

ATTACHMENT 3

Proposed Changes to the Technical Specifications  
for Implementing the New Requirements of 10CFR20

TSI - 044

TSI - 053

## DEFINITIONS

### MASTER RELAY TEST

1.17 A MASTER RELAY TEST shall be the energization of each master relay and verification of OPERABILITY of each relay. The MASTER RELAY TEST shall include a continuity check of each associated slave relay.

### MEMBER(S) OF THE PUBLIC *see attached*

~~1.18 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 licensee, its contractors, or vendors. Also excluded from this category are persons who enter the site to service equipment or to make deliveries. This category does include persons who use portions of the site for recreational, occupational, or other purposes not associated with the plant.~~

### OFFSITE DOSE CALCULATION MANUAL

1.19 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 Annual Radioactive Effluent Release Reports required by Specification 6.9.1.3 and 6.9.1.4.

### OPERABLE - OPERABILITY

1.20 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 MODE - MODE

1.21 An OPERATIONAL MODE (i.e., MODE) shall correspond to any one inclusive combination of core reactivity condition, power level, and average reactor coolant temperature specified in Table 1.2.

### PHYSICS TESTS

1.22 PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation: (1) described in Chapter 14.0 of the FSAR, (2) authorized under the provisions of 10 CFR 50.59, or (3) otherwise approved by the Commission.

### PRESSURE BOUNDARY LEAKAGE

1.23 PRESSURE BOUNDARY LEAKAGE shall be leakage (except steam generator tube leakage) through a nonisolable fault in a Reactor Coolant System component body, pipe wall, or vessel wall.

DEFINITIONSSITE BOUNDARY *See attached*

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

SLAVE RELAY TEST

1.32 A SLAVE RELAY TEST shall be the energization of each slave relay and verification of OPERABILITY of each relay. The SLAVE RELAY TEST shall include a continuity check, as a minimum, of associated testable actuation devices.

SOURCE CHECK

1.34 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to a source of increased radioactivity.

STAGGERED TEST BASIS

1.35 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, and
- b. The testing of one system, subsystem, train, or other designated component at the beginning of each subinterval.

THERMAL POWER

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

TRIP ACTUATING DEVICE OPERATIONAL TEST

1.37 A TRIP ACTUATING DEVICE OPERATIONAL TEST shall consist of operating the Trip Actuating Device and verifying OPERABILITY of alarm, interlock and/or trip functions. The TRIP ACTUATING DEVICE OPERATIONAL TEST shall include adjustment, as necessary, of the Trip Actuating Device so that it actuates at the required Setpoint within the required accuracy.

UNIDENTIFIED LEAKAGE

1.38 UNIDENTIFIED LEAKAGE shall be all leakage which is not IDENTIFIED LEAKAGE or CONTROLLED LEAKAGE.

UNRESTRICTED AREA *See attached*

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

1.18 MEMBER(S) OF THE PUBLIC means an individual in an UNRESTRICTED AREA. This category may also include individuals using portions of the site for recreational, occupational or other purposes not associated with the plant. However, an individual is not a member of the public during any period in which the individual receives an occupational dose.

1.31 SITE BOUNDARY means that line beyond which the land or property is not owned, leased or otherwise controlled by the licensee.

1.39 UNRESTRICTED AREA means any area, beyond the SITE BOUNDARY, access to which is neither limited nor controlled by the licensee.

### 3/4.11 RADIOACTIVE EFFLUENTS

#### BASES

#### 3/4.11.1 LIQUID EFFLUENTS

##### 3/4.11.1.1 DELETED

##### 3/4.11.1.2 DELETED

##### 3/4.11.1.3 DELETED

##### 3/4.11.1.4 LIQUID HOLDUP TANKS

The tanks covered by this specification include all those outdoor radwaste tanks that are not surrounded by liners, dikes, or walls capable of holding the tank contents and that do not have tank overflows and surrounding area drains connected to the Liquid Waste Processing System.

*10 times* Restricting <sup>to 10 Curies</sup> 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 2X, Column 2, at the nearest potable water supply and the nearest surface water supply in an UNRESTRICTED AREA.

#### 3/4.11.2 GASEOUS EFFLUENTS

##### 3/4.11.2.1 DELETED

##### 3/4.11.2.2 DELETED

##### 3/4.11.2.3 DELETED

##### 3/4.11.2.4 DELETED

##### 3/4.11.2.5 EXPLOSIVE GAS MIXTURE

This specification is provided to ensure that the concentration of potentially explosive gas mixtures contained in the GASEOUS WASTE PROCESSING SYSTEM is maintained below the flammability limit of oxygen. The concentration of oxygen in the inlet header to the GASEOUS WASTE PROCESSING SYSTEM is continuously monitored and a high level alarm isolates the GASEOUS WASTE PROCESSING SYSTEM. Provision is made to manually purge the system with nitrogen and/or isolate the source of oxygen. Maintaining the concentration of oxygen below its flammability limit (4% by volume) 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. Because of analyzer variabilities, a safety margin of 1% by volume is applied. Therefore, the limiting condition for operation is maintaining oxygen concentration below 3% by volume.

## 5.0 DESIGN FEATURES

### 5.1 SITE

#### EXCLUSION AREA

5.1.1 The Exclusion Area shall be as shown in Figure 5.1-1.

#### LOW POPULATION ZONE

5.1.2 The Low Population Zone shall be as shown in Figure 5.1-2.

#### MAP DEFINING UNRESTRICTED AREAS AND SITE BOUNDARY FOR RADIOACTIVE GASEOUS AND LIQUID EFFLUENTS

*See Attached*

~~5.1.3 Information regarding radioactive gaseous and liquid effluents, which will allow identification of structures and release points as well as definition of UNRESTRICTED AREAS within the SITE BOUNDARY that are accessible to MEMBERS OF THE PUBLIC, shall be as shown in Figures 5.1-3 and 5.1-4.~~

~~The definition of UNRESTRICTED AREA used in implementing these Technical Specifications has been expanded over that in 10 CFR 20.3(a)(17). The UNRESTRICTED AREA boundary may coincide with the Exclusion (fenced) Area boundary, as defined in 10 CFR 100.3(a), but the UNRESTRICTED AREA does not include areas over water bodies. The concept of UNRESTRICTED AREAS, established at or beyond the SITE BOUNDARY, is utilized in the Limiting Conditions for Operation to keep levels of radioactive materials in liquid and gaseous effluents as low as is reasonably achievable, pursuant to 10 CFR 50.36a.~~

### 5.2 CONTAINMENT

#### CONFIGURATION

5.2.1 The reactor containment building is a steel-lined, reinforced concrete building of cylindrical shape, with a dome roof and having the following design features:

- a. Nominal inside diameter = 150 feet.
- b. Nominal inside height = 241.25 feet.
- c. Minimum thickness of concrete walls = 4 feet.
- d. Minimum thickness of concrete roof = 3 feet.
- e. Minimum thickness of concrete floor mat = 18 feet.
- f. Nominal thickness of steel liner = 3/8 inches.
- g. Net free volume =  $3.56 \times 10^6$  cubic feet.

#### DESIGN PRESSURE AND TEMPERATURE

5.2.2 The reactor containment building is designed and shall be maintained for a maximum internal pressure of 56.5 psig and a temperature of 286°F.

5.1.3 Figures 5.1-3 and 5.1-4 identify the gaseous effluent release points and illustrate the controlled area within the SITE BOUNDARY that is accessible to MEMBERS OF THE PUBLIC. The major structures within the restricted area are annotated as a point of reference. UNRESTRICTED AREA as defined in 10 CFR 20.1003 and established at or beyond the SITE BOUNDARY, is utilized in the Limiting Conditions for Operation to keep levels of radioactive materials in liquid and gaseous effluents as low as is reasonably achievable, pursuant to 10 CFR 50.36a.



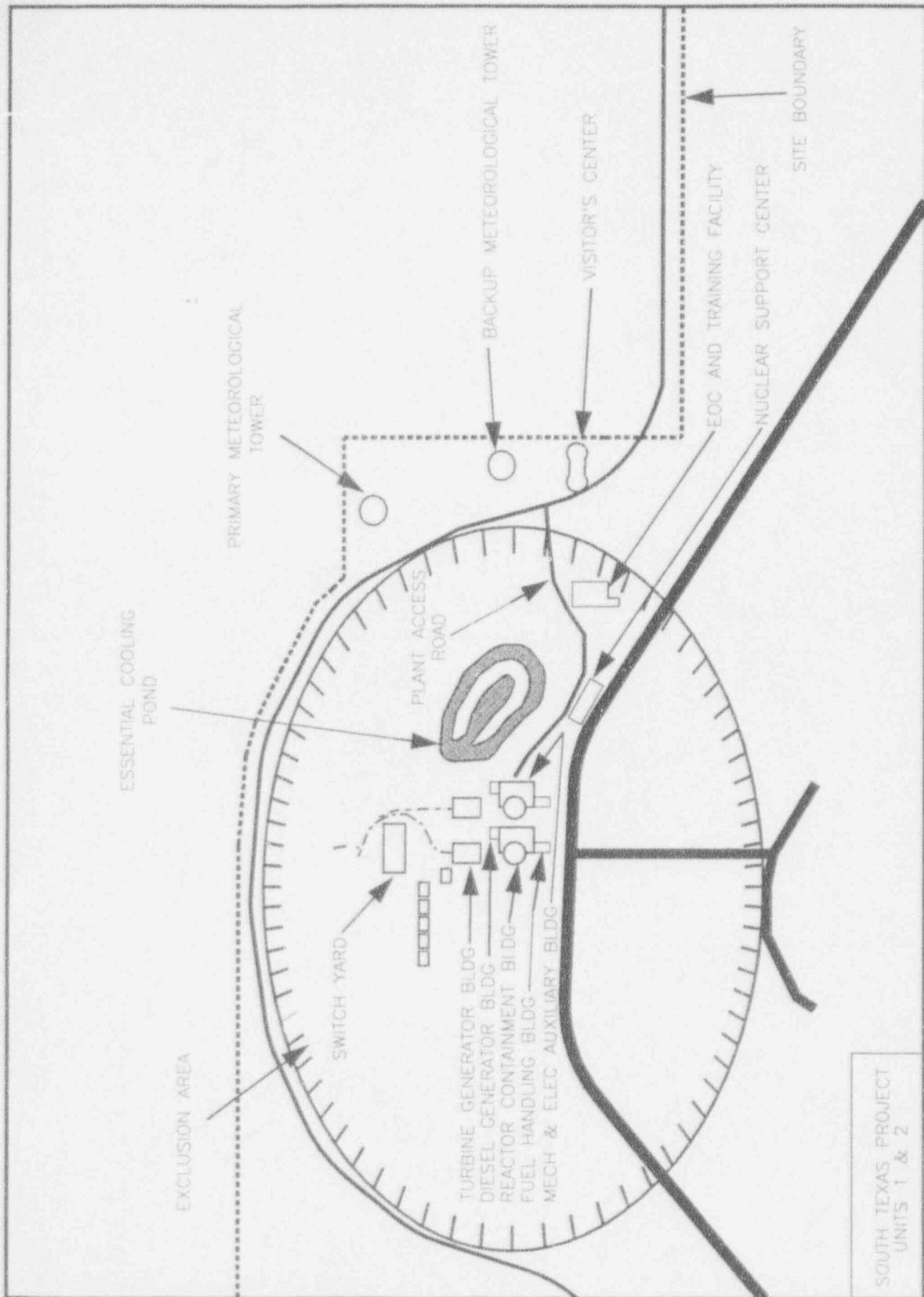


FIGURE 5.1-1  
EXCLUSION AREA

E-0004 DWG  
REV 1



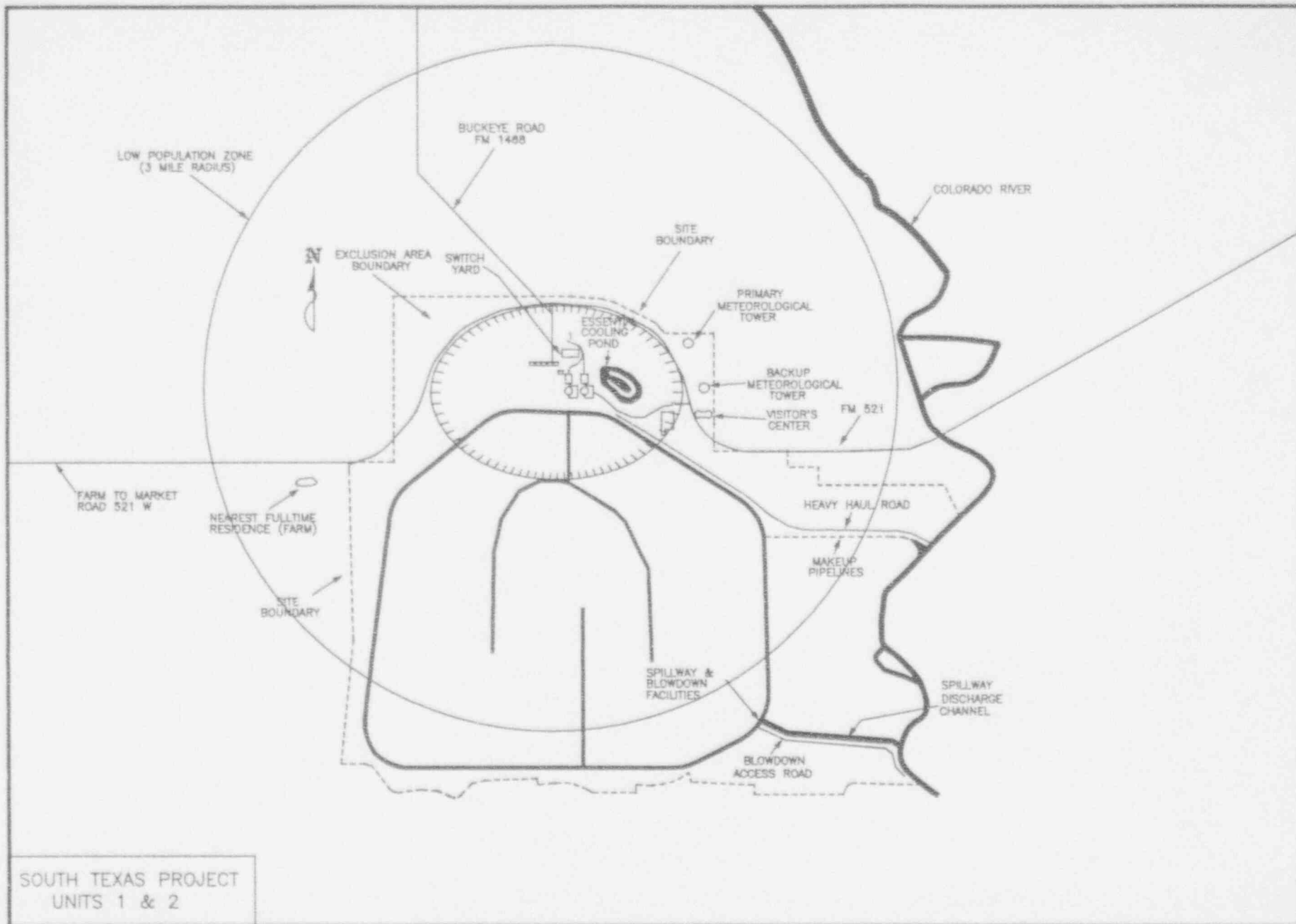


FIGURE 5.1-2  
LOW POPULATION AREA

STP E-0007  
REV 0

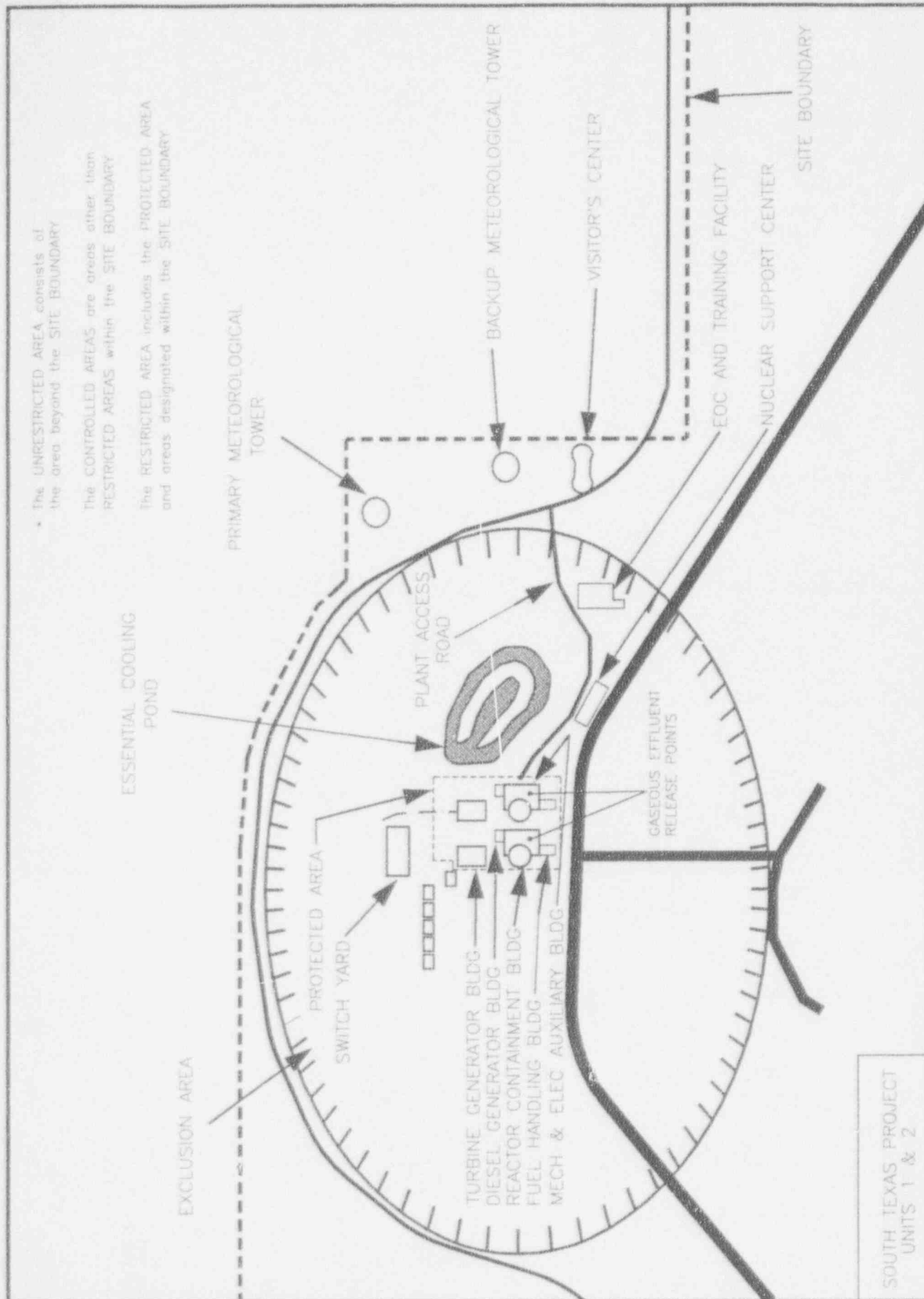


FIGURE 5.1-3  
UNRESTRICTED AREA\* AND SITE BOUNDARY FOR RADIOACTIVE GASEOUS EFFLUENTS  
(SEE ALSO FIGURE 5.1-4)

E-0009.DWG  
REV 2

SOUTH TEXAS PROJECT  
UNITS 1 & 2

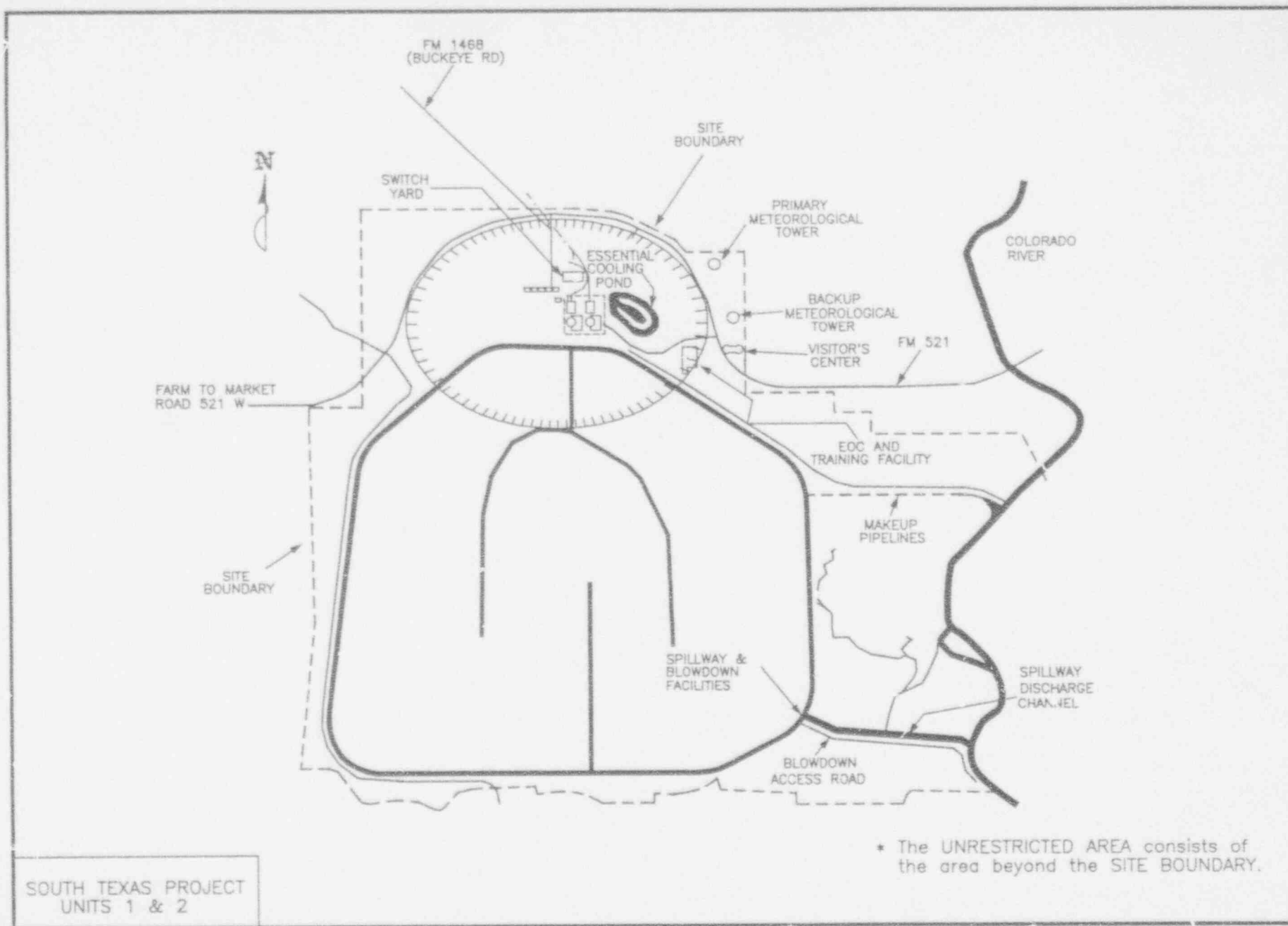


FIGURE 5.1-4  
UNRESTRICTED AREA\* AND SITE BOUNDARY FOR RADIOACTIVE LIQUID EFFLUENTS

STP E-0006  
REV 1

## ADMINISTRATIVE CONTROLS

### PROCEDURES AND PROGRAMS (Continued)

#### e. Accident Monitoring Instrumentation

A program which will ensure the capability to monitor plant variables and systems operating status during and following an accident. This program shall include those instruments provided to indicate system operating status and furnish information regarding the release of radioactive materials (Category 2 and 3 instrumentation as defined in Regulatory Guide 1.97, Revision 2) and provide the following:

- 1) Preventive maintenance and periodic surveillance of instrumentation,
- 2) Pre-planned operating procedures and backup instrumentation to be used if one or more monitoring instruments become inoperable, and
- 3) Administrative procedures for returning inoperable instruments to OPERABLE status as soon as practicable.

#### f. Component Cyclic or Transient Limit

The Component Cyclic and Transient Limit Program provides controls to track cyclic/transient plant conditions to assure that the cumulative fatigue usage factor does not exceed 1.0 for those components for which fatigue analysis was performed in accordance with Section III of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code. The cyclic and transient limits used in the design are identified in the Updated Final Safety Analysis Report.

#### g. 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~~<sup>20.1001-20.2401</sup>, Appendix B, Table ~~II~~<sup>2</sup>, Column 2,  
*10 times*
- 3) Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR ~~20.106~~<sup>1302</sup> 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 the radioactive materials in liquid effluents released from each unit to UNRESTRICTED AREAS conforming to Appendix I to 10 CFR Part 50,
- 5) Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days,
- 6) Limitations on the operability and use of the liquid and gaseous effluent treatment systems to ensure that the appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a 31-day period would exceed 2 percent of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR Part 50,
- 7) Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the SITE BOUNDARY ~~conforming to the doses associated with 10 CFR Part 20, Appendix B, Table II, Column 1, conforming to the following:~~  
*(see attached)*
- 8) Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,
- 9) Limitations on the annual and quarterly doses to a MEMBER OF THE PUBLIC from Iodine-131, Iodine-133, tritium, and all radio-nuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50, 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.

TS 6.8.3.g.7) (cont)

- a. For noble gases: Less than or equal to a dose rate of 500 mrem/yr to the total body and less than or equal to a dose rate of 3000 mrem/yr to the skin, and
- b. For Iodine-131, for Iodine-133, for tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: Less than or equal to a dose rate of 1500 mrem/yr to any organ, and
- c. The radioactivity release rate and the current or default meteorological data averaged over one hour should be used for dose rate calculations."

## ADMINISTRATIVE CONTROLS

### STARTUP REPORT (Continued)

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.

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 3 months until all three events have been completed.

### ANNUAL REPORTS\*

6.9.1.2 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.

Reports required on an annual basis shall include:

*mem in one  
calendar year  
at STPEGS*

- a. A tabulation on an annual basis of the number of station, utility, and other ~~personnel~~ <sup>individuals, for whom monitoring was required,</sup> (including contractors) receiving exposures greater than 100 ~~mrem/yr~~ and their associated man-rem exposure according to work and job functions\*\* (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, thermoluminescent dosimeter (TLD), or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole-body dose received from external sources should be assigned to specific major work functions; and
- b. The results of specific activity analyses in which the primary coolant exceeded the limits of Specification 3.4.8. The following information shall be included: (1) Reactor power history starting

\*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.

\*\*This tabulation supplements the requirements of §20.407 <sup>2206(b)</sup> of 10 CFR Part 20.



## ADMINISTRATIVE CONTROLS

### 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 RECORD RETENTION

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

6.10.2 The following records shall be retained for at least 5 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;
- 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;~~
- f. g. Records of sealed source and fission detector leak tests and results; and
- g. h. Records of annual physical inventory of all sealed source material of record.

6.10.3 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 <sup>dozes received by</sup> ~~radiation exposure~~ for all individuals <sup>for whom monitoring</sup> ~~entering radiation control areas;~~  
~~was required~~
- d. Records of gaseous and liquid radioactive material released to the environs;

## ADMINISTRATIVE CONTROLS

### 6.10 RECORD RETENTION (Continued)

- e. Records of transient or operational cycles for those unit components identified in the UFSAR;
- f. Records of reactor tests and experiments;
- g. Records of training and qualification for current members of the unit staff;
- h. Records of inservice inspections performed pursuant to these Technical Specifications;
- i. Records of quality assurance activities required by the Operational Quality Assurance Plan;
- 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 PORC and the NSRB;
- l. Records of the service lives of all hydraulic and mechanical snubbers required by Specification 3.7.9 including the date at which the service life commences and associated installation and maintenance records;
- m. Records of secondary water sampling and water quality; and
- n. Records of analyses required by the Radiological Environmental Monitoring Program that would permit evaluation of the accuracy of the analysis at a later date. This should include procedures effective at specified times and QA records showing that these procedures were followed.
- o. Records of reviews performed for changes made to the OFFSITE DOSE CALCULATION MANUAL AND THE PROCESS CONTROL PROGRAM.
- p. *Records of radioactive shipments.*

### 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 Pursuant to paragraph ~~20.203(e)(5)~~ <sup>20.1601(c)</sup> of 10 CFR Part ~~20~~ <sup>20.1601(a)(2)</sup>, in lieu of the "control device" or "alarm signal" required by paragraph ~~20.203(e)~~ <sup>20.1602(a)</sup>, each high radiation area, as defined in 10 CFR Part 20, in which the intensity of

# ADMINISTRATIVE CONTROLS

## HIGH RADIATION AREA (Continued)

*mrem/h 30cm (12 in.)*

radiation is equal to or less than 1000 ~~mR/h~~ at 45 cm (18 in.) from the radiation source or from any surface which the radiation penetrates 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). Individuals qualified in radiation protection procedures (e.g., Health Physics Technician) or personnel continuously escorted by such individuals may be exempt from the RWP issuance requirement during the performance of their assigned duties in high radiation areas with exposure rates equal to or less than 1000 ~~mR/h~~, provided they are otherwise following plant radiation protection procedures for entry into such high radiation areas. 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; or
- b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel have been made knowledgeable of them; or *individuals*
- c. An individual qualified in radiation protection procedures with a radiation dose rate monitoring device, who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the Health and Safety Services Manager in the RWP. *individuals by health physics supervision*

6.12.2 In addition to the requirements of Specification 6.12.1, areas accessible to personnel with radiation levels greater than 1000 ~~mR/h~~ at 45 cm (18 in.) from the radiation source or from any surface which the radiation penetrates shall be provided with locked doors to prevent unauthorized entry, and the keys shall be maintained under the administrative control of the Shift Supervisor on duty and/or health physics supervision. 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 areas and the maximum allowable stay time for individuals in that area. In lieu of the stay time specification of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities being performed within the area. *mrem/h at 30cm but less than 500 Rads in one hour at one meter*

For individual high radiation areas accessible to personnel with radiation levels of greater than 1000 ~~mR/h~~ that are located within large areas, such as PWR containment, where no enclosure exists for purposes of locking, and where no enclosure can be reasonably constructed around the individual area, that individual area shall be barricaded, conspicuously posted, and a flashing light shall be activated as a warning device. *isolated mrem/h at 30cm but less than 500 Rads in one hour at one meter*

## ADMINISTRATIVE CONTROLS

### 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 6.10.3.o. 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 PORC and the approval of the Plant Manager.

### 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 6.10.3.o. This documentation shall contain:
  - 1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and  
T.S. 6.8.3.9
  - 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 PORC and the approval of the Plant Manager.
- c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the 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.