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Technical Specifications
To Replace
Those Of Attachment 2
To SNRC-1664

NUREG-1357

TECHNICAL SPECIFICATIONS
Shoreham Nuclear Power Station,
Unit No. 1

Docket No. 50-322

Appendix "A" to
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SECTION 1.0
DEFINITIONS

1.0 DEFINITIONS

The following terms are defined so that uniform interpretation of these specifications may be achieved. The defined terms appear in capitalized type and shall be applicable throughout these Technical Specifications.

ACTION

- 1.1 ACTION shall be that part of a Specification which prescribes remedial measures to be taken under designated conditions.

CHANNEL CALIBRATION

- 1.2 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

CHANNEL CHECK

- 1.3 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

CHANNEL FUNCTIONAL TEST

- 1.4 A CHANNEL FUNCTIONAL TEST shall be:

- a. Analog channels - the injection of a simulated signal into the channel as close to the sensor as practicable to verify OPERABILITY including alarm and/or trip functions and channel failure trips.
- b. Bistable channels - the injection of simulated signal into the sensor to verify OPERABILITY including alarm and/or trip functions.

The CHANNEL FUNCTIONAL TEST may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is tested.

DEFUELED MODE

- 1.5 The plant is in the DEFUELED MODE when all fuel has been removed from the reactor vessel and there is fuel in the spent fuel storage pool or in the new fuel storage vault.

DEFINITIONS

FREQUENCY NOTATIONS

- 1.6 The FREQUENCY NOTATION specified for the performance of Surveillance Requirements shall correspond to the intervals defined in Table 1.1.

FUEL HANDLING OPERATIONS

- 1.7 FUEL HANDLING OPERATIONS shall be the movement of fuel over or within the Spent Fuel Pool. Suspension of FUEL HANDLING OPERATIONS shall not preclude completion of the movement of fuel, equipment or components to a safe conservative position.

MEMBER(S) OF THE PUBLIC

- 1.8 MEMBER(S) OF THE PUBLIC shall include all persons who are not occupationally associated with the plant. This category does not include employees of the utility, its contractors or vendors. Also excluded from this category are persons who enter the site to service equipment or to make deliveries. This category does include persons who use portions of the site for recreational, occupational or other purposes not associated with the plant.

OFFSITE DOSE CALCULATION MANUAL (ODCM)

- 1.9 The OFFSITE DOSE CALCULATION MANUAL (ODCM) shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring Alarm/Trip Setpoints, and in the conduct of the Radiological Environmental Monitoring Program. The ODCM shall also contain (1) the Radioactive Effluent Controls and Radiological Environmental Monitoring Programs required by Section 6.7.4 and (2) descriptions of the information that should be included in the Annual Radiological Environmental Operating and Semiannual Radioactive Effluent Release Reports required by Specifications 6.8.1.3 and 6.8.1.4.

DEFINITIONS

OPERABLE - OPERABILITY

- 1.10 A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s) and when all necessary attendant instrumentation, controls, electrical power, 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).

PROCESS CONTROL PROGRAM

- 1.11 The PROCESS CONTROL PROGRAM (PCP) shall contain the current formulas, sampling, analyses, tests, and determinations to be made to ensure that processing and packaging of solid radioactive wastes based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure compliance with 10 CFR Parts 20, 61, and 71, State regulations, burial ground requirements, and other requirements governing the disposal of solid radioactive waste.

REPORTABLE EVENT

- 1.12 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

SITE BOUNDARY

- 1.13 The SITE BOUNDARY shall be that line beyond which the land is neither owned, nor leased, nor otherwise controlled by the licensee.

UNRESTRICTED AREA

- 1.14 An UNRESTRICTED AREA shall be any area at or beyond the SITE BOUNDARY access to which is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials, or any area within the SITE BOUNDARY used for residential quarters or for industrial, commercial, institutional and/or recreational purposes.

DEFINITIONS

TABLE 1.1
SURVEILLANCE FREQUENCY NOTATION

<u>NOTATION</u>	<u>FREQUENCY</u>
S	At least once per 12 hours.
D	At least once per 24 hours.
W	At least once once per 7 days.
M	At least once per 31 days.
Q	At least once per 92 days.
SA	At least once per 184 days.
A	At least once per 366 days.
R	At least once per 18 months (550 days)
N.A.	Not applicable.
P	Completed prior to each release.

SECTION 2.0
SAFETY LIMITS
AND
LIMITING SAFETY SYSTEM SETTINGS
(NOT REQUIRED)

Sections 3.0 and 4.0

LIMITING CONDITIONS FOR FUEL HANDLING OPERATION

AND

SURVEILLANCE REQUIREMENTS

3/4.0 APPLICABILITY

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.0.1 Compliance with the Limiting Conditions contained in the succeeding Specifications is required during the DEFUELED MODE specified therein; except that upon failure to meet the Limiting Conditions the associated ACTION requirements shall be met.

3.0.2 Noncompliance with a Specification shall exist when the requirements of the Limiting Condition and associated ACTION requirements are not met within the specified time intervals. If the Limiting Condition is restored prior to expiration of the specified time intervals, completion of the ACTION requirements is not required.

3.0.3 Commencement or continuation of FUEL HANDLING OPERATIONS shall not be made when the conditions for the Limiting Conditions are not met and the associated ACTION requires suspension of FUEL HANDLING OPERATIONS if they are not met within a specified time interval. FUEL HANDLING OPERATIONS may be made in accordance with the ACTION requirements when conformance to them:

1. Permits continued FUEL HANDLING OPERATIONS for an unlimited period of time, or
2. Permits fuel to be moved to a safe, conservative position.

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be met during the DEFUELED MODE or other APPLICABILITY conditions specified for individual Limiting Conditions.

4.0.2 Each Surveillance Requirement shall be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25% of the specified surveillance interval.

4.0.3 Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute noncompliance with the OPERABILITY requirements for a Limiting Condition. The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed. Surveillance requirements do not have to be performed on inoperable equipment.

4.0.4 FUEL HANDLING OPERATIONS shall not occur or continue unless all Surveillance Requirement(s) associated with the Limiting Conditions have been performed within the applicable surveillance interval. This provision shall not prevent passage through or to conditions as required to comply with ACTION requirements.

3/4.1 INSTRUMENTATION

3/4.1.1 MONITORING INSTRUMENTATION

3/4.1.1.1 RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.1.1.1 The radiation monitoring instrumentation channels shown in Table 3.1.1.1-1 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: DEFUELED MODE

ACTION:

- a. With an Area Monitor instrumentation channel alarm/trip setpoint exceeding the value shown in Table 3.1.1.1-1, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With the required monitor inoperable, assure a portable continuous monitor with the same alarm setpoint is OPERABLE in the vicinity of the installed monitor during any fuel movement. If no fuel movement is being made, perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours.

SURVEILLANCE REQUIREMENTS

4.1.1.1 Each of the above required radiation monitoring instrumentation channels shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the conditions and at the frequencies shown in Table 4.1.1.1-1.

TABLE 3.1.1.1-1

RADIATION MONITORING INSTRUMENTATION

<u>INSTRUMENTATION</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>ALARM SETPOINT</u>	<u>MEASUREMENT RANGE</u>	<u>ACTION</u>
1. Area Monitors				
a. Criticality Monitors				
1) New Fuel Storage Vault	2**	≤ 20 mR/hr	10^{-1} to 10^4 mR/hr	1
2) Spent Fuel Storage Pool	2**	≤ 20 mR/hr	10^{-1} to 10^3 mR/hr	1

***These two areas are monitored by the same two detectors.

TABLE 4.1.1.1-1

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENTATION</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>
1. Area Monitors			
a. Criticality Monitors			
1) New Fuel Storage Vault	S*	M	Q
2) Spent Fuel Storage Pool	S*	M	Q

* During FUEL HANDLING OPERATIONS, otherwise Monthly (M).

INSTRUMENTATION

3/4.1.1.2 SEISMIC MONITORING INSTRUMENTATION

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.1.1.2.1 The seismic monitoring instrumentation shown in Table 3.1.1.2-1 shall be OPERABLE.

APPLICABILITY: DEFUELED MODE

ACTION:

- a. With one or more of the above required seismic monitoring instruments inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.8.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the instrument(s) to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.1.1.2.1 Each of the above required seismic monitoring instruments shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST, and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.1.1.2-1.

4.1.1.2.2 Each of the above required seismic monitoring instruments actuated during a seismic event greater than or equal to 0.01 g shall be restored to OPERABLE status within 24 hours and a CHANNEL CALIBRATION performed within 5 days following the seismic event. Data shall be retrieved from actuated instruments and analyzed to determine the magnitude of the vibratory ground motion. A Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.8.2 within 10 days describing the magnitude, frequency spectrum, and resultant effect upon station features important to safety

TABLE 3.1.1.2-1
SEISMIC MONITORING INSTRUMENTATION

<u>INSTRUMENTS AND SENSOR LOCATION</u>	<u>MEASUREMENT RANGE</u>	<u>MINIMUM INSTRUMENTS OPERABLE</u>
1. Triaxial Time-History Accelerographs		
a. Primary Containment Mat, outside and adjacent to primary containment wall	0.01-1 g	1
b. Outside Primary Containment Wall El 131'-7"	0.01-1 g	1
c. Free Field	0.01-1 g	1
2. Triaxial Seismic Switches		
a. Primary Containment Mat	0.01 g	1*
3. Triaxial Response-Spectrum Recorders		
a. Containment Mat El 8'-0"	0.01-2 g	1*
b. Reactor Pedestal Wall - El 70'-8"	0.01-2 g	1

*With reactor control room indication.

TABLE 4.1.1.2-1

SEISMIC MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT AND SENSOR LOCATIONS</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>
1. Triaxial Time-History Accelerographs			
a. Primary Containment Mat, outside and adjacent to primary containment wall ¹	M*	SA	R
b. Outside Primary Containment Wall - El 131'-7"	M*	SA	R
c. Free Field	M*	SA	R
2. Triaxial Seismic Switches			
a. Primary Containment Mat **	M	SA	R
3. Triaxial Response-Spectrum Recorders			
a. Containment Mat El 8'-0" **	M	SA	R
b. Reactor Pedestal Wall El 70'-8"			

* Except seismic trigger

** With reactor control room indications

INSTRUMENTATION

3/4.1.1.3 METEOROLOGICAL MONITORING INSTRUMENTATION

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.1.1.3.1 The meteorological monitoring instrumentation channels on the 400-ft tower shown in Table 3.1.1.3-1 shall be OPERABLE.

APPLICABILITY: DEFUELED MODE

ACTION:

- a. With one or more meteorological monitoring instrumentation channels inoperable for more than 7 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.8.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the instrumentation to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.1.1.3.1 Each of the above required meteorological monitoring instrumentation channels shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.1.1.3-1.

TABLE 3.1.1.3-1
METEOROLOGICAL MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM INSTRUMENTS OPERABLE</u>
1. Wind Speed Elev. 33 ft or Elev. 150 ft	1
2. Wind Direction Elev. 33 ft or Elev. 150 ft	1
3. Air Temperature Difference between Elev. 33/150 ft	1

TABLE 4.1.1.3-1

METEOROLOGICAL MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>
1. Wind Speed Elev. 33 ft and Elev. 150 ft	D	SA
2. Wind Direction Elev. 33 ft and Elev. 150 ft	D	SA
3. Air Temperature Difference between Elev. 33/150 ft	D	SA

3/4.2 CONTAINMENT SYSTEMS (NOT USED)

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SHOREHAM - UNIT 1

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3/4.3 PLANT SYSTEMS

3/4.3.1 SEALED SOURCE CONTAMINATION

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.3.1.1 Each sealed source containing radioactive material either in excess of 100 microcuries of beta and/or gamma emitting material or 5 microcuries of alpha emitting material shall be free of greater than or equal to 0.005 microcurie of removable contamination.

APPLICABILITY: At all times.

ACTION:

With a sealed source having removable contamination in excess of the above limit, withdraw the sealed source from use and either:

1. Decontaminate and repair the sealed source, or
2. Dispose of the sealed source in accordance with Commission Regulations.

SURVEILLANCE REQUIREMENTS

4.3.1.1 Test Requirements - Each sealed source shall be tested for leakage and/or contamination by:

- a. The licensee, or
- b. Other persons specifically authorized by the Commission or an Agreement State.

The test method shall have a detection sensitivity of at least 0.005 microcurie per test sample.

4.3.1.2 Test Frequencies - Each category of sealed sources, excluding startup sources and fission detectors previously subjected to core flux, shall be tested at the frequency described below.

- a. Sources in use - At least once per six months for all sealed sources containing radioactive material:
 1. With a half-life greater than 30 days, excluding Hydrogen 3, and
 2. In any form other than gas.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. Stored sources not in use - Each sealed source and fission detector shall be tested prior to use or transfer to another licensee unless tested within the previous 6 months. Sealed sources and fission detectors transferred without a certificate indicating the last test date shall be tested prior to being placed into use.
- c. Startup sources and fission detectors - Each sealed startup source and fission detector shall be tested within 31 days following repair or maintenance to the source.

4.3.1.3 Reports - A report shall be prepared and submitted to the Commission on an annual basis if sealed source or fission detector leakage tests reveal the presence of greater than or equal to 0.005 microcurie of removable contamination.

PLANT SYSTEMS

3/4.3.2 SETTLEMENT OF REACTOR BUILDING

TOTAL SETTLEMENT

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.3.2.1 The total settlement of the Reactor Building shall not exceed 4.0 inches (80% of the limiting value specified in Table 3.3.2.1-1).

APPLICABILITY: DEFUELED MODE

ACTION:

With the total settlement of the Reactor Building reaching 4.0 inches (80% of the limiting settlement value specified in Table 3.3.2.1-1), conduct an engineering review of field conditions and evaluate the consequences of additional settlement. Submit a Special Report to the Commission pursuant to Specification 6.8.2 within 30 days, containing the results of the investigation, the evaluation of existing and possible continued settlement, and the remedial action to be taken, if any, including the date of the next survey.

SURVEILLANCES REQUIREMENTS

4.3.2.1 The total settlement of the Reactor Building shall be determined to the nearest 0.01 foot by measurement and calculation:

- a. At least once every 6 months
 1. Until observed settlement has stabilized*, and
 2. Whenever previously stabilized* settlement exceeds 0.10 inch since the previous reading.
- b. At least once every 24 months thereafter.

~~*0.10 inch from~~ previous reading.

PLANT SYSTEMS

DIFFERENTIAL SETTLEMENT ACROSS THE STRUCTURE

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.3.2.2 The differential settlement across the Reactor Building shall not exceed 1.6 inches (80% of the limiting value specified in Table 3.3.2.1-1).

APPLICABILITY: DEFUELED MODE

ACTION:

With the differential settlement across the Reactor Building exceeding 1.6 inches (80% of the allowable settlement value specified in Table 3.3.2.1-1), conduct an engineering review of field conditions and evaluate the consequences of additional settlement. Submit a Special Report to the Commission pursuant to Specification 6.8.2 within 30 days, containing the results of the investigation, the evaluation of existing and possible continued settlement, and the remedial action to be taken, if any, including the date of the next survey.

SURVEILLANCE REQUIREMENTS

4.3.2.2 The differential settlement across the Reactor Building shall be determined to the nearest 0.01 foot by measurement and calculation:

- a. At least every 6 months
 1. Until observed settlement has stabilized*, and
 2. Whenever previously stabilized* settlement exceeds 0.10 inch since the previous reading.
- b. At least once every 24 months thereafter.

*0.10 inch from previous reading.

PLANT SYSTEMS

PENETRATION DIFFERENTIAL SETTLEMENT - STRUCTURE TO SOIL

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.3.2.3 The penetration differential settlement - structure to soil shall not exceed 0.70 inch (80% of the limiting value specified in Table 3.3.2.1-1).

APPLICABILITY: DEFUELED MODE

ACTION:

With the penetration differential settlement - structure to soil exceeding 0.70 inch (80% of the allowable settlement value specified in Table 3.3.2.1-1), conduct an engineering review of field conditions and evaluate the consequences of additional settlement. Submit a Special Report to the Commission pursuant to Specification 6.8.2 within 30 days, containing the results of the investigation, the evaluation of existing and possible continued settlement, and the remedial action to be taken, if any, including the date of the next survey.

SURVEILLANCE REQUIREMENTS

4.3.2.3 The penetration differential settlement - structure to soil shall be determined to the nearest 0.01 foot by measurement and calculation.

- a. At least once every 6 months.
 1. Until observed settlement has stabilized*, and
 2. Whenever previously stabilized* settlement exceeds 0.10 inch since the previous reading.
- b. At least once every 24 months thereafter.

*0.10 inch from previous reading.

TABLE 3.3.2.1-1

LIMITING VALUES OF SETTLEMENTS OF REACTOR BUILDING (RB)

<u>SETTLEMENT</u>	<u>LIMITING VALUE</u> <u>(inches)</u>
1. Total absolute settlement	5.0
2. Differential settlement across RB (Tilt)	2.0
3. Penetration differential settlement (between structure to soil for differential settlement of buried pipes)	0.9

PLANT SYSTEMS

3/4.3.3 AREA TEMPERATURE MONITORING

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.3.3.1 The temperature of each area shown in Table 3.3.3.1-1 shall be maintained within the limits indicated.

APPLICABILITY: DEFUELED MODE, whenever the equipment in an affected area is required to be OPERABLE.

ACTION:

With one or more areas exceeding the temperature limit(s) shown in Table 3.3.3.1-1:

- a. For more than 8 hours, in lieu of any report required by Specification 6.8.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.8.2 within the next 30 days providing a record of the amount by which and the cumulative time the temperature in the affected area exceeded its limit and an analysis to demonstrate the continued OPERABILITY of the affected equipment.
- b. By more than 30°F, in addition to the Special Report required above, within 4 hours either restore the area to within its temperature limit or declare the equipment in the affected area inoperable.

SURVEILLANCE REQUIREMENTS

4.3.3.1 The temperature in each of the areas shown in Table 3.3.3.1-1 shall be determined to be within its limit at least once per 24 hours.

TABLE 3.3.3.1-1
AREA TEMPERATURE MONITORING

<u>AREA</u>	<u>TEMPERATURE LIMIT (°F)</u>
a. Control Room	90
b. Chiller Equipment Room (E1 63')	104
c. Relay Room	104
d. Emergency Switchgear Rooms	104
e. Battery Rooms	104
f. Diesel Generator Rooms	120
g. Screenwell House	104
h. Reactor Building - Secondary Containment	
1. General Areas	104
2. Refueling Area	110
i. Reactor Building - Primary Containment	
1. General Areas	150
2. Area Beneath RPV	150
3. Drywell Head Area	185

3/4.4. ELECTRICAL POWER SYSTEMS

3/4.4.1 A.C. SOURCES

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.4.1.1 One circuit between the offsite transmission network and the onsite distribution system and one diesel generator shall be OPERABLE.

APPLICABILITY: DEFUELED MODE * #

ACTION:

With one of the above A.C. sources not OPERABLE suspend handling of irradiated fuel in the secondary containment and crane operations over the spent fuel storage pool when fuel assemblies are stored therein.

SURVEILLANCE REQUIREMENTS

4.4.1.1 The above required independent circuit between the offsite transmission network and the onsite AC distribution system shall be determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.2 The above required diesel generator shall be determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.3 The above required diesel generator shall be demonstrated OPERABLE:

a. At least once per 92 days by:

1. Verifying that the day fuel tank contains a minimum of 275 gallons of fuel.
2. Verifying the fuel storage tank contains a minimum of 20,412 gallons.

* The specified diesel generator shall be OPERABLE only when handling fuel in the secondary containment.

OPERABILITY of A.C. sources is unaffected by the use of commercial grade (non-Category I) parts provided that the use of such parts is administratively documented and tracked. In addition, OPERABILITY does not apply to the safety-related functions.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (CONTINUED)

3. Verifying the fuel transfer pump starts and transfers fuel from the storage system to the day tank.
4. Verifying the diesel generator is synchronized, loaded to greater than 1650 KW and less than 1750 KW, and operated for at least 60 minutes.
5. Verifying the pressure in all diesel generator air receivers to be greater than or equal to 205 psig.
- b. At least once per 92 days and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by checking for and removing accumulated water from the day tank.
- c. At least once per 92 days by checking for and removing accumulated water from the fuel storage tanks.
- d. Prior to adding new fuel to the storage tanks by verifying that the sample obtained in accordance with ASTM-D270 (1965: Re-approved 1980) meets the following minimum requirements in accordance with the tests specified in ASTM-D975-1977:
 1. A water and sediment content of less than or equal to 0.05 volume percent.
 2. A kinematic viscosity @ 40°C of greater than or equal to 1.9 centistokes, but less than or equal to 4.1 centistokes.
 3. A specific gravity as specified by the manufacturer @ 60/60F of greater than or equal to 0.835 but less than or equal to 0.898 or an API gravity @ 60°F of greater than or equal to 28 degrees but less than or equal to 38 degrees.
 4. An impurity level of less than 2 mg of insolubles per 100 ml when tested in accordance with ASTM-D2274-70; analysis shall be completed within 7 days after obtaining the sample but may be performed after the addition of new fuel oil; and
 5. The other properties specified in Table 1 of ASTM-D975-1977 and Regulatory Guide 1.137, Revision 1, October 1979, Position 2.a., when tested in accordance with ASTM-D975-1977; analysis shall be completed within 14 days after obtaining the sample but may be performed after the addition of new fuel oil.
- e. At least once per 92 days by verifying that the fuel in the storage tanks meets the requirements of 4.4.1.3.d.1 and 4.4.1.3.d.4.

ELECTRICAL POWER SYSTEMS

3/4.4.2 ONSITE POWER DISTRIBUTION SYSTEMS

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.4.2.1 As a minimum, two of the following A.C. system divisions, and one D.C. power distribution system division which corresponds to a OPERABLE diesel generator shall be OPERABLE and energized:

a. A.C. power distribution:

1. Division 1 consisting of:

- a) 4160-volt A.C. bus 101.
- b) 480-volt A.C. bus 111 and MCCs 1110 through 1117, 1118, 1119, 111Y and 111Z.
- c) 120-volt A.C. distribution panels R1, R2, and R3.

2. Division 2 consisting of:

- a) 4160-volt A.C. bus 102
- b) 480-volt A.C. bus 112 and MCCs 1120 through 1126, 1128, 1129, and 112X.
- c) 120-volt A.C. distribution panels in B1, B2 and B3.

3. Division 3 consisting of:

- a) 4160-volt A.C. bus 103
- b) 480-volt A.C. bus 113 and MCCs 1133 and 1134.
- c) 120-volt A.C. distribution panels 01 and 02.

b. D.C. power distribution:

- 1. Division 1 consisting of 125-volt D.C. distribution bus A.
- 2. Division 2 consisting of 125-volt D.C. distribution bus B.
- 3. Division 3 consisting of 125-volt D.C. distribution bus C.

APPLICABILITY: DEFUELED MODE *

* The D.C. power distribution system shall be OPERABLE only when handling fuel in the secondary containment.

OPERABILITY of Onsite Power Distribution Systems is unaffected by the use of commercial grade (non-Category I) parts provided that the use of such parts is administratively documented and tracked. In addition, OPERABILITY does not apply to the safety-related functions.

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR FUEL HANDLING OPERATION (CONTINUED)

ACTION:

- a. With one division of the above required two A.C. divisions not energized, suspend handling of irradiated fuel in the secondary containment and immediately initiate action to restore the required A.C. divisions.
- b. With the D.C. division associated with a OPERABLE diesel generator not energized, suspend handling of irradiated fuel in the secondary containment and crane operations over the spent fuel storage pool when fuel assemblies are stored therein.

SURVEILLANCE REQUIREMENTS

4.4.2.1 The above required power distribution system divisions shall be determined energized at least once per 7 days by verifying correct breaker alignment and voltage on the busses and power availability to the MCCs and the panels.

3/4.5 FUEL HANDLING OPERATIONS

3/4.5.1 COMMUNICATIONS

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.5.1.1 Direct communication shall be maintained between the control room and fuel handling personnel.

APPLICABILITY: DEFUELED MODE, whenever handling irradiated fuel.

ACTION:

When direct communication between the control room and fuel handling personnel cannot be maintained, immediately suspend handling of irradiated fuel.

SURVEILLANCE REQUIREMENTS

4.5.1.1 Direct communication between the control room and fuel handling personnel shall be demonstrated within one hour prior to the start of and at least once per 12 hours during handling of irradiated fuel.

FUEL HANDLING OPERATIONS

3/4.5.2 FUEL HANDLING PLATFORM

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.5.2.1 The fuel handling platform shall be OPERABLE when used for handling fuel or control rods within the Spent Fuel Storage Pool.

APPLICABILITY: DEFUELED MODE, during handling of fuel assemblies or control rods.

ACTION:

With the requirements for the fuel handling platform OPERABILITY not satisfied, suspend use of any inoperable fuel handling platform equipment from operations involving the handling of control rods and fuel assemblies after placing the load in a safe condition.

SURVEILLANCE REQUIREMENTS

4.5.2.1 Each fuel handling platform crane or hoist used for handling of control rods or fuel assemblies shall be demonstrated OPERABLE within 7 days prior to the start of such operations with that crane or hoist by:

- a. Demonstrating the operation of the uptravel mechanical cutoff on the frame mounted and monorail hoists when uptravel brings the top of the fuel assembly to 2 feet below the normal fuel storage pool water level.
- b. Demonstrating operation of the slack cable cutoff on the main hoist when the load is less than 50 ± 25 pounds.

- c. Demonstrating operation of the loaded interlock on the main hoist when the load exceeds 485 ± 50 pounds.
- d. Demonstrating operation of the loaded interlock on the auxiliary hoist when the load exceeds 400 ± 50 pounds.

FUEL HANDLING OPERATIONS

3/4.5.3 CRANE TRAVEL

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.5.3.1 Loads in excess of 1200 pounds shall be prohibited from travel over the spent fuel storage pool racks with fuel assemblies in the spent fuel storage pool racks and the spent fuel shipping cask movement shall be prohibited from travel over the refueling floor except when moved by the OPERABLE polar crane.

APPLICABILITY: DEFUELED MODE

ACTION:

With the requirements of the above specification not satisfied, place the crane load in a safe condition.

SURVEILLANCE REQUIREMENTS

4.5.3.1 The polar crane shall be demonstrated OPERABLE:

- a. Within 7 days prior to and at least once per 7 days during movement of loads in excess of 1200 pounds over the spent fuel storage pool racks or movement of the spent fuel shipping cask over the refueling floor by:
 1. Verifying the redundancy of the crane brakes, gear trains, reeving system, and load attaching points by visual inspection.
 2. Demonstrating OPERABILITY of the crane interlocks, limit switches, alarms and fail safe control components by functional test.
 3. Performance of a wire rope inspection in accordance with ANSI B30.2, 1976. The wire rope shall be replaced should any of the replacement criteria of ANSI B30.2 be met.

FUEL HANDLING OPERATIONS

3/4.5.4 WATER LEVEL - SPENT FUEL STORAGE POOL

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.5.4.1 At least 21 feet of water shall be maintained over the top of irradiated fuel assemblies seated in the spent fuel storage pool racks.

APPLICABILITY: DEFUELED MODE

ACTION:

With the requirements of the above specification not satisfied, suspend all movement of fuel assemblies and crane operations with loads in the spent fuel storage pool area after placing the fuel assemblies and crane load in a safe condition. Restore level within 8 hours or prepare a report to the NRC pursuant to Specification 6.8.2 within the next 10 days.

SURVEILLANCE REQUIREMENTS

4.5.4.1 The water level in the spent fuel storage pool shall be determined to be at least at its minimum required depth at least once per 7 days.

FUEL HANDLING OPERATIONS

3/4.5.5 WATER CHEMISTRY - SPENT FUEL STORAGE POOL

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.5.5.1 The spent fuel storage pool water chemistry shall be maintained within the limits specified in Table 3.5.5.1-1.

APPLICABILITY: DEFUELED MODE

ACTION:

With any one or more of the water chemistry limits exceeded, initiate action within 72 hours to restore the water chemistry to within limits and conduct an evaluation to determine cause.

SURVEILLANCE REQUIREMENTS

4.5.5.1 The spent fuel storage pool water chemistry shall be determined to be within the limits by analysis of those parameters at the frequencies specified in Table 3.5.5.1-1.

TABLE 3.5.5.1-1
SPENT FUEL STORAGE POOL WATER CHEMISTRY

<u>PARAMETER</u> <u>FREQUENCY</u>	<u>LIMITS</u>	<u>ANALYSIS</u>
Chloride	≤ 0.5 ppm	MONTHLY
Conductivity	≤ 10 micro mhos/cm @25°C	MONTHLY
pH	$5.3 \leq \text{pH} \leq 8.6$	MONTHLY

3/4.6 RADIOACTIVE EFFLUENTS

3/4.6.1 LIQUID HOLDUP TANKS

LIMITING CONDITION FOR FUEL HANDLING OPERATION

3.6.1.1 The quantity of radioactive material contained in each outside temporary tank shall be limited to less than or equal to 10 curies, excluding tritium and dissolved or entrained noble gases.

APPLICABILITY: AT ALL TIMES

ACTION:

With the quantity of radioactive material in any outside temporary tank exceeding the above limit, immediately suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit, and describe the events leading to this condition in the next Semiannual Radioactive Effluent Release Report.

SURVEILLANCE REQUIREMENTS

4.6.1.1 The quantity of radioactive material contained in each outside temporary tank shall be determined to be within the above limit by analyzing a representative sample of the tank's contents at least once per 7 days when radioactive materials are being added to the tank.

BASES FOR
SECTIONS 3.0 AND 4.0
LIMITING CONDITIONS FOR FUEL HANDLING OPERATION
AND
SURVEILLANCE REQUIREMENTS

NOTE

The BASES contained in succeeding pages summarize the reasons for the Specifications in Section 3.0 and 4.0, but in accordance with 10 CFR 50.36 are not part of these Technical Specification.

3/4.0 APPLICABILITY

BASES

The specifications of this section provide the general requirements applicable to each of the Limiting Conditions for Fuel Handling Operation and Surveillance Requirements within Section 3/4.

3.0.1 This section states the applicability of each specification in terms of the specified condition and is provided to delineate specifically when each specification is applicable.

The ACTION requirements establish those remedial measures that must be taken within specified time limits when the requirements of a Limiting Condition for Fuel Handling Operation are not met. The specified time limits of the ACTION requirements are applicable from the point in time there was a failure to meet a Limiting Condition for Fuel Handling Operation. The time limits of the ACTION requirements are also applicable when a system or component is removed from service for surveillance testing or investigation of operational problems. Individual specifications may include a specified time limit for the completion of a Surveillance Requirement when equipment is removed from service. In this case, the allowable outage time limits of the ACTION requirements are applicable when this limit expires if the surveillance has not been completed.

Compliance with ACTION requirements that permit continued operations of fuel handling for an unlimited period of time provides an acceptable level of safety for continued operation without regard to the status of the plant before or after fuel handling operations. Therefore, in this case fuel handling operations may be made in accordance with the provisions of the ACTION requirements. The provisions of this specification should not, however, be interpreted as endorsing the failure to exercise good practice in restoring systems or components to OPERABLE status before starting operations of fuel handling.

3.0.2 This specification defines those conditions necessary to constitute compliance with the terms of an individual Limiting Condition for Fuel Handling Operation and associated ACTION requirement.

3.0.3 This specification provides that commencement of fuel handling operations must be made with the full complement of required systems, equipment or components OPERABLE per the requirements of the Limiting Conditions for Fuel Handling Operation.

The intent of this provision is to ensure that handling of irradiated fuel is not initiated with either required equipment or systems inoperable or other limits being exceeded.

APPLICABILITY

BASES

4.0.1 This specification provides that surveillance activities necessary to ensure the Limiting Conditions for Fuel Handling Operation are met and will be performed during the conditions for which the Limiting Conditions for Fuel Handling Operation are applicable. Provisions for additional surveillance activities to be performed without regard to the applicable conditions are provided in the individual Surveillance Requirements.

4.0.2 The provisions of this specification provide allowable tolerances for performing surveillance activities beyond those specified in the nominal surveillance interval. These tolerances are necessary to provide operational flexibility because of scheduling and performance considerations. The phrase "at least" associated with a surveillance frequency does not negate this allowable tolerance; instead, it permits the more frequent performance of surveillance activities.

4.0.3 The provisions of this specification set forth the criteria for determination of compliance with the OPERABILITY requirements of the Limiting Conditions for Fuel Handling Operation. Under this criteria, equipment, systems or components are assumed to be OPERABLE if the associated surveillance activities have been satisfactorily performed within the specified time interval. Nothing in this provision is to be construed as defining equipment, systems or components OPERABLE, when such items are found or known to be inoperable although still meeting the Surveillance Requirements.

This specification also clarifies that the ACTION requirements are applicable when Surveillance Requirements have not been completed within the allowed surveillance interval and that the time limits of the ACTION requirements apply from the point the time it is identified that a surveillance has not been performed and not at the time that the allowed surveillance interval was exceeded. Completion of the Surveillance Requirement within the allowable outage time limits of the ACTION requirements restores compliance with the requirements of Specification 4.0.3. However, this does not negate the fact that the failure to have performed the surveillance within the allowed surveillance interval, defined by the provisions of Specification 4.0.2, was a violation of the OPERABILITY requirements of a Limiting Condition for Fuel Handling Operation that is subject to enforcement action. Further, the failure to perform a surveillance within the provisions of Specification 4.0.2 and not meeting the associated ACTION requirements per Specification 3.0.1 is a violation of Technical Specification requirements and is, therefore, a reportable event under the requirements of 10 CFR 50.73(a)(2)(i)(B) because it is a condition prohibited by the plant's Technical Specifications.

APPLICABILITY

BASES

If the allowable outage time limits of the ACTION requirements are less than 24 hours, a 24-hour allowance is provided to permit a delay in implementing the ACTION requirements. This provides an adequate time limit to complete Surveillance Requirements that have not been performed. The purpose of this allowance is to permit the completion of a surveillance before a suspension of fuel handling would be required to comply with ACTION requirements or before other remedial measures would be required that may preclude the completion of a surveillance. The basis for this allowance includes consideration for plant conditions, adequate planning, availability of personnel, the time required to perform the surveillance, and the safety significance of the delay in completing the required surveillance. If a surveillance is not completed within the 24-hour allowance, the time limits of the ACTION requirements are applicable at that time. When a surveillance is performed within the 24-hour allowance and the Surveillance Requirements are not met, the time limits of the ACTION requirements are applicable at the time the surveillance is terminated.

Surveillance Requirements do not have to be performed on inoperable equipment because the ACTION requirements define the remedial measures that apply. However, the Surveillance Requirements have to be met to demonstrate that inoperable equipment has been restored to OPERABLE status.

4.0.4 This specification ensures that surveillance activities associated with Limiting Conditions for Fuel Handling Operation for handling irradiated fuel have been performed within the specified time interval prior to handling irradiated fuel. The intent of this provision is to ensure that surveillance activities have been satisfactorily demonstrated on a current basis as required to meet the OPERABILITY requirements of the Limiting Condition for Fuel Handling Operation.

3/4.1 INSTRUMENTATION

BASES

3/4.1.1 MONITORING INSTRUMENTATION

3/4.1.1.1 RADIATION MONITORING INSTRUMENTATION

The OPERABILITY of the radiation monitoring instrumentation ensures that: (1) the radiation levels are continually measured in the areas served by the individual channels; (2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded; and (3) sufficient information is available on selected parameters to monitor and assess these variables following an accident. This capability is consistent with 10 CFR Part 20, 10 CFR Part 50, Appendix A, General Design Criteria 19, 41, 60, 61, 63 and 64.

3/4.1.1.2 SEISMIC MONITORING INSTRUMENTATION

The OPERABILITY of the seismic monitoring instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the station. This instrumentation is consistent with the recommendations of Regulatory Guide 1.12 "Instrumentation for Earthquakes", April 1974.

3/4.1.1.3 METEOROLOGICAL MONITORING INSTRUMENTATION

The OPERABILITY of the meteorological monitoring instrumentation ensures that sufficient meteorological data is available for estimating potential radiation doses to the public as a result of routine or accidental release of radioactive materials to the atmosphere. The capability is required to evaluate the need for initiating protective measures to protect the health and safety of the public. This instrumentation is consistent with the recommendations of Regulatory Guide 1.23 "Onsite Meteorological Programs," February 1972.

3/4.2 CONTAINMENT SYSTEMS (NOT USED)

BASES

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3/4.3 PLANT SYSTEMS

BASES

3/4.3.1 SEALED SOURCE CONTAMINATION

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(c) limits for plutonium. This limitation will ensure that leakage from byproduct, source, and special nuclear material sources will not exceed allowable intake values. Sealed sources are classified into three groups according to their use, with surveillance requirements commensurate with the probability of damage to a source in that group. Those sources which are frequently handled are required to be tested more often than those which are not. Sealed sources which are continuously enclosed within a shielded mechanism, i.e., sealed sources within radiation monitoring devices, are considered to be stored and need not be tested unless they are removed from the shielded mechanism.

3/4.3.2 SETTLEMENT OF REACTOR BUILDING

Total settlement of the Reactor Building can be used as an indicator that confirms the adequacy of the underlying soils with respect to liquefaction. Liquefaction of these soils is considered unlikely if the relative density exceeds 65%. Therefore, measured settlements that are less than predicted, assuming the relative density of the underlying soils equals 65%, confirm that the underlying soils are sufficiently dense so as to preclude liquefaction during the DBE.

Differential settlement across the Reactor Building would increase loads on piping connected to the building due to anchor point rotation. The requirements for measuring differential settlement across the building ensures that ample opportunity for further investigation and corrective action is provided if differential settlement approaches the allowable value.

Differential settlement between the Reactor Building and the soil would increase loads on the buried pipes that are connected to the structure. The requirement for measuring settlement of the Reactor Building ensures that ample opportunity for further investigation and corrective action is provided if differential settlement between the structure and the soil approaches the allowable value.

3/4.3.3 AREA TEMPERATURE MONITORING

The area temperature limitations ensure that equipment will not be subjected to temperatures in excess of their environmental qualification temperatures. Exposure to excessive temperatures may degrade equipment and can cause loss of its OPERABILITY.

3/4.4 ELECTRICAL POWER SYSTEMS

BASES

3/4.4.1 AND 3/4.4.2 A.C. SOURCES AND ONSITE POWER DISTRIBUTION SYSTEMS

The OPERABILITY of the specified A.C. power source and associated distribution systems during fuel storage and handling ensures that sufficient instrumentation and control capability is available for monitoring and maintaining the unit status. The use of commercial grade parts is acceptable because these systems are not performing safety-related functions.

3/4.5 FUEL HANDLING OPERATIONS

BASES

3/4.5.1 COMMUNICATIONS

The requirement for communications capability ensures that fuel handling personnel can be promptly informed of significant changes in the facility status.

3/4.5.2 FUEL HANDLING PLATFORM

The OPERABILITY requirements ensure that (1) the fuel handling platform will be used for handling control rods and fuel assemblies, and (2) each crane and hoist has sufficient load capacity for handling fuel assemblies and control rods.

3/4.5.3 CRANE TRAVEL

The restriction on movement of loads in excess of the nominal weight of a fuel assembly over other fuel assemblies in the storage pool and of the spent fuel shipping cask over the refueling floor ensures that in the event the load is dropped (1) the activity release will be limited to that contained in a single fuel assembly, (2) any possible distortion of fuel in the storage racks will not result in a critical array, and (3) the redundancy of components assures the placement of the load in a safe condition. This assumption is consistent with the activity release assumed in the safety analyses.

3/4.5.4 WATER LEVEL - SPENT FUEL STORAGE POOL

The restrictions on minimum water level ensure that sufficient water depth is available to provide adequate shielding for the low burnup condition of the irradiated fuel assemblies. The minimum water depth is consistent with the assumptions of the safety analysis.

3/4.5.5 WATER CHEMISTRY - SPENT FUEL STORAGE POOL

The maintenance of spent fuel pool water chemistry ensures that degradation of the spent fuel assemblies and the spent fuel racks is minimized.

3/4.6 RADIOACTIVE EFFLUENTS

BASES

3/4.6.1 LIQUID HOLDUP TANKS

Restricting the quantity of radioactive material contained in the specified tanks provides assurance that in the event of an uncontrolled release of a tanks' contents, the resulting concentrations would be less than the limits of 10 CFR Part 20, Appendix B, Table II, Column 2, at the nearest potable water supply and the nearest surface water supply in an UNRESTRICTED AREA.

SECTION 5.0
DESIGN FEATURES

DESIGN FEATURES

SECONDARY CONTAINMENT

5.2.3 The secondary containment consists of the Reactor Building, the equipment access structure and a portion of the main steam tunnel and has a design minimum free volume of 2,000,000 cubic feet.

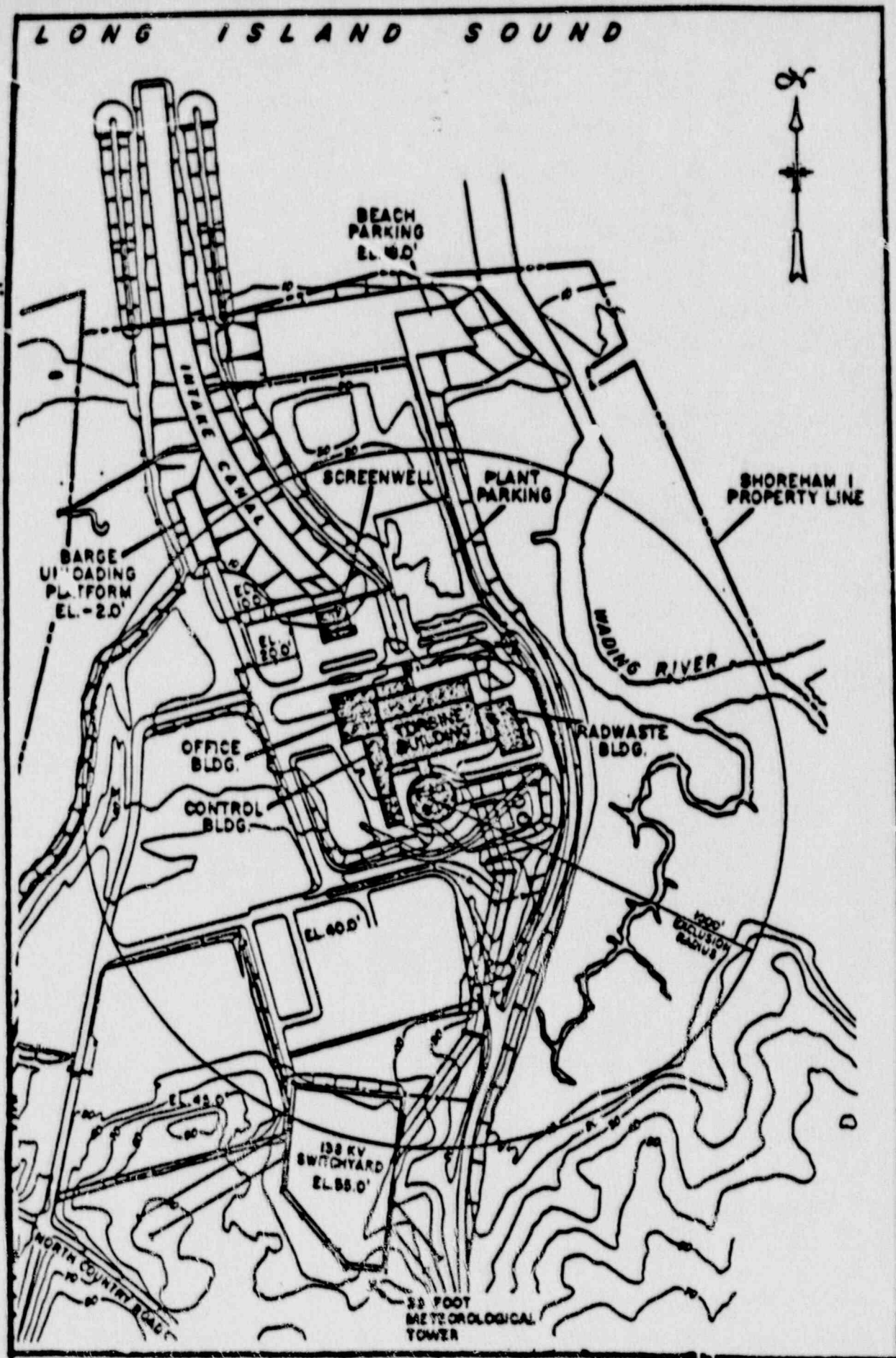


FIGURE 5.1.1-1

EXCLUSION AREA

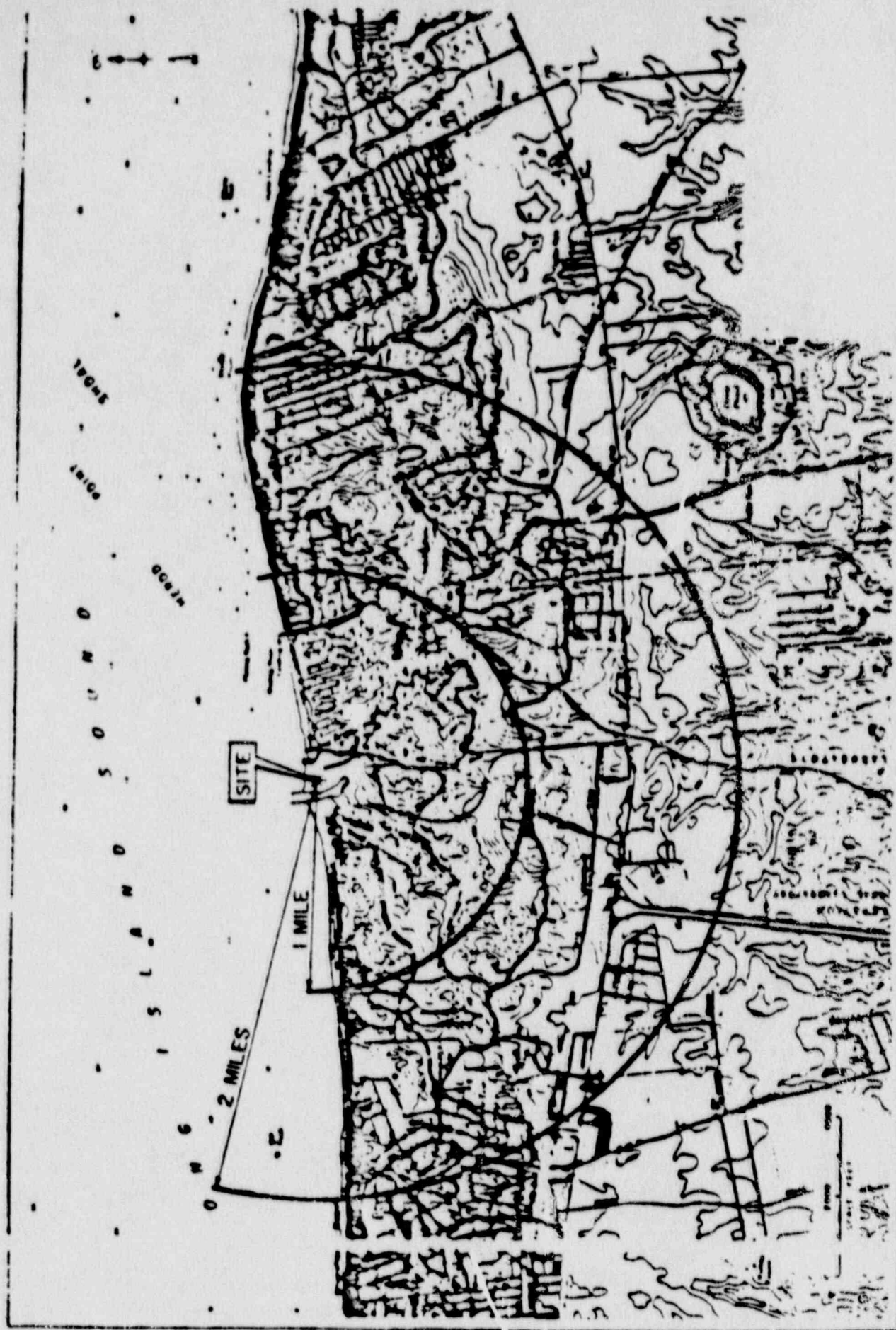


FIGURE 5.1.2-1
LOW POPULATION ZONE

DESIGN FEATURES

5.3 REACTOR CORE

FUEL ASSEMBLIES

5.3.1 The reactor core is designed to contain 560 fuel assemblies with each fuel assembly containing 62 fuel rods and two water rods clad with Zircaloy-2. Each fuel rod is designed to have a nominal active fuel length of 150 inches. The initial core loading is designed to have a maximum average enrichment of 1.90 weight percent U-235.

CONTROL ROD ASSEMBLIES

5.3.2 The reactor core is designed to contain 137 control rod assemblies, each consisting of a cruciform array of stainless steel tubes containing 143 inches of boron carbide, B_4C , powder surrounded by a cruciform shaped stainless steel sheath.

5.4 REACTOR COOLANT SYSTEM

DESIGN PRESSURE AND TEMPERATURE

5.4.1 The reactor coolant system is designed:

- a. For a pressure of:
 1. 1150 psig on the suction side of the recirculation pump.
 2. 1325 psig from the recirculation pump discharge to the outlet side of the discharge shutoff valve.
 3. 1325 psig from the discharge shutoff valve to the jet pumps.
- b. For a temperature of 562°F.

VOLUME

5.4.2 The total water and steam volume of the reactor vessel and recirculation system is designed to be approximately 16,410 cubic feet at a nominal T_{ave} of 533°F.

DESIGN FEATURES

5.5 METEOROLOGICAL TOWER LOCATION

5.5.1 The 400 foot meteorological tower is located as shown on Figure 5.1.3-1.

5.6 FUEL STORAGE

CRITICALITY

5.6.1 The spent fuel storage racks are designed and shall be maintained with:

- a. A k_{eff} equivalent to less than or equal to 0.95 when flooded with unborated water, which includes a conservative allowance of 1.0% delta k/k for uncertainties as described in Appendix 9A of the SAR.
- b. A nominal 6 inches in one direction and 9.25 inches in the other direction center-to-center distance between fuel assemblies placed in the storage racks.

5.6.1.2 The k_{eff} for new fuel for the first core loading stored dry in the spent fuel storage racks shall not exceed 0.98 when aqueous moderation is assumed.

DRAINAGE

5.6.2 The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 152'- 4 1/2".

CAPACITY

5.6.3 The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than 2176 fuel assemblies.

5.7 COMPONENT CYCLIC OR TRANSIENT LIMIT

5.7.1 The components identified in Table 5.7.1-1 are designed and shall be maintained within the cyclic or transient limits of Table 5.7.1-1.

TABLE 5.7.1-1

COMPONENT CYCLIC OR TRANSIENT LIMITS

<u>COMPONENT</u>	<u>CYCLIC OR TRANSIENT LIMIT</u>	<u>DESIGN CYCLE OR TRANSIENT</u>
Reactor	120 heatup and cooldown cycles	70°F to 560°F to 70°F
	80 step change cycles	Loss of all feedwater heaters
	180 reactor trip cycles	100% to 0% of RATED THERMAL POWER
	130 hydrostatic pressure and leak tests	Pressurized to ≥ 930 and ≤ 1250 psig

SECTION 6.0
ADMINISTRATIVE CONTROLS

6.0 ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Plant Manager shall be responsible for the management of the overall plant and ensuring the safe storage and handling of irradiated fuel. The Plant Manager shall delegate in writing the succession to this responsibility during his absence.

6.1.2 The Watch Engineer (or during his absence from the Control Room a designated individual) shall be responsible for the Control Room command function. A management directive to this effect, signed by the Vice President, Office of Nuclear shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

6.2.1 Nuclear Organization

An organization shall be established for the unit in the DEFUELED MODE and for corporate management. This organization shall include the positions for activities affecting the safe storage and handling of irradiated nuclear fuel.

- a. Lines of authority, responsibility and communication shall be established and defined from the highest management levels through intermediate levels to and including all organization positions involved with the safe storage and handling of irradiated fuel. These relationships shall be documented and updated, as appropriate, in the form of organizational charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in the SAR and updated in accordance with 10 CFR 50.71(e).
- b. The responsible Vice President shall have corporate responsibility for overall plant nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure the safe storage and handling of irradiated fuel.
- c. The Plant Manager shall be responsible for overall unit safe operation and shall have control over those onsite activities necessary for safe maintenance of the plant and storage and handling of irradiated fuel.
- d. The individuals who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

ADMINISTRATIVE CONTROLS

UNIT STAFF

6.2.2 The station organization shall be as follows:

- a. Each duty shift shall be composed of at least the minimum shift crew consisting of three operators, one of which shall be a Watch Engineer. The Watch Engineer shall hold a Senior Reactor Operators License on SNPS Unit 1.
- b. One of the operators, as specified in 6.2.2a, other than the Watch Engineer shall be licensed and qualified to respond to any alarms in the Main Control Room. This operator should normally be in the Main Control Room when fuel is in the Spent Fuel Pool.
- c. All fuel handling operations shall be observed and directly supervised by a licensed operator or individual licensed to supervise the handling of irradiated fuel, and who has no other concurrent responsibilities during this operation.
- d. A Health Physics technician shall be on site when irradiated fuel is being handled on site.
- e. Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work a normal 8-hour day, 40-hour week. However, in the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of fuel movement, major maintenance, or major unit modification, on a temporary basis the following guidelines shall be followed:
 1. An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time.
 2. An individual should not be permitted to work more than 16 hours in any 24-hour period, nor more than 24 hours in any 48-hour period, nor more than 72 hours in any 7-day period, all excluding shift turnover time.
 3. A break of at least 8 hours should be allowed between work periods, including shift turnover time.

Any deviation from the above guidelines shall be authorized by the Plant Manager or his deputy, or higher levels of management.

6.3 UNIT STAFF QUALIFICATIONS

6.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications of the programs and procedures as outlined in Section 13 -

ADMINISTRATIVE CONTROLS

Conduct of Operations, of the Updated Safety Analysis Report for comparable positions.

6.4 TRAINING

6.4.1 A retraining and replacement training program for the station staff shall be maintained under the direction of the Training Supervisor, shall meet or exceed the requirements of the programs and procedures as outlined in Section 13.2 - Training Program, of the Updated Safety Analysis Report.

6.5 REVIEW AND AUDIT

6.5.1 REVIEW OF OPERATIONS COMMITTEE (ROC)

FUNCTION

6.5.1.1 The ROC shall function to advise the Plant Manager on all matters related to nuclear safety.

COMPOSITION

6.5.1.2 The ROC shall be composed of a chairman or alternate chairman and four members or alternate members of the Plant Staff as designated by the chairman.

ALTERNATES

6.5.1.3 All alternate members shall be appointed in writing by the ROC Chairman; however, no more than one alternate shall participate as a voting member in ROC activities at any one time.

MEETING FREQUENCY

6.5.1.4 The ROC shall meet at least once per calendar month and as convened by the ROC Chairman or his designated alternate.

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QUORUM

6.5.1.5 The quorum of the ROC necessary for the performance of the ROC responsibility and authority provisions of these Technical Specifications shall consist of the Chairman or his designated alternate and two other members including alternates.

RESPONSIBILITIES

6.5.1.6 The ROC shall be responsible for:

- a. Review of (1) all proposed procedures required by Specification 6.7 and changes thereto, (2) all proposed programs required by Specification 6.7 and changes thereto, and (3) any other proposed procedures or changes thereto as determined by the Plant Manager to affect nuclear safety;
- b. Review of all proposed tests and experiments that affect nuclear safety;
- c. Review of all proposed changes to Appendix A Technical Specifications;
- d. Review of all proposed changes or modifications to unit systems or equipment that affect nuclear safety;
- e. Investigation of all violations of the Technical Specifications, including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence, to the responsible Vice President;
- f. Review of all REPORTABLE EVENTS;
- g. Review of station operations to detect potential hazards to nuclear safety;
- h. Performance of special reviews, investigations, or analyses and reports thereon as requested by the Plant Manager;
- i. Review of the Security Plan and implementing procedures;
- j. Review of the Emergency Plan and implementing procedures;
- k. Review of the Fire Protection Plan and implementing procedures;

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- l. Review of the proposed changes to the Process Control Program (PCP);
- m. Review of the proposed changes to the Offsite Dose Calculation Manual (ODCM);
- n. Review of the proposed Major Changes to Radioactive Waste Systems;
- o. Review of Personnel Radiation Records annually to determine how exposures might be lowered consistent with ALARA principles. Document such considerations; and
- p. Review of any accidental, unplanned, or uncontrolled radioactive release including the preparation of reports covering evaluation, recommendations, and disposition of the corrective action to prevent recurrence and the forwarding of these reports to the responsible Vice President.

6.5.1.7 The ROC shall:

- a. Recommend in writing to the Plant Manager approval or disapproval of items considered under Specification 6.5.1.6a. through d. and n. prior to their implementation.
- b. Render determinations in writing with regard to whether or not each item considered under Specification 6.5.1.6a. through e. above constitutes an unreviewed safety question.
- c. Provide written notification within 24 hours to the responsible Vice President of disagreement between the ROC and the Plant Manager; however, the Plant Manager shall have responsibility for resolution of such disagreements pursuant to Specification 6.1.1.

RECORDS

6.5.1.8 The ROC shall maintain written minutes of each ROC meeting that, at a minimum, document the results of all ROC activities performed under the responsibility provisions of these Technical Specifications. Copies shall be provided to the responsible Vice President and the Nuclear Review Board.

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6.5.2 NUCLEAR REVIEW BOARD (NRB)

FUNCTION

6.5.2.1 The NRB shall function to provide independent review and audit of designated activities in the areas of:

- a. Nuclear engineering,
- b. Chemistry and radiochemistry,
- c. Radiological safety,
- d. Mechanical and electrical engineering, and
- e. Quality assurance practices.

The NRB shall report to and advise the Vice President, Office of Nuclear on those areas of responsibility in Specifications 6.5.2.7 and 6.5.2.8.

COMPOSITION

6.5.2.2 The NRB shall be composed of the permanent NRB Chairman and a minimum of four permanent NRB members. The chairman and all members of the NRB shall have qualifications that meet the requirements of Section 4.7 of ANSI/ANS 3.1-1978.

The membership shall include at least one individual from outside LILCO's or its contractors' organizations and at least one individual with substantial nuclear experience. The nuclear experience may be provided by the individual who is from outside LILCO's or its contractors' organizations.

ALTERNATES

6.5.2.3 All alternate members shall be appointed in writing by the NRB Chairman to serve on a temporary basis; however, no more than one alternate shall participate as voting members in NRB activities at any one time.

CONSULTANTS

6.5.2.4 Consultants shall be utilized as determined by the NRB Chairman to provide expert advice to the NRB.

MEETING FREQUENCY

6.5.2.5 The NRB shall meet at least once per six months.

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QUORUM

6.5.2.6 The quorum of the NRB necessary for the performance of the NRB review and audit functions of these Technical Specifications shall consist of the Chairman or his designated alternate and at least three but not less than one-half of the NRB members present including alternates. No more than a minority of the quorum shall have line responsibility for operation of the unit.

REVIEW

6.5.2.7 The NRB shall review:

- a. The safety evaluations for (1) changes to equipment or systems and (2) tests or experiments completed under the provision of 10 CFR 50.59 to verify that such actions did not constitute an unreviewed safety question;
- b. Proposed changes to procedures, equipment, or systems which involve an unreviewed safety question as defined in 10 CFR 50.59;
- c. Proposed tests or experiments which involve an unreviewed safety question as defined in 10 CFR 50.59;
- d. Proposed changes to Technical Specifications or this Operating License;
- e. Violations of codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance;
- f. Significant deviations from normal and expected performance of station equipment that affect nuclear safety;
- g. All REPORTABLE EVENTS;
- h. All recognized indications of an unanticipated deficiency in some aspect of design or operations of structures, systems, or components that could affect nuclear safety; and
- i. Reports and meeting minutes of the ROC.

AUDITS

6.5.2.8 Audits of station activities shall be performed under the cognizance of the NRB. These audits shall encompass:

- a. The conformance of station operation to provisions contained within the Technical Specifications and applicable license conditions at least once per 12 months;

ADMINISTRATIVE CONTROLS

AUDITS (Continued)

- b. The performance, training and qualifications of the entire staff at least once per 12 months;
- c. The results of actions taken to correct deficiencies occurring in unit equipment, structures, systems, or method of operation that affect nuclear safety, at least once per year;
- d. The performance of activities required by the Quality Assurance Program to meet the criteria of Appendix B, 10 CFR Part 50, at least once per 24 months;
- e. The fire protection programmatic controls including the implementing procedures, equipment and program implementation at least once per 24 months utilizing either a qualified offsite licensee fire protection engineer(s) or an outside independent fire protection consultant.
- f. Any other area of station operation considered appropriate by the NRB, President or the Vice President, Office of Nuclear;
- g. The radiological environmental monitoring program and the results thereof at least once per 12 months;
- h. The OFFSITE DOSE CALCULATION MANUAL and implementing procedures at least once per 24 months; and
- i. The PROCESS CONTROL PROGRAM and implementing procedures for solidifications of radioactive wastes at least once per 24 months.
- j. The performance of activities required by the Quality Assurance Program for effluent and environmental monitoring at least once per 12 months.

RECORDS

6.5.2.9 Records of NRB activities shall be prepared, approved, and distributed as indicated below:

- a. Minutes of each NRB meeting shall be prepared, approved, and forwarded to the President and the Vice President, Office of Nuclear within 14 days following each meeting.
- b. Reports of reviews encompassed by Specification 6.5.2.7 shall be prepared, approved, and forwarded to the President and the Vice President, Office of Nuclear within 14 days following completion of the review.

ADMINISTRATIVE CONTROLS

RECORDS (Continued)

- c. Audit reports encompassed by Specification 6.5.2.8 shall be forwarded to the President, Vice President, Office of Nuclear and to the management positions responsible for the areas audited within 30 days after completion of the audit by the auditing organization.

6.6 REPORTABLE EVENT ACTION

6.6.1 The following actions shall be taken for REPORTABLE EVENTS:

- a. The commission shall be notified and a report submitted pursuant to the requirements of Section 50.73 to 10 CFR Part 50, and
- b. Each REPORTABLE EVENT shall be reviewed by the ROC, and the results of this review shall be submitted to the responsible Vice President.

6.7 PROCEDURES AND PROGRAMS

6.7.1 Written procedures shall be established, implemented, and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978.
- b. The applicable procedures required to implement the requirements of NUREG-0737.
- c. Fuel handling operations.
- d. Surveillance and test activities of safety-related equipment.
- e. Security Plan implementation.
- f. Emergency Plan implementation.
- g. Fire Protection Program implementation.
- h. PROCESS CONTROL PROGRAM implementation.
- i. OFFSITE DOSE CALCULATION MANUAL implementation.
- j. Quality Assurance Program for effluent and environmental monitoring.

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6.7.2 Each procedure of Specification 6.7.1, and changes thereto, shall be reviewed by the ROC prior to implementation. The Plant Manager shall approve Station Administrative procedures, Security Plan implementing procedures and Emergency Plan Implementing Procedures prior to implementation. Other procedures of Specification 6.7.1 shall be approved by the appropriate plant Division Manager or by the Plant Manager prior to implementation. Each Plant Division Manager shall be responsible for a designated set of procedures. These procedures shall be reviewed periodically as set forth in administrative procedures.

6.7.3 Temporary changes to procedures of Specification 6.7.1 may be made provided:

- a. The intent of the original procedure is not altered;
- b. The change is approved by two members of the unit management staff, at least one of whom holds a Senior Reactor Operators License on the unit affected; and
- c. The change is documented, reviewed by the ROC, and approved by the Plant Manager within 14 days of implementation.

6.7.4 The following programs shall be established, implemented, and maintained:

a. Radioactive Effluent Controls Program

A program shall be provided conforming with 10 CFR 50.36a for the control of radioactive effluents and for maintaining doses to MEMBERS OF THE PUBLIC from radioactive effluents as low as reasonably achievable. The program (1) shall be contained in the ODCM, (2) shall be implemented by operating procedures, and (3) shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

- 1, Limitations on the operability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM.

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- 2) Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 CFR Part 20, Appendix B, Table II, Column 2,
- 3) Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.106 and with the methodology and parameters in the ODCM,
- 4) Limitations on the annual and quarterly doses or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released from each unit to UNRESTRICTED AREAS conforming to Appendix I to 10 CFR Part 50,
- 5) Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days,
- 6) Limitations on the operability and use of the liquid and gaseous effluent treatment systems to ensure that the appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a 31-day period would exceed 2 percent of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR Part 50,
- 7) Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the SITE BOUNDARY conforming to the doses associated with 10 CFR Part 20, Appendix B, Table II, Column 1,
- 8) Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,

ADMINISTRATIVE CONTROLS

- 9) Limitations on the annual and quarterly doses to a MEMBER OF THE PUBLIC from tritium and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,
- 10) Limitations on the annual dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources conforming to 40 CFR Part 190.

b. Radiological Environmental Monitoring Program

A program shall be provided to monitor the radiation and radionuclides in the environs of the plant. The program shall provide (1) representative measurements of radioactivity in the highest potential exposure pathways, and (2) verification of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall (1) be contained in the ODCM, (2) conform to the guidance of Appendix I to 10 CFR Part 50, and (3) include the following:

- 1) Monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment in accordance with the methodology and parameters in the ODCM.
- 2) A Land Use Census to ensure that changes in the use of areas at and beyond the SITE BOUNDARY are identified and that modifications to the monitoring program are made if required by the results of this census, and
- 3) Participation in a Interlaboratory Comparison Program to ensure that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

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6.8 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.8.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to the Regional Administrator of the Regional Office of the NRC unless otherwise noted.

ANNUAL REPORTS

6.8.1.1 Annual reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year. The initial report was submitted prior to March 1 of the year that followed initial criticality.

6.8.1.2 Reports required on an annual basis shall include a tabulation on an annual basis of the number of station, utility, and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated manrem exposure according to work and job functions* (e.g., operations and surveillance, inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and fuel handling). The dose assignments to various duty functions may be estimated based on pocket dosimeter, thermoluminescent dosimeters (TLD), or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total wholebody dose received from external sources should be assigned to specific major work functions.

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

6.8.1.3 The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted before May 1 of each year. The report shall include summaries, interpretations, and analysis of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in (1) the ODCM and (2) Sections IV.B.2, IV.B.3, and IV.C of Appendix I to 10 CFR Part 50.

*This tabulation supplements the requirements of 20.407 of CFR Part 20.

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SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

6.8.1.4 The Semiannual Radioactive Effluent Release Report covering the operation of the unit during the previous 6 months of operation shall be submitted within 60 days after January 1 and July 1 of each year. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be (1) consistent with the objectives outlined in the ODCM and PCP and (2) in conformance with 10 CFR 50.36a and Section IV.B.1 of Appendix I to 10 CFR Part 50.

SPECIAL REPORTS

6.8.2 Special reports shall be submitted to the Regional Administrator of the Regional Office of the NRC within the time period specified for each report.

6.9 RECORD RETENTION

6.9.1 In addition to the applicable record retention requirements of Title 10, Code of Federal Regulations, the following records shall be retained for at least the minimum period indicated.

6.9.2 The following records shall be retained for at least 5 years:

- a. Records and logs of fuel handling operations.
- b. Records and logs of principal maintenance activities, inspections, repair, and replacement of principal items of equipment related to nuclear safety.
- c. All REPORTABLE EVENTS.
- d. Records of surveillance activities, inspections, and calibrations required by these Technical Specifications.
- e. Records of changes made to the procedures required by Specification 6.7.1.
- f. Records of radioactive shipments.
- g. Records of sealed source and fission detector leak tests and results.

ADMINISTRATIVE CONTROLS

- h. Records of annual physical inventory of all sealed source material of record.

6.9.3 The following records shall be retained for the duration of the unit Operating License:

- a. Records and drawing changes reflecting station design modifications made to systems and equipment described in the Final Safety Analysis Report.
- b. Records of new and irradiated fuel inventory, fuel transfers, and assembly burnup histories.
- c. Records of radiation exposure for all individuals issued monitoring devices in accordance with 10CFR20.202.
- d. Records of gaseous and liquid radioactive material released to the environs.
- e. Records of training and qualification for current members of the unit staff.
- f. Records of quality assurance activities required by the Quality Assurance Manual which are not listed in Section 6.9.2.
- g. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
- h. Records of meetings of the ROC and NRB.
- i. Records of analyses required by the radiological environmental monitoring program that would permit evaluation of the accuracy of the analysis at a later date. This should include procedures effective at specified times and QA records showing that these procedures were followed.
- j. Records of reviews performed for changes made to the OFFSITE DOSE CALCULATION MANUAL and the PROCESS CONTROL PROGRAM.

6.10 RADIATION PROTECTION PROGRAM

6.10 Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained, and adhered to for all operations involving personnel radiation exposure.

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6.11 HIGH RADIATION AREA

6.11.1 In the lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2) of 10 CFR Part 20, each high radiation area in which the intensity of radiation is greater than 100 mrem/h but less than 1000 mrem/h shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP)*. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

- a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.
- b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel have been made knowledgeable of them.
- c. A health physics qualified individual (i.e., qualified in radiation protection procedures) with a radiation dose rate monitoring device, who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the Health Physics Engineer in the RWP.

6.11.2 In addition to the requirements of Specification 6.11.1 areas accessible to personnel with radiation levels such that a major portion of the body could receive in 1 hour a dose greater than 1000 mrem shall be provided with locked doors to prevent unauthorized entry, and the keys shall be maintained under the administrative control of the Watch Supervisor on duty and/or the Health Physics Engineer. Doors shall remain locked except during periods of access by personnel under an approved RWP which shall specify the dose rate levels in the immediate work area and the maximum allowable stay time for individuals in that area. For individual areas accessible to personnel with radiation levels such that a major portion of the body could receive in 1 hour a dose in excess of 1000 mrem** that are located within large areas, such as the containment,

*Health physics personnel or personnel escorted by health physics personnel shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they are otherwise following plant radiation protection procedures for entry into high radiation areas.

**Measurement made at 18 inches from source of radioactivity.

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where no enclosure exists for purposes of locking, and no enclosure can be reasonably constructed around the individual areas, then that area shall be roped off, conspicuously posted, and a flashing light shall be activated as a warning device. In lieu of the stay time specification of the RWP, continuous surveillance, direct or remote (such as use of closed circuit TV cameras) may be made by personnel qualified in radiation protection procedures to provide exposure control over the activities within the area.

6.12 PROCESS CONTROL PROGRAM (PCP)

Changes to the PCP:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.9.3j. This documentation shall contain:
 - 1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and
 - 2) A determination that the change will maintain the overall conformance of the solidified waste product to existing requirements of Federal, State, or other applicable regulations.
- b. Shall become effective after review and acceptance by the ROC and the approval of the Plant Manager.

6.13 OFFSITE DOSE CALCULATION MANUAL (ODCM)

Changes to the ODCM:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.9.3j. This documentation shall contain:
 - 1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and

- 2) A determination that the change will maintain the level of radioactive effluent control required by 10 CFR 20.106, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.
- b. Shall become effective after review and acceptance by ROC and the approval of the Plant Manager.
 - c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Semiannual Radioactive Effluent Release Report for the period of the report in which any change to the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

APPENDIX B
TO FACILITY OPERATING LICENSE NO.
SHOREHAM NUCLEAR POWER STATION, UNIT 1

LONG ISLAND LIGHTING COMPANY

DOCKET NO. 50-322

ENVIRONMENTAL PROTECTION PLAN

(NON-RADIOLOGICAL)

SHOREHAM NUCLEAR POWER STATION

UNIT 1

ENVIRONMENTAL PROTECTION PLAN

(NON-RADIOLOGICAL)

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1.0 OBJECTIVES OF THE ENVIRONMENTAL PROTECTION PLAN

The Environmental Protection Plan (EPP) is to provide for protection of nonradiological environmental values during operation of the nuclear facility. The principal objectives of the EPP are as follows:

- (1) Verify that facility is operated in an environmentally acceptable manner, as established by the Final Environmental Statement-Operating License Stage (FES-OL) and other NRC environmental impact assessments.
- (2) Coordinate NRC requirements and maintain consistency with other Federal, State and local requirements for environmental protection.
- (3) Keep NRC informed of the environmental effects of facility operation and of actions taken to control those effects.

Environmental concerns identified in the FES-OL which relate to water quality matters are regulated by way of the New York State Pollutant Discharge Elimination System (SPDES) permit, issued to licensee.

2.0 ENVIRONMENTAL PROTECTION ISSUES

In the FES-OL dated October 1977, the staff considered the environmental impacts associated with the operation of the Shoreham Nuclear Power Station, Unit 1. Certain environmental issues were identified which required study or license conditions to resolve environmental concerns and to assure adequate protection of the environment.

2.1 Aquatic Issues

Specific aquatic issues raised by the staff in the FES-OL were:

- (1) The need for discharge related aquatic monitoring programs to confirm that the station's cooling water system with its offshore submerged diffuser performs as predicted and is protective of indigenous biota of Long Island Sound, from a thermal and chemical discharge standpoint (FES-OL summary and conclusions and sections 5.4, and 6.3).
- (2) The need for intake-related studies to document levels of intake entrainment and impingement, to determine survival of entrained ichthyoplankton, and measure the effectiveness of the fish return system in protecting impinged fish (FES-OL summary and conclusions and sections 5.4, 6.3 and 10.4).

- (3) The need for monitoring existing wells on the Shoreham site and the Shoreham-West site to detect effects of plant operation on both water level and water quality (FES-OL Section 6.3.3).

Issues (1) and (2) are addressed by the effluent limitations, monitoring requirements and other conditions contained in the SPDES permit issued by the New York State Department of Environmental Conservation (NYSDEC). The NRC will rely on the NYSDEC for regulation of matters involving water quality and aquatic biota. NRC requirements with regard to issue (3) are specified in section 4.2 of this EPP.

2.2 Terrestrial Issues

The specific terrestrial issues raised by the staff in the FES-OL are:

- (1) The need to protect Wading River Marsh from deposition of sand and other materials transported from the Shoreham site (FES-OL Summary and Conclusions and Sections 4.2, 5.2, 6.2.4 and 6.3.6)
- (2) The need for monitoring and mitigating beach erosion (FES-OL Summary and Conclusions and Sections 4.2, 5.2, 6.2.4 and 6.3.6)

- (3) The need for controlled use of herbicides (FES-OL Section 5.4.1)
- (4) The need for monitoring the mortality of migratory birds resulting from collision with the meteorological tower and plant structures (FES-OL Section 6.2.4 and 6.3.6)

NRC requirements with regard to issues (1) through (3) are specified in section 4.2 of this EPP, Issue (4) is covered by section 4.1 of this EPP.

3.0 CONSISTENCY REQUIREMENTS

3.1 Facility Design and Operation

The licensee may make changes in facility design or operation or perform tests or experiments affecting the environment provided such activities do not involve an unreviewed environmental question, and do not involve a change in the EPP.* Changes in facility design or operation or performance tests or experiments which do not significantly affect the environment or that are covered by the SPDES permit are not subject to the requirements of this EPP. Activities governed by Section 3.3 are not subject to the requirements of this section.

Before engaging in additional construction or operational activities which may significantly affect the environment, the licensee shall prepare and record an environmental evaluation of each such activity. Activities are excluded from this requirement if all measurable nonradiological effects are confined to the on-site areas previously disturbed during site preparation and facility construction. When the evaluation indicates that such activity involves an unreviewed environmental question, the licensee shall provide a written evaluation of such activity and obtain prior NRC approval. When such activity involves a change in the EPP, such activity and change to the EPP may be implemented only in accordance with an appropriate license amendment as set forth in Section 5.3 of this EPP

*This provision does not relieve the licensee of the requirements of 10 CFR 50.59.

A proposed change, test or experiment shall be deemed to involve an unreviewed environmental question if it concerns (1) a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the FES-OL, environmental impact appraisals, or in any decisions of the Atomic Safety and Licensing Board; or (2) a significant change in effluents or design power level; or (3) a matter not previously reviewed and evaluated in the documents specified in (1) of this Subsection, which may have a significant adverse environmental impact.

The licensee shall maintain records of changes in facility design or operation and of tests and experiments carried out pursuant to this Subsection. These records shall include written evaluations which provide bases for the determination that the change, test, or experiment does not involve an unreviewed environmental question nor constitute a decrease in the effectiveness of the EPP to meet the objectives specified in Section 1.0.

3.2 Reporting Related to the SPDES Permit

Changes to, or renewals of the SPDES Permit shall be reported to the NRC within 30 days following the date the approved change or renewal is received. If a permit or certification, in part or in its entirety, is appealed and stayed, the NRC shall be notified within 30 days following the day the stay is granted.

The licensee shall notify the NRC of changes to the effective SPDES permit proposed by the licensee by providing the NRC with a copy of the proposed change at the same time it is submitted to the permitting agency. The licensee shall provide the NRC a copy of the application for renewal of the SPDES permit at the same time the application is submitted to the permitting agency.

3.3 Changes Required for Compliance with Other Environmental Regulations

Changes in facility design or operation and performance of tests or experiments which are required to achieve compliance with other Federal, State and local environmental regulations are not subject to the requirements of Section 3.1.

4.0 ENVIRONMENTAL CONDITIONS

4.1 Unusual or Important Environmental Events

Any occurrence of an unusual or important event that indicates or could result in significant environmental impact causally related to maintaining the facility shall be recorded and promptly reported to the NRC within 24 hours followed by a written report per subsection 5.4.1. The following are examples: excessive bird impaction events, onsite plant or animal disease outbreaks, mortality or unusual occurrence of any species protected by the Endangered Species Act of 1973, fish kills, increase in nuisance organisms or conditions, and unanticipated or emergency discharge of waste water or chemical substances.

No routine monitoring programs are required to implement this condition.

4.2 Environmental Monitoring and Other Requirements

4.2.1 Protection of Wading River Marsh

The applicant shall protect Wading River Marsh, including those portions owned by the Applicant, from deposition of sand and other materials transported from the facility site. Ultimate control shall be primarily by ground cover, other vegetation and administrative action. Reliance may also be upon snow fencing and similar physical barriers. There shall be no routine reporting requirement associated with this condition.

4.2.2 Beach Erosion

The applicant shall monitor the accumulation and/or erosion of beach sand and gravel in the vicinity of the facility site. Any beach material eroded from east of the Applicant's jetties shall be replaced with accumulated sand, if any, from Wading River Creek, from the 1000-foot-long intake channel, from between the jetties, and from the east and west sides of the jetties. There shall be no routine reporting requirement associated with this condition.

4.2.3 Maintenance of Transmission Line Corridors

The use of herbicides within the Shoreham Nuclear Power Station transmission line corridors shall conform to the approved use of selected herbicides as registered by the Environmental Protection Agency and approved by State authorities and applied as directed by said authorities.

Records shall be maintained in the appropriate division office concerning herbicide use. Such records shall include the following information: commercial and chemical names of materials used; concentration of active material in formulations diluted for field use; diluting substances other than water; rates of application; method and frequency of application; location; and date of application. Such records shall be maintained for a period of 3 years in conformance with NYS Department of Environmental Conservation requirements and be made readily available to the NRC upon request. There shall be no routine reporting requirement associated with this condition.

5.0 ADMINISTRATIVE PROCEDURES

5.1 Review and Audit

The licensee shall provide for review and audit of compliance with EPP. The audits shall be conducted independently of the individual or groups responsible for performing the specific activity. A description of the organizational structure utilized to achieve the independent review and audit function and results of the audit activities shall be maintained and made available for inspection.

5.2 Records Retention

Records and logs relative to the environmental aspects of maintaining the facility shall be made and retained in a manner convenient for review and inspection. These records and logs shall be made available to NRC on request.

Records of modifications to facility structures, systems and components determined to have the potential to significantly affect the continued protection of the environment shall be retained for the life of the facility. All other records, data and logs related to this EPP shall be retained for five years or, where applicable, in accordance with the requirements of other agencies.

5.3 Changes in Shoreham Environmental Protection Plan

Request for change in the EPP shall include an assessment of the environmental impact of the proposed change and supporting justification. Implementation of changes in the EPP shall not commence prior to NRC approval of the proposed changes in the form of a license amendment incorporating the appropriate revision to the EPP.

5.4 Plant Reporting Requirements

5.4.1 Nonroutine Reports

A written report shall be submitted to the NRC within 30 days of occurrence of a nonroutine event. The report shall (a) describe, analyze, and evaluate the event, including extent and magnitude of the impact and facility operating characteristics, (b) describe the probable cause of the event, (c) indicate the action taken to correct the reported event, (d) indicate the corrective action taken to preclude repetition of the event and to prevent similar occurrences involving similar components or systems, and (e) indicate the agencies notified and their preliminary responses.

Events reportable under this subsection which also require reports to other Federal, State or local agencies shall be reported in accordance with those reporting requirements in lieu of the requirements of this subsection. The NRC shall be provided a copy of such report at the same time it is submitted to the other agency.