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PSNH PUBLIC SERVICE
Company of New Hampshire

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United States Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. George W. Knighton, Chief
Licensing Branch 3
Division of Licensing

References: (a) Construction Permits CPPR-135 and CPPR-136, Docket Nos. 50-443 and 50-444

Subject: Responses to Open SER Items

As a result of recent meetings between the applicant and NRC staff, we offer the following responses to the open SER items listed below. These responses clarify our positions on these open items and should assist the staff in closing these items.

Items (SER Section 13.5.2-PTRB):

1. Procedures to be performed by licensed operators in the Control Room must be listed by title.

2. Alarm Response Procedures must be discussed and the methodology for proceeding from the alarm sounding to the various degrees of response given.

3. Revise the FSAR to include a commitment to complete procedures that will be used by licensed operators in the Control Room at least six months prior to fuel load in order to give time for operator training.

4. (a) Submit Interim Emergency Operating Procedures (per TMI Action Item I.C.8) OR

   (b) Submit a program to implement NRC approved W.O.G. guidelines covering emergency operations (per TMI Action Items I.C.1 and I.C.9).

5. Interim Emergency Operating Procedures (open item 4.(a)) must receive Westinghouse Review.

B001

Response:

FSAR Section 13.5 will be revised as shown on the attached pages to document that Seabrook Station conforms to these requirements.

Item (SER section 6.3-RSB)

Commit that operating procedures will be developed to periodically check the performance of the ECCS during long term cooling. Operators should be instructed in recognition and mitigation of degradation of ECCS performance.

Response:

FSAR Table 13.5-2 (which is part of the attached revision to FSAR Section 13.5) cites titles of procedures that apply to the operation of the ECCS and the long term (shutdown) cooling systems. These procedures are in the process of being revised to more clearly present the aspects of periodic monitoring of the system and the recognition and mitigation of degradation of cooling capability.

Item (SER section 15.8-PTRB)

Develop emergency procedures for ATWS.

Response:

PSNH has an emergency procedure that deals with the ATWS situation. Its title is listed in FSAR Table 13.5-2. This procedure was derived from the guidelines developed by the Westinghouse Owners Group. That generic guidance was adapted to the specific hardware and conditions that exist at Seabrook Station.

Item (SER section 13.4-LQB)

The issue of SORC composition and quorum remains unresolved.

Response:

PSNH has revised Section 6.5.1 of the Technical Specifications, as shown on the revised pages in FSAR Amendment 47, resolving these concerns.

Item (SER section 12.5.1-RAB)

The Radiation Protection Manager should report more directly the the Station Manager on matters within the Radiation Protection Program.

Resonse:

PSNH will revise FSAR Sections 12.5.1 and 13.1.2.2, as shown on the attached revised pages, so that the more direct reporting chain from the Health Physics Department Supervisor (RPM) to the Technical Services Manager is more clearly stated. FSAR Figure 13.1-5 will be revised to also improve the visibility of this direct reporting responsibility.

These revisions will be incorporated in an upcoming FSAR amendment.

Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY

J. DeVincentis
Project Manager

cc: Mr. R. Gallo
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Revisions to FSAR

Section 13.5

CONTENTS (Cont'd)

CHAPTER 13

CONDUCT OF OPERATIONS

TABLES

(b) The requirements of Technical Specifications, i.e.:

(1) Item 6.8.1.b, "Radiological Environmental Monitoring Program".

(2) Item 6.8.1.h, "Process Control Program".

13.5.1.4 Administrative Procedures - Initial Test Program

The Yankee Atomic Electric Company Startup Test Group will manage and provide overall direction for the initial test program. The Startup Test Group will consist of personnel assigned to the plant site with specialties in areas such as primary systems, secondary systems, electrical systems, and plant operations. These individuals will be assigned overall responsibility for various aspects of the test program within their areas of expertise. During the performance of system preoperational tests and initial startup tests, the Startup Test Group personnel will direct plant operations personnel during test activities and will be responsible for the acquisition, review and evaluation of relevant data. A further discussion of the test program and its objectives is contained in Chapter 14.

13.5.2 Operating Procedures

13.5.2.1 Conformance with Regulatory Guide 1.33

The operating procedures for Seabrook Units 1 and 2 implement the recommendations of Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)", Rev. 2, dated February, 1978. Specific alternatives, clarifications and exceptions to these requirements, and to ANSI N18.7 - 1976/ANS 3.2 are listed in FSAR Sections 1.8 and 17.2.

13.5.2.2 Preparation of Procedures

To provide adequate time for familiarization and training, each operating procedure is scheduled to be completed and approved about six months prior to the anticipated need to accomplish nuclear safety related activities. In those instances where meaningful procedures cannot be developed six months prior to use, they will be developed, reviewed, approved and training conducted prior to operation of the system or component.

Operating procedures, and any changes thereto, are reviewed and approved by appropriate station supervisory and management personnel and in accordance with Section 6.8 of the Technical Specifications and FSAR Section 13.4.1.

13.5.2.3 Procedure Description

13.5.2.3.1 Control Room Operating Procedures

Operating procedures, which are performed by licensed operators in the control room, encompass those activities, systems and evolutions

recommended in the applicable parts of Appendix A to Regulatory Guide 1.33 and Section 6.8 of the Technical Specifications. They are considered to fall into the following categories:

(1) System Operating Procedures

This category includes individual system procedures for safety related systems and major secondary plant systems and equipment. These procedures give instructions for energizing, filling, venting, draining, startup, shutdown, and changing modes of operation of plant mechanical, electrical and I&C Systems.

Table 13.5-2 presents a representative listing of titles of System Operating Procedures.

(2) Station Operating Procedures

This category includes procedures for the integrated startup, operation and shutdown of the Station. Table 13.5-2 presents a representative listing of titles of Station Operating Procedures.

(3) Abnormal Operating Procedures

These procedures define actions required for events less significant than those covered in emergency procedures. They include situations where off-normal conditions exist but a return to normal operations requires separate guidance. Table 13.5-2 presents a representative listing of titles of Abnormal Operating Procedures.

(4) Emergency Operating Procedures

These procedures define the actions required by station personnel during emergency conditions. Licensed operators will be thoroughly familiar with these procedures. Any "immediate action" steps that licensed operators are required to memorize are specifically identified in that procedure.

The Emergency Operating Procedures use, as their basis, the Westinghouse Owners Group derived set of guidelines. These generic guidelines, which consist of Emergency Recovery Guidelines, are modified and adapted to the specific conditions and hardware that exist at Seabrook Station and are subjected to the usual review and approval processing that was identified above.

The human factors review of the control room used these Emergency Operating Procedures as an input criteria for that study. Table 13.5-2 presents a representative listing of titles of Emergency Operating Procedures.

(5) Annunciator System Response Procedures

Annunciator System Response Procedures are developed to delineate the operator actions required in the event of an alarm condition. These

procedures are stored in one of the plant computer systems or on hard copy.

Annunciator signals are designated priority 1, 2, or 3 depending on their predetermined significance and are displayed, when initiated, on a control room CRT. Each priority grouping is displayed in a different color.

Each Annunciator Response Procedure gives the meaning of the annunciator, the source of the alarm, the immediate action that is to occur automatically, the immediate operator action required, and the subsequent actions.

(6) Temporary Procedures

These special procedures will be generated, as required, to provide detailed instructions for specific activities that are of a specific duration, and will generally be of a one time only nature. See Program 6 in FSAR Section 13.5.1.3 for further information on this category of procedures.

13.5.2.3.2 Other Operating and Maintenance Procedures

Other operating and maintenance procedures are provided in the following categories:

a. Station Radiation Protection Procedures

Station Radiation Protection Procedures are designed to limit and control radiation exposures and the spread of contamination, as well as meet the requirements of 10CFR20 and the As Low as Reasonably Achievable (ALARA) philosophy. All station personnel will follow the guidelines set forth in these procedures. Procedures in the radiation protection category include topics such as:

1. Control of Radiation Exposure
2. Personnel Monitoring
3. Radioactive Waste Shipments
4. Radiation Exposure Records and Reports
5. Use and Storage of Calibration Sources
6. Airborne Activity Survey Techniques
7. Radiological Surveys
8. Calibration of Radiation Survey Instruments
9. Radiation Work Permits
10. Contamination Survey Techniques

b. Radiological Emergency Plan Implementation Procedures

These procedures are provided to implement the provisions of the Radiological Emergency Plan (see Section 13.3). They provide for assignment of responsibilities, instructions to employees, procedures for coping with the emergency, and mobilization of offsite assistance where necessary. Procedures in this category are detailed in an

Appendix to the Emergency Plan. These procedures are followed by all station personnel.

c. Instrument Calibration and Test Procedures

Instrument calibration and test procedures are provided to detail the step-by-step methods for the calibration and testing of instruments. They are performed by qualified technicians. Acceptance criteria and testing intervals are indicated in these procedures. See program 22 in FSAR section 13.5.1.3 for more details. Procedure coverage in this category includes:

1. Reactor Plant Instrumentation Test and Calibration
2. Area Radiation Monitoring System Calibration
3. Nuclear Instrumentation System Test and Calibration
4. Process Radiation Monitoring System Calibration
5. Calibration of Test Instrumentation and Devices

d. Chemical and Radiochemical Control Procedures

Chemical and radiochemical procedures provide instructions to accomplish various chemical and radiochemical analyses and counting techniques. They also prescribe the nature and frequency of sampling and analyses, instructions for maintaining water quality and limitations on concentrations of various chemical agents, and requirements and methods of calibration of lab equipment. These procedures apply to work performed by Chemistry and Health Physics technicians.

e. Radioactive Waste Management Procedures

Procedures for the operation and maintenance of radioactive waste processing systems and equipment, and for the radiological protection considerations involved, are included in other categories as appropriate. The procedures for the management of radioactive waste in this category provide the necessary instructions to package, store or ship the waste. See program 28 in FSAR section 13.5.1.3 for more details.

f. Maintenance Procedures

Maintenance procedures provide detailed instructions for the accomplishment of maintenance functions on, or that can affect performance of, safety-related equipment, systems or structures. In addition, they cover preventive maintenance and major evolutions performed by station maintenance and technical forces. See program 8 in FSAR section 13.5.1.3 for more details. Procedures in this category include such topics as:

1. Emergency Diesel Generator Maintenance
2. Battery Maintenance
3. Replacement of Radioactive Filters
4. Plugging of Steam Generator Tubes

5. Reactor Coolant Pump Maintenance
6. Removal of the Reactor Vessel Head

g. Fire Protection Program Implementation Procedures

Fire Protection Procedures provide guidance for plant personnel, and specifically to members of the fire brigade, in the various aspects of the Station Fire Protection Program. See program 26 in FSAR section 13.5.1.3 for more details. Procedures that support this program also include those needed to satisfy:

1. The Technical Specification requirements for operation and surveillance of fire detection instrumentation, fire suppression systems and fire barrier penetrations.

2. The intent of the guidance in the 1977 NRC document entitled "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls, and Quality Assurance."

h. Station Security Plan Implementation Procedures

These procedures implement the Physical Security Plan and the Safeguards Contingency Plan. Specific titles are withheld from public disclousure pursuant to paragraph 2.790(d) 10 CFR Part 2, Rules of Practice. See program 11 in FSAR section 13.5.1.3 for more details. General subjects covered by these procedures include:

. Duties of Security Personnel
2. Operation of Security Equipment
3. Response of Security Personnel During Emergencies
4. Responsibilities of Off-site Security Personnel

Table 13.5-2

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Titles of Control Room Operating Procedures

Listed below are the titles of Operating procedures which are used by licensed operators in the control room to perform various activities and plant evolutions. These titles are listed by various categories that are discussed in FSAR Section 13.5.2.3.1. They are lists of procedures that cover the significant operations within each category. Other procedures pertaining to these categories will be developed as indicated by future circumstances.

1. System Operating Procedures

a. Reactor Coolant System

REACTOR COOLANT SYSTEM AIR REMOVAL AND FILL
DRAINING THE REACTOR COOLANT SYSTEM,
REACTOR COOLANT DRAIN TANKS OPERATION
REACTOR COOLANT PUMP OPERATIONS
BTRS DILUTION
BTRS BORATION
REACTOR MAKEUP WATER FILL AND VENT
REACTOR MAKEUP WATER SYSTEM OPERATION

b. Control Rod Drive System

ROD DRIVE M.G. SET OPERATIONS
AUTOMATIC AND MANUAL ROD CONTROL

c. Shutdown Cooling System

RESIDUAL HEAT REMOVAL TRAIN "A" FILL AND VENT,
RESIDUAL HEAT REMOVAL SYSTEM LINEUP
RESIDUAL HEAT REMOVAL TRAIN "B" FILL AND VENT
RESIDUAL HEAT REMOVAL TRAIN "A" STARTUP AND OPERATION
RESIDUAL HEAT REMOVAL TRAIN "B" STARTUP AND OPERATION
RESIDUAL HEAT REMOVAL TRAIN "A" SHUTDOWN
RESIDUAL HEAT REMOVAL TRAIN "B" SHUTDOWN

d. Emergency Core Cooling System

BORIC ACID PREPARATION AND TRANSFER TO THE STORAGE TANK
FILLING AND VENTING THE SAFETY INJECTION SYSTEM
SAFETY INJECTION SYSTEM LINEUP
OPERATION OF SAFETY INJECTION SYSTEM
OPERATION OF THE REFUELING WATER STORAGE TANK
OPERATION OF THE BORON INJECTION SYSTEM

Table 13.5-2

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e. Component Cooling Water System

PRIMARY COMPONENT COOLING WATER FILL & VENT
PCCW LOOP "A" STARTUP AND OPERATION
PRIMARY COMPONENT COOLING SYSTEM LINEUP
PCCW LOOP "B" STARTUP AND OPERATION
PRIMARY COMPONENT COOLING WATER LOOP "A" SHUTDOWN
PRIMARY COMPONENT COOLING WATER LOOP "B" SHUTDOWN
PRIMARY COMPONENT COOLING WATER LOOP MAKEUP
SCCW SYSTEM FILL & VENT
SCCW SYSTEM FILL & VENT SYSTEM LINEUP
SECONDARY COMP. COOLING WATER SYSTEM STARTUP OPS SHUTDOWN

f. Containment

CONTAINMENT VENTILATION OPERATIONS
CONTAINMENT ENCLOSURE VENTILATION OPERATIONS
CONTAINMENT AIR PURGE OPERATIONS
ESTABLISHING CONTAINMENT INTEGRITY

g. Atmosphere Cleanup Systems - (none installed)

h. Fuel Storage Pool Purification and Cooling System

FUEL STORAGE BUILDING HVAC
SPENT FUEL POOL CLEANUP & COOLING FILL AND VENT
SPENT FUEL POOL COOLING SYSTEM STARTUP AND OPERATION
SPENT FUEL POOL PURIFICATION SYSTEM STARTUP AND OPERATION

i. Main Steam System

MAIN STEAM OPERATION
MAIN STEAM TO AUX. STEAM REDUCING STATION OPS
STEAM GENERATOR ATMOSHPERIC POWER OPERATED RELIEF
MAIN STEAM DRAIN SYSTEM OPERATION

j Pressurizer Pressure and Spray Control Systems

PRESSURIZER LEVEL CONTROL SYSTEM OPERATION
PRESSURIZER PRESSURE CONTROL SYSTEM OPERATION

Table 13.5-2

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k. Feedwater System

FEED SYSTEM FILL & VENT
STARTUP FEED PUMP OPERATION
MFP A OPERATIONS
MFP B OPERATIONS
WARMING AN IDLE FEED PUMP
WATERBOX PRIMING SYSTEM STARTUP/NORMAL OPERATION
FEEDWATER HEATER SYSTEM VENT OPERATION
FEEDWATER HEATER ISOLATION AND RETURN TO SERVICE

l. Auxiliary Feedwater System

EMERGENCY FEEDWATER SYSTEM OPERATION
EMERGENCY FEEDWATER PUMP A OPERATION
EMERGENCY FEEDWATER PUMP B OPERATION

m. Service Water System

TRAIN A SERVICE WATER SYSTEM FILL AND VENT
TRAIN B SERVICE WATER SYSTEM FILL AND VENT
TRAIN A SERVICE WATER STARTUP AND OPERATION
TRAIN B SERVICE WATER STARTUP AND OPERATION
SERVICE WATER COOLING TOWER OPERATION
COOLING TOWER DEICING
SERVICE WATER SCREEN WASH SYSTEM
SERVICE WATER SYSTEM LINEUP

n. Chemical and Volume Control System

OPERATION OF LETDOWN, CHARGING AND SEAL INJECTION
OPERATION OF EXCESS LETDOWN SYSTEM.
OPERATION OF LETDOWN DEGASSIFIER
OPERATION OF MIXED BED DEMINERALIZER
ESTABLISHING A NITROGEN ATMOSPHERE IN THE VOLUME CONTROL TANK
ESTABLISHING A HYDROGEN ATMOSPHERE IN THE VOLUME CONTROL TANK
OPERATION OF CVCS DEMINERALIZER PREFILTER CS-F-1
OPERATION OF THE REACTOR COOLANT FILTER CS-F-2
OPERATION OF SEAL WATER INJECTION FILTERS CS-E-4A
OPERATION OF SEAL WATER RETURN FILTER CS-F-3
CHANGE OUT OF CHEMICAL AND VOLUME CONTROL FILTERS

Table 13.5-2

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o. Auxiliary Building Heating and Ventilation

CABLE SPREADING HVAC
PRIMARY AUXILIARY BUILDING VENTILATION
DIESEL GENERATOR BUILDING HVAC
CABLE SPREADING AREA, EMERGENCY SWITCHGEAR AREA AND ELECTRICAL
EMERGENCY FEEDWATER BLDG. HEATING & VENTILATION

p. Control Room Heating and Ventilation

CONTROL ROOM COMPLEX HEATING, VENTILATION AND AIR CONDITIONING SYSTEM

q. Radwaste Building heating And Ventilation

WPB VENTILATION AND AIR CONDITIONING SYSTEM OPERATION

r. Instrument Air System

OPERATION OF THE COMPRESSED AIR SYSTEM

s. Electrical System

345 KV OPERATION
13.8 KV OPERATION
NON-VITAL 480 VOLT SYSTEM LINEUP
LIGHTING SYSTEM LINEUP
OPERATION OF THE EDG-1A
OPERATING THE D/G 1A LUBE OIL SYSTEM
OPERATING THE D/G 1A JACKET COOLING WATER SYSTEM
OPERATING THE D/G 1A STARTING AIR SYSTEM
DIESEL GENERTOR AIR START SYTEM
OPERATING THE D/G 1A FUEL OIL SYSTEM
OPERATING THE D/G 1A FUEL OIL SYSTEM LINEUP
OPERATING THE D/G 1A AIR INTAKE, EXHAUST & VACUUM SYSTEM
ALIGNING D/G 1A CONTROLS FOR AUTO START
MAINTENANCE STARTING D/G 1A
OPERATION OF THE EDG-1B,
OPERATING THE D/G 1B LUBE OIL SYSTEM,
OPERATING THE D/G 1B JACKET COOLING WATER SYSTEM
OPERATING THE D/G 1B STARTING AIR SYSTEM
OPERATING THE D/G 1B FUEL OIL SYSTEM

Table 13.5-2

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s. Electrical System (Continued)

OPERATING THE D/G 1B AIR INTAKE EXHAUST & VACUUM SYSTEM
ALIGNING D/G 1B CONTROLS FOR AUTO START
MAINTENANCE STARTING D/G 1B
4160V OPERATION
VITAL 480 VOLT OPERATION
VITAL UPS EDE-1-1A-1F OPERATION
120V AC OPERATION

t. Nuclear Instrument System

PLANT SHUTDOWN FROM MINIMUM LOAD TO HOT STANDBY
PLANT COOLDOWN FROM HOT STANDBY TO COLD SHUTDOWN
POWER OPERATION: POWER INCREASE
POWER OPERATIONS: POWER DECREASE
APPROACH TO CRITICALITY
NIS PRECRITICAL CHECKS & SWITCH ALIGNMENT
NI SYSTEM VISUAL/AUDIO COUNT RATE SYS OPERATION

u. Reactor Control and Protection System

RPS PRECRITICAL CHECKS & SWITCH ALIGNMENTS

v. Hydrogen Recombiner

OPERATION OF HYDROGEN RECOMBINERS

2. Station Operating Procedures

a. Cold Shutdown to Hot Standby

PLANT HEATUP FROM COLD SHUTDOWN
REACTOR COOLANT PUMP OPERATIONS
OPERATION OF LETDOWN, CHARGING AND SEAL INJECTION SYSTEMS
ESTABLISHING A HYDROGEN ATMOSPHERE IN THE VOLUME CONTROL TANK
RESIDUAL HEAT REMOVAL TRAIN A OR B SHUTDOWN
STEAM GENERATOR BLOWDOWN LINEUP
SAFETY INJECTION SYSTEM LINEUP

Table 13.5-2

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b. Hot Standby to Minimum Load

PLANT STARTUP FROM HOT STANDBY TO MINIMUM LOAD
APPROACH TO CRITICALITY
AUTOMATIC AND MANUAL ROD CONTROL
ROD DRIVE M.G. SET OPERATIONS
REACTOR MAKEUP WATER SYSTEM OPERATION
NIS PRECRITICAL CHECK & SWITCH ALIGNMENTS

c. Recovery from Reactor Trip

345 KV OPERATION
AUTOMATIC AND MANUAL ROD CONTROL
NIS PRECRITICAL CHECK & SWITCH ALIGNMENT
CONDENSER STEAM DUMP OPERATION
TURBINE TRIP
REACTOR TRIP/SAFETY INJECTION
REACTOR TRIP RECOVERY

d. Operation at Hot Standby

CONDENSER STEAM DUMP OPERATION
AUTOMATIC AND MANUAL ROD CONTROL
PLANT STARTUP FROM HOT STANDBY TO MINIMUM LOAD
OPERATION OF LETDOWN, CHARGING AND SEAL INJECTION SYSTEMS
CHEMICAL & VOLUME CONTROL SYSTEM MAKEUP OPERATION
PLACING TURBINE ON TURNING GEAR FROM COLD STANDSTILL
HOTWELL FILL
CONDENSATE PUMP STARTUP
STARTUP FEED SYSTEM OPERATION

e. Turbine Startup and Synchronization of Generator

TUBE LUBE OIL SYSTEM OPERATION
ENERGIZING AND DEENERGIZING THE CORE MONITOR
STARTUP AND SHUTDOWN OF SHAFT SEAL OIL SYSTEM
STARTUP AND SHUTDOWN OF STATOR COOLING WATER SYSTEM
STARTUP AND SHUTDOWN OF ISOPHASE BUS COOLING UNIT
EMERGENCY SEAL OIL PUMP TEST
AUTOMATIC AND MANUAL ROD CONTROL
CHEMICAL AND VOLUME CONTROL SYSTEM MAKEUP
BORON THERMAL REGENERATION SYSTEM DILUTION

Table-13.5-2

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e. Turbine Startup and Synchronization of Generator (Continued)

REMOVING THE TURBINE GENERATOR FROM TURNING GEAR
STARTING AND PHASING THE TURBINE GENERATOR
STARTUP FEED SYSTEM OPERATION
TURBINE STOP VALVE TEST
TURBINE CONTROL VALVE TEST
WEEKLY TURBINE MECHANICAL OVERSPEED TEST
WEEKLY ELECTRICAL AND MECHANICAL TURBINE TRIP PISTON TEST

f. Changing Load or Load Follow

POWER OPERATIONS - POWER INCREASES AND POWER DECREASES
OPERATION OF HEATER DRAIN PUMPS
PRESSURIZER LEVEL CONTROL SYSTEM OPERATION
BORON THERMAL REGENERATION SYSTEM DILUTION/BORATION
REACTOR MAKEUP WATER SYSTEM OPERATION
CONDENSATE PUMP OPERATION
WARMING IDLE FEED PUMP
MFP A&G OPERATION
MOISTURE SEPERATOR/REHEATER OPERATION

g. Power Operation and Process Monitoring

WASTE EVAPORATOR OPERATION
OPERATION OF CARBON FILTER
POWER/LOAD UNBALANCE WEEKLY TEST
GENERATOR CORE MONITOR MONTLY TEST
POWER OPERATIONS: POWER INCREASE, POWER DECREASE
AUTOMATIC AND MANUAL ROD CONTROL
CHEMICAL AND VOLUME CONTROL SYSTEM MAKEUP OPERATION
BORON THERMAL REGENERATION SYSTEM DILUTION/BORATION
REACTOR MAKEUP WATER SYSTEM OPERATION
MAIN TURBINE LUBE OIL PUMP WEEKLY TEST
WEEKLY CHECK OF ESOP (EMERGENCY SEAL OIL PUMP)
STATOR COOLING WATER PUMPS WEEKLY TEST
DIESEL FIRE PUMP WEEKLY TEST
ELECTRIC FIRE PUMP WEEKLY TEST
RCS STEADY STATE LEAK RATE CALCULATION
PORV BLOCK VALVE OPERABILITY TEST
BORON INJECTION FLOWPATH MONTHLY VALVE ALIGNMENT CHECK

Table 13.5-2

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g. Power Operation and Process Monitoring (Continued)

BORIC ACID TRANSFER PUMP PERFORMANCE TEST
WEEKLY BORATED WATER SOURCE EVALUATION
MONTHLY EMERGENCY DIESEL GENERATOR TEST
TURBINE GENERATOR MONTHLY:
- EMERGENCY BEARING OIL PUMP TEST
- BACKUP SPEED CONTROL AMPLIFIER TEST
- TURBINE STOP VALVE TEST
- CONTROL VALVE TEST
- CIV TEST
- THRUST BEARING WEAR DETECTOR TEST

TURBINE GENERATOR WEEKLY:
- WEEKLY MECHANICAL TRIP PISTON TEST
- ELECTRICAL TRIP TEST
- WEEKLY T/G BACKUP OVERSPEED TRIP CIRCUIT TEST
- WEEKLY MECHANICAL OVERSPEED TRIP TEST
- EHC HYDRAULIC POWER UNIT WEEKLY TEST

MONITORING AXIAL FLUX DIFFERENCE
STARTUP AND OPERATION OF WASTE LIQUID EVAPORATOR
OPERATION OF RADIOACTIVE GAS WASTE SYSTEM

h. Operation with less than full Reactor Coolant flow

(None yet, to be written later)

i. Plant Shutdown to Hot Standby

13.8 KV OPERATION
PLANT HEATUP FROM COLD SHUTDOWN TO HOT STANDBY
REACTOR COOLANT SYSTEM AIR REMOVAL AND FILL
REACTOR COOLANT PUMP OPERATION
FILLING AND VENTING THE CHARGING, LETDOWN AND SEAL INJECTION SYSTEMS
FILLING AND VENTING THE SAFETY INJECTION SYSTEM
FILLING AND VENTING THE CONTAINMENT SPRAY SYSTEM
CHEMICAL AND VOLUME CONTROL SYSTEM OPERATIONS
RESIDUAL HEAT REMOVAL SYSTEM SHUTDOWN
STEAM GENERATOR BLOWDOWN LINEUP
FEEDWATER SYSTEM FILL AND VENT

Table 13.5-2

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j. Hot Standby to Cold Shutdown

STEAM GENERATOR ATMOSPHERIC POWER OPERATED RELIEF VALVE OPERATION
STARTUP AND SHUTDOWN OF THE SHAFT SEAL OIL SYSTEM
STARTUP AND SHUTDOWN OF THE STATOR COOLING WATER SYSTEM
STARTUP AND SHUTDOWN OF THE ISOPHASE BUS COOLING UNITS
PLANT COOLDOWN FROM HOT STANDBY TO COLD SHUTDOWN
DRAINING THE REACTOR COOLANT SYSTEM
ESTABLISHING A NITROGEN ATMOSPHERE IN THE VOLUME CONTROL TANK
RESIDUAL HEAT REMOVAL SYSTEM STARTUP AND OPERATION
CONTAINMENT AIR PURGE OPERATION
STEAM GENERATOR WET LAYUP AND RECIRCULATION
REMOVING SAFETY INJECTION SYSTEM FROM STANDBY DURING PLANT COOLDOWN

k. Preparation of Refueling and Refueling Equipment Operation

PREPARATION FOR REFUELING
FILLING THE REACTOR CAVITY AND FUEL TRANSFER CANAL
REACTOR REFUELING CAVITY PURIFICATION
MANIPULATOR CRANE OPERATION
FUEL TRANSFER SYSTEM AND UPENDER OPERATION
TRANSFER OF NEW FUEL ELEMENT TO SPENT FUEL POOL
SPENT FUEL POOL BRIDGE OPERATION
CONTROL ROD CHANGE MACHINE OPERATION
REFUELING CANAL AND CAVITY DRAINING
OPERATION OF RHR WITH REACTOR VESSEL LEVEL BELOW THE FLANGE

l. Refueling and Core Alterations

(Same as above)

3. Abnormal and Emergency Operating Procedures

a. Loss of Coolant

LOSS OF REACTOR COOLANT
SI TERMINATION FOLLOWING LOSS OF REACTOR COOLANT
TRANSFER TO COLD LEG RECIRCULATION
LOSS OF SECONDARY COOLANT
SI TERMINATION FOLLOWING LOSS OF SECONDARY COOLANT
STEAM GENERATOR TUBE RUPTURE (SGTR)
SI TERMINATION FOLLOWING SGTR

Table 13.5-2

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b. Loss of Instrument Air

LOSS OF AIR COMPRESSORS
LOSS OF CONTROL AIR
LOSS OF CONTAINMENT AIR SYSTEM

c. Loss of Electrical Power

LOSS OF ALL AC POWER RECOVERY WITHOUT SI REQUIRED
LOSS OF ALL AC POWER RECOVERY WITH SI REQUIRED
BLACKOUT (LOSS OF UAT, RAT WITH POWER TO EMERG. BUSSES)
LOSS OF ALL AC POWER
MAIN, UAT, RAT COOLING SYSTEM MALFUNCTION
LOSS OF SF_6 COOLING TO 345 KV BUSSES

d. Loss of Core Coolant Flow

ABNORMAL RCP SHUTDOWN
RESTORATION OF RCP SEALS AND THERMAL BARRIER COOLING

e. Loss of Condenser Vacuum

PARTIAL LOSS OF VACUUM
LOSS OF VACUUM PRIMING PUMPS
LOSS OF A CIRCULATING WATER PUMP

f. Loss of Containment Integrity

CONTAINMENT ABOVE DESIGN PRESSURE
HIGH CONTAINMENT PRESSURE
HIGH CONTAINMENT RADIATION LEVEL
HIGH HYDROGEN CONCENTRATION IN CONTAINMENT
CONTAINMENT FLOODING
CONTAINMENT LOSS OF INTEGRITY

g. Loss of Service Water

LOSS OF TRAIN A SERVICE WATER
LOSS OF TRAIN B SERVICE WATER
LOSS OF TRAIN A OR B COOLING TOWER FANS
LOSS OF TRAIN A OR B COOLING TOWER PUMPS
EMERGENCY MAKEUP TO COOLING TOWER

Table 13.5-2

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h. Loss of Shutdown Cooling

LOSS OF RHR DURING SHUTDOWN COOLING

i. Loss of Component Cooling System and Cooling to Individual Components

LOW SURGE TANK LEVEL
LOSS OF TRAIN A
LOSS OF TRAIN B

j. Loss of Feedwater or Feedwater System Failure

LOSS OF HEAT SINK
LOW SG LEVEL
LOSS OF NORMAL STEAM DUMP CAPABILITY
TRANSFER OF STARTUP FEED PUMP TO EMERGENCY BUSSES

k. Loss of Protective System Channel

RPS MALFUNCTION
DEFEAT OF A FAILED SOURCE OR INTERMEDIATE RANGE CHANNEL
DEFEAT OF A FAILED POWER RANGE CHANNEL
CHANNEL AND DETECTOR CURRENT COMPARATOR MALFUNCTION
AUDIO COUNT RATE SYSTEM MALFUNCTION
PRESSURIZER PRESSURE TRANSMITTER FAILS HIGH
PRESSURIZER PRESSURE TRANSMITTER FAILS LOW
FAILURE OF VAS

l. Mispositioned Control Rod or Rods

FLUX TILT
DROPPED ROD
MISALIGNED ROD
CONTROL ROD EJECTION

m. Inability to Drive Control Rods

FAILURE OF BANK MOVE

Table 13.5-2

(sheet 12 of 13)

n. Conditions Requiring Use of Emergency Boration or Standby Liquid Control System

EMERGENCY BORATION
CONTINUOUS ROD WITHDRAWAL
LOSS OF CORE SHUTDOWN
DECREASING SHUTDOWN MARGIN

o. Fuel Cladding Failure or High Activity in Reactor Coolant or Offgas

HIGH ACTIVITY

p. Fire in Control Room or Forced Evacuation of Control Room

PLANT SHUTDOWN AND COOLDOWN FROM REMOTE SAFE SHUTDOWN PANEL

q. Turbine and Generator Trips

HIGH VIBRATION TURBINE GENERATOR
TURBINE TRIP
LOSS OF STATOR COOLING SYSTEM
STATOR COOLING WATER HIGH CONDUCTIVITY
LOSS OF ISOPHASE BUS COOLING
EMERGENCY DUMPING OF GENERATOR H_2

r. Other Expected Transients that may be Applicable

HIGH CHLORIDES IN STEAM GENERATOR
OPERATION OF SCCW WITH TOWER ACTUATION
OPERATION OF SCCW WITH A SAFEGUARDS ACTUATION
OIL SPILL

s. Malfunction of Automatic Reactivity Control System

CONTINUOUS ROD INSERTION
TURBINE RUNBACK

t. Malfunction of Pressure Control System

PRESSURIZER PRESSURE CONTROL MALFUNCTION

Table 13.5-2

(sheet 13 of 13)

u. Reactor Trip

REACTOR TRIP/SAFETY INJECTION
REACTOR TRIP RECOVERY

v. Plant Fires

FIRE EMERGENCY

w. Acts of Nature (e.g., tornado, flood, dam failure, earthquakes)

(None yet, to be written later)

x. Irradiated Fuel Damage While Refueling

EMERGENCY EVACUATION OF CONTAINMENT
DROPPED SPENT FUEL CASK
DROPPED FUEL ASSEMBLY IN SF POOL
DROPPED FUEL IN CAVITY/VESSEL
SPENT FUEL POOL LEAK
LOSS OF SPENT FUEL POOL COOLING
HIGH RADIATION SFP BUILDING

y. Abnormal Releases of Radioactivity

(see Radiological Emergency Plan)

z. Emergency Contingency Actions

ANTICIPATED TRANSIENTS WITHOUT SCRAM (ATWS)
LOSS OF ALL AC
STEAM GENERATOR TUBE RUPTURE CONTINGENCIES

Revisions to FSAR

Section 12.5.1

12.5 HEALTH PHYSICS PROGRAM

The Health Physics Department of Seabrook Station has been organized and equipped to protect plant employees from unnecessary exposure to radiation and radioactive materials.

12.5.1 Organization

The Seabrook Station staff and the organization are discussed in Section 13.1.

The Health Physics Department organizational structure is illustrated in Figure 12.5-1.

The Health Physics Department Supervisor, who meets or exceeds applicable qualifications of ANSI 3.1, 1978, paragraph 4.4.4, is responsible for administering the station radiation protection program. He normally reports directly to the Technical Services Manager, but has the responsibility and authority to report to the Station Manager on any aspect of the Radiation Protection Program or its implementation he deems necessary. He is responsible for the department and station compliance with applicable federal and state radiation protection regulations.

The Health Physicists report to the Health Physics Department Supervisor and are responsible for supervising the routine and daily department operations, and providing assistance to the department supervisor. The Health Physicists must meet or exceed the minimum qualifications as specified in ANSI 3.1-1978, Paragraph 4.3.2. One of the health physicists may temporarily assume the responsibilities of department supervisor, when the department supervisor is absent for an extended period of time.

The Technical Assistants provide administrative and technical assistance to the Health Physics Department Supervisor and Health Physicists. Their principal responsibilities include assisting in the administration of the Seabrook Station Radiological Environmental Surveillance Programs, Radiological Emergency Plan and programs related to personnel radiation exposure and health physics records management. Minimum qualifications are as specified in ANSI 3.1-1978, paragraph 4.3.2.

The health physics working foremen are responsible for the routine and outage health physics activities and coordinating assignments of the health physics technicians and, when applicable, assistant health physics technicians. Qualifications of the working foremen will be set in accordance with ANSI 3.1, 1978, paragraph 4.3.2.

Department technicians are responsible for performing the routine and daily operations of the department. Technicians will meet at least the minimum qualifications aplicable to their work, as specified in ANSI 3.1-1978, paragraph 4.5.2, and any other qualifications set by management to insure that the technicians will be capable of performing their duties efficiently and expertly. These duties include performing various surveys, collecting air samples, maintaining department equipment and instrumentation and providing radiation protection/control coverage, as necessary, during station operations and maintenance activities.

Revisions to FSAR

Section 13.1.2.2

equipment to service as directed by the Unit Shift Supervisor. The Auxiliary Operator is unlicensed.

c. Technical Services

The Technical Services Manager reports directly to the Assistant Station Manager, and directs and coordinates the activities of the Assistant Technical Services Manager and the following Department Supervisors:

1. Assistant Technical Services Manager

The Assistant Technical Services Manager reports directly to the Technical Services Manager and assumes all Technical Services Manager duties, responsibilities and authorities in his absence. The Assistant Technical Services Manager position is a line-authority position directly responsible for all maintenance, technical, and engineering activities including management of all outages necessary for the safe and cost effective operation of Seabrook Station.

2. Chemistry Department Supervisor

The Chemistry Department Supervisor is charged with the direct responsibility for ensuring that the nuclear and steam portions of the station operate within the appropriate water quality specifications. He is responsible for water treatment and conditioning for specific station needs. He is responsible for verifying that all liquid, resin and gaseous wastes are properly analyzed and processed for station reuse or disposal.

3. Health Physics Department Supervisor

The Health Physics Department Supervisor is the Station Radiation Protection Manager and as such has the responsibility and authority to report to the Station Manager on any aspect of the Radiation Protection Program or its implementation he deems necessary. He normally reports directly to the Technical Services Manager and is responsible for monitoring station activities for compliance with all Health Physics related regulations and programs. The entire station staff, from the Station Manager on down, recognizes and honors this responsibility, thereby ensuring that the Health Physics Department Supervisor, in concert with the members of his appropriately trained and experienced staff, will fully implement the station radiation protection program at all times. He is responsible for all monitoring devices used by personnel at the station and the maintenance of all required radiation exposure records for all station and visiting personnel. He ensures that appropriate monitoring devices and protective clothing are available. He is responsible for verifying that all solid radioac-