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

NEBRASKA PUBLIC POWER DISTRICT

DOCKET NO. 50-298

COOPER NUCLEAR STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 99
License No. DPR-46

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Nebraska Public Power District dated December 20, 1984, as supplemented February 22, 1985, 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 licensee is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C(2) of Facility Operating License No. DPR-46 is hereby amended to read as follows:

(2) Technical Specification

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 99 , 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 its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Daniel R. Muller, Director
BWR Project Directorate #2
Division of BWR Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 19, 1986

ATTACHMENT TO LICENSE AMENDMENT NO. 99

FACILITY OPERATING LICENSE NO. DPR-46

DOCKET NO. 50-298

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Pages
3
4
41
59
76
81
219
220
237

8. Simulated Automatic Actuation - Simulated automatic actuation means applying a simulated signal to the sensor to actuate the circuit in question.

9. Trip System - A trip system means an arrangement of instrument channel trip signals and auxiliary equipment required to initiate action to accomplish a protective function. A trip system may require one or more instrument channel trip signals related to one or more plant parameters in order to initiate trip system action. Initiation of protective action may require the tripping of a single trip system or the coincident tripping of two trip systems.

J. Limiting Conditions for Operation (LCO) - The limiting conditions for operation specify the minimum acceptable levels of system performance necessary to assure safe startup and operation of the facility. When these conditions are met, the plant can be operated safely and abnormal situations can be safely controlled.

Limiting Conditions for Operation (LCO) shall be applicable during the operational conditions specified for each specification.

Adherence to the requirements of the LCO within the specified time interval shall constitute compliance with the specification. In the event the LCO is restored prior to expiration of the specified time interval, completion of the LCO action is not required.

In the event an LCO cannot be satisfied because of circumstances in excess of those addressed in the specification, the facility shall be placed in HOT SHUTDOWN within 6 hours and in COLD SHUTDOWN within the following 30 hours unless corrective measures are completed that permit operation under the LCO for the specified time interval as measured from initial discovery. Exception to these requirements shall be stated in the individual specifications.

Entry into an operational condition shall not be made unless the conditions of the LCO are met without reliance on the actions specified in the LCO unless otherwise excepted. This provision shall not prevent passage through operational conditions required to comply with the specified actions of an LCO.

When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied, the unit shall be placed in at least HOT SHUTDOWN within 6 hours, and in at least COLD SHUTDOWN within the following 30 hours. This specification is not applicable in the cold condition or the refueling mode.

K. Limiting Safety System Setting (LSSS) - The limiting safety system settings are settings on instrumentation which initiate the automatic protective action at a level such that the safety limits will not be exceeded. The region between the safety limit and these settings represent a margin with normal operation lying below these settings. The margin has been established so that with proper operation of the instrumentation the safety limits will never be exceeded.

L. Mode - The reactor mode is established by the mode selector switch. The modes include refuel, run, shutdown and startup/hot standby which are defined as follows:

1. Refuel Mode - The reactor is in the refuel mode when the mode switch is in the REFUEL position. When the mode switch is in the REFUEL position, the refueling interlocks are in service.

2. Run Mode - In this mode the reactor system pressure is at or above 825 psig and the reactor protection system is energized with APRM protection (excluding the 15% high flux trip) and RBM interlocks in service.

3. Shutdown Mode - The reactor is in the shutdown mode when the mode switch is in the SHUTDOWN position.

4. Startup/Hot Standby Mode - In this mode the reactor protection scram trips initiated by the main steam line isolation valve closure are bypassed, the low pressure main steam line isolation valve closure trip is bypassed, the reactor protection system is energized with APRM (15% SCRAM) and IRM neutron monitoring system trips and control rod withdrawal interlocks in service.

M. Operable - Operability - Operating

1. Operable - Operability - A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s). Implicit in this definition shall be the assumption that all necessary attendant instrumentation, controls, normal and emergency electrical power sources (except as specified in Sections 1.0.J and 3.9), cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component or device to perform its function(s) are also capable of performing their related support function(s).

2. Operating - Operating means a system, subsystem, train, component, or device is performing its intended function in its required manner.

N. Deleted.

O. Operating Cycle - Interval between the end of one refueling outage and the end of the next subsequent refueling outage.

P. Primary Containment Integrity - Primary containment integrity means that the drywell and pressure suppression chamber are intact and all of the following conditions are satisfied:

1. All manual containment isolation valves on lines connected to the reactor coolant system or containment, and which are not required to be open during accident conditions, are closed.

2. At least one door in each airlock is closed and sealed.

LIMITING CONDITIONS FOR OPERATION

3.1 BASES (Cont.d)

ence paragraph VII.5.7 FSAR). Thus the IRM System is not required in the "Run" mode. The APRM's cover only the power range. The IRM's and APRM's provide adequate coverage in the startup and intermediate range.

The requirement to have the scram functions indicated in Table 3.1.1 operable in the Refuel mode assures that shifting to the Refuel mode during reactor power operation does not diminish the protection provided by the reactor protection system.

Turbine stop valve scram occurs at 10% of valve closure. Below 233 psig turbine first stage pressure (30% of rated), the scram signal due to turbine stop valve closure is bypassed because the flux and pressure scrams are adequate to protect the reactor.

Turbine control valves fast closure initiates a scram based on pressure switches sensing Electro-Hydraulic Control (EHC) system oil pressure. The switches are located on the Control Valve Emergency Trip oil header, and detects the loss of oil to hold the valves open.

This scram signal is also bypassed when turbine first stage pressure is less than 233 psig.

The requirements that the IRM's be inserted in the core when the APRM's rea 2.5 indicated on the scale in the Startup and Refuel modes assures that

SURVEILLANCE REQUIREMENTS

4.1 BASES (Cont.d)

full scale flow signal will be sent to half of the APRM's resulting in a rod block condition. Thus, if the calibration were performed during operation, flux shaping would not be possible. Based on experience at other generating stations, drift of instruments, such as those in the Flow Biasing Network, is not significant.

Group (C) devices are active only during a given portion of the operational cycle. For example, the IRM is active during startup and inactive during full-power operation. Thus, the only test that is meaningful is the one performed just prior to shutdown or startup; i.e., the tests that are performed just prior to use of the instrument.

Calibration frequency of the instrument channel is divided into two groups. These are as follows:

1. Passive type indicating devices that can be compared with like units on a continuous basis.

2. Vacuum tube or semi-conductor devices and detectors that drift or lose sensitivity.

Experience with passive type instruments in generating stations and substations indicates that the specified calibrations are adequate. For those devices which employ amplifiers, etc., drift specifications call for drift to be less that 0.4%/month; i.e., in the period of a month a maximum drift of 0.4% could occur, thus providing for adequate margin.

Amendment No. 73, 99,

COOPER NUCLEAR STATION
TABLE 3.2.B (Page 7)
AUTOMATIC DEPRESSURIZATION SYSTEM (ADS) CIRCUITRY REQUIREMENTS

Instrument	Instrument I.D. No.	Setting Limit	Minimum Number of Operable Components Per Trip System (1)	Action Required When Component Operability Is Not Assured
Reactor Low Water Level	NBI-LIS-83, A & B	$\geq$ +12.5" Indicated Level	1	B
	NBI-LIS-72, A,B,C & D	$\geq$ -145.5" Indicated Level	2	A
ADS Timer	MS-TDR-K5, A & B	$\leq$ 120 sec.	1	B
Low-Low Set	NBI-PS-51, A,B,C & D	51-A Open Low Valve 1015±10 psig (Increasing) 51-B Close Low Valve 875±10 psig (Decreasing) 51-C Open High Valve 1025±10 psig (Increasing) 51-D Close High Valve 875±10 psig (Decreasing)	2	B

Amendment No. 30, 82, 99,

COOPER NUCLEAR STATION
TABLE 4.2.B (Page 7)
ADS SYSTEM TEST & CALIBRATION FREQUENCIES

Item	Item I.D. No.	Functional Test Freq.	Calibration Freq.	Instrument Check
Instruments				
1. ADS Inhibit Switch	MS-SW-S3A & B	Once/Month (1)	N.A.	None
2. Reactor Low Water Level	NBI-LIS-83, A & B	Once/Month (1)	Once/3 Months	Once/Day
	NBI-LIS-72, A,B,C, & D	Once/Month (1)	Once/3 Months	Once/Day
3. ADS Timer	MS-TDR-K5 A & B	Once/Month (1)	Once/Oper. Cycle	None
4. Low-Low Set	NBI-PS-51, A,B,C, & D	Once/Month (1)	Once/Oper. Cycle	None
Logic (4)(6)				
1. ADS Control Power Monitor		Once/6 Months	N.A.	
2. ADS Actuation		Once/6 Months	N.A.	
3. Low-Low Set Logic		Once/6 Months	N.A.	

Amendment No. 83, 99,

NOTES FOR TABLES 4.2.A THROUGH 4.2.F

1. Initially once every month until exposure (M as defined on Figure 4.1.1) is 2.0×10^{3}; thereafter, according to Figure 4.1.1(after NRC approval). The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instrument operates in an environment similar to that of CNS.

2. Functional tests shall be performed before each startup with a required frequency not to exceed once per week.

3. This instrumentation is excepted from the functional test definition. The functional test will consist of applying simulated inputs. Local alarm lights representing upscale and downscale trips will be verified but no rod block will be produced at this time. The inoperative trip will be initiated to produce a rod block (SRM and IRM inoperative also bypassed with the mode switch in RUN). The functions that cannot be verified to produce a rod block directly will be verified during the operating cycle.

4. Simulated automatic actuation shall be performed once each operating cycle. Where possible, all logic system functional tests will be performed using the test jacks.

5. Reactor low water level, high drywell pressure and high radiation main steam line tunnel are not included on Table 4.2.A since they are tested on Table 4.1.2.

6. The logic system functional tests shall include an actuation of time delay relays and timers necessary for proper functioning of the trip systems.

7. These units are tested as part of the Core Spray System tests.

8. The flow bias comparator will be tested by putting one flow unit in "Test" (producing a rod block) and adjusting the test input to obtain comparator rod block. The flow bias upscale will be verified by observing a local upscale trip light during operation and verifying that it will produce a rod block during the operating cycle.

9. Performed during operating cycle. Portions of the logic is checked more frequently during functional tests of the functions that produce a rod block.

10. The detector will be inserted during each operating cycle and the proper amount of travel into the core verified.

6.0 ADMINISTRATIVE CONTROLS

6.1 ORGANIZATION

6.1.1 Responsibility

The Division Manager of Nuclear Operations shall have the over-all fulltime onsite responsibility for the safe operation of the Cooper Nuclear Station. During periods when the Division Manager of Nuclear Operations is unavailable, he may delegate his responsibility to one of the managers in the Nuclear Operations Division.

6.1.2 Offsite

The portion of the Nebraska Public Power District management which relates to the operation of this station is shown in Figure 6.1.1.

6.1.3 Plant Staff - Shift Complement

The organization for conduct of operation of the station is shown in Fig. 6.1.2. The shift complement at the station shall at all times meet the following requirements. Note: Higher grade licensed operators may take the place of lower grade licensed or unlicensed operators.

A. A licensed senior reactor operator (SRO) shall be present at the station at all times when there is any fuel in the reactor.

B. A licensed reactor operator shall be in the control room at all times when there is any fuel in the reactor.

C. Two licensed reactor operators shall be in the control room during all startup, shutdown and other periods involving significant planned control rod manipulations. A licensed SRO shall either be in the Control Room or immediately available to the Control Room during such periods.

D. A licensed senior reactor operator (SRO) with no other concurrent duties shall be directly in charge of any refueling operation, or alteration of the reactor core.

A licensed reactor operator (RO) with no other concurrent duties shall be directly in charge of operations involving the handling of irradiated fuel other than refueling or reactor core alteration operations.

E. An individual who has been trained and qualified in health physics techniques shall be on site at all times that fuel is on site.

F. Minimum crew size during reactor operation shall consist of four licensed reactor operators (two of whom shall be licensed SRO) and three unlicensed operators. Minimum crew size during reactor cold shutdown conditions shall consist of two licensed reactor operators (one of whom shall be licensed SRO) and one unlicensed operator.

In the event that any member of a minimum shift crew is absent or incapacitated due to illness or injury a qualified replacement shall be designated to report on-site within two hours.

6.2 REVIEW AND AUDIT

6.2.1 The organization and duties of committees for the review and audit of station operation shall be as outlined below:

A. Station Operations Review Committee (SORC)

1. Membership:

a. Chairman: Division Manager of Nuclear Operations

b. Technical Staff Manager

c. Operations Manager

d. Technical Manager

e. Operations Supervisor

f. Maintenance Supervisor

g. Instrument and Control Supervisor

h. Chemistry and Health Physics Supervisor

i. Plant Engineering Supervisor

j. Operations Engineer Supervisor

k. Computer Applications Supervisor

l. Quality Assurance Manager - non-voting member.

Alternate members shall be appointed in writing by the Division Manager of Nuclear Operations to serve on a temporary basis; however, no more than two alternates shall serve on the Committee at any one time.

2. Meeting Frequency: Monthly, and as required on call of the Chairman.

3. Quorum: Division Manager of Nuclear Operations or his designated alternate plus four other members including alternates.

4. Responsibilities:

a. Review all proposed normal, abnormal, maintenance and emergency operating procedures specified in 6.3.1, 6.3.2, 6.3.3, and 6.3.4 and proposed changes thereto: and any other proposed procedures or changes thereto determined by any member to effect nuclear safety.

b. Review all proposed tests and experiments and their results, which involve nuclear hazards not previously reviewed for conformance with technical specifications. Submit tests which may constitute an unreviewed safety question to the NPPD Safety Review and Audit Board for review.

c. Review proposed changes to Technical Specifications.

d. Review proposed changes or modifications to station systems or equipment as discussed in the SAR or which involves an unreviewed safety question as defined in 10CFR50.59(c). Submit changes to equipment or systems having safety significance to the NPPD Safety Review and Audit Board for review.

e. Review station operation to detect potential nuclear safety hazards.

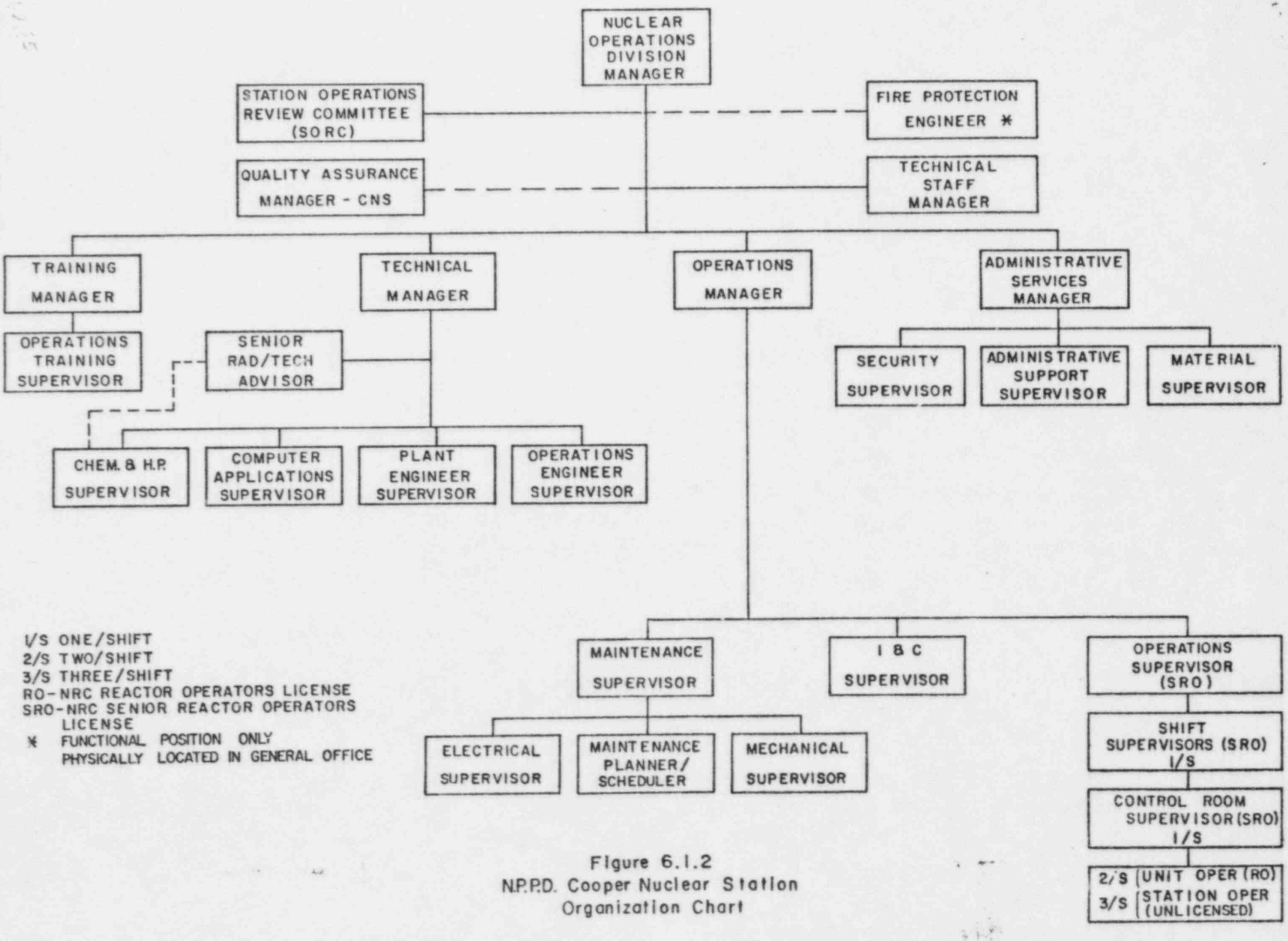

Figure 6.1.2
N.P.P.D. Cooper Nuclear Station
Organization Chart