

- (2) AmerGen Energy Company, LLC, pursuant to the Act and 10 CFR Parts 30,40 and 70 to receive, possess and use at any time any byproduct, source and special nuclear material as reactor fuel, sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required for reactor operation;
- (3) AmerGen Energy Company, LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess at either TMI-1 or TMI-2, and use in amounts as required for TMI-1 any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis, testing, instrument calibration, or associated with radioactive apparatus or components. Other than radioactive apparatus and components to be used at TMI Unit 2 in accordance with the TMI-2 License, the radioactive apparatus and components that may be moved from TMI Unit 1 to TMI Unit 2 under this provision shall be limited to: (1) outage-related items (such as contaminated scaffolding, tools, protective clothing, portable shielding and decontamination equipment); and (2) other equipment belonging to TMI Unit 1 when storage of such equipment at TMI-2 is deemed necessary for load handling or contamination control considerations;
- (4) AmerGen Energy Company, LLC, pursuant to the Act and 10 CFR Parts 30 and 70, to possess at the TMI Unit 1 or Unit 2 site, but not separate, such byproduct and special nuclear materials as may be produced by the operation of either unit. Radioactive waste may be moved from TMI Unit 2 to TMI Unit 1 under this provision for collection, processing (including decontamination), packaging, and temporary storage prior to disposal. Radioactive waste that may be moved from TMI Unit 1 to TMI Unit 2 under this provision shall be limited to: (1) dry active waste (DAW) temporarily moved to TMI Unit 2 during waste collection activities, and (2) contaminated liquid contained in shared system piping and tanks. Radioactive waste that may be moved from TMI Unit 1 to TMI Unit 2 under this provision shall not include spent fuel, spent resins, filter sludge, evaporator bottoms, contaminated oil, or contaminated liquid filters.

The storage of radioactive materials or radwaste generated at TMI Unit 2 and stored at TMI Unit 1 shall not result in a source term that, if released, would exceed that previously analyzed in the UFSAR in terms of off-site dose consequences.

The storage of radioactive materials or radwaste generated at TMI Unit 1 and stored at TMI Unit 2 shall not result in a source term that, if released, would exceed that previously analyzed in the PDMS SAR for TMI Unit 2 in terms of off-site dose consequences.

- c. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

AmerGen Energy Company, LLC is authorized to operate the facility at steady state reactor core power levels not in excess of 2568 megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 218 are hereby incorporated in the license. The AmerGen Energy Company, LLC shall operate the facility in accordance with the Technical Specifications.

(3) Physical Protection

The license shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain safeguards information protected under 10 CFR 73.21, are entitled: "Three Mile Island, Units 1 and 2, Modified Amended Physical Security Plan," with revisions submitted through July 8, 1988; "Three Mile Island, Units 1 and 2, Security Personnel Training and Qualification Plan," with revisions submitted through November 28, 1986; and "Three Mile Island, Units 1 and 2, Safeguards Contingency Plan," with revision submitted through June 20, 1986. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

(4) Fire Protection

AmerGen Energy Company, LLC shall implement and maintain in effect all provisions of the Fire Protection Program as described in the Updated FSAR for TMI-1.

Changes may be made to the Fire Protection Program without prior approval by the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. Temporary changes to specific fire protection features which may be necessary to accomplish maintenance or modifications are acceptable provided that interim compensatory measures are implemented.

(5) The licensee shall implement a secondary water chemistry monitoring program to inhibit steam generator tube degradation. This program shall include:

- a. Identification of a sampling schedule for the critical parameters and control points for these parameters;
- b. Identification of the procedures used to measure the values of the critical parameters;

- c. Identification of process sampling points;
- d. Procedure for the recording and management of data;
- e. Procedures defining corrective actions of off control point chemistry conditions; and
- f. A procedure identifying (1) the authority responsible for the interpretation of the data, and (2) the sequence and timing of administrative events required to initiate corrective action.

(6) Inservice Testing - DELETED

(7) Aircraft Movements

Sixty (60) days following the report on aircraft movements at the Harrisburg International Airport for the calendar year 1984 pursuant to Technical Specification 6.9.1.B.2.b, a report shall be submitted updating the air crash probability analysis presented by Metropolitan Edison Company to the Atomic Safety and Licensing Appeal Board in the Three Mile Island, Unit No. 2 operation license proceeding (Docket No. 50-320). Such report shall utilize current data on aircraft movements at the Harrisburg International Airport and updated national aerial crash rates and shall be based on the same methodology presented by Metropolitan Edison Company as accepted by the Appeal Board in ALAB-692. Following receipt of such report NRC will, after discussion with the licensee, determine the need for further periodic air crash probability analyses.

(8) Repaired Steam Generators

In order to confirm the leak-tight integrity of the Reactor Coolant System, including the steam generators, operation of the facility shall be in accordance with the following:

1. Prior to initial criticality, the licensee shall submit to NRC the results of the steam generator hot test program and a summary of its management review.
2. The licensee shall confirm baseline primary-to-secondary leakage rate established during the steam generator hot test program. If leakage exceeds the baseline leakage rate by more than 0.1 gpm*, the facility shall be shut down and leak tested. If any increased leakage above baseline is due to defects in the tube free span, the leaking tube(s) shall be removed from service. The baseline leakage shall be re-established, provided that the leakage limit of Technical Specification 3.1.6.3 is not exceeded.
3. The licensee shall complete its post-critical test program at each power range (0-5%, 5%-50%, 50%-100%) in conformance with the program described in Topical Report 008, Rev. 3, and shall have available the results of that test program and a summary of its management review, prior to ascension from each power range and prior to normal power operation.
4. The licensee shall conduct eddy-current examinations, consistent with the extended inservice inspection plan defined in Table 3.3-1 of NUREG-1019, either 90 calendar days after reaching full power, or 120 calendar days after exceeding 50% power operation, whichever comes first. In the event of plant operation for an extended period at less than 50% power, the licensee shall provide an assessment at the end of 180 days of operation at power levels between 5% and 50%, such assessment to contain recommendations and supporting information as to the necessity of a special eddy-current testing (ECT) shutdown before the end of the refueling cycle. (The NRC staff will evaluate that assessment and determine the time of the next eddy-current examination, consistent with the other provisions of the license conditions.) In the absence of such an assessment, a special ECT shutdown shall take place before an additional 30 days of operation at power above 5%.

*If leakage exceeds the baseline leakage rate by more than 0.1 gpm during the remainder of the Cycle 8 operation, the facility shall be shutdown and leak tested. Operation at leakage rates of up to 0.2 gpm above the baseline leakage rate shall be acceptable during the remainder of Cycle 8 operation. After the 9R refueling outage, the leakage limit and accompanying shutdown requirements revert to 0.1 gpm above the baseline leakage rate.

5. The licensee shall provide routine reporting of the long-term corrosion "lead tests" test results on a quarterly basis as well as more timely notification if adverse corrosion test results are discovered.

(9) Long Range Planning Program

The revised "Plan for the Long Range Planning Program for the Three Mile Island Nuclear Station - Unit 1" (the Plan) submitted by GPUN letter C311-94-2124 dated September 26, 1994 is approved.

- a. The Plan shall be followed by the Licensee from and after November 28, 1994.
- b. The Category A schedule shall not be changed without prior approval from the NRC. Categories B and C schedules may be changed without prior approval by NRC.

Sale and License Transfer Conditions

- (10) The Limited Liability Company Agreement dated August 18, 1997, may not be modified in any material respect concerning decision-making authority over "safety issues" as defined therein without the prior written consent of the Director, Office of Nuclear Reactor Regulation.
- (11) At least half of the members of AmerGen's Management Committee shall be appointed by a non-foreign member group, all of which appointees shall be U.S. citizens.
- (12) The Chief Executive Officer (CEO), Chief Nuclear Officer (CNO) (if someone other than the CEO), and Chairman of the Management Committee of AmerGen shall be U.S. citizens. These individuals shall have the responsibility and exclusive authority to ensure, and shall ensure, that the business and activities of AmerGen with respect to the TMI-1 license are at all times conducted in a manner consistent with the protection of the public health and safety and common defense and security of the United States.
- (13) AmerGen shall cause to be transmitted to the Director, Office of Nuclear Reactor Regulation within 30 days of filing with the Securities and Exchange Commission, any Schedules 13D or 13G filed pursuant to the Securities and Exchange Act of 1934 that disclose beneficial ownership of a registered class of PECO stock.
- (14) AmerGen shall provide decommissioning funding assurance of no less than \$303 million, after payment of any taxes, to be held in the decommissioning trust(s) for TMI-1 at the time of the transfer of the TMI-1 license to AmerGen, including any amounts held in any decommissioning trust(s) that may continue to be maintained by GPU Energy for TMI-1 after such license transfer.

- (15) AmerGen shall take all necessary steps to ensure that the decommissioning trust is maintained in accordance with the application, the requirements of the Order Approving Transfer of License and Conforming Amendment, dated April 12, 1999, and the related Safety Evaluation dated April 12, 1999.
 - (16) AmerGen shall take no action to cause PECO or British Energy, plc to void, cancel, or diminish the \$65 million contingency fund commitment from PECO and British Energy for TMI-1, the existence of which is represented in the application, or cause them to fail to perform or impair their performance under the commitment, or remove or interfere with AmerGen's ability to draw upon the commitment. Further, AmerGen shall inform the Director, Office of Nuclear Reactor Regulation, in writing, at such time that it draws upon the \$65 million contingency fund. This provision does not affect the NRC's authority to assure that adequate funds will remain available to fund the transition to safe shutdown, should any question arise regarding availability of funds for such a purpose.
6. This license is effective as of the date of issuance and shall expire at midnight, April 19, 2014.

FOR THE ATOMIC ENERGY COMMISSION

Original Signed by A. Giambusso

A. Giambusso, Deputy Director
for Reactor Projects
Directorate of Licensing

Attachment: Appendix A Technical
Specifications

Date of Issuance: April 19, 1974

ATTACHMENT TO LICENSE AMENDMENT NO. 218

FACILITY OPERATING LICENSE NO. DPR-50

DOCKET NO. 50-289

Replace the following pages of the Appendix A, Technical Specifications, with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change.

<u>Remove</u>	<u>Insert</u>
1-7	1-7
4-55a	4-55a
4-55c	4-55c
4-55e	4-55e
4-55g	4-55g
5-1	5-1
Fig. 5-1	Fig. 5-1
Fig. 5-2	Fig. 5-2
Fig. 5-3	Fig. 5-3
6-1	6-1
6-3	6-3
6-4	6-4
6-5	6-5
6-6	6-6
6-7	6-7
6-8	6-8
6-9	6-9
6-10	6-10
6-11	6-11
6-23	6-23
6-24	6-24
6-25	6-25

1.18 VENTILATION EXHAUST TREATMENT SYSTEM

A VENTILATION EXHAUST TREATMENT SYSTEM is any system designed and installed to reduce gaseous radioiodine or radioactive material in particulate form in effluent by passing ventilation or vent exhaust gases through charcoal absorbers and/or HEPA filters for the purpose of removing iodine or particulates from the gaseous exhaust system prior to the release to the environment. Engineered Safety Feature (ESF) atmospheric cleanup systems are not considered to be VENTILATION EXHAUST TREATMENT SYSTEMS.

1.19 PURGE - PURGING

PURGE or PURGING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating conditions in such a manner that replacement air or gas is required to purify the confinement.

1.20 VENTING

VENTING is the controlled process of discharging air as gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating conditions in such a manner that replacement air or gas is not provided. Vent used in system name does not imply a VENTING process.

1.21 REPORTABLE EVENT

A REPORTABLE EVENT shall be any of those conditions specified in 10 CFR 50.73.

1.22 MEMBER(S) OF THE PUBLIC

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 AmerGen Energy Company, LLC, AmerGen Energy Company, LLC contractors or vendors. Also excluded from this category are persons who enter the site to service equipment or to make deliveries.

1.23 SUBSTANTIVE CHANGES

SUBSTANTIVE CHANGES are those which affect the activities associated with a document or the document's meaning or intent. Examples of non-substantive changes are: (1) correcting spelling; (2) adding (but not deleting) sign-off spaces; (3) blocking in notes, cautions, etc.; (4) changes in corporate and personnel titles which do not reassign responsibilities and which are not referenced in the Appendix A Technical Specifications; and (5) changes in nomenclature or editorial changes which clearly do not change function, meaning or intent.

Bases

Pressure drop across the combined HEPA filters and charcoal adsorbers of less than 6 inches of water at the system design flow rate will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. Pressure drop should be determined at least once per refueling cycle to show system performance capability.

The frequency of tests and sample analysis are necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. Tests of the charcoal adsorbers with halogenated hydrocarbon shall be performed in accordance with approved test procedures. Replacement adsorbent should be qualified according to Regulatory Guide 1.52 March 1978. The charcoal adsorber efficiency test procedures should allow for the removal of one adsorber tray, emptying of one bed from the tray, mixing the adsorbent thoroughly and obtaining at least two samples. Each sample should be at least two inches in diameter and a length equal to the thickness of the bed. If test results are unacceptable all adsorbent in the system shall be replaced. Tests of the HEPA filters with DOP aerosol shall also be performed in accordance with approved test procedures. Any HEPA filters found defective should be replaced with filters qualified according to Regulatory Guide 1.52 March 1978.

Operation of the system for 10 hours every month will demonstrate operability of the filters and adsorber system and remove excessive moisture built up on the adsorber.

If significant painting, steam, fire or chemical release occurs such that the HEPA filter or charcoal adsorber could become contaminated from the fumes, chemicals or foreign materials, the same tests and sample analysis shall be performed as required for operational use. The determination of significance shall be made by the Vice President-TMI Unit 1.

Demonstration of the automatic initiation of the recirculation mode of operation is necessary to assure system performance capability.

Bases

Pressure drop across the combined HEPA filters and charcoal adsorbers of less than 6 inches of water at the system design flow rate will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. Pressure drop should be determined at least once every refueling interval to show system performance capability.

The frequency of tests and sample analysis are necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. Tests of the charcoal adsorbers with halogenated hydrocarbon refrigerant shall be performed in accordance with approved test procedures. The charcoal efficiency test procedures should allow for the removal of one adsorber tray, emptying of one bed from the tray, mixing the adsorbent thoroughly and obtaining at least two samples. Each sample should be at least two inches in diameter and a length equal to the thickness of the bed. If test results are unacceptable all adsorbent in the system should be replaced with an adsorbent qualified according to Regulatory Guide 1.52, March 1978. Tests of the HEPA filters with DOP aerosol shall also be performed in accordance with approved test procedures. Any HEPA filters found defective should be replaced with filters qualified according to Regulatory Guide 1.52, March 1978.

Fans AH-E7A&B performance verification is necessary to ensure adequate flow to perform the filter surveillance of T.S. 4.12.2.1 and 4.12.2.3 and can only be demonstrated by running both fans simultaneously. This can only be accomplished when purge valves are not limited to 30° open (i.e., cold shutdown).

Since H₂ purge has been superseded by the installation of H₂ recombiners at TMI-I, the reactor building purge exhaust system no longer is relied upon to serve an operating accident mitigating (i.e. LOCA) function. The retest requirement of T.S. 4.12.2.2a has therefore been changed to reflect the same retest requirements as the auxiliary and fuel handling building ventilation system which similarly serves no operating accident mitigating function.

If significant painting, steam, fire, or chemical release occurs such that the HEPA filter or charcoal could become contaminated from the fumes, chemicals or foreign material, the same tests and sample analysis shall be performed as required for operational use. The determination of significant shall be made by the Vice President-TMI Unit 1.

References

- (1) UFSAR, Section 5.6 - "Ventilation and Purge Systems"

Bases

Pressure drop across the combined HEPA filters and charcoal adsorbers of less than 6 inches of water at the system design flow rate will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. Pressure drop should be determined at least once every refueling interval to show system performance capability.

Tests and sample analysis assure that the HEPA filters and charcoal adsorbers can perform as evaluated. The charcoal adsorber efficiency test procedures should allow for the removal of one adsorber tray, emptying of one bed from the tray, mixing the adsorbent thoroughly and obtaining at least two samples. Each sample should be at least two inches in diameter and a length equal to the thickness of the bed. The in-place test criteria and laboratory test criteria for activated charcoal will meet the guidelines of ANSI-N510-1980. If test results are unacceptable, all adsorbent in the system should be replaced with an adsorbent qualified according to Regulatory Guide 1.52, March 1978 or ANSI-N509-1980. Any HEPA filters found defective should be replaced with filters qualified according to Regulatory Guide 1.52, March 1978 or ANSI-N509-1980.

If significant painting, steam, fire, or chemical release occurs such that the HEPA filter or charcoal adsorber could become contaminated from the fumes, chemicals or foreign material, the same tests and sample analysis shall be performed as required for operational use. The determination of what is significant shall be made by the Vice President-TMI Unit 1.

Operation of the Auxiliary and Fuel Handling Building Exhaust Fans each month for at least ten (10) hours will demonstrate operability of the fans.

4-55c

Amendment No. ~~55, 122, 157, 179~~ 218

Bases

The FHB ESF Air Treatment System is a system which is normally kept in a "standby" operating status. Tests and sample analysis assure that the HEPA filters and charcoal adsorbers can perform as evaluated. The charcoal adsorber efficiency test procedure should allow for the removal of a sample from one adsorber test canister. Each sample should be at least two inches in diameter and a length equal to the thickness of the bed. The in-place test criteria and laboratory test criteria for activated charcoal will meet the guidelines of ANSI-N510-1980. If test results are unacceptable, all adsorbent in the system shall be replaced with an adsorbent qualified in accordance with ANSI-N509-1980. Any HEPA filters found defective will be replaced with filters qualified in accordance with ANSI-N509-1980.

Pressure drop across the entire filtration unit of less than 7.0 inches of water at the system design flow rate will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter.

Operation of the system for 10 hours every month will demonstrate operability of the filters and adsorber system and remove excessive moisture buildup on the adsorbers and HEPA filters.

If significant painting, steam, fire, or chemical release occurs such that the HEPA filter or charcoal adsorber could become contaminated from the fumes, chemicals or foreign material, the same tests and sample analysis shall be performed as required for operational movement of irradiated fuel. The determination of what is significant shall be made by the Vice President-TMI Unit 1.

4-55g

5.0 DESIGN FEATURES

5.1 SITE

Applicability

Applies to the location and extent of the exclusion boundary, restricted area, and low population zone.

Objective

To define the above by location and distance description.

Specification

- 5.1.1 The Three Mile Island Nuclear Station Unit 1 is located in an area of low population density about ten miles southeast of Harrisburg, PA. It is in Londonderry Township of Dauphin County, Pennsylvania, about two and one-half miles north of the southern tip of Dauphin County, where Dauphin is coterminous with York and Lancaster Counties. The station is located on an island approximately three miles in length situated in the Susquehanna River upstream from York Haven Dam. Figure 5.1 is an extended plot plan of the site showing the plant orientation and immediate surroundings. The Exclusion Area as defined in 10 CFR 100.3, is a 2,000 ft. radius, including portions of Three Mile Island, the river surface around it, and a portion of Shelley Island, which is owned by AmerGen Energy Company, LLC. The minimum distance of 2,000 ft. occurs on the shore of the mainland in a due easterly direction from the plant as shown on Figure 5.1 for the Exclusion Area. Figure 5-3 showing the physical location of the fence defines the "Restricted Area" surrounding the plant. The minimum distance of the "Restricted Area" is approximately 560 feet and is from the centerline of the TMI Unit 2 Reactor Building to a point on the westerly shoreline of Three Mile Island. The minimum distance to the outer boundary of the low population zone is two miles as shown on T.S. Figure 5-2, which also depicts the site topography for a radius of five miles. T.S. Figure 5-3 depicts the locations of gaseous effluent release points and liquid effluent outfalls (as tabularized on page 5-10), and the meteorological tower location (designated as 'weather tower' on the figure).

Three Mile Island Nuclear Station, Unit No. 1

cc:

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Board of County Commissioners
of Dauphin County
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

METROPOLITAN EDISON COMPANY

JERSEY CENTRAL POWER & LIGHT COMPANY

PENNSYLVANIA ELECTRIC COMPANY

GPU NUCLEAR, INC.

DOCKET NO. 50-289

THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 218
License No. DPR-50

1. The Nuclear Regulatory Commission (the Commission or NRC) has found that:
 - A. The application for amendment by GPU Nuclear, Inc., et al. (the licensee) and AmerGen Energy Company, LLC, dated, December 3, 1998, as supplemented January 11, February 4, March 4, March 10, and March 15, 1999, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

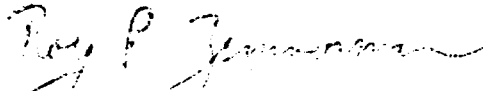
2. Accordingly, the license is amended as indicated in the attachment to this license amendment, and by changes to the Technical Specifications as also indicated in the attachment to this license and paragraph 2.C.(2) of Facility Operating License No. DPR-50 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 218, are hereby incorporated in the license. AmerGen Energy Company, LLC, shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance, to be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Samuel J. Collins, Director
Office of Nuclear Reactor Regulation

Attachment: Operating License Pages 1-8* and
Technical Specifications

Date of Issuance: December 20, 1999

*Pages 1-8 are attached, for convenience, for the composite license to reflect these changes.



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

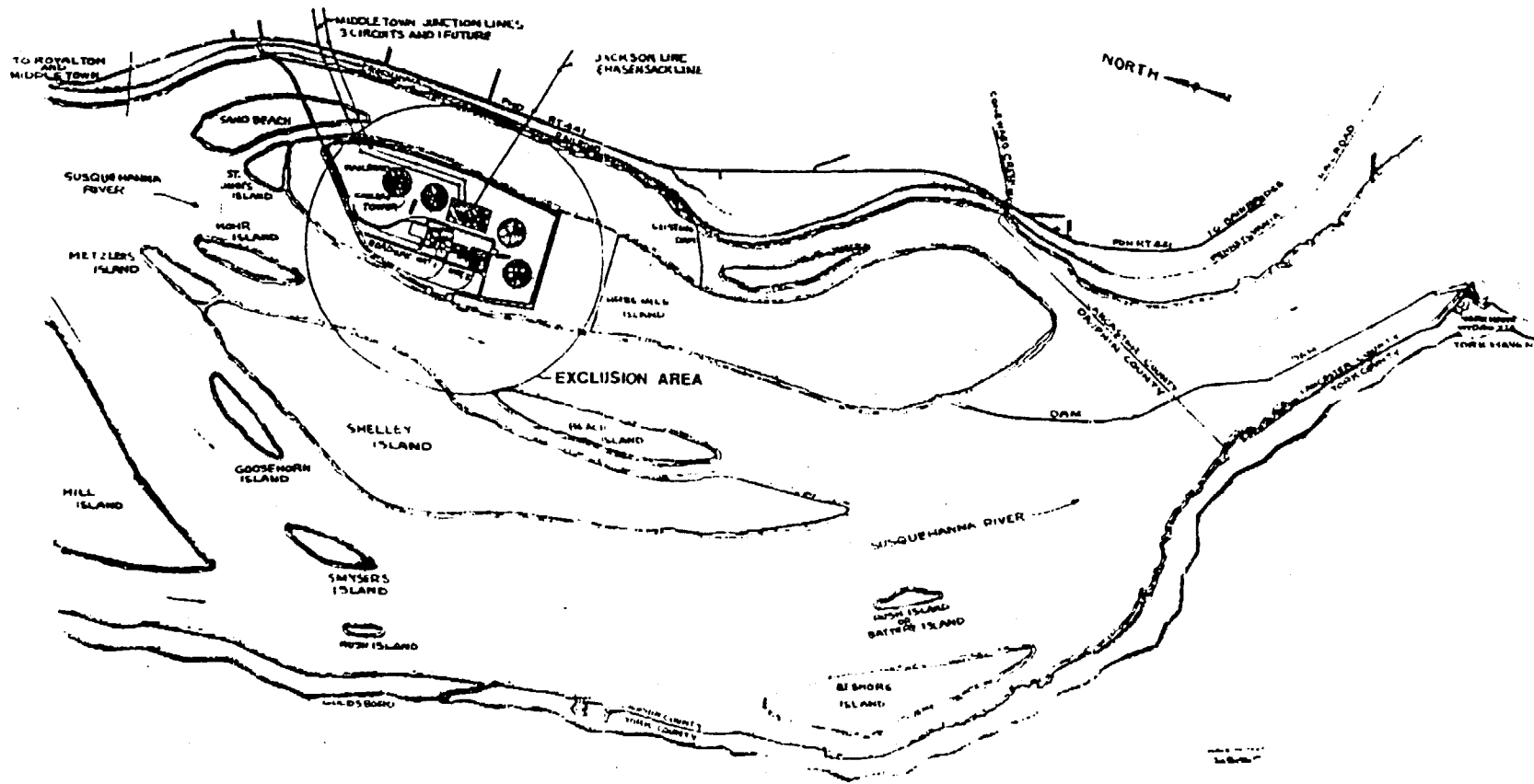
AMERGEN ENERGY COMPANY, LLC
(Three Mile Island Nuclear Station, Unit 1)

DOCKET NO. 50-289

FACILITY OPERATING LICENSE

1. The Atomic Energy Commission (the Commission) having found that:
 - a. The application for license filed by the applicant complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter 1 and all required notifications to other agencies or bodies have been duly made;
 - b. Construction of the Three Mile Island Nuclear Station, Unit 1 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-40, the application, as amended, the provisions of the Act and the rules and regulations of the Commission;
 - c. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - d. There is reasonable assurance: (1) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public, and (2) that such activities will be conducted in compliance with the rules and regulations of the Commission;
 - e. AmerGen Energy Company, LLC is technically and financially qualified to engage in the activities authorized by this operating license in accordance with the rules and regulations of the Commission;

- f. AmerGen Energy Company, LLC has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
 - g. The issuance of this operating license will not be inimical to the common defense and security or to the health and safety of the public;
 - h. After weighing the environmental, economic, technical, and other benefits of the facility against environmental costs and considering available alternatives, the issuance of Facility Operating License No. DPR-50 is in accordance with 10 CFR Part 50, Appendix D, of the Commission's regulations and all applicable requirements of said Appendix D have been satisfied; and
 - i. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70, including 10 CFR Section 30.33, 40.32, 70.23 and 70.31.
2. Facility Operating License No. DPR-50 is hereby issued to the AmerGen Energy Company, LLC to read as follows:
- a. This license applies to the Three Mile Island Nuclear Station, Unit 1, a pressurized water reactor and associated equipment (the facility), owned and operated by AmerGen Energy Company, LLC. The facility is located in Dauphin County, Pennsylvania, and is described in the "Final Safety Analysis Report" as supplemented and amended (Amendments 1 through 47) and the Environmental Report as supplemented and amended (Amendments 1 and 2).
 - b. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) AmerGen Energy Company, LLC pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility in accordance with the procedures and limitations set forth in this license;



Amendment No. 218

AmerGen
 Extended Plot Plan
 Three Mile Island Nuclear Station



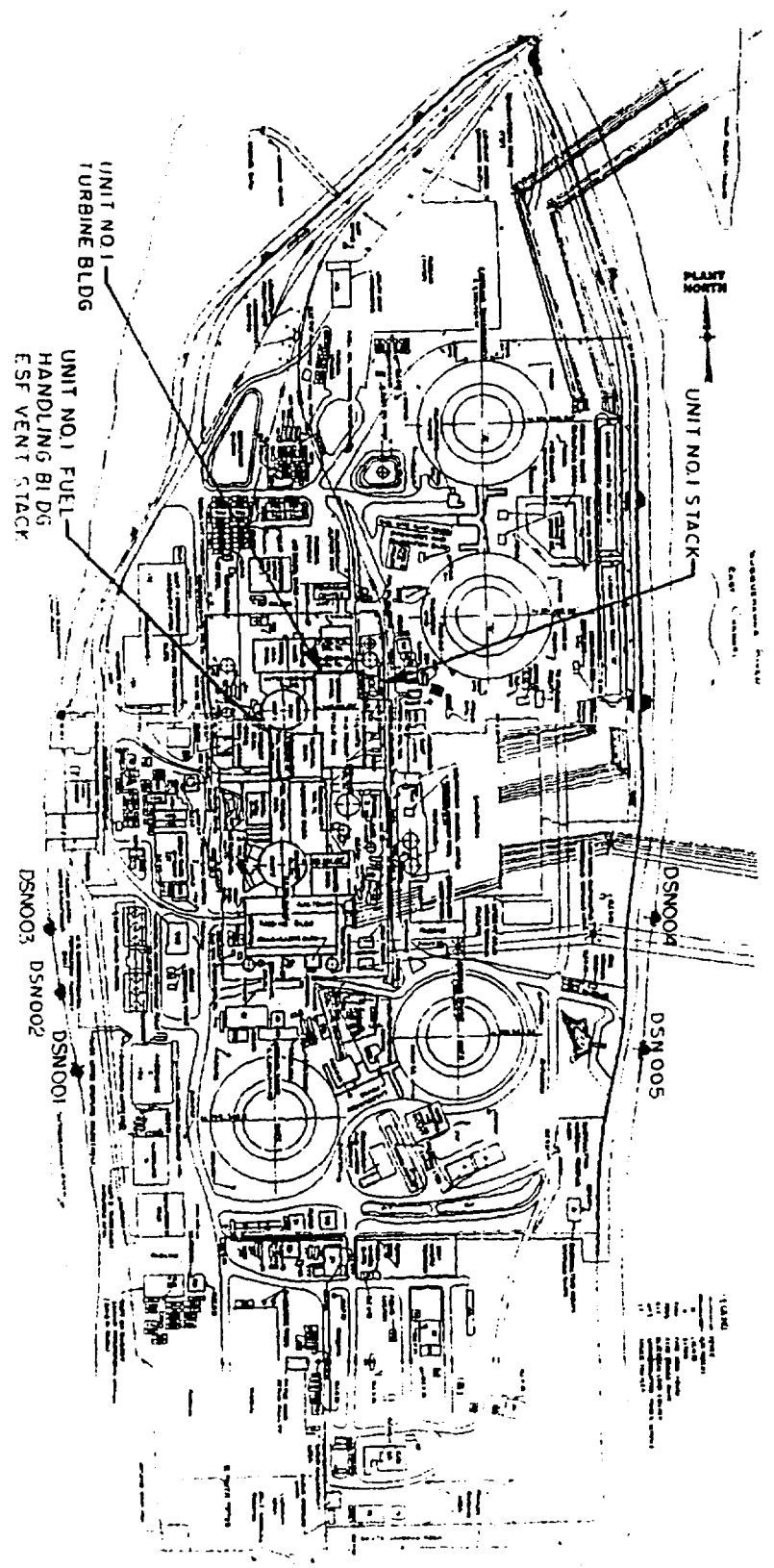
CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

AmerGen

Site Topography
5 Mile Radius

Three Mile Island Nuclear Station

Fig. 5-2



AmerGen

**Discrete Effluent Release Points and
Liquid Effluent Outlet Locations**
These Sites Indicate Injection Points

6.0 ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Vice President-TMI Unit 1 shall be responsible for TMI-1 operations and may, at any time, delegate his responsibilities in writing to the Director, Operations and Maintenance, TMI. He shall delegate the succession of his responsibilities in writing during his absence.

6.1.2 The Shift Supervisor (or during his absence from the Control Room, a designated individual), shall be responsible for the Control Room command function. A management directive to this effect signed by the Chief Nuclear Officer shall be reissued to all unit personnel on an annual basis.

6.2 ORGANIZATION

6.2.1 CORPORATE

6.2.1.1 An onsite and offsite organization shall be established for unit operation and corporate management. The onsite and offsite organization shall include the positions for activities affecting the safety of the nuclear power plant.

6.2.1.2 Lines of authority, responsibility and communication shall be established and defined from the highest management levels through intermediate levels to and including operating organization positions. These relationships shall be documented and updated as appropriate, in the form of organizational charts. These organizational charts will be documented in the Updated FSAR and updated in accordance with 10 CFR 50.71e.

6.2.1.3 The Chief Nuclear Officer shall have corporate responsibility for overall plant nuclear safety and shall take measures to ensure acceptable performance of the staff in operating, maintaining, and providing technical support so that continued nuclear safety is assured.

6.2.2 UNIT STAFF

6.2.2.1 The Vice President-TMI Unit 1 shall be responsible for overall site safe operation and shall have control over those on site activities necessary for safe operation and maintenance of the site.

6.2.2.2 The unit staff organization shall meet the following:

- a. Each on-duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.
- b. At least one licensed Reactor Operator shall be present in the control room when fuel is in the reactor.

6.3 UNIT STAFF QUALIFICATIONS

- 6.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications of ANSI/ANS 3.1 of 1978 for comparable positions unless otherwise noted in the Technical Specifications. Licensed operators shall also meet the requirements of 10 CFR Part 55. Individuals who do not meet ANSI/ANS 3.1 of 1978, Section 4.5, are not considered technicians or maintenance personnel for purposes of determining qualifications but are permitted to perform work for which qualification has been demonstrated.
- 6.3.2 The management position responsible for radiological controls shall meet or exceed the qualifications of Regulatory Guide 1.8 of 1977. Each radiological controls technician/supervisor shall meet or exceed the qualifications of ANSI-N 18.1-1971, paragraph 4.5.2/4.3.2, or be formally qualified through an NRC approved TMI-I Radiation Controls training program. All radiological controls technicians will be qualified through training and examination in each area or specific task related to their radiological controls functions prior to their performance of those tasks.
- 6.3.3 The Shift Technical Advisors shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in unit design, response and analysis of transients and accidents.

6.4 TRAINING

- 6.4.1 A retraining and replacement training program for the unit staff shall be maintained under the direction of the plant training manager and shall meet or exceed the requirements and recommendations of Regulatory Guide 1.8 of 1977. Licensed operator training shall also meet the requirements of 10 CFR Part 55.
- 6.4.2 A training program for the Fire Brigade shall be maintained and shall meet or exceed the requirements of Section 600 of the NFPA Code.

6.5 REVIEW AND AUDIT

6.5.1 TECHNICAL REVIEW AND CONTROL

The director of each department shall be responsible for ensuring the preparation, review, and approval of documents required by the activities described in 6.5.1.1 through 6.5.1.5 within his functional area of responsibility as assigned in the Review and Approval Matrix. Implementing approvals shall be performed at the cognizant manager level or above.

ACTIVITIES

- 6.5.1.1 Each procedure required by Technical Specification 6.8 and other procedures which affect nuclear safety, and substantive changes thereto, shall be prepared by a designated individual(s)/group knowledgeable in the area affected by the procedure. Each such procedure, and substantive changes thereto, shall be reviewed for adequacy by an individual(s)/group other than the preparer, but who may be from the same organization as the individual who prepared the procedure or change.
- 6.5.1.2 Proposed changes to the Appendix "A" Technical Specifications shall be reviewed by a knowledgeable individual(s)/group other than the individual(s) group who prepared the change.
- 6.5.1.3 Proposed modifications that affect nuclear safety to unit structures, systems and components shall be designed by an individual/organization knowledgeable in the areas affected by the proposed modification. Each such modification shall be reviewed by an individual/group other than the individual/group which designed the modification but may be from the same division as the individual who designed the modification.
- 6.5.1.4 Proposed tests and experiments that affect nuclear safety shall be reviewed by a knowledgeable individual(s)/group other than the preparer but who may be from the same division as the individual who prepared the tests and experiments.
- 6.5.1.5 Investigation of all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence, shall be reviewed by a knowledgeable individual(s)/group other than the individual/group which performed the investigation.
- 6.5.1.6 All REPORTABLE EVENTS shall be reviewed by an individual/group other than the individual/group which prepared the report.
- 6.5.1.7 Special reviews, investigations or analyses and reports thereon as requested by the Vice President-TMI Unit 1 shall be performed by a knowledgeable individual(s)/group.
- 6.5.1.8 The Security Plan and implementing procedures shall be reviewed by a knowledgeable individual(s)/group other than the individual(s)/group which prepared them.

- 6.5.1.9 The Emergency Plan and implementing procedures shall be reviewed by a knowledgeable individual(s)/group other than the individual(s)/group which prepared them.
- 6.5.1.10 A knowledgeable individual(s)/group shall review every unplanned onsite release of radioactive material to the environs including the preparation and forwarding of reports to the Vice President-TMI Unit 1 covering evaluations, recommendations and disposition of the corrective action to prevent recurrence.
- 6.5.1.11 Major changes to radwaste systems shall be reviewed by a knowledgeable individual(s)/group other than the individuals(s)/group which prepared them.
- 6.5.1.12 Individuals responsible for reviews performed in accordance with 6.5.1.1 through 6.5.1.4 shall include a determination of whether or not additional cross-disciplinary review is necessary. If deemed necessary, such review shall be performed by the appropriate personnel. Individuals responsible for reviews considered under 6.5.1.1, 6.5.1.3, and 6.5.1.4 shall render determinations in writing with regard to whether or not 6.5.1.1, 6.5.1.3, and 6.5.1.4 constitute an unreviewed safety question.

RECORDS

- 6.5.1.13 Written records of activities performed under Specifications 6.5.1.1 through 6.5.1.11 shall be maintained.

QUALIFICATIONS

- 6.5.1.14 Responsible Technical Reviewers shall meet or exceed the qualifications of ANSI/ANS 3.1 of 1978 Section 4.6, or 4.4 for applicable disciplines, or have 7 years of appropriate experience in the field of his specialty. Credit toward experience will be given for advanced degrees on a one-to-one basis up to a maximum of two years. Responsible Technical Reviewers shall be designated in writing.

6.5.2 INDEPENDENT SAFETY REVIEW FUNCTION

- 6.5.2.1 The director of each department shall be responsible for ensuring the independent safety review of the subjects described in 6.5.2.5 within his assigned area of safety review responsibility, as assigned in the Review and Approval Matrix.
- 6.5.2.2 Independent safety review shall be completed by an individual/group not having direct responsibility for the performance of the activities under review, but who may be from the same functionally cognizant organization as the individual/group performing the original work.
- 6.5.2.3 The licensee shall collectively have or have access to the experience and competence required to independently review subjects in the following areas:

- a. Nuclear power plant operations
- b. Nuclear engineering
- c. Chemistry and radiochemistry
- d. Metallurgy
- e. Nondestructive testing
- f. Instrumentation and control
- g. Radiological safety
- h. Mechanical engineering
- i. Electrical engineering
- j. Administrative controls and quality assurance practices
- k. Emergency plans and related organization, procedures and equipment
- l. Other appropriate fields associated with the unique characteristics of TMI-1.

6.5.2.4 Consultants may be utilized as determined by the cognizant department director to provide expert advice.

RESPONSIBILITIES

6.5.2.5 The following subjects shall be independently reviewed by the functionally assigned divisions:

- a. Written safety evaluations of changes in the facility as described in the Safety Analysis Report, of changes in procedures as described in the Safety Analysis Report, and of tests or experiments not described in the Safety Analysis Report, which are completed without prior NRC approval under the provisions of 10CFR50.59(a)(1). This review is to verify that such changes, tests or experiments did not involve a change in the Technical Specifications or an unreviewed safety question as defined in 10CFR 50.59(a)(2). Such reviews need not be performed prior to implementation.
- b. Proposed changes in procedures, proposed changes in the facility, or proposed tests or experiments, any of which involves a change in the Technical Specifications or an unreviewed safety question as defined in 10CFR 50.59(c). Matters of this kind shall be reviewed prior to submittal to the NRC.
- c. Proposed changes to Technical Specifications or license amendments related to nuclear safety shall be reviewed prior to submittal to the NRC for approval.
- d. Violations, deviations, and reportable events which require reporting to the NRC in writing. Such reviews are performed after the fact. Review of events covered under this subsection shall include results of any investigations made and the recommendations resulting from such investigations to prevent or reduce the probability of recurrence of the event.
- e. Written summaries of audit reports in the areas specified in Section 6.5.3 and involving safety related functions.

- f. Any other matters involving safe operation of the nuclear power plant which a reviewer deems appropriate for consideration, or which is referred to the independent reviewers.

6.5.2.6 QUALIFICATIONS

The independent reviewer(s) shall either have a Bachelor's Degree in Engineering or the Physical Sciences and five (5) years of professional level experience in the area being reviewed or have 9 years of appropriate experience in the field of his specialty. An individual performing reviews may possess competence in more than one specialty area. Credit toward experience will be given for advanced degrees on a one-for-one basis up to a maximum of two years.

RECORDS

- 6.5.2.7 Reports of reviews encompassed in Section 6.5.2.5 shall be prepared, maintained and transmitted to the cognizant department director and the Vice President-TMI Unit 1.

6.5.3 AUDITS

- 6.5.3.1 Audits of unit activities shall be performed in accordance with the TMI-1 Operational Quality Assurance Plan. These audits shall encompass:
 - a. The conformance of unit operations to provisions contained within the Technical Specifications and applicable license conditions.
 - b. The performance, training and qualifications of the entire unit staff.
 - c. The verification of the non-conformances and corrective actions program to be properly implemented and documented as related to action taken to correct deficiencies occurring in unit equipment, structures, systems or methods of operation that affect nuclear safety.
 - d. The performance of activities required by the Operational Quality Assurance Plan to meet the criteria of Appendix "B" 10 CFR 50.
 - e. The Emergency Plan and Implementing procedures.
 - f. The Security Plan and implementing procedures.
 - g. The Fire Protection Program and implementing procedures.
 - h. The Offsite Dose Calculation Manual (ODCM) and implementing procedures.

- i. The Process Control Program and implementing procedures for solidification of radioactive wastes.
- j. The performance of activities required by the Quality Assurance Program to meet criteria of Regulatory Guide 4.15, December, 1977.
- k. Any other area of unit operation considered appropriate by the IOSRG or the Chief Nuclear Officer

6.5.3.2 Audits of the following shall be performed under the cognizance of the department director responsible for technical support:

- a. An independent fire protection and loss prevention program inspection and audit shall be performed utilizing either qualified licensee personnel or an outside fire protection firm.
- b. An inspection and audit of the fire protection and loss prevention program, by an outside qualified fire consultant.

RECORDS

6.5.3.3 Audit reports encompassed by sections 6.5.3.1 and 6.5.3.2 shall be forwarded for action to the management positions responsible for the areas audited within 60 days after completion of the audit. Upper management shall be informed per the Operation Quality Assurance Plan.

6.5.4 INDEPENDENT ONSITE SAFETY REVIEW GROUP (IOSRG) STRUCTURE

6.5.4.1 The IOSRG shall be a full-time group of engineers, experienced in nuclear power plant engineering, operations and/or technology, independent of the unit staff, and located on site.

ORGANIZATION

- 6.5.4.2 a. The IOSRG shall consist of a manager and a minimum staff of 3 members who meet the qualifications of 6.5.4.5. Group expertise shall be multi-disciplined.
- b. In the event of an unanticipated vacancy in the IOSRG staff, the number of staff can be two (2) members for a period of not to exceed six (6) months while the vacancy is being filled.
- c. The IOSRG shall report to the director responsible for nuclear quality assurance.

FUNCTION

- 6.5.4.3 The periodic review functions of the IOSRG shall include the following on a selective and overview basis:
- 1) Evaluation for technical adequacy and clarity of procedures important to the safe operation of the unit.
 - 2) Evaluation of unit operations from a safety perspective.
 - 3) Assessment of unit nuclear safety programs.
 - 4) Assessment of the unit performance regarding conformance to requirements related to safety.
 - 5) Any other matter involving safe operations of the nuclear power plant that the onsite IOSRG manager deems appropriate for consideration.

AUTHORITY

- 6.5.4.4 The IOSRG shall have access to the unit and unit records as necessary to perform its evaluations and assessments. Based on its reviews, the IOSRG shall provide recommendations to the management positions responsible for the areas reviewed.

QUALIFICATIONS

- 6.5.4.5 The IOSRG engineers shall have either: (1) a Bachelor's Degree in Engineering or the Physical Sciences and three years of professional level experience in the nuclear power field including technical supporting functions, or (2) eight years of appropriate experience in nuclear power plant operations and/or technology. Credit toward experience will be given for advance degrees on a one-to-one basis up to a maximum of two years.

RECORDS

- 6.5.4.6 Reports of evaluations and assessments encompassed in Section 6.5.4.3 shall be prepared, approved, and transmitted to the director responsible for nuclear quality assurance, the Vice President-TMI Unit 1, the Chief Nuclear Officer and the management positions responsible for the areas reviewed.

6.6 REPORTABLE EVENT ACTION

6.6.1 The following actions shall be taken for REPORTABLE EVENTS:

- a. The Nuclear Regulatory Commission shall be notified and a report submitted pursuant to the requirements of Section 50.73 to 10 CFR 50, and
- b. Each REPORTABLE EVENT shall undergo an independent safety review pursuant to Specification 6.5.2.5.d.

6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a safety limit is violated:

- a. The reactor shall be shutdown and operation shall not be resumed until authorized by the Nuclear Regulatory Commission.
- b. An immediate report shall be made to the Director, Operations and Maintenance and Vice President-TMI Unit 1, and the event shall be reported to NRC in accordance with 10 CFR 50.72.
- c. A complete analysis of the circumstances leading up to and resulting from the occurrence shall be prepared by the unit staff. This report shall include analysis of the effects of the occurrence and recommendations concerning operation of the unit and prevention of recurrence. This report shall be submitted to the Director, Operations and Maintenance and the Vice President-TMI Unit 1. The safety limit violation report shall be submitted to NRC in accordance with 10 CFR 50.73.

6.8 PROCEDURES AND PROGRAMS

6.8.1 Written procedures shall be established, implemented and maintained covering the items referenced below:

- a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, Revision 2, February 1978.
- b. Surveillance and test activities of equipment that affects nuclear safety and radioactive waste management equipment.
- c. Refueling Operations.
- d. Security Plan Implementation.
- e. Fire Protection Program Implementation.
- f. Emergency Plan Implementation.
- g. Process Control Program Implementation.
- h. Offsite Dose Calculation Manual Implementation.
- i. Quality Assurance Program for effluent and environmental monitoring using the guidance in Regulatory Guide 4.15, Revision 1.
- j. Plant Staff Overtime, to limit the amount worked by staff performing safety-related functions in accordance with NRC Policy Statement on working hours (Generic Letter No. 82-12).

6.8.2 Further, each procedure required by 6.8.1 above, and substantive changes thereto, shall be reviewed and approved as described in 6.5.1 prior to implementation and shall be reviewed periodically as set forth in administrative procedures.

6.8.3 Temporary changes to procedures of 6.8.1 above may be made provided:

- a. The intent of the original procedure is not altered;
- b. The change is approved by two members of the licensee's management staff qualified in accordance with 6.5.1.14 and knowledgeable in the area affected by the procedure. For changes which may affect the operational status of unit systems or equipment, at least one of these individuals shall be a member of unit management or supervision holding a Senior Reactor Operator's License on the unit.
- c. The change is documented, reviewed and approved as described in 6.5.1 within 14 days of implementation.

6.13 PROCESS CONTROL PROGRAM (PCP)

6.13.1 Licensee initiated changes to the PCP:

1. Shall be submitted to the NRC in the Annual Radioactive Effluent Release Report for the period in which the changes were made. This submittal shall contain:
 - a. sufficiently detailed information to justify the changes without benefit of additional or supplemental information;
 - b. a determination that the changes did not reduce the overall conformance of the solidified waste product to existing criteria for solid wastes; and,
 - c. documentation that the changes have been reviewed and approved pursuant to 6.8.2.
2. Shall become effective upon review and approval by licensee management.

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

6.14.1 Licensee initiated changes to the ODCM:

1. Shall be submitted to the NRC in the Annual Radioactive Effluent Release Report for the period in which the changes were made. This submittal shall contain:
 - a. sufficiently detailed information to justify the changes without benefit of additional or supplemental information;
 - b. a determination that the changes did not reduce the accuracy or reliability of dose calculations or setpoint determinations; and
 - c. documentation that the changes have been reviewed and approved pursuant to 6.8.2.
2. Shall become effective upon review and approval by licensee management.

6.15 DELETED

6.16 POST-ACCIDENT SAMPLING PROGRAMS NUREG 0737 (II.B.3, II.F.1.2)

Program which will ensure the capability to accurately sample and analyze vital areas under accident conditions have been implemented.

The following programs have been established:

1. Iodine and Particulate Sampling
2. Reactor Coolant System
3. Containment Atmosphere Sampling

Each program shall be maintained and shall include the following:

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

6.17 MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS

6.17.1 Licensee initiated safety related changes to the radioactive waste system (liquid, gaseous and solid):

1. Shall be reported to the Commission in the Annual Report (Specification 6.9.1B) for the period in which the evaluation was reviewed. The discussion of each change shall contain:
 - a. A summary of the evaluation that led to the determination that the change could be made in accordance with 10 CFR 50.59;
 - b. Sufficient detailed information to totally support the reason for the change without benefit of additional or supplemental information;
 - c. A detailed description of the equipment, components and processes involved and the interfaces with other plant systems;
 - d. An evaluation of the change which shows the predicted releases of radioactive materials in liquid and gaseous effluents and/or quantity of solid waste that differ from those previously predicted in the license application and amendments thereto;
 - e. An evaluation of the change which shows the expected maximum exposures to individuals in the unrestricted area and to the general population that differ from those previously estimated in the license application and amendments thereto;
 - f. A comparison of the predicted releases of radioactive materials, in liquid and gaseous effluents and in solid waste, to the actual releases for the period prior to when the changes are to be made;
 - g. An estimate of the exposure to plant operating personnel as a result of the change; and
 - h. Documentation of the fact that the change was reviewed and approved.
2. Shall become effective upon review and approval in accordance with Section 6.5.1.