



10 CFR 50.90

LR-N21-0065
LAR S21-04
LAR H21-06

September 29, 2021

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Salem Generating Station Units 1 and 2
Renewed Facility Operating License Nos. DPR-70 and DPR-75
NRC Docket Nos. 50-272 and 50-311

Hope Creek Generating Station
Renewed Facility Operating License No. NPF-57
NRC Docket No. 50-354

Subject: **License Amendment Request – Revision of Salem and Hope Creek
Generating Station Technical Specification (TS) to Delete Definitions found
in 10 CFR Part 20 and Delete Figures of the Site and Surrounding Areas
from TS**

In accordance with 10 CFR 50.90, PSEG Nuclear LLC (PSEG) hereby requests amendments to Renewed Facility Operating License (FOL) Nos. DPR-70 and DPR-75 for Salem Generating Station Units 1 & 2 (Salem) respectively and FOL No. NPF-57 for Hope Creek Generating Station (Hope Creek). In accordance with 10 CFR 50.91(b)(1), a copy of this request for amendment has been sent to the State of New Jersey.

The proposed amendment revises the TS for the above plants to remove TS definitions for Member(s) of the Public, Site Boundary, and Unrestricted Area which are already present in the definitions found in the Offsite Dose Calculation Manual for each site as well as 10 CFR 20.1003. References to these definitions within the Salem and Hope Creek TS are also proposed to be revised to identify that they are no longer formal TS Definitions. The proposed amendment also removes figures of the site and surrounding area from the TS for the above plants. The proposed changes eliminate uncertainty in defining controlled areas within the site boundary to which access can be limited by PSEG for any reason, including for purposes of protection of individuals including members of the public from exposure to radiation and radioactive materials in effluents, as required by the TS and regulations.

The enclosure to this letter provides a detailed description and evaluation of the proposed changes.

Attachments 1 and 2 provide markups of the proposed changes to the affected pages of the TS for Salem Unit 1 and Salem Unit 2 respectively.

Attachment 3 provides a markup of the proposed changes to the affected pages of the TS for Hope Creek.

Attachment 4 provides a markup of the proposed changes to the TS Bases for Salem Units 1 and 2 for information.

Attachment 5 provides a markup of the proposed changes to the TS Bases for Hope Creek for information.

PSEG considers the proposed changes to be administrative in nature and therefore requests approval of this LAR within six months of NRC acceptance. Once approved, the amendment will be implemented within 60 days from the date of issuance.

There are no regulatory commitments contained in this letter.

If there are any questions or if additional information is needed, please contact Mr. Michael Wiwel at 856-339-7907.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on September 29, 2021
(Date)

Respectfully,

David Mannai
Senior Director – Regulatory Affairs and Nuclear Oversight
PSEG Nuclear

Enclosure: Description and Evaluation of the Proposed Change
Attachment 1: Mark-up of the Current Salem Generating Station Unit 1 TS Pages
Attachment 2: Mark-up of the Current Salem Generating Station Unit 2 TS Pages
Attachment 3: Mark-up of the Current Hope Creek Generating Station TS Pages
Attachment 4: Mark-up of the Current Salem Generating Station TS Bases pages for
information
Attachment 5: Mark-up of the Current Hope Creek Generating Station TS Bases pages for
information

cc: Administrator, Region I, NRC
Mr. J. Kim, NRC Project Manager, Salem & Hope Creek
NRC Senior Resident Inspector, Salem
NRC Senior Resident Inspector, Hope Creek
Ms. Ann Pfaff, Manager NJBNE

Enclosure**Description and Evaluation of the Proposed Change****License Amendment Request – Revision of Salem and Hope Creek Generating Station
Technical Specification (TS) to Delete Definitions found in 10 CFR Part 20 and Delete
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ATTACHMENTS:

1. Mark-up of the Current Salem Generating Station Unit 1 TS Pages
2. Mark-up of the Current Salem Generating Station Unit 2 TS Pages
3. Mark-up of the Current Hope Creek Generating Station TS Pages
4. Mark-up of the Current Salem Generating Station Units 1 and 2 TS Bases Pages for information
5. Mark-up of the Current Hope Creek Generating Station TS Bases Pages for information

1.0 SUMMARY DESCRIPTION

This license amendment request proposes to revise Section 1.0 in both the Salem Generating Station (Salem) and Hope Creek Generating Station (Hope Creek) Technical Specifications (TS) to delete the DEFINITIONS for MEMBER(S) OF THE PUBLIC, SITE BOUNDARY, and UNRESTRICTED AREA. These terms are already defined in the Offsite Dose Calculation Manuals (ODCM) for both stations and as well as in the definitions contained in 10 CFR 20.1003. In conjunction with these changes, references to these deleted DEFINITIONS within Salem and Hope Creek TS are proposed to be revised to show them in non-capitalized font to reflect that they are no longer TS DEFINITIONS. This change is consistent with the DEFINITIONS contained in NUREG-1431, Standard Technical Specifications – Westinghouse Plants and NUREG-1433, Standard Technical Specifications – General Electric Plants (BWR/4).

The proposed change also removes figures portraying the Plant Site, Exclusion Area and Low Population Zone from TS Section 5 from both Salem and Hope Creek TS. TS Section 5.1 of both stations is proposed to be revised to provide a text description of the location of the plant due to the proposed removal of the site figures currently referenced in this section.

2.0 DETAILED DESCRIPTION

The Salem and Hope Creek TS proposed to be deleted or revised are identified below.

2.1 Salem TS DEFINITIONS to be Deleted

MEMBER(S) OF THE PUBLIC

1.16 MEMBER(S) OF THE PUBLIC shall be all those persons who are not occupationally associated with the plant. This category does not include employees of PSE&G, 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.

SITE BOUNDARY

1.29 The SITE BOUNDARY shall be that line beyond which the land is not owned, leased, or otherwise controlled by the licensee, as shown in Figure 5.1-3, and which defines the exclusion area as shown in Figure 5.1-1

UNRESTRICTED AREA

1.35 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 industrial, commercial, institutional, and/or recreational purposes.

2.2 Salem TS Figures to be Deleted

- Figure 5.1-1 – Exclusion Area – See TS Page 5-2 of Attachments 1 and 2
- Figure 5.1-2 – Low Population Zone – See TS Page 5-3 of Attachments 1 and 2
- Figure 5.1-3 – Area Plot Plan of Site – See TS page 5-3a of Attachments 1 and 2

2.3 Salem TS Impacted by Deletion of DEFINITIONS and Figures

- TS INDEX to remove deleted DEFINITIONS
- TS 5.1.1 EXCLUSION AREA – Deleted and replaced with new Section 5.1 SITE LOCATION.
- TS 5.1.2 LOW POPULATION ZONE – Deleted and replaced with new Section 5.1 SITE LOCATION
- TS 5.1.3 UNRESTRICTED AREAS FOR RADIOACTIVE GASESOUS AND LIQUID EFFLUENTS – Deleted and replaced with new Section 5.1 SITE LOCATION
- New TS Section 5.1 added to replace TS 5.1.1, 5.1.2 and 5.1.3:

5.1 SITE LOCATION

Salem Generating Station is located in Salem County, New Jersey along the eastern shore of the Delaware River approximately 8 miles southwest of Salem, New Jersey and 18 miles south of Wilmington, Delaware.

- TS Section 6.8.4.g - Radioactive Effluent Controls Program - Replace capitalized font for the terms MEMBERS OF THE PUBLIC, UNRESTRICTED AREA and SITE BOUNDARY that are referenced within TS 6.8.4.g with normal (non-capitalized) font to reflect their deletion from TS DEFINITIONS.

2.4 Hope Creek TS DEFINITIONS to be Deleted

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, it 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.

SITE BOUNDARY

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

UNRESTRICTED AREA

1.50 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 industrial, commercial, institutional, and/or recreational purposes.

2.5 Hope Creek TS Figures to be Deleted

- Figure 5.1.1-1 – Exclusion Area and Unrestricted Areas and Site Boundary for Radioactive Gaseous and Liquid Effluents – See TS Page 5-2 of Attachment 3
- Figure 5.1.2-1 – Low Population Zone – See TS Page 5-3 of Attachment 3

2.6 Hope Creek TS Impacted by Deletion of DEFINITIONS and Figures

- TS 5.1.1 - EXCLUSION AREA AND MAP DEFINING UNRESTRICTED AREAS AND SITE BOUNDARY FOR RADIOACTIVE GASEOUS AND LIQUID EFFLUENTS – Deleted and replaced with new Section 5.1 – SITE DESCRIPTION
- TS 5.1.2 – LOW POPULATION ZONE – Deleted and replaced with new Section 5.1 – SITE DESCRIPTION
- New TS Section 5.1 added to replace TS 5.1.1 and 5.1.2:

5.1 SITE LOCATION

Hope Creek Generating Station is located in Salem County, New Jersey along the eastern shore of the Delaware River approximately 8 miles southwest of Salem, New Jersey and 18 miles south of Wilmington, Delaware.

- TS 6.8.4.g – Radioactive Effluent Controls Program – Replace capitalized font of the terms MEMBERS OF THE PUBLIC, UNRESTRICTED AREA and SITE BOUNDARY that are referenced within TS 6.8.4.g with normal (non-capitalized) font to reflect their deletion from TS DEFINITIONS.

2.7 Reason for the Proposed Change

The requested amendment to delete the above-described DEFINITIONS in TS Section 1 and delete site figures contained in TS Section 5, Design Features, removes unnecessary information within the TS that is already contained in Licensee controlled documents. The proposed change to revise TS Section 5.1 to provide a text description of the location of the plant is necessary due to the deletion of the TS figures referenced in the current Section 5.1. These changes to both the Salem and Hope Creek TS are administrative in nature and are in alignment with NUREG-1431 and NUREG-1433 respectively relative to TS DEFINITIONS and descriptions of the site.

2.8 Description of the Proposed Change

Attachments 1 and 2 depict the above-described changes for the Salem Unit 1 and Unit 2 TS respectively. Attachment 3 depicts the above-described changes to the Hope Creek TS. Attachment 4 provides proposed changes to the Salem Unit 1 and Unit 2 TS Bases that result from the proposed Salem TS changes described. Attachment 5 provides the proposed changes to the Hope Creek TS Bases that result from the proposed Hope Creek TS changes described. The TS Bases mark-ups in Attachments 4 and 5 are provided for information.

3.0 TECHNICAL EVALUATION

The proposed change deletes the TS DEFINITIONS for the terms MEMBERS OF THE PUBLIC, SITE BOUNDARY and UNRESTRICTED AREA. These terms are already defined within 10 CFR 20.1003 and are defined in the Offsite Dose Calculation Manual (ODCM) for both stations. Having these terms defined in the TS in addition to 10 CFR 20 and licensee-controlled station documents is duplicative. Deletion of the definitions from the TS does not affect the substance of any TS requirement, and the definitions are not needed for clarity as these terms are used in the TS. Deleting these terms as TS DEFINITIONS is administrative in nature, does not affect the design or operation of any plant Structures, Systems or Components (SSCs) and will also align the Salem and Hope Creek TS with NUREG-1431 and NUREG-1433 respectively relative to these specific terms in the TS DEFINITIONS.

The proposed change deletes diagrams in the Salem and Hope Creek TS that depict the site and surrounding area. These diagrams are legacy in their depiction and diagrams of this nature and supporting text are also contained in licensee-controlled documents such as the Updated Final Safety Analysis Reports (UFSAR) and ODCMs for both plants. In conjunction with the deletion of these diagrams is the proposed revision to TS Section 5.1 to provide a text description of the site location since the current TS descriptions reference the TS Figures being deleted. The associated diagrams and Section 5.1 references to the diagrams are not requirements of 10 CFR 50.36 (c)(4), Design Features of Technical Specifications. Replacement of these diagrams and references to them with a text description of the Site Location is administrative in nature, do not affect the design or operation of any plant SSCs and aligns the Salem and Hope Creek TS to NUREG-1431 and NUREG-1433 respectively relative to descriptions of the Site.

10 CFR 50.36 contains a set of objective criteria for determining which regulatory requirements and operating restrictions should be included in TS. The proposed deletions of TS DEFINITIONS and relocation of TS site figures will not impact any safety limits, limiting safety system settings, limiting conditions of operation or surveillance requirements as described in paragraphs (c)(1),(2), and (3) of 10 CFR 50.36. Therefore the deletion of these items from station TS conforms to the requirements of 10 CFR 50.36.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

10 CFR 50.36(c) contains a set of objective criteria for determining which regulatory requirements and operating restrictions should be included in TS. These criteria include Limiting Conditions for Operation (LCOs), Safety Limits (SLs), Limiting Safety System Settings (LSSSs) and Surveillance Requirements (SRs) associated with plant structures, systems and components (SSCs) that support the safety analyses of plant. The proposed change involves removing information from the TS that do not fit the requirements of 10 CFR 50.36 for inclusion in TS. The proposed text description of the Site Location is in alignment with the level of information necessary for this TS Section and is considered administrative in nature. All LCO's, SLs and LSSSs associated with plant SSCs remain unchanged from this proposed amendment. All TS requirements for plant SSCs remain in accordance with 10 CFR 50.36(c). Therefore, the proposed changes are consistent with current regulations.

4.2 Precedents

Removal of the site area maps and the definitions for MEMBER(S) OF THE PUBLIC, SITE BOUNDARY and UNRESTRICTED AREA(S) are established in the Improved Standard Technical Specifications detailed in NUREG-1431 and NUREG-1433 and reflected in the TS for multiple plants.

Amendments approving adoption of Improved Standard Technical Specifications have characterized the removal of defined terms as administrative changes. Additionally, amendments have been approved for deleting individual TS Definitions along with changes to Administrative Controls:

1. Letter from NRC to Joseph W. Shea, "Sequoyah Nuclear Plant Units 1 and 2 – Issuance of Amendments for the Conversion to the Improved Technical Specifications with Beyond Scope Issues (TAC Nos. MF3128 and MF3129), dated September 30, 2015 (ADAMS Accession No. ML15238B460).
2. Letter from NRC to J. A. Scalice, Sequoyah Nuclear Plant, Units 1 and 2 – Issuance of Amendments Regarding Technical Specification Change No. 01-03 (TAC Nos. MB4660 and MB4661), dated February 11, 2003, (ADAMS Accession No. ML030430047).

The proposed changes to remove site area diagrams from TS are consistent with the following precedents:

1. Letter from NRC to M. Nazar, "St. Lucie Plant, Unit Nos. 1 and 2 – Issuance of Amendment Nos. 246 and 197 Regarding Technical Specifications Site Area Map (EPID L-2018-LLA-0198)," dated November 2, 2018 (ADAMS Accession No. ML18274A224)
2. Letter from NRC to J. A. Stall, "Turkey Point Units 3 and 4 – Issuance of Amendments Regarding Removal of Site Area and Plant Area maps from Technical Specifications (TAC Nos. MB1968 and MB1969)," dated February 12, 2002 (ADAMS Accession No. ML020580442)

3. Letter from NRC to J. A. Price, "Millstone Power Station, Unit Nos. 1, 2, and 3 – Issuance of Amendments RE: Administrative and Editorial Changes (TAC Nos. MB3394, MB3395, and MB3396)," Dated September 17, 2002 (ADAMS Accession No. ML022000322)
4. Letter from NRC to C. R. Hutchinson, "Arkansas Nuclear One, Unit No. 2 – Issuance of Amendment RE: Design Features and Administrative Controls (TAC No. MA2403)," Dated May 19, 1999 (ADAMS Accession No. ML021560327)
5. Letter from NRC to R.E. Denton, "Issuance of Amendments for Calvert Cliffs Nuclear Power Plant, Unit No. 1 (TAC No. M88429) and Unit No. 2 (TAC No. M88430)," Dated March 14, 1995, (ADAMS Accession No. ML010580033)

4.3 No Significant Hazards Consideration Analysis

The proposed changes delete specific DEFINITIONS within the Salem Generating Station (Salem) and Hope Creek Generating Station (Hope Creek) Technical Specifications (TS). The DEFINITIONS for the terms MEMBER(S) OF THE PUBLIC, SITE BOUNDARY AND UNRESTRICTED AREA(S) are already contained in the Offsite Dose Calculation Manual (ODCM) for both the Salem and Hope Creek sites as well as in 10 CFR 20.1003. The proposed change also removes associated TS Figures that depict the Salem and Hope Creek sites and surrounding areas since diagrams of this nature and supporting descriptive text can be found in the Updated Final Safety Analysis Reports for both stations. The changes do not affect any system, structure or component nor does it alter any requirement relative to plant operations, hence the changes do not involve any significant hazard.

The discussion below addresses each criterion and demonstrates that the proposed amendment does not constitute a significant hazard.

1. Do the proposed amendments involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The requested changes deletes the DEFINITIONS for MEMBER(S) OF THE PUBLIC, SITE BOUNDARY, and UNRESTRICTED AREA(S) from the Salem Generating Station and Hope Creek Generating Station TS. The requested change also removes diagrams of the Site and surrounding area from the Salem and Hope Creek TS.

These requests involve changes that are administrative in nature. No actual plant equipment, accident analyses or dose consequences will be affected by the proposed changes.

Therefore, the proposed amendments do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Do the proposed amendments create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

This request involves administrative changes to the Salem and Hope Creek TS to remove the DEFINITIONS for MEMBERS OF THE PUBLIC, SITE BOUNDARY and UNRESTRICTED AREA(S) as well as remove TS Figures of each site and surrounding area.

The changes are administrative in nature and no actual plant equipment or accident analyses will be affected by the proposed changes and no new failure modes or accident initiators will be created.

Therefore, the proposed amendments do not create the possibility of a new or different kind of accident from any previously evaluated.

3. Do the proposed amendments involve a significant reduction in a margin of safety?

Response: No.

This request involves changes to the Salem and Hope Creek TS to remove DEFINITIONS and diagrams of each site and surrounding area. The proposed changes are consistent with NRC's regulations set forth in 10 CFR 50.36 as well as the Standard Technical Specifications found in NUREG-1431 and NUREG-1433.

The changes being proposed are administrative in nature. Margins of safety are associated with confidence in the ability of the fission product barriers to limit the level of potential dose to the public. No actual plant equipment or accident analyses will be affected by the proposed change. Additionally, the proposed changes will not relax any criteria used to establish safety limits, will not relax any safety systems settings, nor will they relax the bases for any limiting conditions of operation.

Therefore, the proposed amendments do not involve a significant reduction in the margin of safety.

Based on the above, PSEG concludes that the proposed amendments present no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

4.4 Conclusion

Based on the considerations discussed above: (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.

5.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed administrative amendment does not change any requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, nor does it change an inspection or surveillance requirement. The proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 REFERENCES

1. NUREG-1431, "Standard Technical Specifications – Westinghouse Plants, Revision 5.
2. NUREG-1433, "Standard Technical Specifications – General Electric Plants (BWR/4), Revision 4.
3. 10 CFR 50.36 – "Technical Specifications"
4. 10 CFR 20 – "Standards for Protection Against Radiation"

Mark-up of the Current Salem Generating Station Unit 1 Technical Specification Pages

The following Technical Specifications pages for Renewed Facility Operating License DPR-70 are affected by this change request:

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DEFINITIONS

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DEFINITIONS

- b. Leakage into the containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of leakage detection systems or not to be PRESSURE BOUNDARY LEAKAGE, or
- c. Reactor coolant system leakage through a steam generator to the secondary system (primary-to-secondary leakage).

INSERVICE TESTING PROGRAM

1.15.1 The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f).

MEMBER(S) OF THE PUBLIC

1.16 ~~MEMBER(S) OF THE PUBLIC shall be all those persons who are not occupationally associated with the plant. This category does not include employees of PSE&G, 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.~~ Not Used

OFFSITE DOSE CALCULATION MANUAL (ODCM)

1.17 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 6.8.4 and (2) descriptions of the information that should be included in the Annual Radiological Environmental Operating and Annual Radioactive Effluent Release Reports required by Specifications 6.9.1.7 and 6.9.1.8 respectively.

OPERABLE - OPERABILITY

1.18 A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s) and when all necessary attendant instrumentation, controls, normal or emergency electrical power, cooling and seal water, lubrication, and other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its specified safety function(s) are also capable of performing their related support function(s).

OPERATIONAL MODE - MODE

1.19 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 1.1.

DEFINITIONS

REACTOR TRIP SYSTEM RESPONSE TIME

1.26 The REACTOR TRIP SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until loss of stationary gripper coil voltage.

REPORTABLE EVENT

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

SHUTDOWN MARGIN

1.28 SHUTDOWN MARGIN shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all full length rod cluster assemblies (shutdown and control) are fully inserted except for the single rod cluster assembly of highest reactivity worth which is assumed to be FULLY WITHDRAWN.

~~SITE BOUNDARY~~

~~1.29 The SITE BOUNDARY shall be that line beyond which the land is not owned, leased, or otherwise controlled by the licensee, as shown in Figure 5.1-3, and which defines the exclusion area as shown in Figure 5.1-1.~~

Not Used

SOLIDIFICATION

1.30 Not Used

SOURCE CHECK

1.31 SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to either (a) an external source of increased radioactivity, or (b) an internal source of radioactivity (keep-alive source), or (c) an equivalent electronic source check.

STAGGERED TEST BASIS

1.32 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.

DEFINITIONS

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

THERMAL POWER

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

UNIDENTIFIED LEAKAGE

1.34 UNIDENTIFIED LEAKAGE shall be all leakage (except Reactor Coolant Pump Seal Water Injection) which is not IDENTIFIED LEAKAGE.

UNRESTRICTED AREA

1.35 ~~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 industrial, commercial, institutional, and/or recreational purposes.~~

Not Used

VENTILATION EXHAUST TREATMENT SYSTEM

1.36 A VENTILATION EXHAUST TREATMENT SYSTEM shall be any system designed and installed to reduce gaseous radioiodine and radioactive material in particulate form in effluents by passing ventilation or vent exhaust gases through charcoal adsorbers and/or HEPA filters for the purpose of removing iodines or particulates from the gaseous exhaust stream prior to the release to the environment (such a system is not considered to have any effect on noble gas effluents). Engineered Safety Feature (ESF) atmospheric cleanup systems are not considered to be VENTILATION EXHAUST TREATMENT SYSTEM components.

VENTING

1.37 VENTING shall be 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 not provided or required during VENTING. Vent, used in system names, does not imply a VENTING process.

5.0 DESIGN FEATURES

5.1 SITE LOCATION

5.1 SITE

Salem Generating Station is located in Salem County, New Jersey along the eastern shore of the Delaware River approximately 8 miles southwest of Salem, New Jersey and 18 miles south of Wilmington, Delaware.

EXCLUSION AREA

5.1.1 The exclusion area shall be 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.

UNRESTRICTED AREAS FOR RADIOACTIVE GASEOUS AND LIQUID EFFLUENTS

5.1.3 UNRESTRICTED AREAS within the SITE BOUNDARY that are accessible to MEMBERS OF THE PUBLIC, shall be as shown in Figure 5.1-3.

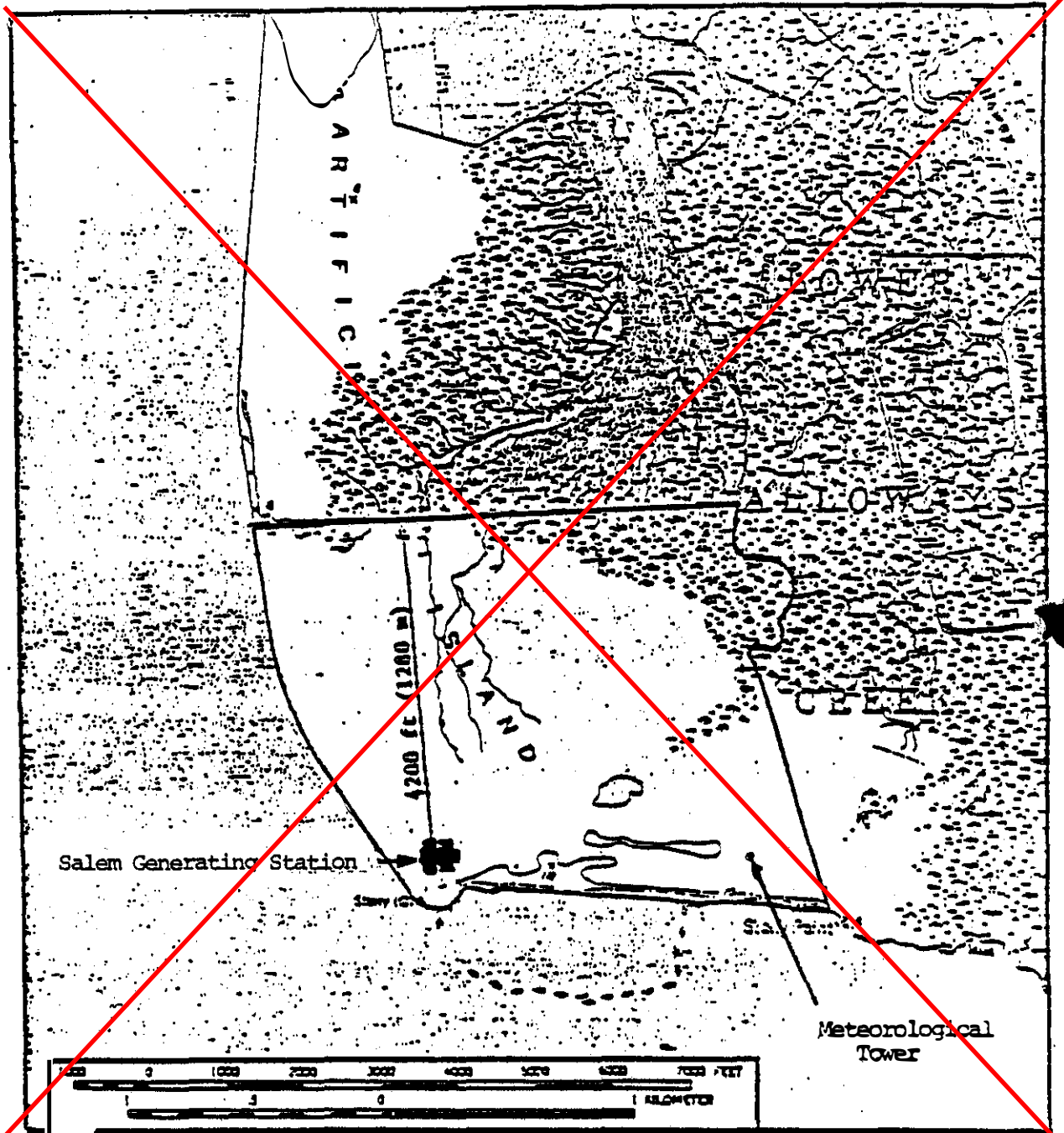
5.2 CONTAINMENT

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:

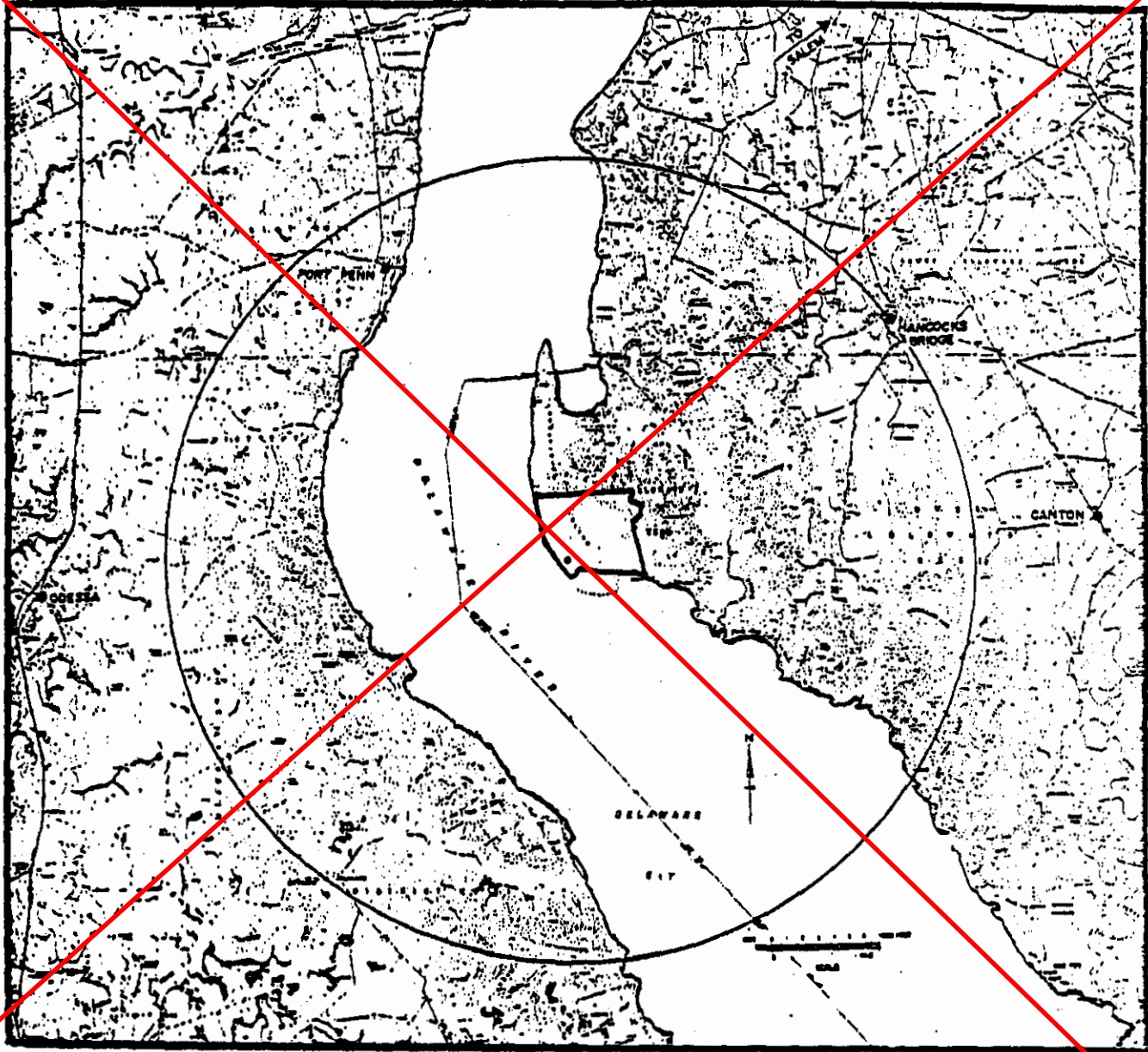
- a. Nominal inside diameter = 140 feet.
- b. Nominal inside height = 210 feet.
- c. Minimum thickness of concrete walls = 4.5 feet.
- d. Minimum thickness of concrete roof = 3.5 feet.
- e. Minimum thickness of concrete floor mat = 16 feet.
- f. Nominal thickness of steel liner = 1/4 to 1/2 inch.
- g. Net free volume = 2.62×10^6 cubic feet.

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~~EXCLUSION AREA~~
~~FIGURE 5.1-1~~

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LOW POPULATION ZONE
FIGURE 3.1-2

Amendment No. 59

ADMINISTRATIVE CONTROLS

following testing in accordance with this program, the leakage rate acceptance criteria are less than or equal to 0.6 L_i for Type B and Type C tests and less than or equal to 0.75 L_i for Type A tests;

b. Air lock testing acceptance criteria are:

- 1) Overall air lock leakage rate is less than or equal to 0.05 L_i when tested at greater than or equal to P_i,
- 2) Seal leakage rate less than or equal to 0.01 L_i per hour when the gap between the door seals is pressurized to 10.0 psig.

Test frequencies and applicable extensions will be controlled by the Primary Containment Leakage Rate Testing Program.

The provisions of Specification 4.0.3 will be applied to the Primary Containment Leakage Rate Testing Program.

6.8.4.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 the 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:

members of the public

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,

2) Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 CFR 20, Appendix B, Table II, Column 2,

unrestricted areas

3) Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.105 and with the methodology and parameters in the ODCM,

member of the public

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 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 92-day period would exceed a suitable fraction of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR Part 50,

ADMINISTRATIVE CONTROLS

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,

site boundary

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,

member of the public

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 each unit to areas beyond the ~~SITE BOUNDARY~~ conforming to Appendix I to 10 CFR Part 50,

site boundary

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.

6.8.4.h 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 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,

site boundary

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 the census, and

3) Participation in a 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.

6.8.4.i Steam Generator (SG) Program

An SG Program shall be established and implemented to ensure that SG tube integrity is maintained. In addition, the SG Program shall include the following:

- a. Provisions for condition monitoring assessments. Condition monitoring assessment means an evaluation of the "as found" condition of the tubing with respect to the performance criteria for structural integrity and accident induced leakage. The "as found" condition refers to the condition of the tubing during an SG inspection outage, as determined from the inservice inspection results or by other means, prior to the plugging of tubes. Condition monitoring assessments shall be conducted during each

Mark-up of the Current Salem Generating Station Unit-2 Technical Specification Pages

The following Technical Specifications pages for Renewed Facility Operating License DPR-75 are affected by this change request:

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- b. Leakage into the containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of leakage detection systems or not to be PRESSURE BOUNDARY LEAKAGE, or
- c. Reactor coolant system leakage through a steam generator to the secondary system (primary-to-secondary leakage).

INSERVICE TESTING PROGRAM

1.15.1 The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f).

~~MEMBER(S) OF THE PUBLIC~~

1.16 ~~MEMBER(S) OF THE PUBLIC shall be all those persons who are not occupationally associated with the plant. This category does not include employees of PSEG, 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.~~ Not Used

OFFSITE DOSE CALCULATION MANUAL (ODCM)

1.17 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 6.8.4 and (2) descriptions of the information that should be included in the Annual Radiological Environmental Operating and Annual Radioactive Effluent Release Reports required by Specifications 6.9.1.7 and 6.9.1.8 respectively.

OPERABLE - OPERABILITY

1.18 A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s), and when all necessary attendant instrumentation, controls, normal or emergency electrical power source, cooling and seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component or device to perform its specified safety function(s) are also capable of performing their related support function(s).

OPERATIONAL MODE - MODE

1.19 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 1.1.

DEFINITIONS

REACTOR TRIP SYSTEM RESPONSE TIME

1.26 The REACTOR TRIP SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until loss of stationary gripper coil voltage.

REPORTABLE EVENT

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

SHUTDOWN MARGIN

1.28 SHUTDOWN MARGIN shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all full length rod cluster assemblies (shutdown and control) are fully inserted except for the single rod cluster assembly of highest reactivity worth which is assumed to be FULLY WITHDRAWN.

SITE BOUNDARY

1.29 ~~The SITE BOUNDARY shall be that line beyond which the land is not owned, leased, or otherwise controlled by the licensee, as shown in Figure 5.1-3, and which defines the exclusion area as shown in Figure 5.1-1.~~

Not Used

SOLIDIFICATION

1.30 Not Used

SOURCE CHECK

1.31 SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to either (a) an external source of increased radioactivity, or (b) an internal source of radioactivity (keep-alive source), or (c) an equivalent electronic source check .

STAGGERED TEST BASIS

1.32 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.

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

THERMAL POWER

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

UNIDENTIFIED LEAKAGE

1.34 UNIDENTIFIED LEAKAGE shall be all leakage (except Reactor Coolant Pump Seal Water Injection) which is not IDENTIFIED LEAKAGE.

UNRESTRICTED AREA

1.35 ~~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 industrial, commercial, institutional, and/or recreational purposes.~~

Not Used

VENTILATION EXHAUST TREATMENT SYSTEM

1.36 A VENTILATION EXHAUST TREATMENT SYSTEM shall be any system designed and installed to reduce gaseous radioiodine and radioactive material in particulate form in effluents by passing ventilation or vent exhaust gases through charcoal adsorbers and/or HEPA filters for the purpose of removing iodines or particulates from the gaseous exhaust stream prior to the release to the environment (such a system is not considered to have any effect on noble gas effluents). Engineered Safety Feature (ESF) atmospheric cleanup systems are not considered to be VENTILATION EXHAUST TREATMENT SYSTEM components.

VENTING

1.37 VENTING shall be 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 not provided or required during VENTING. Vent, used in system names, does not imply a VENTING process.

5.0 DESIGN FEATURES

5.1 SITE

EXCLUSION AREA

5.1 SITE LOCATION

Salem Generating Station is located in Salem County, New Jersey along the eastern shore of the Delaware River approximately 8 miles southwest of Salem, New Jersey and 18 miles south of Wilmington, Delaware.

5.1.1 The exclusion area shall be 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.

UNRESTRICTED AREAS FOR RADIOACTIVE GASEOUS AND LIQUID EFFLUENTS

5.1.3 UNRESTRICTED AREAS within the SITE BOUNDARY that are accessible to MEMBERS OF THE PUBLIC, shall be as shown in Figure 5.1-3.

5.2 CONTAINMENT

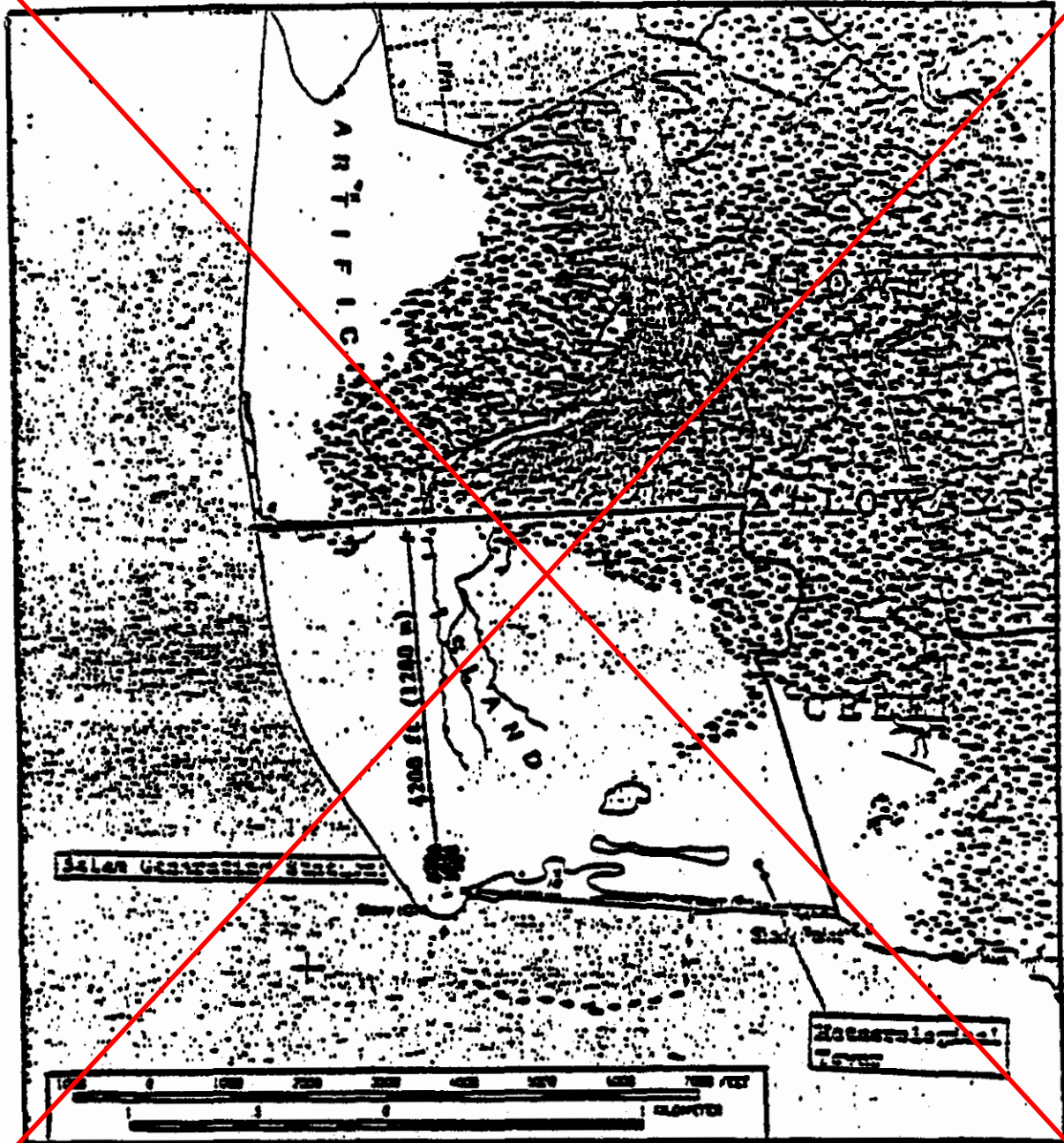
CONFIGURATION

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 = 140 feet.
- b. Nominal inside height = 210 feet.
- c. Minimum thickness of concrete walls = 4.5 feet.
- d. Minimum thickness of concrete roof = 3.5 feet.
- e. Minimum thickness of concrete floor mat = 16 feet.
- f. Nominal thickness of steel liner = 1/4 to 1/2 inch.
- g. Net free volume = 2.62×10^6 cubic feet.

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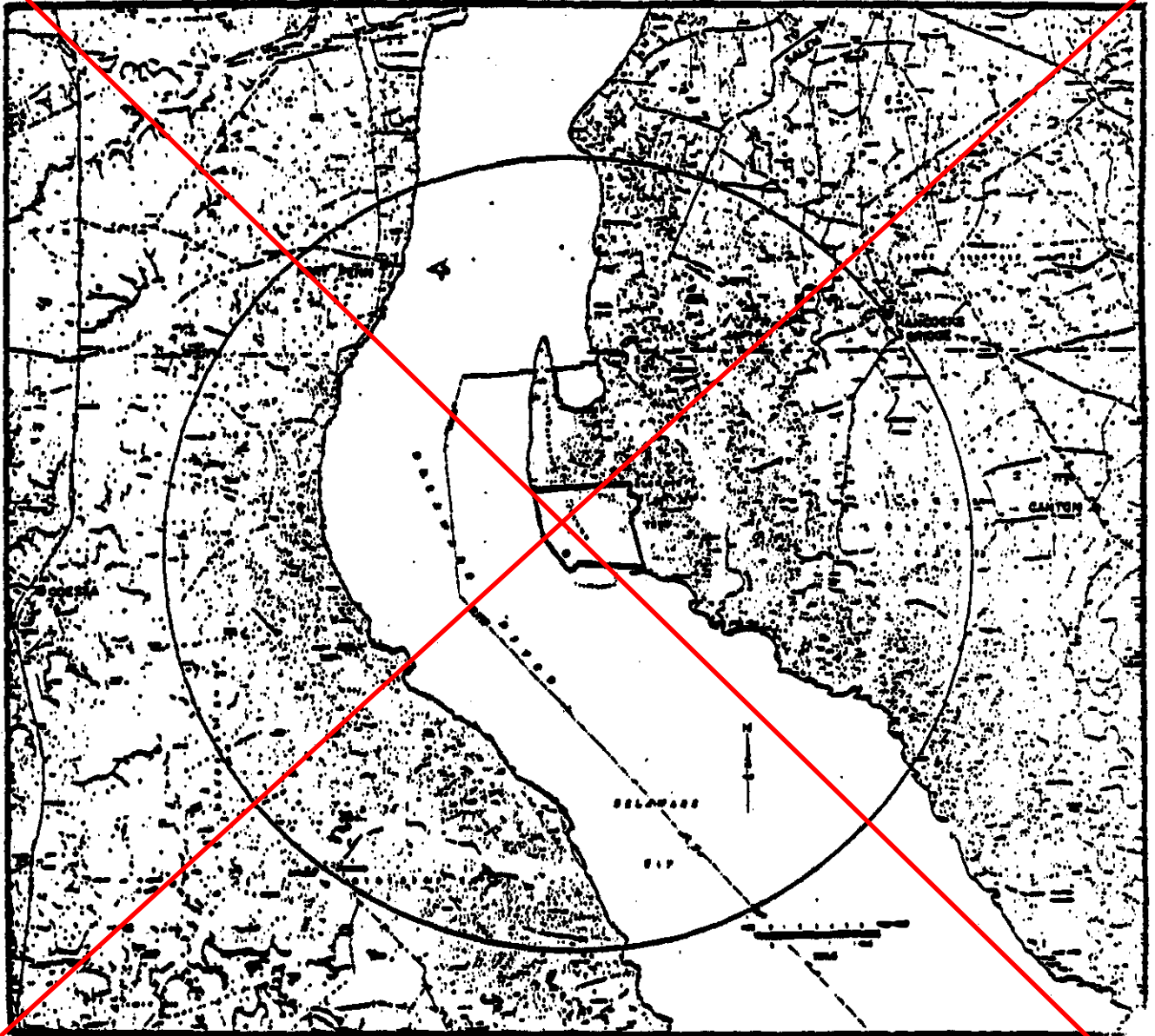
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~~EXCLUSION AREA~~
~~FIGURE 3.1-1~~

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LOW POPULATION ZONE
FIGURE 3.1-2

ADMINISTRATIVE CONTROLS

acceptance criteria are less than or equal to 0.6 L, for Type B and Type C tests and less than or equal to 0.75 L, for Type A tests;

- b. Air lock testing acceptance criteria are:
- 1) Overall air lock leakage rate is less than or equal to 0.05 L, when tested at greater than or equal to P_0 ,
 - 2) Seal leakage rate less than or equal to 0.01 L, per hour when the gap between the door seals is pressurized to 10.0 psig.

Test frequencies and applicable extensions will be controlled by the Primary Containment Leakage Rate Testing Program.

The provisions of Specification 4.0.3 will be applied to the Primary Containment Leakage Rate Testing Program.

6.8.4.g Radioactive Effluent Controls Program

members of the public

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

2) Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 CFR 20, Appendix B, Table II, Column 2.

unrestricted areas

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 each UNRESTRICTED AREAS conforming to Appendix I to 10 CFR Part 50.

member of the public

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 92-day period would exceed a suitable fraction of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR Part 50.

ADMINISTRATIVE CONTROLS

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,

site boundary

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,

member of the public

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 each unit to areas beyond the ~~SITE BOUNDARY~~ conforming to Appendix I to 10 CFR Part 50,

site boundary

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.

6.8.4.h 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 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,

site boundary

- 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 the census, and
- 3) Participation in a 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.

6.8.4.i Steam Generator (SG) Program

An SG Program shall be established and implemented to ensure that SG tube integrity is maintained. In addition, the SG Program shall include the following:

Attachment 3

**Mark-up of the Current Hope Creek Generating Station
Technical Specification Pages**

The following Technical Specifications pages for Renewed Facility Operating License NPF-57 are affected by this change request:

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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.

1.23 DELETED

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.~~ Not Used

MINIMUM CRITICAL POWER RATIO

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

OFF-GAS RADWASTE TREATMENT SYSTEM

1.26 An OFF-GAS RADWASTE TREATMENT SYSTEM is any system designed and installed to reduce radioactive gaseous effluents by collecting reactor coolant system offgases from the main condenser evacuation system and providing for delay or holdup for the purpose of reducing the total radioactivity prior to release to the environment.

OFFSITE DOSE CALCULATION MANUAL

1.27 The OFFSITE DOSE CALCULATIONAL 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 6.8.4 and (2) descriptions of the information that should be included in the Annual Radiological Environmental Operating Report and the Annual Radioactive Effluent Release Report required by Specifications 6.9.1.6 and 6.9.1.7.

DEFINITIONS

SECONDARY CONTAINMENT INTEGRITY

1.39 SECONDARY CONTAINMENT INTEGRITY shall exist when:

- a. All secondary containment 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, or deactivated automatic valve or damper, as applicable secured in its closed position, except as provided in Table 3.6.5.2-1 of Specification 3.6.5.2.
- b. All secondary containment hatches and blowout panels are closed and sealed.
- c. The filtration, recirculation and ventilation system is in compliance with the requirements of Specification 3.6.5.3.
- d. For double door arrangements, at least one door in each access to the secondary containment is closed, except when the access opening is being used for entry and exit.
- e. For single door arrangements, the door in each access to the secondary containment is closed, except for normal entry and exit.
- f. The sealing mechanism associated with each secondary containment penetration, e.g., welds, bellows or O-rings, is OPERABLE.
- g. The pressure within the secondary containment is less than or equal to the value required by Specification 4.6.5.1.a, except as indicated by the footnote for Specification 4.6.5.1.a

SHUTDOWN MARGIN (SDM)

1.40 SDM shall be the amount of reactivity by which the reactor is subcritical or would be subcritical throughout the operating cycle assuming that:

- a. The reactor is xenon free;
- b. The moderator temperature is $\geq 68^{\circ}\text{F}$, corresponding to the most reactive state; and
- c. All control rods are fully inserted except for the single control rod of highest reactivity worth, which is assumed to be fully withdrawn. With control rods not capable of being fully inserted, the reactivity worth of these control rods must be accounted for in the determination of SDM.

SITE BOUNDARY

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

Not Used

DEFINITIONS

TURBINE BYPASS SYSTEM RESPONSE TIME

- 1.48 The TURBINE BYPASS SYSTEM RESPONSE TIME consists of two separate time intervals: a) time from initial movement of the main turbine stop valve or control valve until 80% of the turbine bypass capacity is established, and b) the time from initial movement of the main turbine stop valve or control valve until initial movement of the turbine bypass valve. Either response time may be measured by any series of sequential, overlapping, or total steps such that the entire response time is measured.

UNIDENTIFIED LEAKAGE

- 1.49 UNIDENTIFIED LEAKAGE shall be all leakage which is not IDENTIFIED LEAKAGE.

UNRESTRICTED AREA

Not Used

- 1.50 ~~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.~~

VENTILATION EXHAUST TREATMENT SYSTEM

- 1.51 A VENTILATION EXHAUST TREATMENT SYSTEM shall be any system designed and installed to reduce gaseous radioiodine or radioactive material in particulate form in effluents by passing ventilation or vent exhaust gases through charcoal adsorbers and/or HEPA filters for the purpose of removing iodines or particulates from the gaseous exhaust stream prior to the release to the environment. Such a system is not considered to have any effect on noble gas effluents. Engineered Safety Feature (ESF) atmospheric cleanup systems are not considered to be VENTILATION EXHAUST TREATMENT SYSTEM components.

VENTING

- 1.52 VENTING shall be 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 not provided or required during VENTING. Vent, used in system names, does not imply a VENTING process.

Replace with:

Hope Creek Generating Station is located in Salem County, New Jersey along the eastern shore of the Delaware River approximately 8 miles southwest of Salem, New Jersey and 18 miles south of Wilmington, Delaware.

5.0 DESIGN FEATURES

5.1 SITE **LOCATION**

~~EXCLUSION AREA AND MAP DEFINING UNRESTRICTED AREAS AND SITE BOUNDARY FOR RADIOACTIVE GASEOUS AND LIQUID EFFLUENTS~~

~~5.1.1 The exclusion area shall be as shown in Figure 5.1.1-1. 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 Figure 5.1.1-1.~~

~~LOW POPULATION ZONE~~

~~5.1.2 The low population zone shall be as shown in Figure 5.1.2-1. The circle with the five mile radius is the low population zone.~~

5.2 CONTAINMENT

CONFIGURATION

5.2.1 The primary containment is a steel structure composed of a spherical lower portion, a cylindrical middle portion, and a hemispherical top head which form a drywell. The drywell is attached to the suppression chamber through a series of downcomer vents. The suppression chamber is a steel pressure vessel in the shape of a torus. The drywell has a nominal free air volume of 169,000 cubic feet. The suppression chamber has an air volume of 137,000 cubic feet and a water region as described in Technical Specification Bases 3/4.6.2, Depressurization Systems.

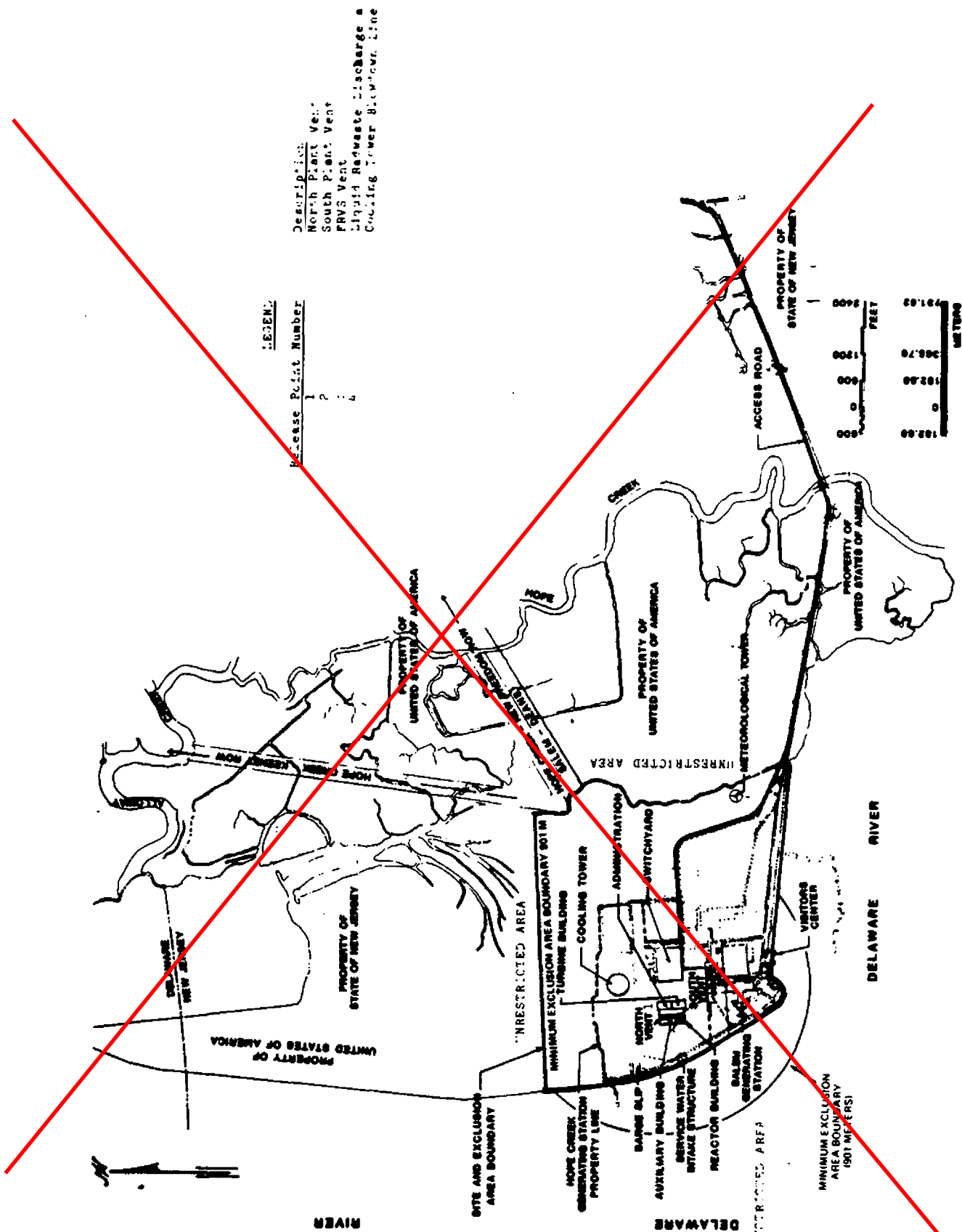
DESIGN TEMPERATURE AND PRESSURE

5.2.2 The primary containment is designed and shall be maintained for:

- a. Maximum internal pressure 62 psig.
- b. Maximum internal temperature: drywell 340°F.
suppression pool 310°F.
- c. Maximum external differential pressure 3 psid.

SECONDARY CONTAINMENT

5.2.3 The secondary containment consists of the Reactor Building, and a portion of the main steam tunnel and has a free volume of 4,000,000 cubic feet.



**EXCLUSION AREA AND UNRESTRICTED AREAS
AND SITE BOUNDARY FOR RADIOACTIVE GASEOUS AND LIQUID EFFLUENTS**

FIGURE 5.1.1-1

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LOW POPULATION ZONE 1982

TRANSPORTATION: HIGHWAY

DELAWARE 9
420
423
426

NEW JERSEY ALLOWAY CREEK NECK ROAD

RIVER
DELAWARE RIVER

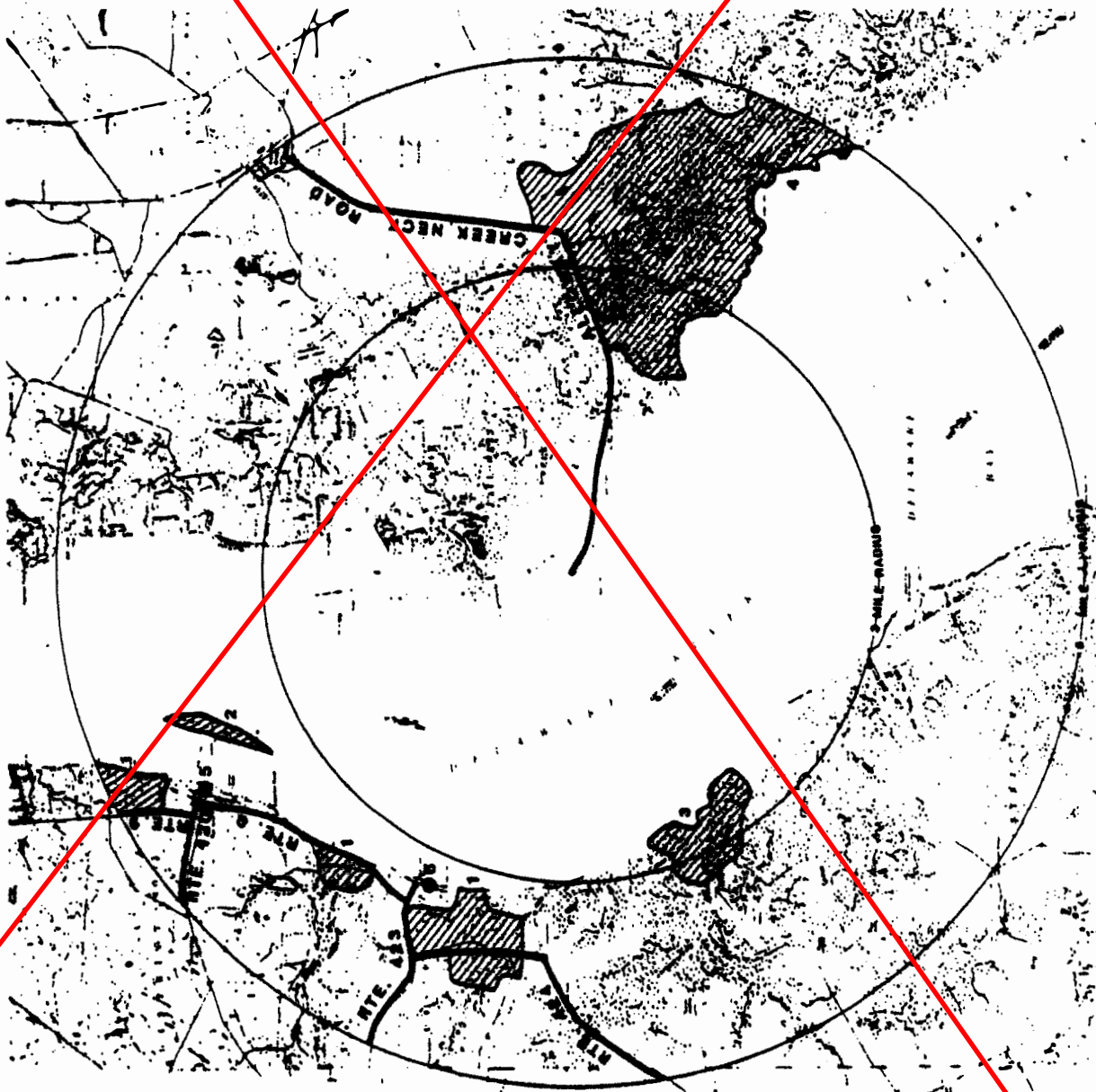
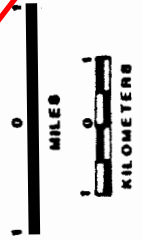
WILDLIFE AREAS

1. AUGUSTINE CREEK WILDLIFE AREA
2. REEDY ISLAND WILDLIFE REFUGE
3. APPOMINIMING WILDLIFE AREA
4. NAD HORSE CREEK WILDLIFE MANAGEMENT AREA

BEACH AREAS

5. AUGUSTINE BEACH
6. BAY VIEW BEACH

SOURCE: NEW CASTLE COUNTY PLANNING BOARD THE DEL LUM
PLANNING DISTRICT PLAN, 1995. SEPTEMBER 1975
NEW CASTLE COUNTY PLANNING BOARD THE WILDLIFE
DESSA-TOURISM PLANNING DISTRICT PLAN, 1995
SEPTEMBER 1975
R. CHARTWICH, DEPT. OF PLANNING, NEW CASTLE CO
PLANNING BOARD, MAY 1982
C. WARREN, DEPT. OF LAND USE & POPULATION, SALT
COUNTY PLANNING BOARD, APRIL 1982
U.S. DEPT. OF AGRICULTURE, SOIL CONSERVATION
CONSERVATION & DEVELOPMENT AREA PLAN, APRIL 1



LOW POPULATION ZONE

FIGURE 5.1.2-1

Intentionally
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ADMINISTRATIVE CONTROLS

6.8.4.f Primary Containment Leakage Rate Testing Program

A program shall be established, implemented, and maintained to comply with the leakage rate testing of the containment as required by 10CFR50.54(o) and 10CFR50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in NEI 94-01, "Industry Guideline for Implementing Performance-Based Option of 10 CFR 50 Appendix J," Revision 3-A, dated July 2012, and the conditions and limitations specified in NEI 94-01, Revision 2-A, dated October 2008.

The peak calculated containment internal pressure for the design basis loss of coolant accident, Pa, is 50.6 psig.

The maximum allowable primary containment leakage rate, La, at Pa, shall be 0.5% of primary containment air weight per day.

Leakage Rate Acceptance Criteria are:

- a. Primary containment leakage rate acceptance criterion is less than or equal to 1.0 La. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are less than or equal to 0.6 La for Type B and Type C tests and less than or equal to 0.75 La for Type A tests;
- b. Air lock testing acceptance criteria are:
 - 1) Overall air lock leakage rate is less than or equal to 0.05 La when tested at greater than or equal to Pa,
 - 2) Door seal leakage rate less than or equal to 5 scf per hour when the gap between the door seals is pressurized to greater than or equal to 10.0 psig.

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

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

6.8.4.g Radioactive Effluent Controls Program

member(s) of the public

A program shall be provided conforming with 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to ~~MEMBER(S) 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:

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

- 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, unrestricted areas
- 2) Limitations on the concentration 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, member of the public
- 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, unrestricted areas
- 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 ~~SITE BOUNDARY~~ conforming to the doses associated with 10 CFR Part 20, Appendix B, Table II, Column 1,

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

6.8.4.g. Radioactive Effluent Controls Program

- 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, site boundary
- 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, member of the public
- 10) Limitations on venting and purging of the containment through the Reactor Building Ventilation System, Hardened Torus Vent, or the FRVS to maintain releases as low as reasonably achievable, and member of the public
- 11) 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.

h. 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 exposure pathways, and (2) verification of the accuracy of the effluents monitoring program and modeling of the 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 site boundary
- 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.

**Mark-up of the Current Salem Unit 1 and Unit 2
Technical Specification Bases Pages for Information Only**

Salem Unit 1

Technical Specification Bases

3/4.3.3.8

3/4.11.1

Page

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Salem Unit 2

Technical Specification Bases

3/4.3.3.8

3/4.11.1

Page

B 3/4 3-3a

B 3/4 11-3

3/4.3.3.5 REMOTE SHUTDOWN INSTRUMENTATION

The OPERABILITY of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HOT STANDBY of the facility from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criteria 19 of 10 CFR 50.

3/4.3.3.6 THIS SECTION DELETED3/4.3.3.7 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the Recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," December 1975.

The Wide Range Neutron Flux Monitors are the Gamma-Metrics Post-Accident Neutron Monitors.

3/4.3.3.8 RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

The purpose of tank level indicating devices is to assure the detection and control of leaks that if not controlled could potentially result in the transport of radioactive materials to ~~UNRESTRICTED AREAS~~.

unrestricted areas

3/4.3.3.9

THIS SECTION DELETED

3/4.3.3.10

THIS SECTION DELETED

3/4.3.3.11

THIS SECTION DELETED

3/4.3.3.12

THIS SECTION DELETED

3/4.3.3.13

THIS SECTION DELETED

RADIOACTIVE EFFLUENTS

BASES

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~~.

unrestricted area

3/4.11.2 GASEOUS EFFLUENTS

3/4.11.2.1 Deleted

INSTRUMENTATION

BASES

3/4.3.3.8 RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

The purpose of tank level indicating devices is to assure the detection and control of leaks that if not controlled could potentially result in the transport of radioactive materials to

~~UNRESTRICTED AREAS.~~

unrestricted areas

3/4.3.3.9

THIS SECTION DELETED

3/4.3.3.10

THIS SECTION DELETED

3/4.3.3.11

THIS SECTION DELETED

3/4.3.3.12

THIS SECTION DELETED

3/4.3.3.13

THIS SECTION DELETED

RADIOACTIVE EFFLUENTS

BASES

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~~.

unrestricted area

3/4.11.2 GASEOUS EFFLUENTS

3/4.11.2.1 Deleted

**Mark-up of the Current Hope Creek
Technical Specification Bases Pages for Information Only**

Technical Specification Bases
3/4.11.1.4

Page
B 3/4 11-1

3/4.11 RADIOACTIVE EFFLUENTS

BASES

3/4.11.1 Deleted

3/4.11.1.2 Deleted

3/4.11.1.3 Deleted

3/4.11.1.4 LIQUID HOLDUP TANKS

The tanks listed in 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 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.~~

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 Deleted

3/4.11.2.6 Deleted

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 an individual at the exclusion area 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.