February 17, 1989

Docket No. 40-498

Mr. J. H. Goldberg
Group Vice-President, Nuclear
Houston Lighting & Power Company
P.O. Box 1700
Houston, Texas 77001

Dear Mr. Goldberg:

SUBJECT: CORRECTION TO AMENDMENT NO. 4 TO FACILITY OPERATING LICENSE NO. NPF-76, SOUTH TEXAS PROJECT, UNIT 1

On December 29, 1988, the Commission issued Amendment No. 4 to Facility Operating License No. NPF-76 for the South Texas Project, Unit 1. The amendment changed the Unit 1 Technical Specifications (TS) to the Combined TS for Units 1 and 2, added a requirement which places the positive displacement pump in a lock-out condition during modes 4, 5 and 6 to prevent cold overpressurization, added a reactor coolant pump seal isolation header pressure interlock and made changes to the administrative section of the TS.

The Combined TS issued with the Unit 2 low power license were complete. However, several TS pages with the vertical lines indicating the Unit 1 changes were inadvertently omitted from the amendment package. The pages are as follows: 2-2, 3/4 1-24, 3/4 2-4, 3/4 8-10, 3/4 8-13, 5-2 and 5-3. These pages are hereby enclosed, are identified by Amendment No. 4 and contain vertical lines indicating the areas of change. The corresponding overleaf pages, some of which were issued with Amendment No. 4, are also provided to maintain document completeness.

Please accept our apology for any inconvenience this error may have caused you.

Sincerely,

/S/

George F. Dick, Jr., Project Manager
Project Directorate - IV,
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

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

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2.0 SAFETY LIMITS AND LIMITING SAFETY SYSTEM SETTINGS

2.1 SAFETY LIMITS

REACTOR CORE

2.1.1 The combination of THERMAL POWER, pressurizer pressure, and the highest operating loop coolant temperature (T_{avg}) shall not exceed the limits shown in Figure 2.1-1.

APPLICABILITY: MODES 1 and 2.

ACTION:

Whenever the point defined by the combination of the highest operating loop average temperature and THERMAL POWER has exceeded the appropriate pressurizer pressure line, be in HOT STANDBY within 1 hour, and comply with the requirements of Specification 6.7.1.

REACTOR COOLANT SYSTEM PRESSURE

2.1.2 The Reactor Coolant System pressure shall not exceed 2735 psig.

APPLICABILITY: MODES 1, 2, 3, 4, and 5.

ACTION:

MODES 1 and 2:

Whenever the Reactor Coolant System pressure has exceeded 2735 psig, be in HOT STANDBY with the Reactor Coolant System pressure within its limit within 1 hour, and comply with the requirements of Specification 6.7.1.

MODES 3, 4 and 5:

Whenever the Reactor Coolant System pressure has exceeded 2735 psig, reduce the Reactor Coolant System pressure to within its limit within 5 minutes, and comply with the requirements of Specification 6.7.1.

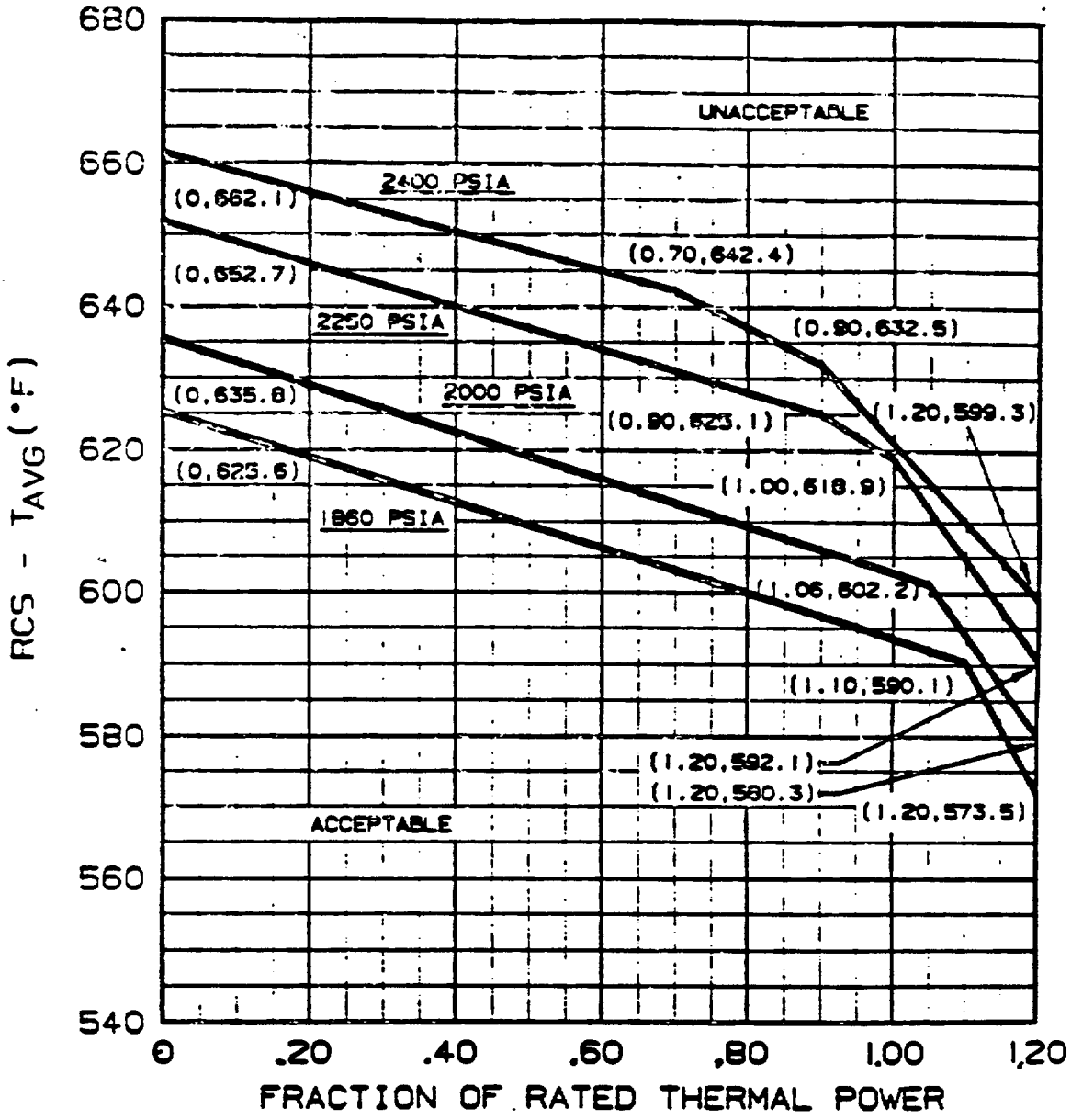

FIGURE 2.1-1

REACTOR CORE SAFETY LIMIT - FOUR LOOPS IN OPERATION

CONTROL ROD INSERTION LIMITS

LIMITING CONDITION FOR OPERATION

3.1.3.6 The control banks shall be limited in physical insertion as shown in Figure 3.1-3.

APPLICABILITY: MODES 1* and 2* **.

ACTION:

With the control banks inserted beyond the above insertion limits, except for surveillance testing pursuant to Specification 4.1.3.1.2:

a. Restore the control banks to within the limits within 2 hours, or

b. Reduce THERMAL POWER within 2 hours to less than or equal to that fraction of RATED THERMAL POWER which is allowed by the bank position using the above figure, or

c. Be in at least HOT STANDBY within 6 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.6 The position of each control bank shall be determined to be within the insertion limits at least once per 12 hours except during time intervals when the rod insertion limit monitor is inoperable, then verify the individual rod positions at least once per 4 hours.

*See Special Test Exceptions Specifications 3.10.2 and 3.10.3.

**With K_{eff} greater than or equal to 1.

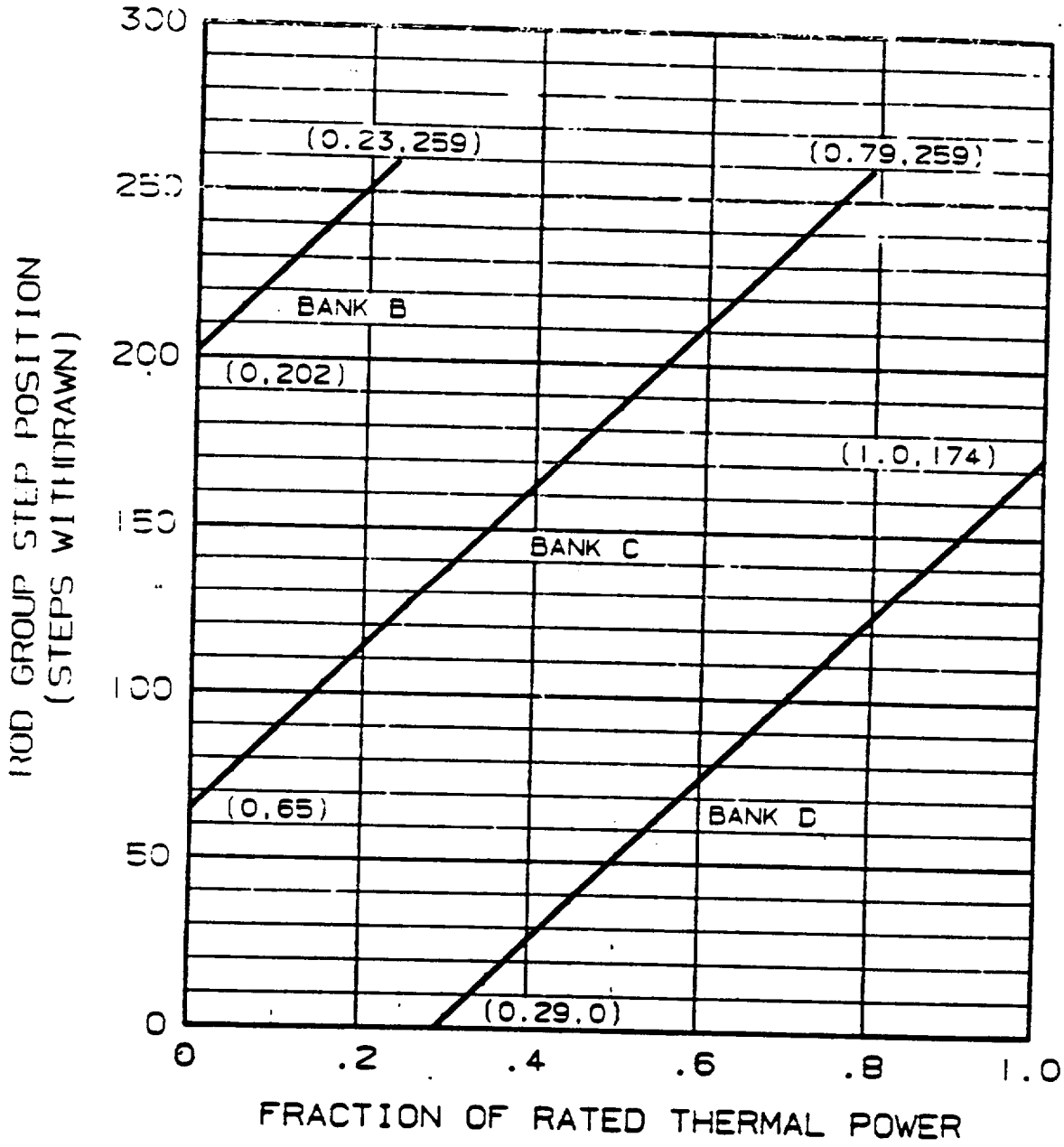

FIGURE 3.1-3

ROD BANK INSERTION LIMITS VERSUS THERMAL POWER
FOUR-LOOP OPERATION

SURVEILLANCE REQUIREMENTS (Continued)

pursuant to Specification 4.2.1.3 above or by linear interpolation between the most recently measured value and the predicted value at the end of the cycle life. The provisions of Specification 4.0.4 are not applicable.

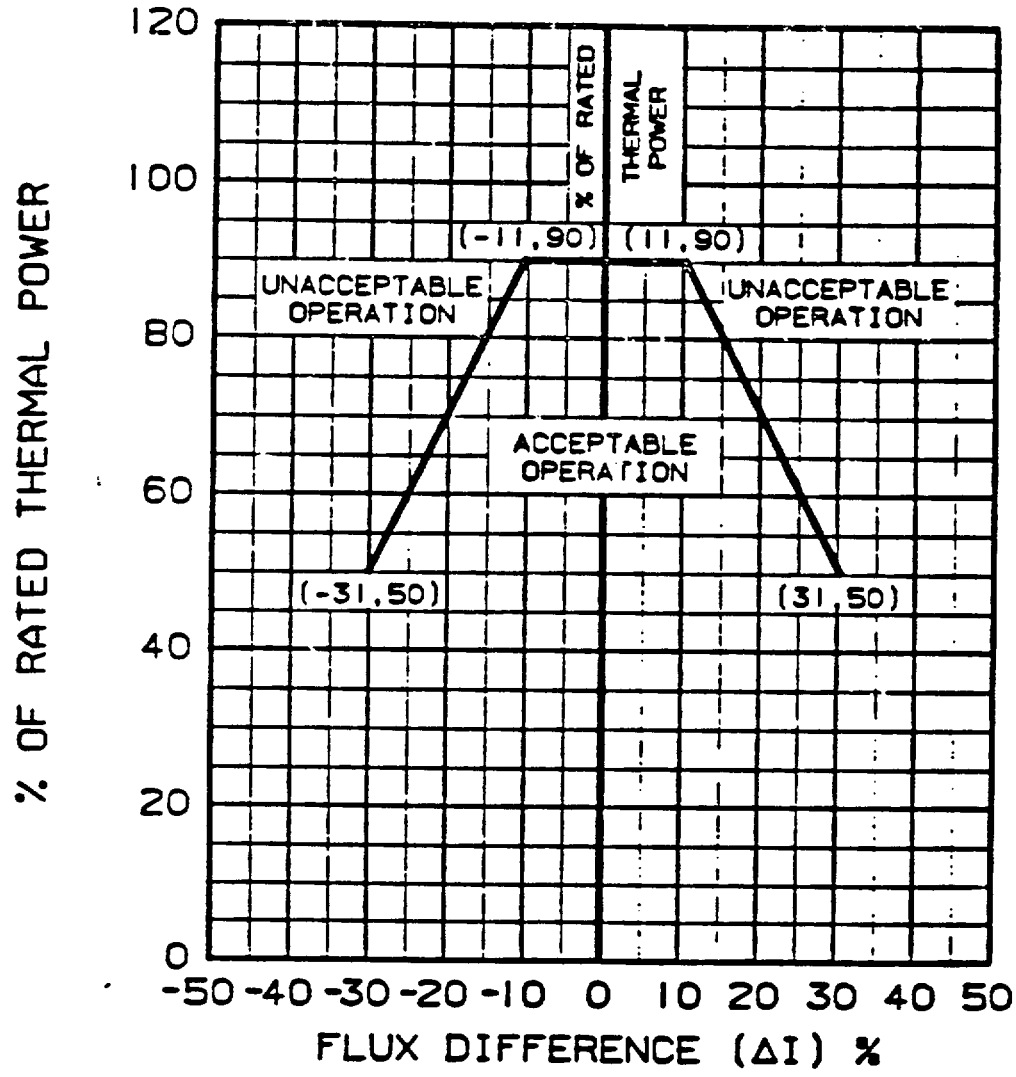

FIGURE 3.2-1

AXIAL FLUX DIFFERENCE LIMITS AS A FUNCTION OF RATED THERMAL POWER

ELECTRICAL POWER SYSTEMS

A.C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. One circuit between the offsite transmission network and the Onsite Class 1E Distribution System, and

b. Two standby diesel generators each with a separate fuel tank containing a minimum volume of 60,500 gallons of fuel.

APPLICABILITY: MODES 5 and 6.

ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, movement of irradiated fuel, or crane operation with loads over the spent fuel pool, and within 8 hours, depressurize and vent the Reactor Coolant System through a greater than or equal to 2.0 square inch vent. In addition, when in MODE 5 with the reactor coolant loops not filled, or in MODE 6 with the water level less than 23 feet above the reactor vessel flange, immediately initiate corrective action to restore the required sources to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the requirements of Specifications 4.8.1.1.1, 4.8.1.1.2 (except for Specification 4.8.1.1.2a.3)), and 4.8.1.1.3.

ELECTRICAL POWER SYSTEMS

3/4.8.2 D.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 As a minimum, the following D.C. electrical sources shall be OPERABLE:

a. Channel I 125-volt Battery Bank E1A11 (Unit 1), E2A11 (Unit 2) and its two associated chargers,

b. Channel II 125-volt Battery Bank E1D11 (Unit 1), E2D11 (Unit 2) and its associated full capacity charger,

c. Channel III 125-volt Battery Bank E1B11 (Unit 1), E2B11 (Unit 2) and its associated full capacity charger, and

d. Channel IV 125-volt Battery Bank E1C11 (Unit 1), E2C11 (Unit 2) and its two associated chargers.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With one of the required battery banks, and/or one of the required chargers for the Channels II or III inoperable, restore the inoperable battery bank and/or charger to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With only one charger on Channel I or IV OPERABLE, demonstrate the OPERABILITY of the associated battery bank by performing Surveillance Requirement 4.8.2.1.a.1) within 1 hour and at least once per 8 hours thereafter. If any Category A limit in Table 4.8-2 is not met, declare the battery inoperable. Restore the inoperable charger to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each 125-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1) The parameters in Table 4.8-2 meet the Category A limits, and

2) The total battery terminal voltage is greater than or equal to 129 volts on float charge.

ELECTRICAL POWER SYSTEMS

D.C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, Channel I 125-volt Battery Bank E1A11 (Unit 1), E2A11 (Unit 2), and Channel IV 125-volt battery bank E1C11 (Unit 1), E2C11 (Unit 2), and their two associated chargers shall be OPERABLE.

APPLICABILITY: MODES 5 and 6.

ACTION:

With the required battery banks and/or charger(s) inoperable, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, or movement of irradiated fuel; initiate corrective action to restore the required battery banks and/or chargers to OPERABLE status as soon as possible, and within 8 hours, depressurize and vent the Reactor Coolant System through a 2.0 square inch vent.

SURVEILLANCE REQUIREMENTS

4.8.2.2 The above required 125-volt battery banks and chargers shall be demonstrated OPERABLE in accordance with Specification 4.8.2.1.

ELECTRICAL POWER SYSTEMS

3/4.8.3 ONSITE POWER DISTRIBUTION

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.3.1 The following electrical busses shall be energized in the specified manner:

a. Train A A.C. ESF Busses consisting of:
   1) 4160-Volt ESF Bus # E1A (Unit 1), E2A (Unit 2), and
   2) 480-Volt ESF Busses # E1A1 and E1A2 (Unit 1), E2A1 and E2A2 (Unit 2) from respective load center transformers.

b. Train B A.C. ESF Busses consisting of:
   1) 4160-Volt ESF Bus # E1B (Unit 1), E2B (Unit 2), and
   2) 480-Volt ESF Busses # E1B1 and E1B2 (Unit 1), E2B1 and E2B2 (Unit 2) from respective load center transformers.

c. Train C A.C. ESF Busses consisting of:
   1) 4160-Volt ESF Bus # E1C (Unit 1), E2C (Unit 2), and
   2) 480-Volt ESF Busses # E1C1 and E1C2 (Unit 1), E2C1 and E2C2 (Unit 2) from respective load center transformers.

d. 120-Volt A.C. Vital Distribution Panels DP1201 and DP001 energized from their associated inverters connected to D.C. Bus # E1A11* (Unit 1), E2A11* (Unit 2),

e. 120-Volt A.C. Vital Distribution Panel DP1202 energized from its associated inverter connected to D.C. Bus # E1D11* (Unit 1), E2D11* (Unit 2),

f. 120-Volt A.C. Vital Distribution Panel DP1203 energized from its associated inverter connected to D.C. Bus # E1B11* (Unit 1), E2B11* (Unit 2),

g. 120-Volt A.C. Vital Distribution Panels DP1204 and DP002 energized from their associated inverters connected to D.C. Bus # E1C11* (Unit 1), E2C11* (Unit 2),

h. 125-Volt D.C. Bus E1A11 (Unit 1) E2A11 (Unit 2) energized from Battery Bank E1A11 (Unit 1), E2A11 (Unit 2),

i. 125-Volt D.C. Bus E1D11 (Unit 1) E2D11 (Unit 2) energized from Battery Bank E1D11 (Unit 1), E2D11 (Unit 2),

j. 125-Volt D.C. Bus E1B11 (Unit 1) E2B11 (Unit 2) energized from Battery Bank E1B11 (Unit 1), E2B11 (Unit 2), and

k. 125-Volt D.C. Bus E1C11 (Unit 1) E2C11 (Unit 2) energized from Battery Bank E1C11 (Unit 1), E2C11 (Unit 2).

*The inverter(s) associated with one channel may be disconnected from its D.C. bus for up to 24 hours as necessary, for the purpose of performing an equalizing charge on its associated battery bank provided: (1) its vital distribution panels are energized, and (2) the vital distribution panels associated with the other battery banks are energized from their associated inverters and connected to their associated D.C. busses.

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

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 = 3.56×10^6 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.

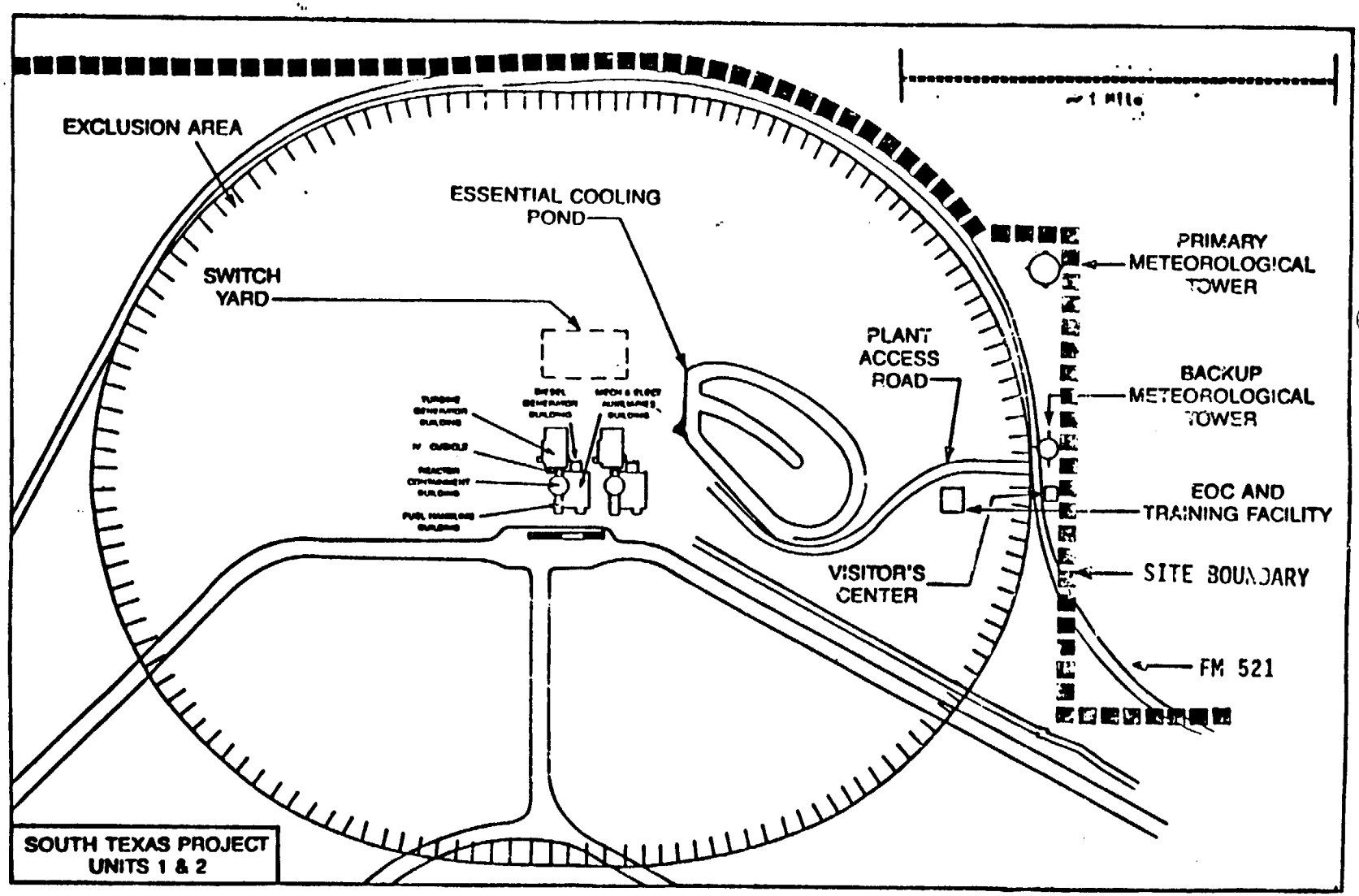

FIGURE 5.1-1

EXCLUSION AREA

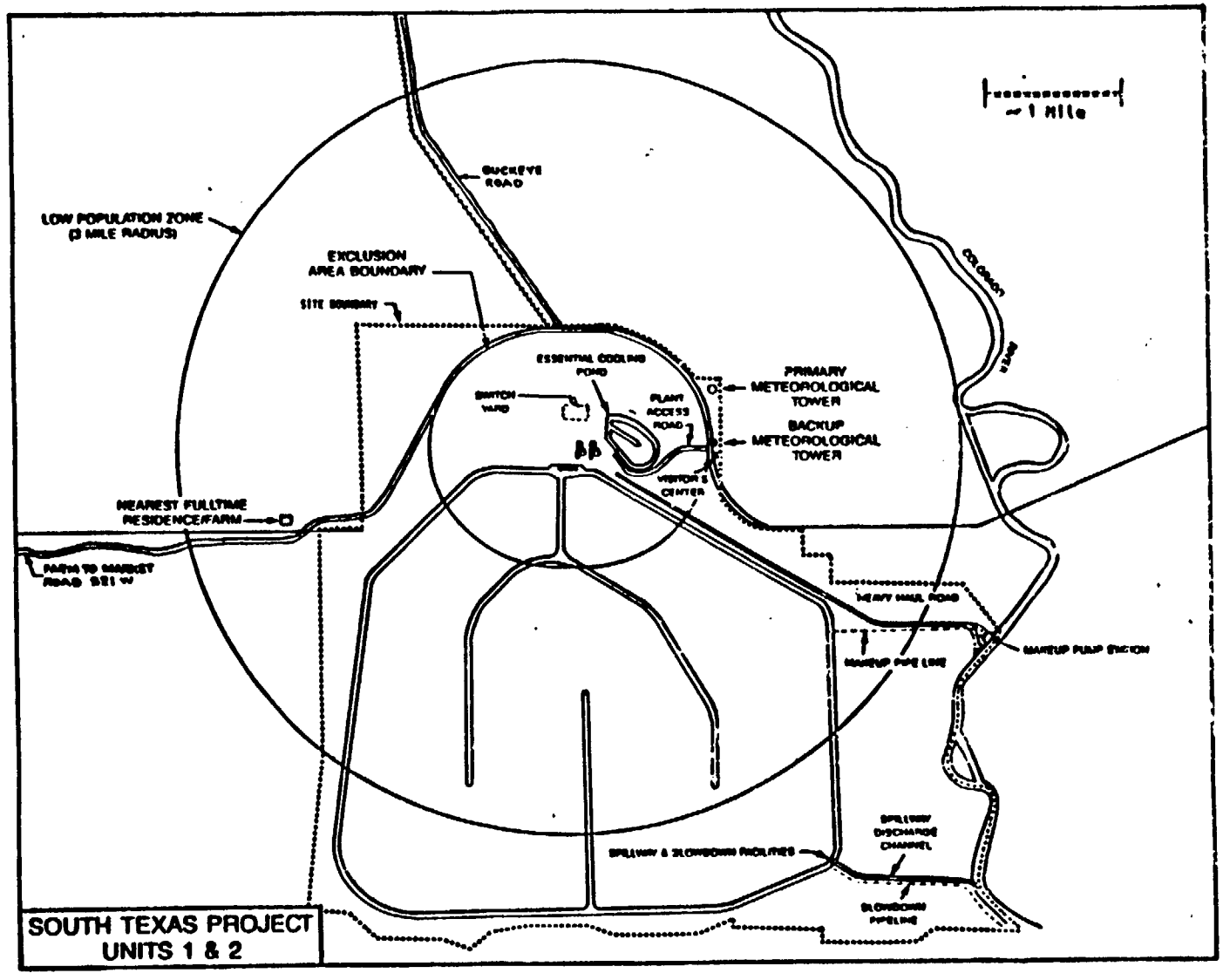

FIGURE 5.1-2

LOW POPULATION ZONE

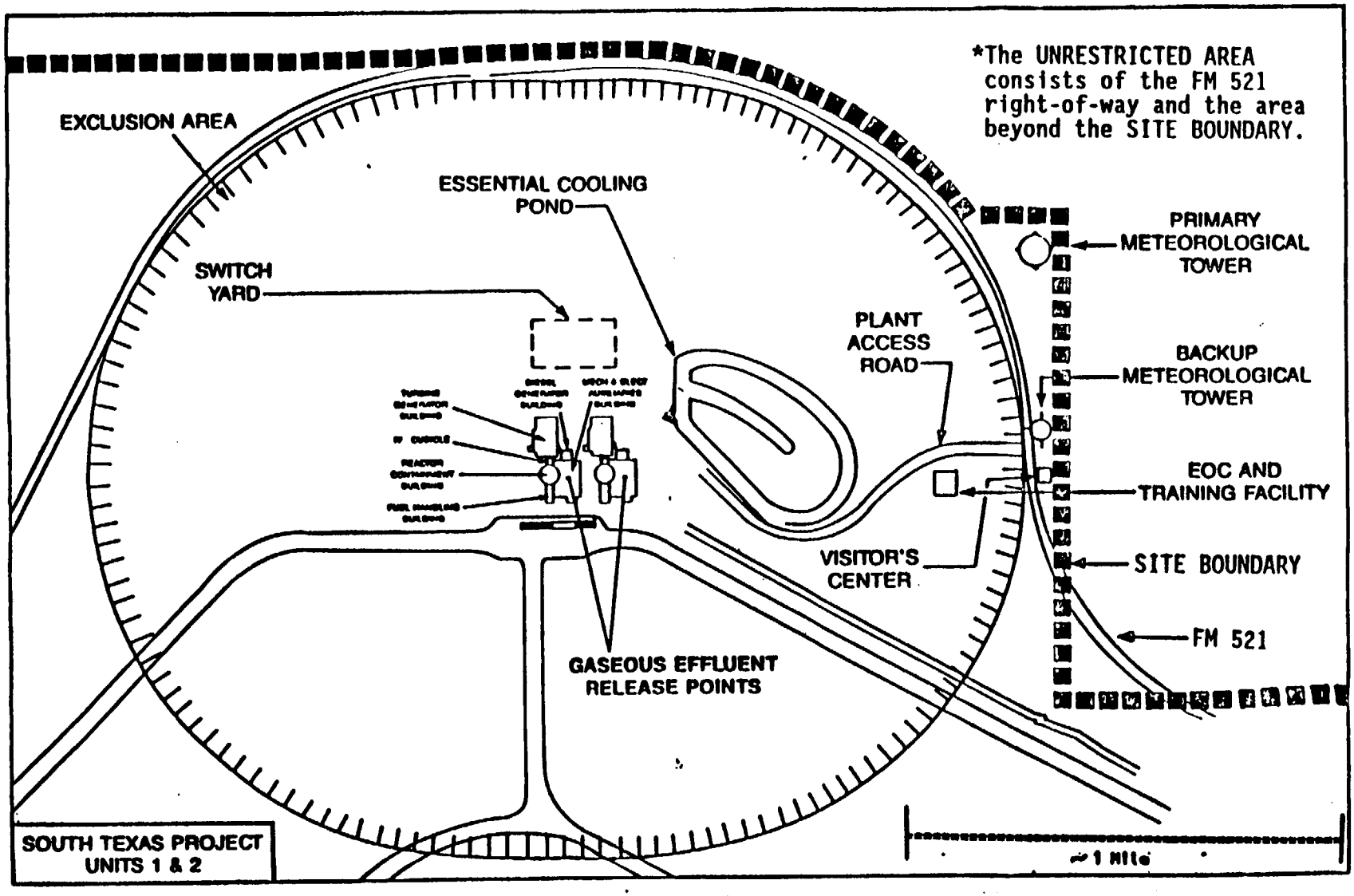

FIGURE 5.1-3

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