METROPOLITAN EDISON COMPANY
JERSEY CENTRAL POWER & LIGHT COMPANY
AND
PENNSYLVANIA ELECTRIC COMPANY

THREE MILE ISLAND NUCLEAR STATION, UNIT 1

DOCKET NO. 50-289
OPERATING LICENSE NO. DPR-50
TECHNICAL SPECIFICATION CHANGE REQUEST NO. 5

This Technical Specification Change Request is submitted in support of Licensee's request to change Appendix A to Operating License No. DPR-50 for Three Mile Island Nuclear Station, Unit 1. As a part of this request, proposed replacement pages for Appendix A are also included.

METROPOLITAN EDISON COMPANY

ATTEST:

By R. C. Arnold
Vice President-Generation

Sworn and subscribed to me this 12th day of December, 1974.

Richard L. Ruth
Notary Public

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ENCLOSURE

(i)

Metropolitan Edison Company
Three Mile Island Nuclear Station, Unit 1 (TMI-1)
Docket No. 50-289
Operating License No. DPR-50

Technical Specification Change Request No. 5

Licensee requests that the enclosed pages be substituted for the existing pages comprising Section 6, Appendix A, of the TMI-1 Technical Specifications.

Reasons for Change Request

The change is being requested in order to bring Section 6 of the existing TMI-1 Technical Specifications into conformance with the format of the AEC's Standard Technical Specifications Section 6, and with the guidelines of the recently issued Regulatory Guide 1.16, as requested in the letter from George Lear (DOL) to R. C. Arnold, dated October 22, 1974.

Safety Analysis Justifying Change

The requested change does not involve any unreviewed safety questions, in that it does not delete any nuclear safety related items that exist in the present Technical Specifications and in certain areas actually serves to strengthen the administrative controls of the Station.

With regard to departures from the Standard Technical Specifications, it should be noted that the offsite organization for our station is comprised of two separate groups, the General Office Review Board (which concentrates primarily on broad issues as they may relate to nuclear safety), and the Met-Ed Corporate Technical Support Staff (which concentrates primarily on more detailed issues as they relate to nuclear safety). Although this represents a slight departure from the Standard Technical Specifications, we believe this departure is justified in that

a. it conforms to how we are presently organized,

b. it provides better control of nuclear safety related issues, and

c. the two groups as described in the proposed change, together address all of the duties as detailed in the Standard Technical Specifications.

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## 6.1 RESPONSIBILITY

6.1.1.a. The Station/Unit Superintendent shall be responsible for the overall safety of plant operations and shall ensure that:

1. All proposed changes to procedures, equipment, or systems are evaluated to determine if they constitute a change to the facility or procedures as described in the Final Safety Analysis Report.

2. All proposed changes to procedures, equipment, or systems which constitute a change of the facility or procedures as described in the Final Safety Analysis Report are evaluated to determine that they do not involve an unreviewed safety question as defined in paragraph 50.59 (c), Part 50, Title 10, Code of Federal Regulations.

3. All proposed tests and experiments, not described in the Final Safety Analysis Report, are evaluated to determine that they do not involve an unreviewed safety question as defined in paragraph 50.59 (c), Part 50, Title 10, Code of Federal Regulations.

4. Records are kept: a) of changes to procedures, equipment or systems completed under the provisions of paragraph 50.59 (b), Part 50, Title 10, Code of Federal Regulations; b) of tests and experiments conducted in accordance with those provisions; and c) of the written safety evaluation used as a basis for determining that such changes, tests and experiments do not involve an unreviewed safety question.

5. Copies of evaluations conducted pursuant to 6.1.1.a.2 and 6.1.1.a.3 above are forwarded to the Plant Operations Review Committee, the Manager-Generation Engineering, and the General Office Review Board.

b. The Station/Unit Superintendent shall have the authority to:

1. Make a determination that proposed changes to procedures, equipment, or systems do not involve a change to the procedures or facility as described in the Final Safety Analysis Report.

2. Make a preliminary determination that proposed changes to procedures, equipment or systems are described in the Final Safety Analysis Report, or that proposed tests or experiments not described in the Final Safety Analysis Report do not constitute an unreviewed safety question; however, such a determination must be based upon a formal written evaluation.

3. Direct the Plant Operations Review Committee to review:

a. Evaluations of proposed changes to procedures, equipment or systems;



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b. Proposed tests and experiments, to make an initial determination that such changes, tests and experiments do not constitute an unreviewed safety question.

6.2 ORGANIZATION

OFFSITE

6.2.1 The organization of the Met-Ed Corporate Technical Support staff for Station management and technical support shall be as shown in Figure 6-1.

FACILITY STAFF

6.2.2 The organization within the station for operations, technical support, and maintenance shall be functionally as shown in Figure 12-1 of the Final Safety Analysis Report.

a. Each on-duty shift shall as a minimum be composed of the following shift crew:

| | |
|---|---|
| Shift Supervisor or Shift Foreman (See Notes 1 & 3) | 1 |
| Control Room Operator (See Notes 2 & 3) | 2 |
| Auxiliary Operator (See Note 3) | 2 |
| Men/Shift | 5 |

b. At least two licensed Reactor Operators shall be at the station, one of whom shall be in the Control Room at all times when there is fuel in the reactor vessel. One of these operators shall hold a Senior Reactor Operator's License.

c. At least two licensed Reactor Operators shall be present in the Control Room during reactor start-up, scheduled reactor shutdown and during recovery from reactor trips.

d. At least one member of each operating shift shall be qualified to implement necessary radiation protection procedures.

e. A licensed Senior Reactor Operator with no other concurrent operational duties shall directly supervise: (a) irradiated fuel handling and transfer activities onsite, and (b) all unirradiated fuel handling and transfer activities to and from the Reactor Vessel.

NOTES:

1. The Shift Supervisor, or the Shift Foreman if a Shift Supervisor is not assigned, shall have an AEC Senior Reactor Operator's License.

2. Only one licensed Control Room Operator shall be required per shift during cold shutdown or refueling operations.

3. Shift Supervisor, Control Room Operator and Auxiliary Operator refer to functions that are to be performed and do not refer to the title of the individual. These functions may be performed by any individual possessing the necessary licenses and qualifications.

6.3 STATION STAFF QUALIFICATIONS

6.3.1 Comprising the station staff shall be supervisory and professional personnel encompassing the qualifications described in Section 4 of



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ANSI-N18.1 (1971), "Selection and Training of Nuclear Power Plant Personnel." The personnel for Three Mile Island Unit 1 who either fulfill or surpass these qualifications are designated in Figure 12-1 of the Final Safety Analysis Report.

## 6.4 TRAINING

6.4.1 A retraining and replacement training program for the facility staff shall be maintained under the direction of the Supervisor of Training and shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and Appendix "A" of 10 CFR Part 55.

## 6.5 REVIEW AND AUDIT

### 6.5.1 PLANT OPERATIONS REVIEW COMMITTEE (PORC)

FUNCTION

6.5.1.1 The Plant Operations Review Committee shall function to advise the Station/Unit Superintendent on all matters related to nuclear safety.

COMPOSITION

6.5.1.2 The Plant Operations Review Committee shall be composed of:

a) Station/Unit Superintendent
b) Supervisor of Operations
c) Supervisor of Maintenance
d) Plant Electrical Engineer
e) Plant Mechanical Engineer
f) Plant Nuclear Engineer
g) Plant Instrument and Control Engineer
h) Chemistry/Radiation Protection Supervisor

The Station/Unit Superintendent shall designate the members, the Chairman, and the Vice Chairman of the Plant Operations Review Committee.

ALTERNATES

6.5.1.3 Alternate members shall be appointed in writing by the Station/Unit Superintendent to serve on a temporary basis. For purposes of this specification, a designated alternate shall be considered to have the same responsibility and authority as a member when attending a committee meeting in place of a member.

MEETING FREQUENCY

6.5.1.4 The Plant Operations Review Committee shall meet as required on call by the Station/Unit Superintendent, the Chairman of the Committee or the General Office Review Board, but not less frequently than once per month.

QUORUM

6.5.1.5 A quorum shall consist of four members, at least one of whom shall be either the Chairman or Vice Chairman of the Committee. A quorum shall not take credit for more than one alternate member.



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RESPONSIBILITIES

6.5.1.6 The Plant Operations Review Committee shall be responsible for:

a. 1) Review of procedures and changes thereto in accordance with the requirements of Section 6.8, and

2) review of evaluations of proposed changes to procedures to make an initial determination as to whether or not such proposed changes involve an unreviewed safety question when so directed by the Station/Unit Superintendent.

NOTE: Initial determinations that proposed changes to procedures, equipment or systems, and tests and experiments did not involve an unreviewed safety question shall be subsequently reviewed by the Manager-Generation Engineering to verify that the initial determination was correct. This review by the Manager-Generation Engineering shall be documented.

b. 1) Review of proposed tests and experiments, when directed by the Station/Unit Superintendent, to make an initial determination as to whether or not such tests or experiments may involve an unreviewed safety question as defined in 50.59 (c), Part 50, Title 10, Code of Federal Regulations, and

2) review of the results of all tests and experiments conducted pursuant to paragraph 50.59 (a), Part 50, Title 10, Code of Federal Regulations.

c. Review of proposed changes to Technical Specifications or licenses.

d. Review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety as determined by the Station/Unit Superintendent.

e. 1) Review of abnormal occurrences and any violations of the Technical Specifications or Operating License DPR-50, including a report to the Met-Ed Vice President-Generation, to the Chairman of GORB, and to the Station/Unit Superintendent covering evaluation and recommendations to prevent recurrence, and

2) review of violations of applicable federal statutes, codes, regulations and internal station procedures and instructions having nuclear safety significance.

f. Evaluating plant operations and providing assistance in planning future activities.

g. Performance of special reviews and investigations and reports thereon as directed by the Met-Ed Vice President-Generation and/or the Station/Unit Superintendent.

h. Review of the Plant Security Plan and implementing procedures as they relate to nuclear safety and shall submit recommended changes to the Station/Unit Superintendent.



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i. Review of the Emergency Plan and implementing procedures and shall submit recommended changes to the Station/Unit Superintendent.

AUTHORITY

6.5.1.7 The Plant Operations Review Committee shall:

a. Recommend to the Station/Unit Superintendent written approval or disapproval of items considered under 6.5.1.6(a) through (d) above.

b. Render determinations in writing with regard to whether or not each item considered under 6.5.1.6(a) through (e) above constitutes an unreviewed safety question.

c. Provide immediate written notification to the Met-Ed Vice President-Generation of any unresolvable disagreements between PORC and the Unit Superintendent as they may relate to nuclear safety; however, the Unit Superintendent shall have responsibility for resolution of such disagreements pursuant to 6.1.1 above.

Note: The Plant Operations Review Committee shall be advisory to the Station/Unit Superintendent. Nothing herein shall relieve the Station/Unit Superintendent of his responsibility for overall safety of plant operations including taking immediate emergency actions.

RECORDS

6.5.1.8 The Plant Operations Review Committee shall maintain at the station written minutes of each meeting and copies shall be provided to the Station/Unit Superintendent, Manager-Generating Stations, Manager-Generation Engineering, and the General Office Review Board.

6.5.2.A MET-ED CORPORATE TECHNICAL SUPPORT STAFF

ORGANIZATION

6.5.2.A.1 The organization of the Met-Ed Corporate Technical Support Staff is as shown on Figure 6-1 and consists of the Manager-Generation Engineering, Manager-Generation Maintenance, Manager-Operational Quality Assurance and their staff. The Corporate Technical Support Staff shall collectively have the competence required by ANSI-N18.7-1972, Standard for Administrative Controls for Nuclear Power Plants, Section 4.2.2 or the Vice President-Generation shall insure that deficiencies can be readily compensated for through the use of outside groups such as GPU Service Corporation staff, consultants, or vendors.

RESPONSIBILITY

6.5.2.A.2 It shall be the responsibility of the Met-Ed Corporate Technical Support Staff to:



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a. Review evaluations of proposed changes to procedures, equipment or systems and tests and experiments (including their results) which were accomplished pursuant to 6.1.1.a.2 and 6.1.1.a.3 to verify that an unreviewed safety question was not involved.

b. Control of design changes to equipment or systems having nuclear safety significance as defined in Section 2.2.19 of ANSI-N18.7-1972, including verifying that such proposed changes do not constitute unreviewed safety questions or Technical Specification changes.

c. Specifying tests that must be performed following a design change to demonstrate that safety related structures, components, and systems meet Technical Specification requirements.

d. Review of proposed changes to Technical Specifications and Operating License DPR-50.

e. Review of violations of applicable federal statutes, codes, regulations, orders, and internal station procedures and instructions having nuclear safety significance.

f. Review of abnormal occurrences and violations of Technical Specifications and Operating License DPR-50.

g. Review of station performance records of significant operating abnormalities or deviations from normal and expected performance of plant equipment.

h. Review of indications of an unanticipated deficiency in some aspect of design or operation of nuclear safety related structures, components or systems, including confirmation of determinations regarding whether they involve unreviewed safety questions or an abnormal occurrence.

i. Review of events covered under 6.5.2.A.2.d, e, f, and g shall include reporting to the Vice President-Generation, Station/Unit Superintendent, and other appropriate members of management on the results of investigations and recommendations to prevent or reduce the probability of recurrence.

j. Development, direction and overall coordination of Operational Quality Assurance activities.

AUDITS

6.5.2.A.3 Audits shall periodically be conducted under the direction of the Manager-Operational Quality Assurance to verify compliance of plant operations with aspects of the Three Mile Island Operating Quality Assurance Plan, including verification of compliance with applicable internal rules and procedures; federal regulations and operating license provisions; training qualifications and performance of operating staff. Audits of the Industrial Security Program and the Emergency Plan shall also be conducted at periodic intervals not



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to exceed two years. In performing these audits, written procedures and/or check lists shall be used and written reports of such audits shall be issued.

AUTHORITY

6.5.2.A.4 The Met-Ed Corporate Technical Support Staff was approved by the Company President. The Company President has assigned to the Vice President-Generation responsibility for the overall effectiveness of the corporate technical support and plant organizations and the Three Mile Island Operating Quality Assurance Plan. The Vice President-Generation fulfills this responsibility by delegating the appropriate responsibility and authority to the Met-Ed Corporate Technical Support Staff. The Vice President-Generation shall issue instructions and procedures which delineate the responsibilities and authority of the various Managers who report to him.

REPORTS TO MANAGEMENT AND THE GENERAL OFFICE REVIEW BOARD

6.5.2.A.5 Reports shall be made to management and the General Office Review Board as follows:

a. The Vice President-Generation shall report to the Company President any problems identified by the Generation Division staff which require the President's administrative corrective action, together with appropriate recommendations.

b. Any abnormal occurrence or item involving an unreviewed nuclear safety question which is identified by the Corporate Technical Support Staff review shall be brought to the attention of the Vice President-Generation, and the General Office Review Board if it has not been previously reported by the Plant Operations Review Committee or Station/Unit Superintendent.

c. Written reports of audits performed pursuant to 6.5.2.A.3 shall be submitted to the Vice President-Generation and the Chairman, General Office Review Board.

6.5.2.B GENERAL OFFICE REVIEW BOARD

FUNCTION

6.5.2.B.1 The General Office Review Board shall function to provide independent review and audit of designated activities in the areas of:

a. nuclear power plant operations
b. nuclear engineering
c. chemistry and radiochemistry
d. metallurgy
e. instrumentation and control
f. radiological safety
g. mechanical and electrical engineering
h. quality assurance practices

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COMPOSITION

6.5.2.B.2

a. The Chairman and Vice Chairman shall be appointed by the Company President.

b. The Chairman shall designate a minimum of four additional members. No more than a minority of the committee shall have line responsibility for day-to-day operation of Three Mile Island Nuclear Station.

c. Members of the General Office Review Board shall possess extensive experience in their individual specialties and collectively have the competence set forth in ANSI-N18.7-1972, Standard for Administrative Controls for Nuclear Power Plants, Section 4.2.2.2.

ALTERNATES

6.5.2.B.3 Alternate members shall be appointed in writing by the Chairman or Vice Chairman of the General Office Review Board to serve on a temporary basis.

CONSULTANTS

6.5.2.B.4 Consultants shall be utilized as determined by the Chairman and Vice Chairman of the General Office Review Board to provide expert advice to the Review Board.

MEETING FREQUENCY

6.5.2.B.5 The General Office Review Board shall meet at least once per calendar quarter during the initial year of facility operation following fuel loading and at least once per six months thereafter.

QUORUM

6.5.2.B.6 A quorum for formal meetings shall have no less than a majority of the principals or duly appointed alternates and shall include the Chairman or Vice Chairman. No more than a minority of the quorum shall hold line responsibility for day-to-day operations of the Three Mile Island Nuclear Station. A quorum shall not take credit for more than two alternate members.

REVIEW

6.5.2.B.7 The General Office Review Board shall review:

a. Proposed changes to procedures, equipment or systems referred to the Committee by the Plant Operations Review Committee, the Station/Unit Superintendent, or the Manager-Generation Engineering.

b. Proposed tests and experiments referred to the committee by the Plant Operations Review Committee, the Station/Unit Superintendent, or the Manager-Generation Engineering.



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c. Proposed changes in and violations of Technical Specifications or Operating License DPR-50.

d. Operating abnormalities and deficiencies in some aspect of design or operation of nuclear safety related equipment which involves an unreviewed nuclear safety question.

e. Abnormal occurrences.

f. Adequacy of the Plant Operations Review Committee's and the Met-Ed Corporate Technical Support Staff's determinations concerning unreviewed safety questions.

g. Audits and audit program of the Generation Division.

h. Adequacy of Plant Operations Review Committee minutes.

AUDITS

6.5.2.B.8 The General Office Review Board shall perform periodic reviews of the Operational Quality Assurance audit program to insure that audits are being accomplished in accordance with the requirements of the Technical Specifications and ANSI-18.7-1972, "Standard for Administrative Controls for Nuclear Power Plants." Special reviews, audits and investigations shall also be conducted as requested by the Company President or as deemed necessary to confirm the adequate functioning of the station and corporate technical staffs.

AUTHORITY

6.5.2.B.9 The General Office Review Board shall be advisory to the Company President.

Written administrative procedures for committee operation shall be prepared and maintained. These procedures shall describe the requirements for submittal and content of presentations to the committee, provisions for use of subcommittees, review and approval by members of written committee evaluations and recommendations, dissemination and approval of minutes, and other appropriate matters.

RECORDS

6.5.2.B.10 Records of General Office Review Board activities shall be prepared, approved and distributed as indicated below:

a. Minutes shall be recorded and approved for all meetings of the General Office Review Board. Copies of the minutes shall be forwarded to the members, Company President, Vice President-Generation, Station Superintendent, the Chairman of the Plant Operations Review Committee, and such others as the Chairman may designate.

b. As appropriate, the Chairman of the General Office Review Board shall by letter to the Company President within 14 days following completion of the review:



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1) Recommend actions that should be taken on proposed changes to Technical Specifications or Operating License DPR-50.

2) Recommend actions that should be taken on proposed tests, facility changes, procedure changes, or operating abnormalities which they have reviewed by referral or upon their own initiative.

3) Recommend to the Company President appropriate action to prevent recurrence of abnormal occurrences or to improve the effectiveness of the plant and corporate organization.

## 6.6 ABNORMAL OCCURRENCE ACTION

6.6.1 The following actions shall be taken in the event of an abnormal occurrence:

a. The Commission shall be notified and/or a report submitted pursuant to the requirements of Specification 6.9.

b. Any abnormal occurrence shall be reported immediately to the Station/Unit Superintendent and the Vice President-Generation and shall be reviewed promptly by the Plant Operations Review Committee. This committee shall prepare a separate report for each abnormal occurrence which shall include an evaluation of the cause of the occurrence and recommendations for appropriate action to prevent or minimize the probability of a repetition of the occurrence. Copies of all such reports shall be submitted to the Station Superintendent, the General Office Review Board, and the Vice President-Generation.

## 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 shut down and operation shall not be resumed until authorized by the Atomic Energy Commission.

b. An immediate report shall be made to the Station/Unit Superintendent, to the Vice President-Generation, and to the General Office Review Board, and the occurrence shall be promptly reported to the Atomic Energy Commission as indicated in the Technical Specifications, Section 6.9.

c. A complete analysis of the circumstances leading up to and resulting from the occurrence shall be performed by the Plant Operations Review Committee and a report prepared. This report shall include analysis of the effects of the occurrence and recommendations concerning operation of the unit and prevention of a recurrence. This report shall be submitted to the Station Superintendent, the General Office Review Board, and the Vice President-Generation. Appropriate analysis of reports will be submitted to the Atomic Energy Commission as stated in the Technical Specifications, Section 6.9.

## 6.8 PROCEDURES

6.8.1 Written procedures and administrative policies shall be established, implemented and maintained that meet or exceed the requirements and



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recommendations of Sections 5.1 and 5.3 of ANSI N18.7-1972 and Appendix "A" of USAEC Regulatory Guide 1.33 except as provided in 6.8.2 and 6.8.3 below.

6.8.2 Each nuclear safety related procedure and administrative policy of 6.8.1 above, and changes thereto, shall be reviewed by the Plant Operations Review Committee and approved by the Station/Unit Superintendent prior to implementation and periodically as may be set forth in each document.

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 plant management staff, at least one of whom holds a Senior Reactor Operator's License on the unit affected.

c. The change is documented, reviewed by the Plant Operations Review Committee and approved by the Unit Superintendent within 7 days of implementation.

## 6.9 REPORTING REQUIREMENTS

### ROUTINE AND ABNORMAL OCCURRENCE REPORTS

6.9.1 Information to be reported to the Commission, in addition to the reports required by Title 10, Code of Federal Regulations, shall be in accordance with the Regulatory Position in Revision 2 of Regulatory Guide 1.16, "Reporting of Operating Information - Appendix "A" Technical Specifications."

In addition, the Annual Operating Report shall include information on aircraft movements at the Harrisburg International Airport. This additional information shall include the total number of aircraft movements (takeoffs and landings) at the Harrisburg International Airport for the previous twelve-month period. Also included shall be the total number of movements of aircraft larger than 200,000 pounds, based on a current percentage estimate provided by the airport manager.

6.9.2 Special reports shall be submitted to the Director of the Regulatory Operations Regional Office within the time period specified for each report. These reports shall be submitted covering the activities identified below:

| Tests | Submittal Dates |
|---|---|
| a. Containment Structural Integrity Test | |
| 1. Tendon Surveillance Program | Within 6 months after performance of surveillance program. |
| 2. Ring Girder Inspection Program | Within 6 months after performance of each inspection. |
| b. Containment Integrated Leak Rate Test | Within 6 months after completion of test. |



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| | | |
|---|---|---|
| c. | Inservice Inspection Program | Within 6 months after five years of operation. |

6.10 RECORD RETENTION

6.10.1 The following records shall be retained for at least five years:

a. Records of normal station operation including power levels and periods of operation at each power level.

b. Records of principal maintanance activities, including inspection, repairs, substitution, or replacement of principle items of equipment pertaining to nuclear safety.

c. Reports of abnormal occurrences and safety limits exceeded.

d. Records of periodic checks, tests, and calibration.

e. Records of reactor physics tests and other special tests pertaining to nuclear safety.

f. Changes to nuclear safety related operating procedures.

g. Records of solid radioactive shipments.

h. By-product material inventory records and source leak test results.

i. Special nuclear material inventory records.

j. Control Room Log Book.

k. Shift Foreman's Log.

6.10.2 The following records shall be retained for the duration of Operating License DPR-50:

a. Record and drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.

b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.

c. Routine station radiation surveys and monitoring records.

d. Records of radiation exposure history and radiation exposure status of personnel, including all contractors and station visitors who enter radioactive Material Area.

e. Records of radioactive liquid and gaseous wastes released to the environment, and records of environmental monitoring surveys.

f. Records of transient or operational cycles for those nuclear safety related facility components designed for a limited number of transients or cycles as defined in the Final Safety Analysis Report.



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g. Records of training and qualification for current members of the plant staff.

h. Records of in-service inspections performed pursuant to these Technical Specifications.

i. Records of Quality Assurance activities required by the QA Manual.

j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.

k. Plant Operations Review Committee and General Office Review Board Minutes.

## 6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

## 6.12 RESPIRATORY PROTECTION PROGRAM

### ALLOWANCE

6.12.1 Pursuant to 10 CFR 20.103(c)(1) and (3), allowance may be made for the use of respiratory protective equipment in conjunction with activities authorized by the operating license for this facility in determining whether individuals in restricted areas are exposed to concentrations in excess of the limits specified in Appendix B, Table I, Column 1, of 10 CFR 20, subject to the following conditions and limitations:

a. The limits provided in Section 20.103(a) and (b) shall not be exceeded.

b. If the radioactive material is of such form that intake through the skin or other additional route is likely, individual exposures to radioactive material shall be controlled so that the radioactive content of any critical organ from all routes of intake averaged over 7 consecutive days does not exceed that which would result from inhaling such radioactive material for 40 hours at the pertinent concentration values provided in Appendix B, Table I, Column 1, of 10 CFR 20.

c. For radioactive materials designated "Sub" in the "Isotope" column of Appendix B, Table I, Column 1 of 10 CFR 20, the concentration value specified shall be based upon exposure to the material as an external radiation source. Individual exposures to these materials shall be accounted for as part of the limitation on individual dose in 20.101. These materials shall be subject to applicable process and other engineering controls.

### PROTECTION PROGRAM

6.12.2 In all operations in which adequate limitation of the inhalation of radioactive material by the use of process or other engineering controls



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is impracticable, the licensee may permit an individual in a restricted area to use respiratory protective equipment to limit the inhalation of airborne radioactive material, provided:

a. The limits specified in 6.12.1 above, are not exceeded.

b. Respiratory protective equipment is selected and used so that the peak concentrations of airborne radioactive material inhaled by an individual wearing the equipment do not exceed the pertinent concentration values specified in Appendix B, Table I, Column 1, of 10 CFR 20. For the purposes of this subparagraph, the concentration of radioactive material that is inhaled when respirators are worn may be determined by dividing the ambient airborne concentration by the protection factor specified in Table 6.12-1 for the respirator protective equipment worn. If the intake of radioactivity is later determined by other measurements to have been different than that initially estimated, the later quantity shall be used in evaluating the exposures.

c. The licensee advises each respirator user that he may leave the area at any time for relief from respirator use in case of equipment malfunction, physical or psychological discomfort, or any other condition that might cause reduction in the protection afforded the wearer.

d. The licensee maintains a respiratory protective program adequate to assure that the requirements above are met and incorporates practices for respiratory protection consistent with those recommended by the American National Standards Institute (ANSI-788.2-1969). Such a program shall include:

   1. Air sampling and other surveys sufficient to identify the hazard, to evaluate individual exposures, and to permit proper selection of respiratory protective equipment.

   2. Written procedures to assure proper selection, supervision, and training of personnel using such protective equipment.

   3. Written procedures to assure the adequate fitting of respirators; and the testing of respiratory protective equipment for operability immediately prior to use.

   4. Written procedures for maintenance to assure full effectiveness of respiratory protective equipment, including issurance, cleaning and decontamination, inspection, repair, and storage.

   5. Written operational and administrative procedures for proper use of respiratory protective equipment including provisions for planned limitations on working times as necessitated by operational conditions.

## 6.13 HIGH RADIATION AREA

6.13.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2) of 10 CFR 20:



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a. Each High Radiation area (100 mrem/h or greater) in which the intensity of radiation is 1000 mrem/h or less shall be barricaded and conspicuously posted as a high radiation area, and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit. Any individual or group of individuals permitted to enter such areas shall be provided with a radiation monitoring device which continuously indicates the radiation dose rate in the area.

b. Each High Radiation Area in which the intensity of radiation is greater than 1000 mrem/hr shall be subject to the provisions of 6.13.1(a) above, and in addition locked doors shall be provided to prevent unauthorized entry into such areas and the keys shall be maintained under the administrative control of the Radiation Protection Supervisor/Foreman or the Shift Foreman on duty.

c. Bioassays and/or whole body counts of individuals (and other surveys, as appropriate) to evaluate individual exposures and to assess protection actually provided.

d. The licensee shall use equipment approved by the U.S. Bureau of Mines (or the National Institute of Occupational Safety and Health, as applicable) under its appropriate Approval Schedules as set forth in Table 6.12-1. Equipment not approved under U.S. Bureau of Mines (or National Institute of Occupational Safety and Health, as applicable) Approval Schedules shall be used only if the licensee has evaluated the equipment and can demonstrate by testing, or on the basis of reliable test information, that the material and performance characteristics of the equipment are at least equal to those afforded by U.S. Bureau of Mines (or National Institute of Occupational Safety and Health, as applicable) approved equipment of the same type, as specified in Table 6.12-1.

e. Unless otherwise authorized by the Commission, the licensee shall not assign protection factors in excess of those specified in Table 6.12-1 in selecting and using respiratory protective equipment.

REVOCATION

6.12.3 The specifications of Section 6.12 shall be revoked in their entirety upon adoption of the proposed change to 10 CFR 20, Section 20.103, which would make such provisions unnecessary.



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TABLE 6.12-1

PROTECTION FACTORS FOR RESPIRATORS

| DESCRIPTION | MODES[1] | PROTECTION FACTORS[2] PARTICULATES AND VAPORS AND GASES EXCEPT TRITIUM OXIDE[3] | GUIDES TO SELECTION OF EQUIPMENT BUREAU OF MINES (OR NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH, AS APPLICABLE) APPROVAL SCHEDULES* FOR EQUIPMENT CAPABLE OF PROVIDING AT LEAST EQUIVALENT PROTECTION FACTORS *or schedule superseding for equipment of type listed |
|---|---|---|---|
| I. AIR-PURIFYING RESPIRATORS | | | |
| Facepiece, half-mask[4,7] | NP | 5 | 21B 30 CFR § 14.4(b)(4) |
| Facepiece, full[7] | NP | 100 | 21B 30 CFR § 14.4(b)(5); 14F 30 CFR 1 |
| II. ATMOSPHERE-SUPPLYING RESPIRATOR | | | |
| 1. Airline respirator | | | |
| Facepiece, half-mask | CF | 100 | 19B 30 CFR § 12.2(c)(2) Type C(i) |
| Facepiece, full | CF | 1,000 | 19B 30 CFR § 12.2(c)(2) Type C(i) |
| Facepiece, full[7] | D | 100 | 19B 30 CFR § 12.2(c)(2) Type C(ii) |
| Facepiece, full | PD | 1,000 | 19B 30 CFR § 12.2(c)(2) Type C(iii) |
| Hood | CF | 5 | 6 |
| Suit | CF | 5 | 6 |
| 2. Self-contained breathing apparatus (SCBA) | | | |
| Facepiece, full[7] | D | 100 | 13E 30 CFR § 11.4(b)(2)(i) |
| Facepiece, full | PD | 1,000 | 13E 30 CFR § 11.4(b)(2)(ii) |
| Facepiece, full | R | 100 | 13E 30 CFR § 11.4(b)(1) |
| III. COMBINATION RESPIRATOR Any combination of air-purifying and atmosphere-supplying respirator | | Protection factor for type and mode of operation as listed above | 19B CFR § 12.2(e) or applicable schedules as listed above |

1, 2, 3, 4, 5, 6, 7 (These notes are on the following pages)

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TABLE 6.12-1 (Continued)

[1] See the following symbols:

CF: continuous flow
D: demand
NP: negative pressure (i.e., negative phase during inhalation)
PD: pressure demand (i.e., always positive pressure)
R: recirculating (closed circuit)

[2] (a) For purposes of this specification the protection factor is a measure of the degree of protection afforded by a respirator, defined as the ratio of the concentration of airborne radioactive material outside the respiratory protective equipment to that inside the equipment (usually inside the facepiece) under conditions of use. It is applied to the ambient airborne concentration to estimate the concentration inhaled by the wearer according to the following formula:

$$\text{Concentration Inhaled} = \frac{\text{Ambient Airborne Concentration}}{\text{Protection Factor}}$$

(b) The protection factors apply:

(i) only for trained individuals wearing properly fitted respirators used and maintained under supervision in a well-planned respiratory protective program.

(ii) for air-purifying respirators only when high efficiency (above 99.9% removal efficiency by U.S. Bureau of Mines (or National Institute of Occupational Safety and Health, as applicable) type dioctyl phthalate (DOP) test) particulate filters and/or sorbents appropriate to the hazard are used in atmospheres not deficient in oxygen.

(iii) for atmosphere-supplying respirators only when supplied with adequate respirable air.

[3] Excluding radioactive contaminants that present an absorption or submersion hazard. For tritium oxide approximately half of the intake occurs by absorption through the skin so that an overall protection factor of not more than approximately 2 is appropriate when atmosphere-supplying respirators are used to protect against tritium oxide. Air-purifying respirators are not recommended for use against tritium oxide. See also footnote [5], below, concerning supplied-air suits and hoods.

[4] Under chin type only. Not recommended for use where it might be possible for the ambient airborne concentration to reach instantaneous values greater than 50 times the pertinent values in Appendix B, Table I, Column 1 of 10 CFR Part 20.

[5] Appropriate protection factors must be determined taking account of the design of the suit or hood and its permeability to the contaminant under conditions of use. No protection factor greater than 1,000 shall be used except as authorized by the Commission.

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TABLE 6.12-1 (Continued)

[6] No approval schedules currently available for this equipment. Equipment must be evaluated by testing or on basis of available test information.

[7] Only for shaven faces.

NOTE 1: Protection factors for respirators, as may be approved by the U.S. Bureau of Mines (or the National Institute of Occupational Safety and Health, as applicable) according to approval schedules for respirators to protect against airborne radionuclides, may be used to the extent that they do not exceed the protection factors listed in this Table. The protection factors in this Table may not be appropriate to circumstances where chemical or other respiratory hazards exist in addition to radioactive hazards. The selection and use of respirators for such circumstances should take into account approvals of the U.S. Bureau of Mines (or the Institute of Occupational Safety and Health, as applicable) in accordance with its applicable schedules.

NOTE 2: Radioactive contaminants for which the concentration values in Appendix B, Table I of this part are based on internal dose due to inhalation may, in addition, present external exposure hazards at higher concentrations. Under such circumstances, limitations on occupancy may have to be governed by external dose limits.

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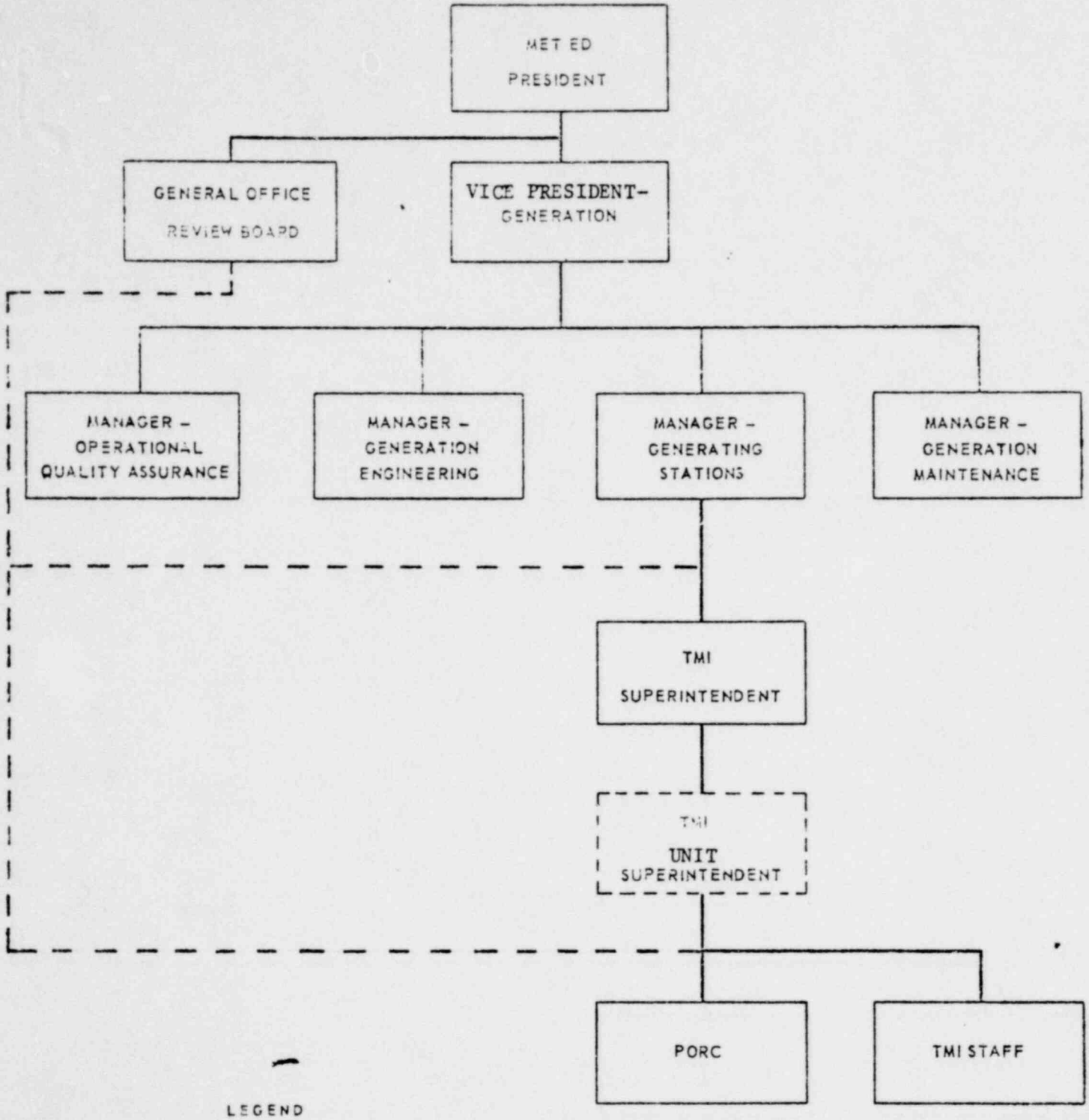
POOR ORIGINAL




ORGANIZATION CHART

THREE MILE ISLAND NUCLEAR STATION UNIT 1

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FIGURE 6-1

UNITED STATES OF AMERICA

ATOMIC ENERGY COMMISSION

IN THE MATTER OF

DOCKET NO. 50-289
OPERATING LICENSE NO. DPR-50

METROPOLITAN EDISON COMPANY

This is to certify that a copy of Technical Specification Change Request No. 5 to Appendix A of the Operating License for Three Mile Island Nuclear Station, Unit 1, dated December 12, 1974, and filed with the U. S. Atomic Energy Commission December 12, 1974, has this 12th day of December, 1974, been served on the chief executives of Londonderry Township, Dauphin County, Pennsylvania, and of Dauphin County, Pennsylvania, by deposit in the United States Mail, addressed as follows:

Dr. Edward O. Swartz, Chairman
Board of Supervisors of
Londonderry Township
R. D. #1, Geyers Church Road
Middletown, Pennsylvania 17057

Mr. Charles P. Hoy, Chairman
Board of County Commissioners of
Dauphin County
Dauphin County Courthouse
P. O. Box 1295
Harrisburg, Pennsylvania 17120

METROPOLITAN EDISON COMPANY

Signed-R. C. ARNOLD

By_____
Vice President-Generation

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