3/4.11 RADIOACTIVE EFFLUENTS

3/4.11.1 LIQUID EFFLUENTS

CONCENTRATION

LIMITING CONDITION FOR OPERATION

3.11.1.1 The concentration of radioactive material released in liquid effluents to UNRESTRICTED AREAS (see Figure 5.1.1-1a) shall be limited to the concentrations specified in 10 CFR Part 20, Appendix B, Table II, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2×10^{-4} microcuries/ml total activity.

APPLICABILITY: At all times.

ACTION:

With the concentration of radioactive material released in liquid effluents to UNRESTRICTED AREAS exceeding the above limits, immediately restore the concentration to within the above limits.

SURVEILLANCE REQUIREMENTS

4.11.1.1.1 The radioactivity content of each batch of radioactive liquid waste shall be determined prior to release by sampling and analysis in accordance with Table 4.11.1.1.1-1. The results of pre-release analyses shall be used with the calculational methods in the ODCM to assure that the concentration at the point of release is maintained within the limits of Specification 3.11.1.1.

4.11.1.1.2 Post-release analyses of samples composited from batch releases shall be performed in accordance with Table 4.11.1.1.1-1. The results of the radioactivity analysis shall be used in accordance with the methodology and parameters in the ODCM to assure that the concentrations at the point of release are maintained within the limits of Specification 3.11.1.1.

4.11.1.1.3 Continuous releases of radioactive liquid effluents shall be sampled and analyzed in accordance with Table 4.11.1.1.1-1. The results of the radioactivity analyses shall be used in accordance with the methodology and parameters in the ODCM to assure that the concentrations at the point of release are maintained within the limits of Specification 3.11.1.1.

RADIOACTIVE EFFLUENTS

DOSE

LIMITING CONDITION FOR OPERATION

3.11.1.2 The dose or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released, from each reactor unit, to UNRESTRICTED AREAS (see Figure 5.1.1-1a) shall be limited:

a. During any calendar quarter to less than or equal to 1.5 mrems to the total body and to less than or equal to 5 mrems to any organ, and

b. During any calendar year to less than or equal to 3 mrems to the total body and to less than or equal to 10 mrems to any organ.

APPLICABILITY: At all times.

ACTION:

a. With the calculated dose from the release of radioactive materials in liquid effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit(s) and defines the corrective actions that have been taken to reduce the releases and the corrective actions to be taken to ensure that future releases will be in compliance with the above limits.

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.2 Dose Calculations. Cumulative dose contributions from liquid effluents for the current calendar quarter and the current calendar year shall be determined in accordance with the methodology and parameters of the ODCM at least once per 31 days.

RADIOACTIVE EFFLUENTS

LIQUID RADWASTE TREATMENT SYSTEM

LIMITING CONDITION FOR OPERATION

3.11.1.3 The LIQUID RADWASTE TREATMENT SYSTEM shall be OPERABLE and appropriate portions of the system shall be used to reduce the release of radioactivity when the projected doses due to the liquid effluent from each reactor unit to UNRESTRICTED AREAS (see Figure 5.1.1-1a) would exceed 0.06 mrem to the total body or 0.2 mrem to any organ, in a 31-day period.

APPLICABILITY: At all times.

ACTION:

a. With radioactive liquid waste being discharged without treatment and in excess of the above limits, and any portion of the liquid radwaste treatment system not in operation, prepare and submit to the Commission, within 30 days pursuant to Specification 6.9.2, a Special Report which includes the following information:

   1. Explanation of why liquid radwaste was being discharged without treatment, identification of any inoperable equipment or subsystems, and the reason for the inoperability, and

   2. Action(s) taken to restore the inoperable equipment to OPERABLE status, and

   3. Summary description of action(s) taken to prevent a recurrence.

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.3.1 Doses due to liquid releases from each reactor unit to UNRESTRICTED AREAS shall be projected at least once per 31 days, in accordance with methodology and parameters in the ODCM.

4.11.1.3.2 The installed LIQUID RADWASTE TREATMENT SYSTEM shall be demonstrated OPERABLE by meeting Specifications 3.11.1.1 and 3.11.1.2.

RADIOACTIVE EFFLUENTS

3/4.11.2 GASEOUS EFFLUENTS

DOSE RATE

LIMITING CONDITION FOR OPERATION

3.11.2.1 The dose rate due to radioactive materials released in gaseous effluents from the site to areas at and beyond the SITE BOUNDARY (see Figure 5.1.1-1b) shall be limited to the following:

a. For noble gases: Less than or equal to 500 mrems/yr to the total body and less than or equal to 3000 mrems/yr to the skin, and

b. For all iodine-131, iodine-133, tritium and all radionuclides in particulate form with half lives greater than 8 days: Less than or equal to 1500 mrems/yr to any organ.

APPLICABILITY: At all times.

ACTION:

With the dose rate(s) exceeding the above limits, immediately decrease the release rate(s) to within the above limit(s).

SUREVEILLANCE REQUIREMENTS

4.11.2.1.1 The dose rate due to noble gases in gaseous effluents shall be determined to be within the above limits in accordance with the methodology and parameters of the ODCM.

4.11.2.1.2 The dose rate due to iodine-131, iodine-133, tritium and to radionuclides in particulate form with half lives greater than 8 days in gaseous effluents shall be determined to be within the above limits in accordance with the methodology and parameters of the ODCM by obtaining representative samples and performing analyses in accordance with the sampling and analysis program specified in Table 4.11.2.1.2-1.

RADIOACTIVE EFFLUENTS

DOSE - NOBLE GASES

LIMITING CONDITION FOR OPERATION

3.11.2.2 The air dose due to noble gases released in gaseous effluents, from each reactor unit, from the site to areas at and beyond the SITE BOUNDARY (see Figure 5.1.1-1b) shall be limited to the following:

a. During any calendar quarter: Less than or equal to 5 mrads for gamma radiation and less than or equal to 10 mrads for beta radiation, and

b. During any calendar year: Less than or equal to 10 mrads for gamma radiation and less than or equal to 20 mrads for beta radiation.

APPLICABILITY: At all times.

ACTION:

a. With the calculated air dose from the radioactive noble gases in gaseous effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to ensure that future releases will be in compliance with Specification 3.11.2.2.

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.2 Dose Calculations. Cumulative dose contributions for noble gases for the current calendar quarter and current calendar year shall be determined in accordance with the methodology and parameters in the ODCM at least once per 31 days.

RADIOACTIVE EFFLUENTS

DOSE - IODINE-131, IODINE-133, TRITIUM AND RADIONUCLIDES IN PARTICULATE FORM

LIMITING-CONDITION FOR OPERATION

3.11.2.3 The dose to a MEMBER OF THE PUBLIC from iodine-131, iodine-133, tritium and radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released, from each reactor unit, from the site to areas at and beyond the SITE BOUNDARY (see Figure 5.1.1-1b) shall be limited to the following:

a. During any calendar quarter: Less than or equal to 7.5 mrems to any organ, and

b. During any calendar year: Less than or equal to 15 mrems to any organ.

APPLICABILITY: At all times.

ACTION:

a. With the calculated dose from the release of iodine-131, iodine-133, tritium and radionuclides in particulate form, with half-lives greater than 8 days, in gaseous effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit and defines the corrective actions that have been taken to reduce releases and the proposed corrective actions to be taken to ensure that future releases will be in compliance with Specification 3.11.2.3.

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.3 Dose Calculations. Cumulative dose contributions from iodine-131, iodine-133, tritium and radionuclides in particulate form with half-lives greater than 8 days for the current calendar quarter and current calendar year shall be determined in accordance with the methodology and parameters in the ODCM at least once per 31 days.

RADIOACTIVE EFFLUENTS

VENTILATION EXHAUST TREATMENT SYSTEMS

LIMITING CONDITION FOR OPERATION

3.11.2.5 The VENTILATION EXHAUST TREATMENT SYSTEMS shall be OPERABLE and appropriate portions of the system shall be used to reduce releases of radioactivity when the projected dose due to gaseous effluent releases from each reactor unit to areas at and beyond the SITE BOUNDARY (see Figure 5.1.1-1b) in a 31 day period would exceed 0.3 mrem to any organ of a MEMBER OF THE PUBLIC.

APPLICABILITY: At all times.

ACTION:

a. With radioactive gaseous waste being discharged without treatment and in excess of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which includes the following information:

   1. Explanation of why gaseous radwaste was being discharged without treatment, identification of any inoperable equipment or subsystems which resulted in gaseous radwaste being discharged without treatment, and the reason for the inoperability,

   2. Action(s) taken to restore the inoperable equipment to OPERABLE status, and

   3. Summary description of action(s) taken to prevent a recurrence.

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.5.1 Doses due to gaseous releases from each reactor unit to areas at and beyond the SITE BOUNDARY shall be projected at least once per 31 days in accordance with the methodology and parameters in the ODCM.

4.11.2.5.2 The installed VENTILATION EXHAUST TREATMENT SYSTEMS shall be demonstrated OPERABLE by meeting Specifications 3.11.2.1 and 3.11.2.3.

5.0 DESIGN FEATURES

5.1 SITE

5.1.1 EXCLUSION AREA, UNRESTRICTED AREA FOR LIQUID EFFLUENTS, AND SITE BOUNDARY FOR GASEOUS EFFLUENTS

Figure 5.1.1-1 shows the PNPP site area, including the meteorological tower. The exclusion area boundary is 2900 feet from the center line of the reactor. All land within the exclusion area is jointly owned by the CAPCO Group Companies. CEI controls the exclusion area; controls include mineral rights for oil, gas, and salt. In addition, the U.S. Coast Guard provides control over the Lake Erie portion of the exclusion area. A railroad spur serves the plant, heading in an east-north easterly direction from the railroad company right-of-way to the plant site. CEI owns the tracks and only railroad cars consigned to the PNPP are brought onto the site over this spur.

and Figure 5.1.1-1b

Figure 5.1.1-1a also shows the liquid and gaseous effluent discharge locations as well as the plant SITE BOUNDARY for gaseous releases and the UNRESTRICTED AREA for liquid effluent releases. The dose rate and doses due to radioactive materials released in gaseous effluents from the site to areas at and beyond the SITE BOUNDARY shall be limited pursuant to Specification 3.11.2.1, 3.11.2.2, and 3.11.2.3. All gaseous effluent releases at PNPP are considered to be ground-level releases. The concentrations of radioactive materials released in liquid effluents to UNRESTRICTED AREAS shall be limited pursuant to Specification 3.11.1.1.

Figure 5.1.1-1b also shows the exclusion area boundary.

LOW POPULATION ZONE

5.1.2 The low population zone shall be as shown in Figure 5.1.2-1.

5.2 CONTAINMENT

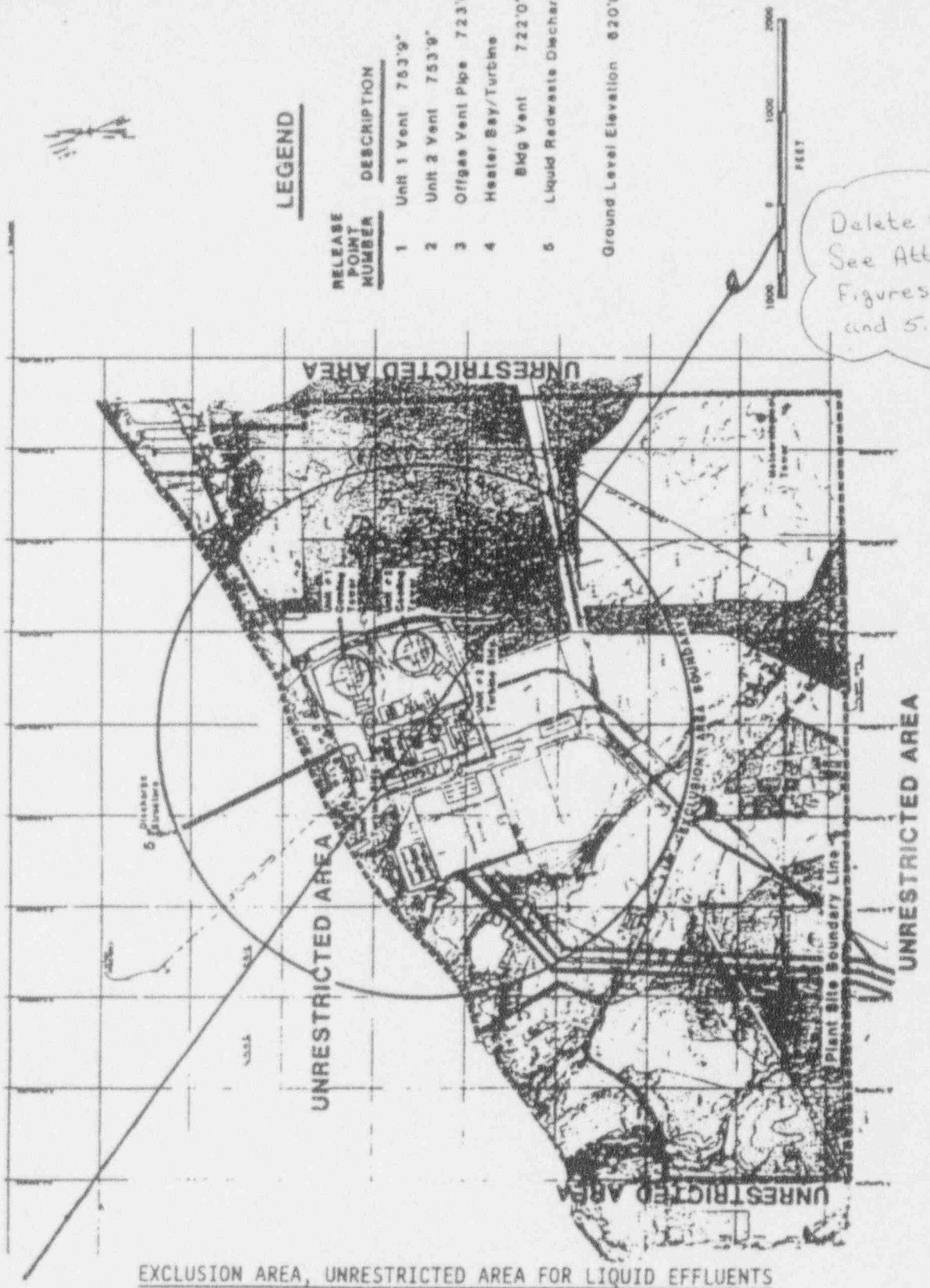
CONFIGURATION

5.2.1 The primary containment is a steel structure composed of a vertical right cylinder and an ellipsoidal dome. Inside and at the bottom of the primary containment is a reinforced concrete drywell composed of a vertical right cylinder and a steel head which contains an approximately 18'3" deep water filled suppression pool connected to the drywell through a series of horizontal vents. The primary containment has a minimum net free air volume of 1,160,000 cubic feet. The drywell has a minimum net free air volume of 276,500 cubic feet.

DESIGN TEMPERATURE AND PRESSURE

5.2.2 The containment and drywell are designed and shall be maintained for:

a. Maximum internal pressure:
   1. Drywell 30 psig.
   2. Containment 15 psig.



EXCLUSION AREA, UNRESTRICTED AREA FOR LIQUID EFFLUENTS
AND SITE BOUNDARY FOR GASEOUS EFFLUENTS

FIGURE 5.1.1-1

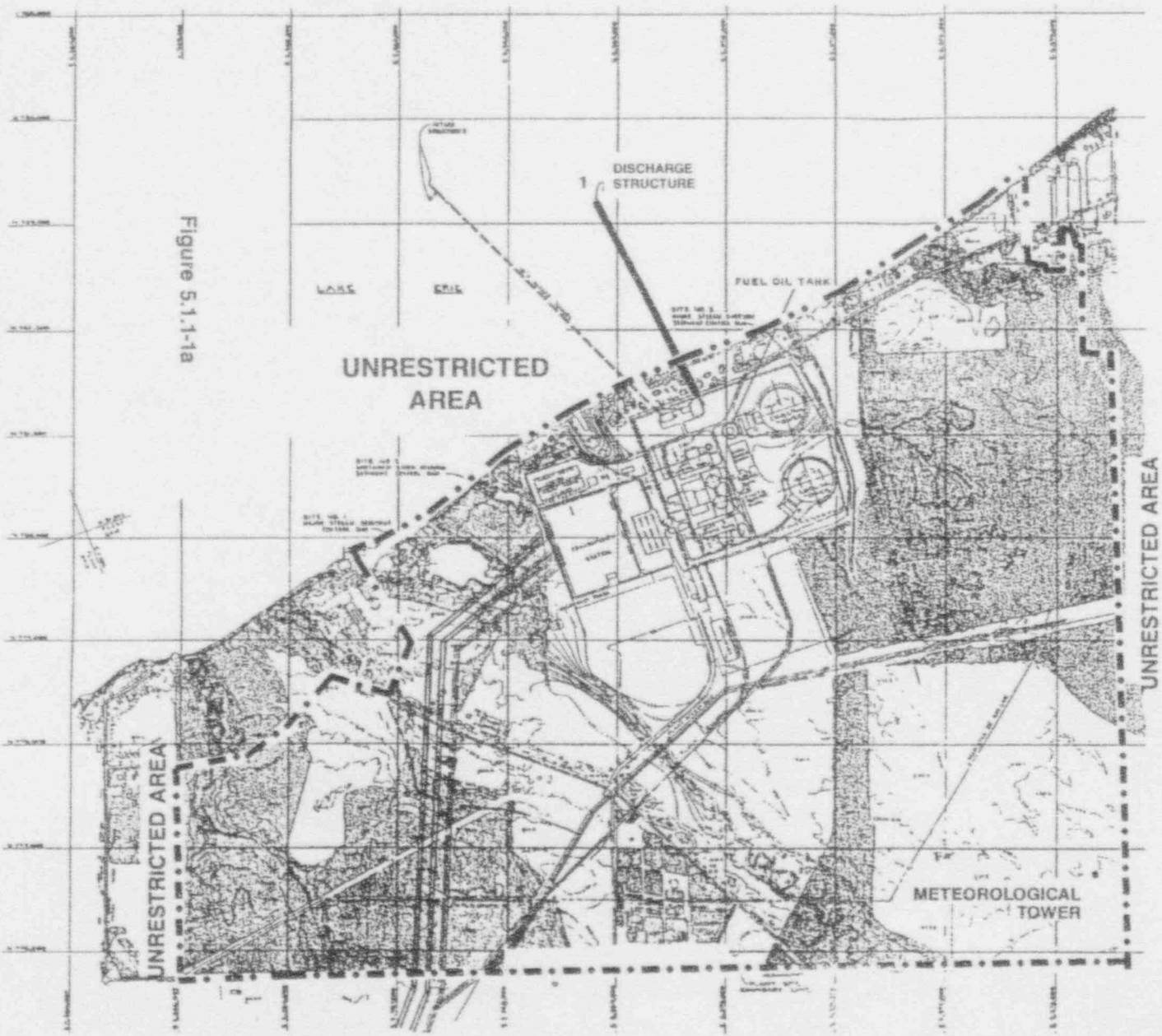


Figure 5.1.1-1a

LEGEND

RELEASE POINT NUMBER	DESCRIPTION
1	LIQUID RADWASTE DISCHARGE

UNRESTRICTED AREA BOUNDARY FOR LIQUID EFFLUENTS

UNRESTRICTED AREA FOR LIQUID EFFLUENTS

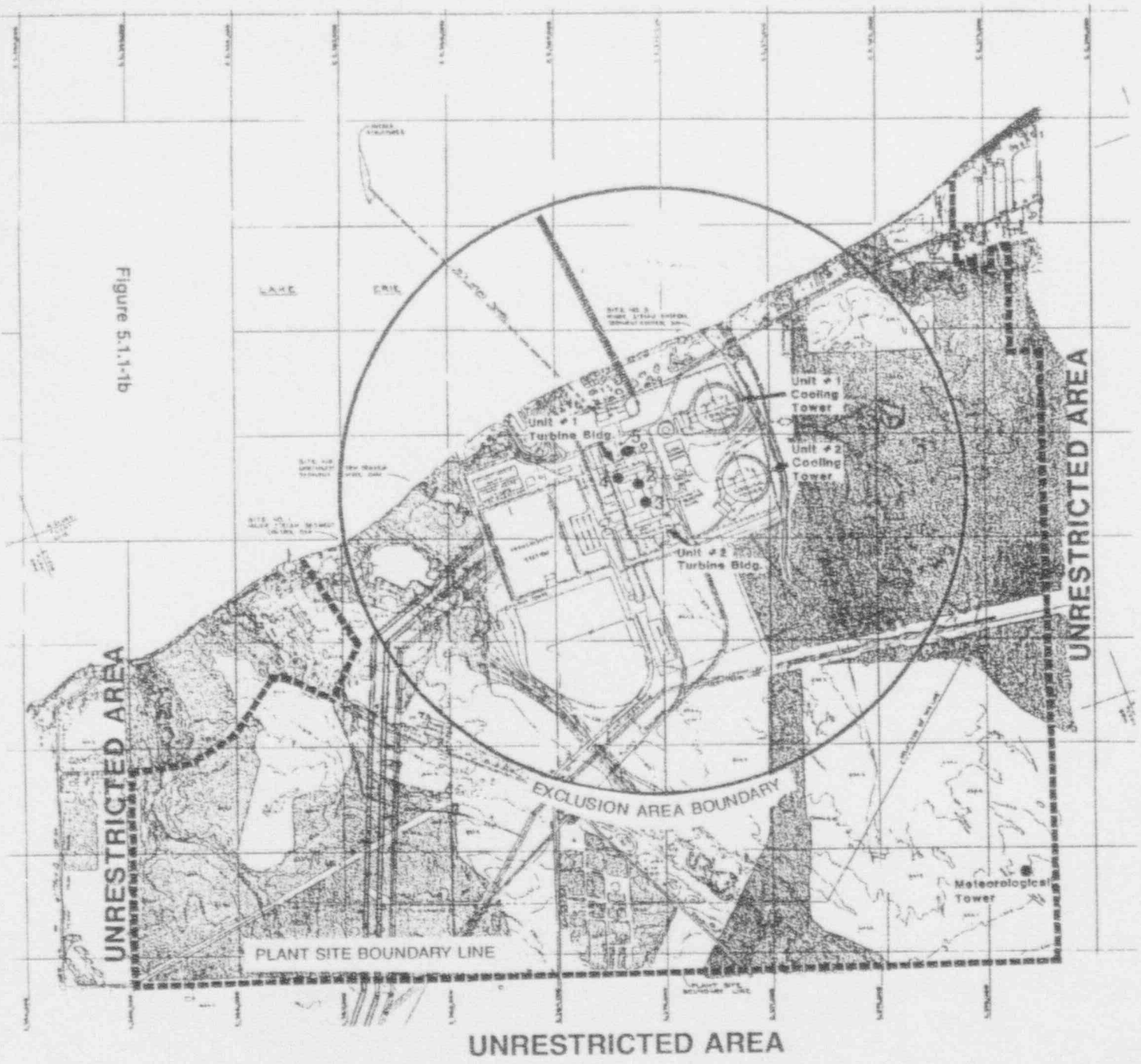


Figure 5.1.1-1b

LEGEND

RELEASE POINT NUMBER	DESCRIPTION
2	UNIT 1 VENT 753'-9"
3	UNIT 2 VENT 753'-9"
4	OFFGAS VENT PIPE 723'-0"
5	HEATER BAY/TURBINE BLDG. VENT 722'-0"

GROUND LEVEL 620'-0"

UNRESTRICTED AREA BOUNDARY FOR GASEOUS EFFLUENTS

SITE BOUNDARY FOR GASEOUS EFFLUENTS AND EXCLUSION AREA BOUNDARY

Figure 5.1.1-1b Site Boundary for Gaseous Effluents and Exclusion Area Boundary

Significant Hazards Consideration

The standards used to arrive at a determination that a request for amendment involves no significant hazards considerations are included in the Commission's Regulations, 10CFR50.92, which state that the operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any previously evaluated, or (3) involve a significant reduction in a margin of safety.

The proposed amendment has been reviewed with respect to these three factors and it has been determined that the proposed changes do not involve a significant hazard because:

1. The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed separation of Technical Specification Figure 5.1.1-1, into Figure 5.1.1-1a and 5.1.1-1b, and the revision of the appropriate sections of the Technical Specifications which refer to these figures, are clarifications to the geographical areas utilized when computing dose calculations resulting from liquid and gaseous effluents. This change is requested to resolve the inconsistency between the Technical Specification and the licensing basis in the Updated Safety Analysis Report (USAR) along with the guidance given by the NRC in NUREG-0133 "Preparation of Radiological Effluent Technical Specifications for Nuclear Power Plants". This change does not affect any plant systems, nor could it affect possible initiating events for accidents previously evaluated, or any system functional requirements. Additionally, the proposed changes have no effect on accident conditions or assumptions. Based upon the above, the proposed change could not increase the probability or consequences of any accident previously evaluated.

2. The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

   As stated above, the proposed change is a clarification, which does not increase the possibility of any new or different kind of accident since it does not affect the reactor coolant pressure boundary or other plant systems or structures which could initiate a new or different kind of accident. This clarification will also not impact any system functional requirements nor plant maintenance or operability requirements in such a manner that could initiate a new or different kind of accident. Consequently, no new failure modes are introduced as a result of the proposed changes.

3. The proposed changes do not involve a significant reduction in a margin of safety.

   The change does not involve a significant reduction in the margin of safety because it is a clarification to resolve the inconsistency between the Technical Specifications and the licensing basis in the USAR Figures 2.1-3 and 2.1-4, along with the NRC's guidance in NUREG-0133. Therefore, the proposed change does not reduce the margin of safety as defined in the basis for any Technical Specification.

Based upon the above considerations, it has been concluded that the proposed change does not involve significant hazards considerations.