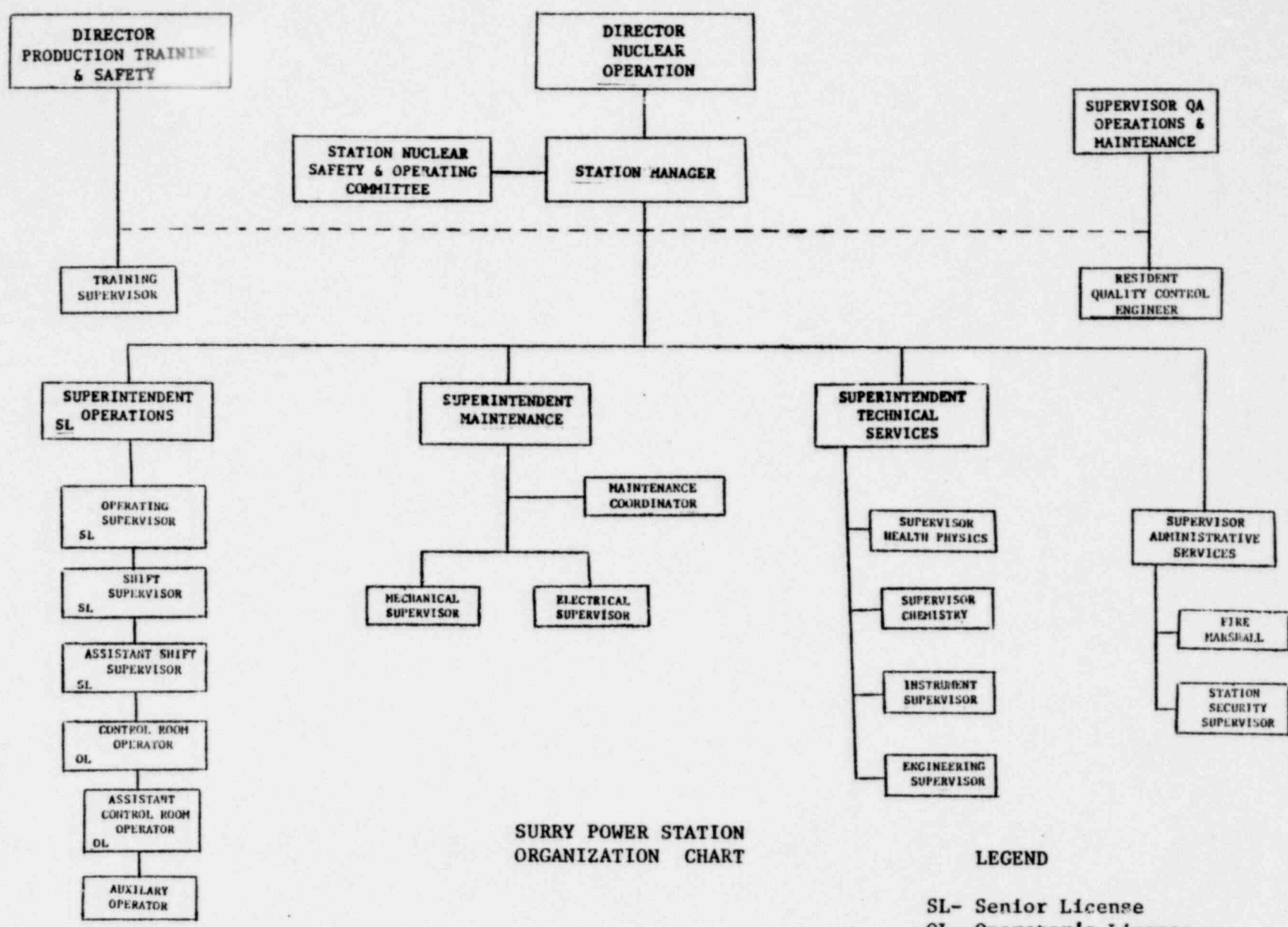
Offsite Organization for Facility Management and Technical Support

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POOR ORIGINAL

TS FIG 6.1-3



SURRY POWER STATION ORGANIZATION CHART

LEGEND

SL- Senior License
 OL- Operator's License
 ---Communications

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6.2 ACTION TO BE TAKEN IF A SAFETY LIMIT IS EXCEEDED

Specification

- A. Should a safety limit (see Section 2.0 of the Technical Specifications) be exceeded, the reactor shall be placed at least in hot shutdown within one hour. Reactor operation shall only be resumed in accordance with the authorization within 10 CFR 50.36 (c)(1)(i).
- B. A report of the incident shall be made to the NRC, the Director - Nuclear Operations, and the Chairman of the System Nuclear Safety and Operating Committee within 24 hours.
- C. DELETED
- D. A complete analysis of the incident together with recommendations to prevent recurrence shall be prepared by the Shift Supervisor and the Operating Supervisor. A Safety Limit Violation report shall be reviewed and approved by the Station Nuclear Safety and Operating Committee. The report shall be forwarded to the NRC, and the Chairmen of the System Nuclear Safety and Operating Committee within 14 days of the violation.

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- f. Entrance to areas with radiation levels in excess of 1 R/hr shall require the use of the "buddy system," whereby a minimum of two individuals maintain continuous visual and/or verbal communication with each other; or other mechanical and/or electrical means to provide constant communication with the individual in the area shall be provided.
 - g. A Radiation Work Permit system shall be used to authorize and control any work performed in high radiation areas.
 - h. All buildings or structures, in or around which a high radiation area exists, shall be surrounded by a chain-link fence. The entrance gate shall be locked under administrative control, or continuously guarded to preclude unauthorized entry.
 - i. Stringent administrative procedures shall be implemented to assure adherence to the restriction placed on the entrance to a high radiation area and the radiation protection program associated thereto.
- C. All procedures described in A and B above, and changes thereto, shall be reviewed by the Station Nuclear Safety and Operating Committee and approved by the Station Manager prior to implementation.

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- D. All procedures described in A and B above shall be followed.
- E. Temporary changes to procedures described in A and B above which do not change the intent of the original procedure may be made, provided such changes are approved prior to implementation by the persons designated below based on the type of procedure to be changed:

1. Administrative	Station Manager
2. Abnormal	Shift Supervisor
3. Annunciator	Shift Supervisor
4. Health Physics	*Health Physicists
5. Emergency	Shift Supervisor
6. Electrical Maintenance	*Electrical Foreman
7. Mechanical Maintenance	*Mechanical Foreman
8. Operating	Shift Supervisor
9. Periodic Test	*Cognizant Supervisor
10. Start-up Test	*Engineering Supervisor
11. Special Test	*Engineering Supervisor
12. Quality Assurance	Resident Quality Control Engineer
13. Chemistry	*Chemist

*These procedures must have the approval of a licensed Senior Reactor Operator.

Such changes will be documented and subsequently reviewed by the Station Nuclear Safety and Operating Committee and approved by the Station Manager within fourteen days.

- F. Temporary changes to procedures described in A and B above which change the intent of the original procedures may be made, provided such changes are approved prior to implementation by the person designated below based on the type of the procedure to be changed.

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1. Administrative	Station Manager
2. Abnormal	Operating Supervisor or Superintendent - Operations
3. Annunciator	Operating Supervisor or Superintendent- Operations
4. Health Physics	Supervisor-Health Physics
5. Emergency	Operating Supervisor or Superintendent - Operations
6. Maintenance	Mechanical Supervisor Electrical Supervisor Instrument Supervisor
7. Operating	Operating Supervisor Superintendent - Operations
8. Periodic Test	Engineering Supervisor
9. Start-up Test	Engineering Supervisor
10. Special Test	Engineering Supervisor
11. Quality Assurance	Resident-Quality Control Engineer
12. Chemistry	Supervisor-Chemistry

Such changes will be documented and subsequently reviewed by the Station Nuclear Safety and Operating Committee and approved by the Station Manager.

- G. In cases of emergency, operations personnel shall be authorized to depart from approved procedures where necessary to prevent injury to personnel or damage to the facility. Such changes shall be documented and reviewed by the Station Nuclear Safety and Operating Committee and approved by the Station Manager.

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- H. Practice of site evacuation exercises shall be conducted annually, following emergency procedures and including a check of communications with off-site report groups. An annual review of the Emergency Plan will be performed.
- I. The industrial security program which has been established for the station shall be implemented, and appropriate investigation and/or corrective action shall be taken if the provisions of the program are violated. An annual review of the program shall be performed.
- J. The facility fire protection program and implementing procedures which have been established for the station shall be implemented. The program shall be reviewed at least once every two years.

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