



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

December 18, 1991

Docket No. 50-416

Mr. William T. Cottle
Vice President, Operations GGNS
Entergy Operations, Inc.
Post Office Box 756
Port Gibson, Mississippi 39150

Dear Mr. Cottle:

SUBJECT: ISSUANCE OF AMENDMENT NO. 87 TO FACILITY OPERATING LICENSE
NO. NPF-29 - GRAND GULF NUCLEAR STATION, UNIT 1 (TAC NO. M81326)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 87 to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1. This amendment consists of changes to the Technical Specifications (TS) in response to your application dated August 13, 1991.

The amendment 1) incorporates programmatic controls into the Administrative Controls section of the TS in accordance with the requirements of 10 CFR 20.106, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50; 2) relocates existing procedural details in the current TS for radioactive effluent monitoring instrumentation, the control of liquid and gaseous effluents, equipment requirements for liquid and gaseous effluents, radiological environmental monitoring, and radiological reporting details from the TS to the Offsite Dose Calculation Manual (ODCM); 3) relocates the definition of solidification and existing procedural details in the current TS on solid radioactive wastes to the Process Control Program (PCP); 4) simplifies the administrative controls and adds retention requirements for changes to the ODCM and the PCP; and 5) updates the definitions of the ODCM and the PCP consistent with these changes. This amendment implements the guidance contained in NRC Generic Letter 89-01.

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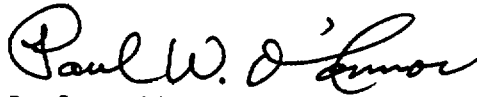
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Mr. William T. Cottle

- 2 -

A copy of our related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,



Paul W. O'Connor, Sr. Project Manager
Project Directorate IV-1
Division of Reactor Projects III, IV, and V
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 87 to NPF-29
2. Safety Evaluation

cc w/enclosures:
See next page

Mr. William T. Cottle

- 2 -

A copy of our related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

ORIGINAL SIGNED BY

Paul W. O'Connor, Sr. Project Manager
Project Directorate IV-1
Division of Reactor Projects III, IV, and V
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 87 to NPF-29
2. Safety Evaluation

cc w/enclosures:

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Mr. W. T. Cottle
Entergy Operations, Inc.

Grand Gulf Nuclear Station

cc:

Mr. Raubin L. Randels
Project Engineer, Manager
Bechtel Power, Corp.
P. O. Box 2166
Houston, Texas 77252-2166

Mr. C. R. Hutchinson
GGNS General Manager
Entergy Operations, Inc.
P. O. Box 756
Port Gibson, Mississippi 39150

Robert B. McGehee, Esquire
Wise, Carter, Child & Caraway
P. O. Box 651
Jackson, Mississippi 39205

The Honorable William J. Guste, Jr.
Attorney General
Department of Justice
State of Louisiana
P. O. Box 94005
Baton Rouge, Louisiana 70804-9005

Nicholas S. Reynolds, Esquire
Winston & Strawn
1400 L Street, N.W. - 12th Floor
Washington, D.C. 20005-3502

Alton B. Cobb, M.D.
State Health Officer
State Board of Health
P. O. Box 1700
Jackson, Mississippi 39205

Mr. Jack McMillan, Director
Division of Solid Waste Management
Mississippi Department of Natural
Resources
P. O. Box 10385
Jackson, Mississippi 39209

Office of the Governor
State of Mississippi
Jackson, Mississippi 39201

President,
Claiborne County Board of Supervisors
Port Gibson, Mississippi 39150

Mike Morre, Attorney General
Frank Spencer, Asst. Attorney General
State of Mississippi
Post Office Box 22947
Jackson, Mississippi 39225

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta St., Suite 2900
Atlanta, Georgia 30323

Mr. John P. McGaha
Vice President, Operations Support
Entergy Operations, Inc.
P.O. Box 31995
Jackson, Mississippi 39286-1995

Mr. Michael J. Meisner
Director, Nuclear Licensing
Entergy Operations, Inc.
P. O. Box 756
Port Gibson, Mississippi 39150

Mr. Donald C. Hintz, Executive Vice
President & Chief Operating Officer
Entergy Operations, Inc.
P. O. Box 31995
Jackson, Mississippi 39286-1995

Mr. C. B. Hogg, Project Manager
Bechtel Power Corporation
P. O. Box 2166
Houston, Texas 77252-2166

Mr. Johnny Mathis
Senior Resident Inspector
U.S. Nuclear Regulatory Commission
Route 2, Box 399
Port Gibson, Mississippi 39150



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

ENTERGY OPERATIONS, INC.

SYSTEM ENERGY RESOURCES, INC.

SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION

MISSISSIPPI POWER AND LIGHT COMPANY

DOCKET NO. 50-416

GRAND GULF NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 87
License No. NPF-29

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Entergy Operations, Inc. (the licensee) dated August 13, 1991, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Facility Operating License No. NPF-29 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 87, are hereby incorporated into this license. Entergy Operations, Inc. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION



John T. Larkins, Director
Project Directorate IV-1
Division of Reactor Projects III, IV, and V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 18, 1991

ATTACHMENT TO LICENSE AMENDMENT NO.

FACILITY OPERATING LICENSE NO. NPF-29

DOCKET NO. 50-416

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

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DEFINITIONS

E-AVERAGE DISINTEGRATION ENERGY

1.11 \bar{E} shall be the average, weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling, of the sum of the average beta and gamma energies per disintegration, in MeV, for isotopes, with half lives greater than 15 minutes, making up at least 95% of the total non-iodine activity in the coolant.

EMERGENCY CORE COOLING SYSTEM (ECCS) RESPONSE TIME

1.12 The EMERGENCY CORE COOLING SYSTEM (ECCS) RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ECCS actuation setpoint at the channel sensor until the ECCS equipment is capable of performing its safety function, i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc. Times shall include diesel generator starting and sequence loading delays where applicable. The response time may be measured by any series of sequential, overlapping or total steps such that the entire response time is measured.

END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM RESPONSE TIME

1.13 The END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM RESPONSE TIME shall be that time interval to complete suppression of the electric arc between the fully open contacts of the recirculation pump circuit breaker from initial movement of the associated:

- a. Turbine stop valves, and
- b. Turbine control valves.

The response time may be measured by any series of sequential, overlapping or total steps such that the entire response time is measured, except for the breaker arc suppression time which is not measured but is validated by surveillance tests to conform to the manufacturer's design value.

FRACTION OF LIMITING POWER DENSITY

1.14 The FRACTION OF LIMITING POWER DENSITY (FLPD) shall be the LHGR existing at a given location divided by the limiting LHGR for that bundle type.

FRACTION OF RATED THERMAL POWER

1.15 The FRACTION OF RATED THERMAL POWER (FRTP) shall be the measured THERMAL POWER divided by the RATED THERMAL POWER.

FREQUENCY NOTATION

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

1.17 DELETED

DEFINITIONS

IDENTIFIED LEAKAGE

1.18 IDENTIFIED LEAKAGE shall be:

- a. Leakage into collection systems, such as pump seal or valve packing leaks, that is captured and conducted to a sump or collecting tank, or
- b. Leakage into the drywell atmosphere from sources that are both specifically located and known either not to interfere with the operation of the leakage detection systems or not to be PRESSURE BOUNDARY LEAKAGE.

ISOLATION SYSTEM RESPONSE TIME

1.19 The ISOLATION SYSTEM RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its isolation actuation setpoint at the channel sensor until the isolation valves travel to their required positions. Times shall include diesel generator starting and sequence loading delays where applicable. The response time may be measured by any series of sequential, overlapping or total steps such that the entire response time is measured.

LIMITING CONTROL ROD PATTERN

1.20 A LIMITING CONTROL ROD PATTERN shall be a pattern which results in the core being on a thermal hydraulic limit, i.e., operating on a limiting value for APLHGR, LHGR, or MCPR.

LINEAR HEAT GENERATION RATE

1.21 LINEAR HEAT GENERATION RATE (LHGR) shall be the heat generation per unit length of fuel rod. It is the integral of the heat flux over the heat transfer area associated with the unit length.

LOGIC SYSTEM FUNCTIONAL TEST

1.22 A LOGIC SYSTEM FUNCTIONAL TEST shall be a test of all logic components, i.e., all relays and contacts, all trip units, solid state logic elements, etc., of a logic circuit, from sensor through and including the actuated device, to verify OPERABILITY. The LOGIC SYSTEM FUNCTIONAL TEST may be performed by any series of sequential, overlapping or total system steps such that the entire logic system is tested.

MAXIMUM FRACTION OF LIMITING POWER DENSITY

1.23 The MAXIMUM FRACTION OF LIMITING POWER DENSITY (MFLPD) shall be the highest value of the FLPD which exists in the core.

MEMBER(S) OF THE PUBLIC

1.24 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.

DEFINITIONS

MINIMUM CRITICAL POWER RATIO

1.25 The MINIMUM CRITICAL POWER RATIO (MCPR) shall be the smallest CPR which exists in the core.

OFFSITE DOSE CALCULATION MANUAL (ODCM)

1.26 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 Environmental Radiological Monitoring Program. The ODCM shall also contain (1) the Radioactive Effluent Controls and Radiological Environmental Monitoring Programs required by Section 6.8.3 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 6.9.1.6, 6.9.1.7, 6.9.1.8 and 6.9.1.9.

OPERABLE - OPERABILITY

1.27 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).

OPERATIONAL CONDITION - CONDITION

1.28 An OPERATIONAL CONDITION, i.e., CONDITION, shall be any one inclusive combination of mode switch position and average reactor coolant temperature as specified in Table 1.2.

PHYSICS TESTS

1.29 PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation and 1) described in Chapter 14 of the FSAR, 2) authorized under the provisions of 10 CFR 50.59, or 3) otherwise approved by the Commission.

PRESSURE BOUNDARY LEAKAGE

1.30 PRESSURE BOUNDARY LEAKAGE shall be leakage through a non-isolable fault in a reactor coolant system component body, pipe wall or vessel wall.

DEFINITIONS

PRIMARY CONTAINMENT INTEGRITY

1.31 PRIMARY CONTAINMENT INTEGRITY shall exist when:

- a. All containment penetrations required to be closed during accident conditions are either:
 1. Capable of being closed by an OPERABLE containment automatic isolation system, or
 2. Closed by at least one manual valve, blind flange, or deactivated automatic valve secured in its closed position, except as provided in Table 3.6.4-1 of Specification 3.6.4.
- b. The containment equipment hatch is closed and sealed.
- c. Each containment air lock is in compliance with the requirements of Specification 3.6.1.3.
- d. The containment leakage rates are within the limits of Specification 3.6.1.2.
- e. The suppression pool is in compliance with the requirements of Specification 3.6.3.1.
- f. The sealing mechanism associated with each primary containment penetration; e.g., welds, bellows or O-rings, is OPERABLE.

PROCESS CONTROL PROGRAM (PCP)

1.32 The PROCESS CONTROL PROGRAM (PCP) shall contain the current formulas, sampling, analyses, test, 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.

PURGE - PURGING

1.33 PURGE or PURGING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.

RATED THERMAL POWER

1.34 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3833 MWt.

DEFINITIONS

REACTOR PROTECTION SYSTEM RESPONSE TIME

1.35 REACTOR PROTECTION SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until de-energization of the scram pilot valve solenoids. The response time may be measured by any series of sequential, overlapping or total steps such that the entire response time is measured.

REPORTABLE EVENT

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

ROD DENSITY

1.37 ROD DENSITY shall be the number of control rod notches inserted as a fraction of the total number of control rod notches. All rods fully inserted is equivalent to 100% ROD DENSITY.

SECONDARY CONTAINMENT INTEGRITY

1.38 SECONDARY CONTAINMENT INTEGRITY shall exist when:

- a. All Auxiliary Building and Enclosure Building penetrations required to be closed during accident conditions are either:
 1. Capable of being closed by an OPERABLE secondary containment automatic isolation system, or
 2. Closed by at least one manual valve, blind flange, rupture disc or deactivated automatic valve or damper, as applicable, secured in its closed position, except as provided in Table 3.6.6.2-1 of Specification 3.6.6.2.
- b. All Auxiliary Building and Enclosure Building equipment hatches and blowout panels are closed and sealed.
- c. The standby gas treatment system is in compliance with the requirements of Specification 3.6.6.3.
- d. The door in each access to the Auxiliary Building and Enclosure Building is closed, except for normal entry and exit.
- e. The sealing mechanism associated with each Auxiliary Building and Enclosure Building penetration, e.g., welds, bellows or O-rings, is OPERABLE.

DEFINITIONS

SHUTDOWN MARGIN

1.39 SHUTDOWN MARGIN shall be the amount of reactivity by which the reactor is subcritical or would be subcritical assuming all control rods are fully inserted except for the single control rod of highest reactivity worth which is assumed to be fully withdrawn and the reactor is in the shutdown condition; cold, i.e. 68°F; and xenon free.

SITE BOUNDARY

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

1.41 DELETED

1.42 DELETED

STAGGERED TEST BASIS

1.43 A STAGGERED TEST BASIS shall consist of:

- a. A test schedule for n systems, subsystems, trains or other designated components obtained by dividing the specified test interval into n equal subintervals.
- b. The testing of one system, subsystem, train or other designated component at the beginning of each subinterval.

THERMAL POWER

1.44 THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

UNIDENTIFIED LEAKAGE

1.45 UNIDENTIFIED LEAKAGE shall be all leakage which is not IDENTIFIED LEAKAGE.

UNRESTRICTED AREA

1.46 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 MEMBERS OF THE PUBLIC 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.

1.47 DELETED

INSTRUMENTATION

MAIN CONDENSER OFFGAS TREATMENT - EXPLOSIVE GAS MONITORING SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.7.12 At least one explosive gas monitoring system instrumentation channel of the main condenser offgas treatment system shall be OPERABLE with its alarm setpoint set to ensure that the limit of Specification 3.11.2.6 is not exceeded.

APPLICABILITY: During main condenser offgas treatment system operation

ACTION:

- a. With the explosive gas monitoring system instrumentation channel alarm setpoint of the main condenser offgas treatment system less conservative than that required by Specification 3.11.2.6, declare the channel inoperable and take the ACTION required below.
- b. With less than one explosive gas monitoring system instrumentation channel of the main condenser offgas treatment system OPERABLE, operation of the main condenser offgas treatment system may continue for up to 30 days provided grab samples are collected at least once per 4 hours and analyzed within the following 4 hours. Restore the inoperable instrumentation to OPERABLE status within 30 days and, if unsuccessful, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 to explain why this inoperability was not corrected in a timely manner.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.7.12 Each explosive gas monitoring system instrumentation channel of the main condenser offgas treatment system shall be demonstrated OPERABLE by performance of a CHANNEL CHECK at least once per 24 hours, a CHANNEL CALIBRATION* at least once per 92 days and a CHANNEL FUNCTION TEST at least once per 31 days.

*The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:

1. One volume percent hydrogen, balance nitrogen, and
2. Four volume percent hydrogen, balance nitrogen.

INSTRUMENTATION

3/4.3.8 PLANT SYSTEMS ACTUATION INSTRUMENTATION

INSTRUMENTATION

3/4.3.8 PLANT SYSTEMS ACTUATION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.8 The plant systems actuation instrumentation channels shown in Table 3.3.8-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.8-2.

APPLICABILITY: As shown in Table 3.3.8-1.

ACTION:

- a. With a plant system actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.8-2, declare the channel inoperable and take the ACTION required by Table 3.3.8-1.
- b. With one or more plant systems actuation instrument channels inoperable, take the ACTION required by Table 3.3.8-1.

SURVEILLANCE REQUIREMENTS

4.3.8.1 Each plant system actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.8.1-1.

4.3.8.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

TABLE 3.3.8-1
PLANT SYSTEMS ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION</u>	<u>MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM^(a)</u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>	<u>ACTION</u>
1. <u>CONTAINMENT SPRAY SYSTEM</u>			
a. Drywell Pressure-High	2	1, 2, 3	130
b. Containment Pressure-High	1	1, 2, 3	131
c. Reactor Vessel Water Level-Low Low Low, Level 1	2	1, 2, 3	130
d. Timers			
1) System A	1	1, 2, 3	131
2) System B	1	1, 2, 3	131
2. <u>FEEDWATER SYSTEM/MAIN TURBINE TRIP SYSTEM</u>			
a. Reactor Vessel Water Level-High, Level 8	3	1	132
3. <u>SUPPRESSION POOL MAKEUP SYSTEM</u>			
a. Drywell Pressure - High (ECCS)	2	1, 2, 3	135
b. Drywell Pressure - High (RPS)	2	1, 2, 3	135
c. Reactor Vessel Water Level - Low Low Low, Level 1	2	1, 2, 3	135
d. Reactor Vessel Water Level - Low Low, Level 2	2	1, 2, 3	135
e. Suppression Pool Water Level - Low Low	1	1, 2, 3	133
f. Suppression Pool Makeup Timer	1	1, 2, 3	133
g. SPMU Manual Initiation	2	1, 2, 3	134

(a) A channel may be placed in an inoperable status for up to 2 hours during periods of required surveillance provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.

TABLE 3.3.8-1 (Continued)

PLANT SYSTEMS ACTUATION INSTRUMENTATION

ACTION

- ACTION 130 - a. With the number of OPERABLE channels one less than required by the Minimum OPERABLE Channels per Trip System requirement, place the inoperable channel in the tripped condition within one hour; otherwise, declare the associated containment spray system inoperable and take the action required by Technical Specification 3.6.3.2.
- b. With the number of OPERABLE channels two less than required by the Minimum OPERABLE channels per Trip System requirement, declare the associated containment spray system inoperable and take the action required by Technical Specification 3.6.3.2.
- ACTION 131 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, restore the inoperable channels to OPERABLE status within one hour; otherwise, declare the associated containment spray system inoperable and take the action required by Technical Specification 3.6.3.2.
- ACTION 132 - For the feedwater system/main turbine trip system:
- a. With the number of OPERABLE channels one less than required by the Minimum OPERABLE Channels requirement, restore the inoperable channel to OPERABLE status within 7 days or be in at least STARTUP within the next 6 hours.
- b. With the number of OPERABLE channels two less than required by the Minimum OPERABLE Channels per Trip System requirement, restore at least one of the inoperable channels to OPERABLE status within 72 hours or be in at least STARTUP within the next 6 hours.
- ACTION 133 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, declare the associated suppression pool makeup system inoperable and take the action required by Specification 3.6.3.4.
- ACTION 134 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, restore the inoperable channels to OPERABLE status within 8 hours; otherwise, declare the associated suppression pool makeup system inoperable and take the action required by Specification 3.6.3.4.
- ACTION 135 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement:
- a. With one channel inoperable, place the inoperable channel in the tripped condition within one hour or declare the associated system(s) inoperable.
- b. With more than one channel inoperable, declare the associated system(s) inoperable.

TALE 3.3.8-2

PLANT SYSTEMS ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
1. <u>CONTAINMENT SPRAY SYSTEM</u>		
a. Drywell Pressure-High	≤ 1.39 psig	≤ 1.44 psig
b. Containment Pressure-High	≤ 7.84 psig	≤ 8.34 psig
c. Reactor Vessel Water Level-Low Low Low, Level 1	≥ -150.3 inches	≥ -152.5 inches
d. Timers		
1) System A	10.85 ± 0.10 minutes	$10.26 - 0.00, + 1.18$ minutes
2) System B	10.85 ± 0.10 minutes**	$10.26 - 0.00, + 1.18$ minutes
2. <u>FEEDWATER SYSTEM/MAIN TURBINE TRIP SYSTEM</u>		
a. Reactor Vessel Water Level-High, Level 8	≤ 53.5 inches*	≤ 54.1 inches
3. <u>SUPPRESSION POOL MAKEUP SYSTEM</u>		
a. Drywell Pressure - High (ECCS)	≤ 1.39 psig	≤ 1.44 psig
b. Drywell Pressure - High (RPS)	≤ 1.23 psig	≤ 1.43 psig
c. Reactor Vessel Water Level - Low Low Low, Level 1	≥ -150.3 inches*	≥ -152.5 inches
d. Reactor Vessel Water Level - Low Low, Level 2	≥ -41.6 inches*	≥ -43.8 inches
e. Suppression Pool Water Level - Low Low	≥ 17 ft 5 inches	≥ 17 ft 2 inches
f. Suppression Pool Makeup Timer	≤ 29.0 minutes	≤ 29.5 minutes
g. SPMU Manual Initiation	NA	NA

*See Bases Figure B 3/4 3-1.

**Setpoint for System B is the sum of E12-K093B plus E12-K116. E12-K116 is not to exceed 10.00 seconds.

TABLE 4.3.8.1-1

PLAN SYSTEMS ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>TRIP FUNCTION</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED</u>
1. <u>CONTAINMENT SPRAY SYSTEM</u>				
a. Drywell Pressure-High	S	M	R ^(a)	1, 2, 3
b. Containment Pressure-High	S	M	R ^(a)	1, 2, 3
c. Reactor Vessel Water Level - Low Low Low, Level 1	S	M	R ^(a)	1, 2, 3
d. Timers	NA	M	Q	1, 2, 3
2. <u>FEEDWATER SYSTEM/MAIN TURBINE TRIP SYSTEM</u>				
a. Reactor Vessel Water Level-High, Level 8	S	M	R	1
3. <u>SUPPRESSION POOL MAKEUP SYSTEM</u>				
a. Drywell Pressure - High (ECCS)	S	M	R ^(a)	1, 2, 3
b. Drywell Pressure - High (RPS)	S	M	R ^(a)	1, 2, 3
c. Reactor Vessel Water Level - Low Low Low, Level 1	S	M	R ^(a)	1, 2, 3
d. Reactor Vessel Water Level - Low Low, Level 2	S	M	R ^(a)	1, 2, 3
e. Suppression Pool Water Level - Low Low	S	M	R ^(a)	1, 2, 3
f. Suppression Pool Makeup Timer	NA	M	Q	1, 2, 3
g. SPMU Manual Initiation	NA	R	NA	1, 2, 3

(a) Calibrate trip unit at least once per 31 days.

INSTRUMENTATION

3/4.3.9 TURBINE OVERSPEED PROTECTION SYSTEM

LIMITING CONDITION FOR OPERATION

3.3.9 At least one turbine overspeed protection system shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

- a. With one stop valve or one control valve per high pressure turbine steam line inoperable and/or with one stop valve or one control valve per low pressure turbine steam line inoperable, restore the inoperable valve(s) to OPERABLE status within 72 hours or close at least one valve in the affected steam line. Otherwise isolate the turbine from the steam supply within the next 6 hours.
- b. With the above required turbine overspeed protection system otherwise inoperable, within 6 hours isolate the turbine from the steam supply.

SURVEILLANCE REQUIREMENTS

4.3.9.1 The provisions of Specification 4.0.4 are not applicable.

4.3.9.2 The above required overspeed protection system shall be demonstrated OPERABLE:

- a. At least once per 14 days by cycling each of the following valves through at least one complete cycle from the running position using the manual test or Automatic Turbine Tester (ATT):
 - 1) Four high pressure turbine stop valves,
 - 2) Four high pressure turbine control valves,
 - 3) Six low pressure turbine stop valves, and
 - 4) Six low pressure turbine control valves.
- b. At least once per 14 days testing of the two mechanical overspeed devices using the Automatic Turbine Tester or manual test.
- c. At least once per 40 months by disassembling at least one of each of the above valves and performing a visual and surface inspection of valve seats, disks and stems and verifying no unacceptable flaws. If unacceptable flaws are found, all other valves of that type shall be inspected.

3/4.11 RADIOACTIVE EFFLUENTS

3/4.11.1 LIQUID EFFLUENTS

LIQUID HOLDUP TANKS

LIMITING CONDITION FOR OPERATION

3.11.1.4 The quantity of radioactive material contained in any outside temporary tank, not including liners for shipping radwaste, shall be limited to less than or equal to 10 curies, excluding tritium and dissolved or entrained noble gases.

APPLICABILITY: At all times.

ACTION:

- a. With the quantity of radioactive material in any of the above specified tanks exceeding the above limit, immediately suspend all additions of radioactive material to the tanks and within 48 hours reduce the tank contents to within the limit, and describe the events leading to the condition in the next Semiannual Radioactive Effluent Release Report.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.4 The quantity of radioactive material contained in each of the above specified tanks 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.

RADIOACTIVE EFFLUENTS

3/4.11.2 GASEOUS EFFLUENTS

EXPLOSIVE GAS MIXTURE

LIMITING CONDITION FOR OPERATION

3.11.2.6 The concentration of hydrogen in the main condenser offgas treatment system shall be limited to less than or equal to 4% by volume.

APPLICABILITY: Whenever the main condenser offgas treatment system is in operation.

ACTION:

- a. With the concentration of hydrogen in the main condenser offgas treatment system exceeding the limit, restore the concentration to within the limit within 48 hours.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.6 The concentration of hydrogen in the main condenser offgas treatment system shall be determined to be within the above limits by monitoring the waste gas in the main condenser off-gas treatment system with the hydrogen monitor OPERABLE as required by Specification 3.3.7.12.

RADIOACTIVE EFFLUENTS

MAIN CONDENSER

LIMITING CONDITION FOR OPERATION

3.11.2.7 The gross radioactivity (gamma) rate of the noble gases measured at the offgas recombiner effluent shall be limited to less than or equal to 380 millicuries/second, after 30 minutes decay.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2,* and 3*

ACTION:

With the gross radioactivity rate of the noble gases at the offgas recombiner effluent exceeding 380 millicuries/second after 30 minutes decay, restore the gross radioactivity release rate to within its limit within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.11.2.7.1 The radioactivity release rate of noble gases near the outlet of the main condenser air ejector shall be continuously monitored in accordance with the ODCM.

4.11.2.7.2 The gross radioactivity release rate of the noble gases from the main condenser air ejector shall be determined to be within the limits of Specification 3.11.2.7 at the following frequencies** by performing an isotopic analysis of a representative sample of gases taken at the offgas recombiner effluent:

- a. At least once per 31 days.
- b. Within 4 hours following an increase, as indicated by the Offgas Pretreatment Monitor, of greater than 50%, after factoring out increases due to changes in THERMAL POWER level, in the nominal steady state fission gas release from the primary coolant.

*When the main condenser air ejector is in operation.

**The provisions of Specification 4.0.4 are not applicable.

INSTRUMENTATION

BASES

3/4.3.7.6 SOURCE RANGE MONITORS

The source range monitors provide the operator with information of the status of the neutron level in the core at very low power levels during startup and shutdown. At these power levels, reactivity additions should not be made without this flux level information available to the operator. When the intermediate range monitors are on scale adequate information is available without the SRMs and they can be retracted.

The SRMs are required OPERABLE in OPERATIONAL CONDITION 2 to provide for rod block capability, and are required OPERABLE in OPERATIONAL CONDITIONS 3 and 4 to provide monitoring capability which provides diversity of protection to the mode switch interlocks.

3/4.3.7.7 TRAVERSING IN-CORE PROBE SYSTEM

The OPERABILITY of the traversing in-core probe system with the specified minimum complement of equipment ensures that the measurements obtained from use of this equipment accurately represent the spatial neutron flux distribution of the reactor core.

The TIP system OPERABILITY is demonstrated by normalizing all probes (i.e., detectors) prior to performing an LPRM calibration function. Monitoring core thermal limits may involve utilizing individual detectors to monitor selected areas of the reactor core, thus all detectors may not be required to be OPERABLE. The OPERABILITY of individual detectors to be used for monitoring is demonstrated by comparing the detector(s) output with data obtained during the previous LPRM calibrations.

3/4.3.7.8 CHLORINE DETECTION SYSTEM

DELETED

3/4.3.7.9 FIRE DETECTION INSTRUMENTATION

DELETED

INSTRUMENTATION

BASES

3/4.3.7.10 LOOSE-PART DETECTION SYSTEM

The OPERABILITY of the loose-part detection system ensures that sufficient capability is available to detect loose metallic parts in the primary system and avoid or mitigate damage to primary system components. The system consists of 16 sensors, of which only 8 are selected and need to be OPERABLE at a time, to provide the inputs to the 8 monitoring channels. The remaining 8 sensors may be used as replacement sensor inputs for failed sensors or to provide a change in location of the area being monitored. The allowable out-of-service times and surveillance requirements are consistent with the recommendations of Regulatory Guide 1.133, "Loose-Part Detection Program for the Primary System of Light-Water-Cooled Reactors," May 1981.

3/4.3.7.12 MAIN CONDENSER OFFGAS TREATMENT SYSTEM - EXPLOSIVE GAS MONITORING SYSTEM INSTRUMENTATION

The explosive gas monitoring system instrumentation of the main condenser off-gas treatment system is provided to monitor the concentrations of potentially explosive gas mixtures in the main condenser offgas treatment system. This instrumentation is calibrated in accordance with plant procedures.

3/4.3.8 PLANT SYSTEMS ACTUATION INSTRUMENTATION

The plant systems actuation instrumentation is provided to initiate action to mitigate the consequences of accidents that are beyond the ability of the operator to control. The LPCI mode of the RHR system is automatically initiated on a high drywell pressure signal and/or a low reactor water level, level 1, signal. The containment spray system will then actuate automatically following high drywell and high containment pressure signals. Negative barometric pressure fluctuations are accounted for in the trip setpoints and allowable values specified for drywell and containment pressure-high. A 10-minute minimum, 13-minute maximum time delay exists between initiation of LPCI and containment spray actuation. A high reactor water level, level 8, signal will actuate the feedwater system/main turbine trip system. The suppression pool makeup system is automatically initiated on a low low suppression pool water level signal with a concurrent LOCA signal or following a specified time delay after receipt of a LOCA signal. The low low suppression pool water level Trip Setpoint and Allowable Value are relative to the surface floor of the suppression pool (93'0 $\frac{1}{4}$ " above mean sea level).

3/4.11 RADIOACTIVE EFFLUENTS

BASES

3/4.11.1 LIQUID EFFLUENTS

3/4.11.1.4 LIQUID HOLDUP TANKS

The tanks listed in this specification include all those tanks containing radioactive material that are not surrounded by liners, dikes, or walls capable of holding the contents and that do not have overflows and surrounding area drains connected to the liquid radwaste treatment system. Restricting the quantity of radioactive material contained in the specified tanks provides assurance that in the event of an uncontrolled release of the 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.

RADIOACTIVE EFFLUENTS

BASES

3/4.11.2 GASEOUS EFFLUENTS

3/4.11.2.6 EXPLOSIVE GAS MIXTURE

This specification is provided to ensure that the concentration of potentially explosive gas mixtures contained in the offgas holdup piping is maintained below the flammability limits of hydrogen. Maintaining the concentration of hydrogen below its flammability limit provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of General Design Criterion 60 of Appendix A to 10 CFR Part 50.

3/4.11.2.7 MAIN CONDENSER

Restricting the gross radioactivity rate of noble gases from the main condenser provides reasonable assurance that the total body exposure to a MEMBER OF THE PUBLIC at and beyond the SITE BOUNDARY will not exceed a small fraction of the limits of 10 CFR Part 100 in the event this effluent is inadvertently discharged directly to the environment without treatment. This specification implements the requirements of General Design Criteria 60 and 64 of Appendix A to 10 CFR Part 50.

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

6. Feedwater leakage control system.
7. Post-accident sampling system.
8. Suppression pool level detection portion of the suppression pool makeup system.

The program shall include the following:

1. Preventive maintenance and periodic visual inspection requirements, and
2. Integrated leak test requirements for each system at refueling cycle intervals or less.

b. In-Plant Radiation Monitoring

A program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

1. Training of personnel,
2. Procedures for monitoring, and
3. Provisions for maintenance of sampling and analysis equipment.

c. Post-accident Sampling

A program which will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant gaseous effluents, and containment atmosphere samples under accident conditions. The program shall include the following.

1. Training of personnel,
2. Procedures for sampling and analysis,
3. Provisions for maintenance of sampling and analysis equipment.

d. Radioactive Effluent Controls Program

A program shall be provided conforming with 10 CFR 50.36a for the control of radioactive effluents and for maintaining the 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,

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

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 the 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 I,
8. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from the unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,
9. Limitations on the annual and quarterly doses to a MEMBER OF THE PUBLIC from Iodine-131, Iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from the unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50, and
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.

e. 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

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

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 an 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.

6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to the Nuclear Regulatory Commission pursuant to Section 50.4 of 10 CFR Part 50.

STARTUP REPORTS

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the unit.

ADMINISTRATIVE CONTROLS

STARTUP REPORTS (Continued)

6.9.1.2 The startup report shall address each of the tests identified in the FSAR and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

6.9.1.3 Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events, i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial operation, supplementary reports shall be submitted at least every three months until all three events have been completed.

ANNUAL REPORTS^{1/}

6.9.1.4 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 shall be submitted prior to March 1 of the year following initial criticality.

6.9.1.5.1 Reports 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,^{2/} e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignments to various duty functions may be estimated based on pocket dosimeter, TLD, or film badge measurements. Small exposures totalling less than 20 percent of the individual total dose need not be accounted for. In the aggregate, at least 80 percent of the total whole body dose received from external sources should be assigned to specific major work functions.

6.9.1.5.2 Reports shall include documentation of all challenges to safety and relief valves.

6.9.1.5.3 Reports shall include the results of specific activity analyses in which the primary coolant exceeded the limits of Specification 3.4.5. The following information shall be included: (1) reactor power history starting 48 hours prior to the first sample in which the limit was exceeded; (2) results of the last isotopic analysis for radioiodine performed prior to exceeding the limit, results of analysis while the limit was exceeded, and results of one analysis after the radioiodine activity was reduced to less than the limit

^{1/} A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station.

^{2/} This tabulation supplements the requirements of §20.407 of 10 CFR Part 20.

ADMINISTRATIVE CONTROLS

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

6.9.1.6 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.

6.9.1.7 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.

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

6.9.1.8 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.

6.9.1.9 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.

ADMINISTRATIVE CONTROLS

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (Continued)

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ADMINISTRATIVE CONTROLS

MONTHLY OPERATING REPORTS

6.9.1.10 Routine reports of operating statistics and shutdown experience, including documentation of all challenges to main steam system safety/relief valves, shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Nuclear Regulatory Commission pursuant to Section 50.4 of 10 CFR Part 50 within the time period specified for each report.

6.10 RECORD RETENTION

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.

6.10.1 The following records shall be retained for at least five years:

- a. Records and logs of unit operation covering time interval at each power level.
- 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.

ADMINISTRATIVE CONTROLS

6.10 RECORD RETENTION (Continued)

- d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
- e. Records of changes made to the procedures required by Specification 6.8.1.
- f. Records of radioactive shipments.
- g. Records of sealed source and fission detector leak tests and results.
- h. Records of annual physical inventory of all sealed source material of record.

6.10.2 The following records shall be retained for the duration of the Unit Operating License:

- a. Records and drawing changes reflecting unit 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 entering radiation control areas.
- d. Records of gaseous and liquid radioactive material released to the environs.
- e. Records of transient or operational cycles for those unit components identified in Table 5.7.1-1.
- f. Records of reactor tests and experiments.
- g. Records of training and qualification for current members of the unit staff.
- h. Records of in-service inspections performed pursuant to these Technical Specifications.
- i. Records of Quality Assurance activities required by the Operational Quality Assurance Manual not listed in Section 6.10.1.
- j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
- k. Records of meetings of the PSRC and the SRC.
- l. Records of the service lives of all hydraulic and mechanical snubbers including the date at which the service life commences and associated installation and maintenance records.
- m. Records of analyses required by the radiological environmental monitoring program.
- n. Records of reviews performed for changes made to the OFFSITE DOSE CALCULATION MANUAL and the PROCESS CONTROL PROGRAM.

ADMINISTRATIVE CONTROLS

6.11 RADIATION PROTECTION PROGRAM

6.11.1 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.

6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2) of 10 CFR 20, each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr 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 level in the area has 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 unit Health Physicist in the Radiation Work Permit.

6.12.2 In addition to the requirements of 6.12.1, areas accessible to personnel with radiation levels such that a major portion of the body could receive in one 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 Shift Superintendent on duty and/or the unit Radiation Control Supervisor. 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 one hour a dose in

^{*}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.

ADMINISTRATIVE CONTROLS

6.12 HIGH RADIATION AREA (Continued)

excess of 1000 mrem* that are located within large areas, such as the containment, 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 positive exposure control over the activities within the area.

6.13 PROCESS CONTROL PROGRAM (PCP)

Changes to the PCP:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.2n. 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 PSRC and the approval of the General Manager, Plant Operations.

6.14 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 6.10.2n. 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 the PSRC and the approval of the General Manager, Plant Operations.
- 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.

*Measurement made at 18" from source of radioactivity.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 87 TO FACILITY OPERATING LICENSE NO. NPF-29

ENTERGY OPERATIONS, INC., ET AL.

GRAND GULF NUCLEAR STATION, UNIT 1

DOCKET NO. 50-416

1.0 INTRODUCTION

By letter dated August 13, 1991, Entergy Operations, Inc. (the licensee) proposed to incorporate programmatic controls for radiological effluents and radiological environmental monitoring in the Administrative Controls section of the Technical Specifications (TS), consistent with the requirements of 10 CFR 20.106, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50. At the same time, the licensee proposed to transfer the procedural details of the Radiological Effluent Technical Specifications (RETS) from the TS to the Offsite Dose Calculation Manual (ODCM) or to the Process Control Program (PCP) for solid radioactive wastes, as appropriate. With these changes, the specifications related to RETS reporting requirements were simplified. Finally, changes to the definitions of the ODCM and PCP were proposed consistent with these changes. Guidance on these proposed changes was provided to all power reactor licensees and applicants by Generic Letter 89-01, dated January 31, 1989.

2.0 EVALUATION

The licensee's proposed changes to the TS are in accordance with the guidance provided in Generic Letter (GL) 89-01 and are addressed below.

- (1) The licensee has proposed to incorporate programmatic controls for radioactive effluents and radiological environmental monitoring in TS 6.8.4, "Procedures and Programs," of the TS, in accordance with the guidance provided in GL 89-01. The programmatic controls establish, implement, and maintain programs to provide operating procedures for controlling radioactive effluents consistent with the requirements of 10 CFR 20.106, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50.
- (2) The licensee has confirmed that detailed procedural requirements addressing Limiting Conditions for Operation, their applicability, remedial actions, associated surveillance requirements, and reporting requirements for the following specifications have been prepared to implement the relocation of these procedural details to the ODCM or PCP. These changes to the ODCM and PCP have been prepared in

accordance with the new Administrative Controls in the TS on changes to the ODCM and PCP, so that they will be implemented in the ODCM or PCP when this amendment is issued.

<u>SPECIFICATION</u>	<u>TITLE</u>
3/4.3.7.11	RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION
3/4.3.7.12	RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION
3/4.11.1.1	RADIOACTIVE EFFLUENTS: LIQUID EFFLUENTS CONCENTRATION
3/4.11.1.2	RADIOACTIVE EFFLUENTS: LIQUID EFFLUENTS DOSE
3/4.11.1.3	RADIOACTIVE EFFLUENTS: LIQUID WASTE TREATMENT
3/4.11.2.1	RADIOACTIVE EFFLUENTS: GASEOUS EFFLUENTS DOSE RATE
3/4.11.2.2	RADIOACTIVE EFFLUENTS: DOSE - NOBLE GASES
3/4.11.2.3	RADIOACTIVE EFFLUENTS: DOSE - IODINE-131, IODINE-133, TRITIUM, AND RADIONUCLIDES IN PARTICULATE FORM
3/4.11.2.4	RADIOACTIVE EFFLUENTS: GASEOUS RADWASTE TREATMENT
3/4.11.2.5	RADIOACTIVE EFFLUENTS: VENTILATION EXHAUST TREATMENT
3/4.11.3	RADIOACTIVE EFFLUENTS: SOLID RADIOACTIVE WASTES
3/4.11.4	RADIOACTIVE EFFLUENTS: TOTAL DOSE
3/4.12.1	RADIOACTIVE ENVIRONMENTAL MONITORING: MONITORING PROGRAM
3/4.12.2	RADIOACTIVE ENVIRONMENTAL MONITORING: LAND USE CENSUS
3/4.12.3	RADIOACTIVE ENVIRONMENTAL MONITORING: INTERLABORATORY COMPARISON PROGRAM
6.9.1.6 & 7	ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
6.9.1.8 & 9	SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
6.15	MAJOR CHANGES TO LIQUID, GASEOUS, AND SOLID RADWASTE TREATMENT SYSTEMS

These procedural details removed from the TS are not required by the Commission's regulations to be included in TS. They have been prepared for incorporation in the ODCM or PCP upon issuance of this license

amendment and may be subsequently changed by the licensee without prior NRC approval. Changes to the ODCM and PCP are documented and will be retained for the duration of the operating license in accordance with TS 6.10.20.

- (3) The licensee has proposed replacing the existing specifications in the Administrative Controls section of the TS for the Annual Radiological Environmental Operating Report, TS 6.9.1.6 for the Semiannual Radioactive Effluent Release Report, TS 6.9.1.7, for the Process Control Program, TS 6.13, and for the Offsite Dose Calculation Manual, TS 6.14, with the updated TS that were provided in GL 89-01.

The following specifications included under the heading of Radioactive Effluents have been retained in the TS in accordance with the guidance of GL 89-01.

<u>SPECIFICATION</u>	<u>TITLE</u>
3/4.3.7.12	MAIN CONDENSER OFFGAS TREATMENT SYSTEM - EXPLOSIVE GAS MONITORING SYSTEM
3/4.11.1.4	LIQUID HOLDUP TANKS
3/4.11.2.5	EXPLOSIVE GAS MIXTURE
3/4.11.2.7	MAIN CONDENSER

On the basis of the above, the staff finds that the changes in the TS amendment request are consistent with the guidance provided in GL 89-01. Because the control of radioactive effluents continues to be limited in accordance with operating procedures that must satisfy the regulatory requirements of 10 CFR Part 50, the NRC staff concludes that this change is administrative in nature and therefore has no impact on plant safety. Accordingly, the staff finds the proposed changes acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Mississippi State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

These amendments involve changes in recordkeeping, reporting, or administrative procedures and program requirements. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: W. Meinke
T. Dunning
M. Sykes

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