METROPOLITAN EDISON COMPANY
JERSEY CENTRAL POWER & LIGHT COMPANY

AND

PENNSYLVANIA ELECTRIC COMPANY

THREE MILE ISLAND NUCLEAR STATION UNIT 1

Operating License No. DPR-50
Docket No. 50-289
Technical Specification Change Request No. 20

This Technical Specification Change Request is submitted in support of Licensee's request to change Appendix B 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 B are also included.

METROPOLITAN EDISON COMPANY

By /s/ R. C. Arnold
Vice President-Generation

Sworn and subscribed to me this 4th day of September, 1975

/s/ Richard I. Ruth
Notary Public

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY 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. 20 to Appendix B of the Operating License for Three Mile Island Nuclear Station, Unit 1, dated September 4, 1975, and filed with the U.S. Nuclear Regulatory Commission September 4, 1975, has this 4th day of September, 1975, 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:

Mr. Weldon B. Arehart, 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
Harrisburg, Pennsylvania 17120

METROPOLITAN EDISON COMPANY

By /s/ R. C. Arnold
Vice President-Generation

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

Licensee requests that certain changes, as hereinafter described, be made in Appendix B of the TMI-1 Technical Specifications. A copy of the affected pages with these changes indicated is attached.

TECHNICAL SPECIFICATION CHANGE REQUEST NO. 20.a.

Change Request

Page 40, Section 4.1.1, Specification, Item E., Method of Analysis. Change "Net and dredges" to "Nets or dredges".

Reason for Change Request

In the case of TMI, the benthic (i.e., dredged) members of the macroinvertebrate population are better indicators of the effect the plant's heated discharge is having on the environment than are the floating (i.e., netted) members, and so there is no need to sample floating macroinvertebrate species. On the basis of this, it had been assumed that the intent of the subject specification was to require the use of either nets or dredges, and not nets and dredges; however, upon review it has been determined that a strict interpretation of the subject specification as it presently reads gives rise to sufficient question regarding compliance so as to warrant this request for a change in the Technical Specifications. Accordingly, the reason for this change request is to eliminate any potential questions which could exist regarding the requirements for sampling the macroinvertebrate population.

Environmental Analysis Justifying Proposed Change

Implementation of the proposed change would allow licensee to conduct either a benthic macroinvertebrate sampling program or a floating macroinvertebrate sampling program. In the case of TMI, limiting macroinvertebrate sampling to benthic species only would not have any adverse impact on the environment because at TMI it is these benthic species which are the better indicators of the effect the plant's heated discharge is having on the environment, as evidenced by the following:

a. drifting macroinvertebrate species are only transient members of the macroinvertebrate population and so are not continually subjected to the plant's heated discharge;

b. the temperature differential across the thermal plume at TMI is too small to have any measurable effect on drifting macroinvertebrate species; and

c. the thermal plume at TMI is too small and shifts too frequently to allow sampling of floating macroinvertebrate species at fixed locations.

Cost-Benefit Analysis Justifying Proposed Change

As explained above, implementation of the proposed change would not have any adverse impact on the environment, yet it would result in a cost savings of approximately $35,500 annually. This cost savings would be derived primarily from removal of the need to perform floating macroinvertebrate studies in addition to benthic macroinvertebrate studies.

TECHNICAL SPECIFICATION CHANGE REQUEST NO. 20.d.

Change Request

Page 43, Section 4.1.2.2, Specification, First Paragraph. In the first line change "vegetational analysis" to "vegetational-type mapping analysis".

Reason for Change Request

The reason for requesting the proposed change is to improve the wording of the subject specification so that it more accurately reflects the type of analysis being performed.

Environmental Analysis Justifying Proposed Change

The proposed change would not revise or delete any existing requirements of the Technical Specifications; therefore, its adoption will not have any adverse impact on the environment.

Cost-Benefit Analysis Justifying Proposed Change

There are no additional costs associated with the proposed change and there are no practical or cost-savings benefits likely to result from its adoption, in that it involves only the rewording of an existing requirement and does not revise or delete that requirement.

TECHNICAL SPECIFICATION CHANGE REQUEST NO. 20.e.

Change Request

Page 51, Table 3, Sample Type - Air, Type of Analysis - Gross Beta. Change the Sensitivity from "5×10^{-15} µCi/cc" to 5×10^{-14} µCi/cc".

Reason for Change Request

The subject sensitivity is incorrectly given in the Technical Specifications due to a typographical error; therefore, the reason for requesting the proposed change is to correct this error.

Environmental Analysis Justifying Proposed Change

Because the proposed change would not actually affect the detection capability of the instrument used to measure gross beta activity and because this detection capability has in the past been shown to be adequate, adoption of the proposed change will have no adverse impact on the environment.

Cost-Benefit Analysis Justifying Proposed Change

There are no additional costs associated with the proposed change and there are no practical or cost savings benefits likely to result from its adoption, in that it involves only the correction of a typographical error and does not revise or delete any existing requirements.

TECHNICAL SPECIFICATION CHANGE REQUEST NO. 20.b.

Change Request

Page 57, Section 4.4, Specification, Item d, First Paragraph. Change "every six months (during the beginning and midpoint of the grazing season)" to "during the midpoint of the grazing season".

Reason for Change Request

The cost of having to conduct more than one cow census a year can not be justified, in that one cow census a year has been shown by past experience to be adequate for detecting changes in cow population; therefore, the reason for requesting the proposed change is to remove this unjustifiable cost.

Environmental Analysis Justifying Proposed Change

As already stated above, one cow census a year has been shown by past experience to be adequate for detecting changes in cow population; therefore, implementation of the proposed change will not have an adverse impact on the environment.

Cost-Benefit Analysis Justifying Proposed Change

Implementation of the proposed change would not have any adverse effect on the environment, yet would result in a cost savings of approximately $1,200 annually. This cost savings would result primarily from a reduction in the number of cow censuses which would have to be performed in the course of a year.

TECHNICAL SPECIFICATION CHANGE REQUEST NO. 20.c.

Change Request

Page 59, Figure 8, Change "Manager-Generation Station" to "Manager-Generation Operations - Nuclear" and change "Radiological Protection" to "Radiation Safety", and change Station Superintendent to Unit Superintendent.

Page 60, Section 5.1, Item D., First Paragraph. In the last sentence change "Radiological Protection" to "Radiation Safety".

Reason for Change Request

The reason for requesting the proposed change is to make all of the position titles referenced in the Technical Specifications consistent with current titles.

Environmental Analysis Justifying Proposed Change

The proposed change would not revise or delete any existing requirements of the Technical Specifications; therefore, its adoption will not have any adverse impact on the environment.

Cost-Benefit Analysis Justifying Proposed Change

There are no additional costs associated with the proposed change and there are no practical or cost savings benefits likely to result from its adoption, in that it involves only the updating of some position titles.

C.	Entrainment of Plankton	Semi-monthly at 4-hour intervals over a 24-hour period during April thru October	Intake and Discharge	Pumping	Counting and determination of extent of mortality identification to the lowest feasible taxon. A continuing record will be maintained to allow comparison of variation of numbers with time.

A continuing aquatic population surveillance program (D and E) shall be conducted during the first three years of operation. The results will be reviewed at the end of the first 30 months and the program terminated at the end of three years unless the results of the review indicate the need for additional data.

D.	Fish	Every Two weeks, March through October	At locations indicated on Figure 1.	Trap nets and Shoreline Seining	Counting, identification to the lowest feasible taxon, weighing, determination of reproduction status and condition. A continuing record will be maintained to allow comparison of variation of numbers with time. Replicate samples will be taken both inside and outside the thermal plume.
E.	Macro-Invertebrates	Semi-monthly April thru October	At locations indicated on Figure 1.	Nets or dredges	Counting and identification to the lowest feasible taxon. A continuing record will be maintained to allow comparison of variation of numbers with time. Replicate samples will be taken both inside

and the ground around the base of each tower out to a distance of 100 feet from the base. Any dead or injured birds found will be collected, identified, and the numbers and locations will be recorded. On days in which incidents of mortality or injury occur, description of meteorological conditions of the previous day and/or night will be included in the daily log. This program will be continued for one year.

Bases

Since some potential exists for bird injury and mortality due to impaction on the natural draft cooling towers, and since the possible levels of this impaction are not known, specific report levels, protection limits or the need for such measures cannot be established at this time. The study described herein will provide information needed to establish a protection limit or report level or to establish that the measurement of bird impaction is not necessary due to an insignificant impact.

The documentation of bird mortality and injury due to impaction will allow an estimate to be made of the effect of the cooling towers on migrating birds.

4.1.2.2 Effects of Cooling Tower Salt Drift on Crops and Natural Vegetation

Objective

The purpose of the cooling tower salt drift study is to determine if damage to natural vegetation and crops is occurring from salt drift.

Specification

The study areas, at locations indicated on Figure 2, which were used in a vegetational-type mapping analysis during preoperation will be checked annually to determine if measurable changes are occurring in species composition, relative abundance and relative dominance of naturally occurring vegetation due to salt drift. Sampling will be done near the station in the predicted area of drift influence and also in control areas removed from the station.

Monthly visual examination of natural vegetation and agricultural crops will be made in these areas during the growing season (April through October) to detect if any physical damage is occurring. Samples of any suspected drift-damaged vegetation found will be

TABLE 3 - Environmental Sampling

Sample Type	No. of Sample Indicator	Stations Background	Type of Analysis	Sensitivities	Collection Frequency	Collected Site
Air	3	1	^{131}Iodine Charcoal Cart.	$1x10^{-13}$ µCi/cc	Charcoal Cartridge-Weekly	See Fig. 3 & 4
	8	1	GB	$5x10^{-14}$ µCi/cc	Particulate Weekly	
	8	1	GS	(4)	Quarterly	
Precipitation	3	1	GB	$7x10^{-8}$ µCi/ml	Monthly (if available)	See Fig. 3 &
			GS	(4)	Quarterly (if available)	
			^{89}Strontium	$5x10^{-9}$ µCi/ml	Semi-Annually	
			^{90}Strontium	$1x10^{-9}$ µCi/ml	Semi-Annually	
Radiation TLD	15	5	Gamma	20 mrem/yr	Quarterly	See Fig. 5 & 6
Milk	4	1	^{131}Iodine	$5x10^{-10}$ µCi/ml	Monthly*	See Fig. 7
			^{89}Strontium	$5x10^{-9}$ µCi/ml	Quarterly*	
			^{90}Strontium	$1x10^{-9}$ µCi/ml	Quarterly*	
Green Leafy Vegetables	3	1	^{131}Iodine	$1x10^{-8}$ µCi/gm(4)	Annually (at harvest)	See Fig. 7
			GS	(4)	Annually (at harvest)	
River Water	2	1	GS (1)	(4)	Monthly (3)	See. Fig. 3
			Tritium	$2x10^{-4}$ µCi/ml	Quarterly (3)	
City of Columbia	1	-	GS	(4)	Composite Sample Analyzed Monthly	See Fig. 4
			Tritium	$2x10^{-4}$ µCi/ml	Composite Sample Analyzed Quarterly	
			^{89}Strontium	$1x10^{-9}$ µCi/ml	Composite Sample Analyzed Quarterly	
			^{90}Strontium	$1x10^{-9}$ µCi/ml	Composite Sample Analyzed Quarterly	

will be reported, with associated calculated error, as picocuries of I-131 per liter of milk at the time of sampling, in accordance with Reporting Requirements for Environmental Radiological Monitoring.

Special attention will be paid to those locations where milk is produced for direct consumption by humans - e.g., the family farm.

d. A census will be conducted during the midpoint of the grazing season to determine the location of cows in potentially affected areas within a five-mile radius of the plant.

If it is learned via the census that there are a considerable number of additional locations where milk is produced in the vicinity of the plant, the location(s) may be chosen which serves as a valid indicator of other locations in that meteorological sector, rather than sampling every location.

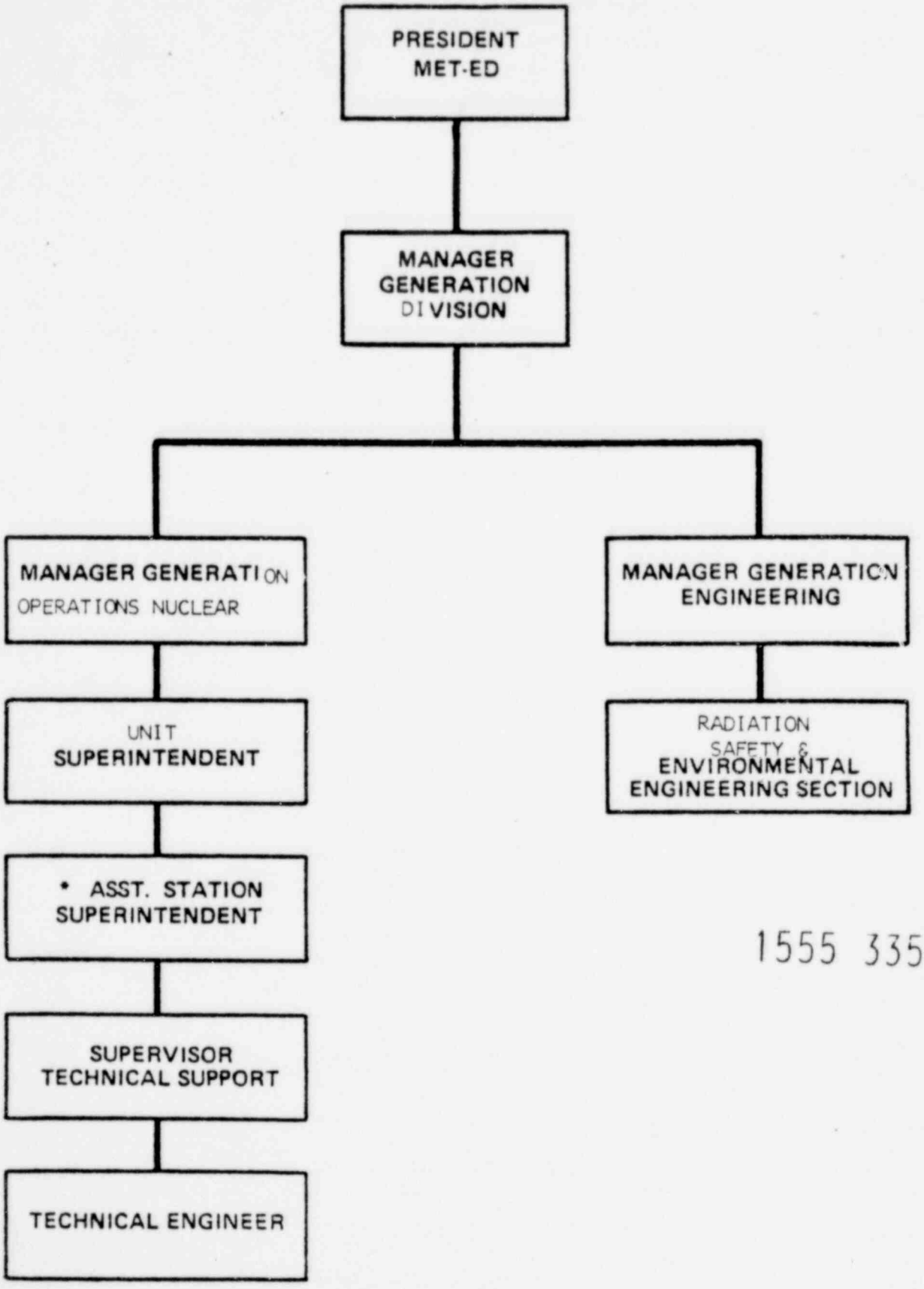
Bases

The number and distribution of sampling locations and the various types of measurements described in Table 3, together with the preoperational background data, will provide verification of the effectiveness of plant effluent control and indication of measurable changes in the activity of the environment.

Weekly samples may be missed in the event of adverse conditions such as weather, equipment failure, etc. It is not intended that these missed samples be resampled prior to the next scheduled sample date. Monthly and longer period samples, if missed due to these conditions, will be taken within a reasonable time after the adverse condition no longer exists. All deviations from the sampling schedule shall be described in the semi-annual report.

FIGURE 8

ORGANIZATION FOR IMPLEMENTATION OF
ENVIRONMENTAL TECHNICAL SPECIFICATIONS



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* WHEN ASSIGNED

D. Reports are submitted and records are kept in accordance with 5.6 and 5.7 of the Environmental Technical Specifications. Violations of these Environmental Technical Specifications are investigated and appropriate corrective action taken to prevent recurrence. Responsibility for the independent audit and review functions concerning environmental matters as defined in section 5.2 of these Environmental Technical Specifications has been assigned by the Manager-Generation to the Manager-Generation Engineering. When the review function is performed by the Radiation Safety and Environmental Engineering Section, the Manager-Generation Engineering shall ensure that necessary audits of those review functions are performed independently of the Radiation Safety and Environmental Engineering Section.

When organizations other than Metropolitan Edison Company are utilized to establish and execute portions of these Environmental Technical Specifications, compliance with the Environmental Technical Specifications in such instances shall remain the responsibility of Metropolitan Edison Company.

5.2 Organization

Organization of the personnel responsible for implementation, audit and review of these Environmental Technical Specifications including the Corporate level is as shown on Figure 8 of these Environmental Technical Specifications. In all matters pertaining to compliance with these Environmental Technical Specifications, the Station Superintendent shall report to and be directly responsible to the Manager-Generating Stations.

5.3 Audit and Review

Independent audit and review functions for environmental matters will be performed under the direction and control of the Manager-Generation Engineering. Independent review of environmental matters and auditing of station activities relating to these Environmental Technical Specifications will be conducted by the Radiation Safety and Environmental Engineering Section, reporting to the Manager-Generation Engineering. Their review will be audited by or under the direction of the Manager-Generation Engineering. These audits and reviews will encompass: