



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-382

WATERFORD STEAM ELECTRIC STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 146
License No. NPF-38

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Entergy Operations, Inc. (the licensee) dated October 16, 1996, as supplemented by letters dated December 22, 1997, and May 27, 1998, 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-38 is hereby amended to read as follows:

- (2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 146 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee 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 to be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Chandu P. Patel

Chandu P. Patel, Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: October 19, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 146

TO FACILITY OPERATING LICENSE NO. NPF-38

DOCKET NO. 50-382

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 areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE PAGES

6-1
6-2
6-2a
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INSERT PAGES

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ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The General Manager Plant Operations shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

6.1.2 The Shift Superintendent, or during his absence from the control room, a designated individual shall be responsible for the control room command function. A management directive to this effect, signed by the Vice President Operations, shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

6.2.1 OFFSITE AND ONSITE ORGANIZATIONS

Onsite and offsite organizations shall be established for unit operation and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting the safety of the nuclear power plant.

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

6.2.2 UNIT STAFF

- a. Each on-duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1;

ADMINISTRATIVE CONTROLS

UNIT STAFF (Continued)

- b. At least one licensed Operator shall be in the control room when fuel is in the reactor. In addition, while the reactor is in MODE 1,2,3, or 4, at least one licensed Senior Operator shall be in the control room.
- c. A Health Physics Technician* shall be on-site when fuel is in the reactor;
- d. ALL CORE ALTERATIONS shall be observed and directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.
- e. Administrative procedures shall be developed and implemented to limit the working hours of individuals of the nuclear power plant operating staff who are responsible for manipulating plant controls or for adjusting on-line systems and equipment affecting plant safety which would have an immediate impact on public health and safety.

Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work an 8 or 12 hour day, nominal 40 hour week while the plant is operating. However, in the event that unforeseen problems require substantial amounts of overtime to be used, the following guidelines shall be followed:

1. An individual shall not be permitted to work more than 16 hours straight, excluding shift turnover time.
2. An individual shall not be permitted to work more than 16 hours in any 24-hour period, nor more than 24 hours in any 48-hour period, nor more than 72 hours in any 7-day period, all excluding shift turnover time.
3. A break of at least 8 hours shall be allowed between work periods, including shift turnover time.

* This requirement tolerates Health Physics Technician unexpected absences for not more than 2 hours, provided management takes immediate action to fill the required Health Physics Technician position.

ADMINISTRATIVE CONTROLS

UNIT STAFF (Continued)

4. Except during extended shutdown periods, the use of overtime shall be considered on an individual basis and not for the entire staff on a shift.

Any deviation from the above guidelines shall be authorized by the General Manager Plant Operations, or designee, or higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation. Controls shall be included in the procedures such that individual overtime will be reviewed monthly by the General Manager Plant Operations or his designee to assure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized.

- f. The Operations Manager or the Operations Superintendent shall hold a senior reactor operator license.

TABLE 6.2-1

MINIMUM SHIFT CREW COMPOSITION

POSITION	NUMBER OF INDIVIDUALS REQUIRED TO FILL POSITION	
	MODE 1, 2, 3, OR 4	MODE 5 OR 6
SS	1*	1
SRO	1*	None
RO	2	1
AO	2	1
STA	1*	None

SS	-	Shift Superintendent with a Senior Operator License
SRO	-	Individual with a Senior Operator License
RO	-	Individual with an Operator License
AO	-	Auxiliary Operator
STA	-	Shift Technical Advisor

Except for the Shift Superintendent, the shift crew composition may be one less than the minimum requirements of Table 6.2-1 for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements of Table 6.2-1. This provision does not permit any shift crew position to be unmanned upon shift change due to an oncoming shift crewman being late or absent.

During any absence of the Shift Superintendent from the control room while the unit is in MODE 1, 2, 3 or 4, an individual (other than the Shift Technical Advisor) with a valid Senior Operator license shall be designated to assume the control room command function. During any absence of the Shift Superintendent from the control room while the unit is in MODE 5 or 6, an individual with a valid Senior Operator or Operator license shall be designated to assume the control room command function.

*An individual with SRO/STA qualifications can satisfy the SS/STA or SRO/STA position requirements simultaneously.

ADMINISTRATIVE CONTROLS

6.2.3 Not Used

6.2.4 SHIFT TECHNICAL ADVISOR

6.2.4.1 The Shift Technical Advisor shall provide advisory technical support to the Shift Superintendent in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. The STA shall meet the requirements of either Option 1 or 2 as shown below:

- a. Option 1 - Combined SRO/STA Position. This option is satisfied by assigning an individual with the following qualifications to each operating shift crew as one of the SRO's required by 10 CFR 50.54(m) (2) (i):

*Not responsible for sign-off function.

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

- j. OFFSITE DOSE CALCULATION MANUAL implementation.
- k. Quality Assurance Program for effluent and environmental monitoring, using the guidance in Regulatory Guide 1.21, Revision 1, June 1974 and Regulatory Guide 4.1, Revision 1, April 1975.

6.8.2 Not Used

6.8.3 Not Used

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

a. Primary Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include the containment spray, safety injection, hydrogen analyzer, and the post-accident sampling 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:

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

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

c. Secondary Water Chemistry

A program for monitoring of secondary water chemistry to inhibit steam generator tube degradation. This program shall include:

1. Identification of a sampling schedule for the critical variables and control points for these variables,
2. Identification of the procedures used to measure the values of the critical variables,
3. Identification of process sampling points, which shall include monitoring the discharge of the condensate pumps for evidence of condenser in-leakage,
4. Procedures for the recording and management of data,
5. Procedures defining corrective actions for all off-control point chemistry conditions, and
6. A procedure identifying (a) the authority responsible for the interpretation of the data, and (b) the sequence and timing of administrative events required to initiate corrective action.

d. 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, and
3. Provisions for maintenance of sampling and analysis equipment.

e. Basemat Monitoring

A program for monitoring of the Nuclear Plant Island Structure (NPIS) Common Foundation Basemat to ensure the continued integrity of the Basemat. The program shall include:

1. settlement of the basemat
2. changes in ground water chemistry that could effect corrosion of reinforcing steel
3. seasonal variation in ground water levels
4. monitoring of significant cracking in the basemat.

ADMINISTRATIVE CONTROLS

CORE OPERATING LIMITS REPORT COLR (Continued)

6.9.1.11.2 The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met.

6.9.1.11.3 The CORE OPERATING LIMITS REPORT, including any mid-cycle revisions or supplements thereto, shall be provided upon issuance, for each reload cycle, to the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector.

SPECIAL REPORTS

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

6.10 Not Used

Page 6-21
Not Used

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 10 CFR Part 20.1601, each high radiation area in which the intensity of radiation is greater than 100 mrem/h but less than 1000 mrem/h shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP)*. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

- a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.

*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

HIGH RADIATION AREA (Continued)

- 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 facility Radiation Protection Superintendent-Nuclear in the RWP.

6.12.2 In addition to the requirements of Specification 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* but less than 500 rads** 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 health physics supervision/designee. Doors shall remain locked except during periods of access by personnel under an approved RWP which shall specify the dose rate levels in the immediate work area and the maximum allowable stay time for individuals in that area. For individual areas accessible to personnel with radiation levels such that a major portion of the body could receive in 1 hour a dose in excess of 1000 mrem* but less than 500 rads** that are located within large areas, such as PWR 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, direct or remote (such as use of closed circuit TV cameras) continuous surveillance 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)

6.13.1 The PCP shall be approved by the Commission prior to implementation.

6.13.2 Licensee-initiated changes to the PCP:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.3p. This documentation shall contain:
 - 1. Sufficient information to support the change together with the appropriate analyses or evaluation justifying the change(s) and

*Measurement made at 30 centimeters from the radiation source or from any surface that the radiation penetrates.

**Measurement made at 1 meter from the radiation source or from any surface that the radiation penetrates.

ADMINISTRATIVE CONTROLS

PROCESS CONTROL PROGRAM (Continued)

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 PORC and the approval of the General Manager Plant Operations.

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

- 6.14.1 The ODCM shall be approved by the Commission prior to implementation.
- 6.14.2 Licensee-initiated changes to the ODCM:
 - a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.3p. This document 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 pursuant to 10 CFR 20.1302, 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 PORC 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 Annual 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.

6.15 CONTAINMENT LEAKAGE RATE TESTING PROGRAM

A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995.

The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a , is 44 psig.

The maximum allowable containment leakage rate, L_a , is 0.5% of containment air weight per day at P_a .

CONTAINMENT LEAKAGE RATE TESTING PROGRAM (Continued)

Leakage rate acceptance criteria are:

- a. Overall containment leakage rate acceptance criteria is $\leq 1.0 L_a$. During the first unit startup following each test performed in accordance with this program, the overall containment leakage rate acceptance criteria are $\leq 0.60 L_a$ for the Type B and Type C tests and $\leq 0.75 L_a$ for Type A tests.
- b. Air lock acceptance criteria are:
 1. Overall air lock leakage rate is $\leq 0.05 L_a$ when tested at $\geq P_a$.
 2. Leakage rate for each door seal is $\leq 0.005 L_a$ when pressurized to ≥ 10 psig.
- c. Secondary containment bypass leakage rate acceptance criteria is $\leq 0.06 L_a$ when tested at $\geq F_a$.
- d. Containment purge valves with resilient seals acceptance criteria is $\leq 0.06 L_a$ when tested at $\geq P_a$.

The provisions of Specification 4.0.2 do not apply to the test frequencies specified in the Containment Leakage Rate Testing Program.

The provisions of Specification 4.0.3 are applicable to the Containment Leakage Rate Testing Program.