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

Docket No. 50-320

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Mr. Gale Hovey Vice President and Director of TMI-2 Metropolitan Edison Company P.O. Box 480 Middletown, Pennsylvania 17057



Dear Mr. Hovey:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 13 to License No. DPR-73. This amendment revises license condition 2.E.(4) in response to your request dated March 11, 1981, a draft copy of which was supplied to and reviewed by the NRC staff on March 10, 1981. This license amendment is in response to the alternatives to solidification of the EPICOR-II resins which were discussed in our meeting at TMI on March 5, 1981.

We have determined that the amendment involves an action which is insignificant from the standpoint of environmental impact and that there is reasonable assurance that the health and safety of the public will not be endangered by this action. Having made this determination, we have further concluded that pursuant to 10 CFR §51.5 (d) (4) an environmental impact statement, negative declaration or environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Copies of the related Safety Evaluation and the Notice of Issuance, which has been forwarded to the Office of the Federal Register for publication, are also enclosed.

Sincerely,

Beinard J. Ander

Bernard J. Snyder, Program Director Three Mile Island Program Office Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 13 to DPR-73
- 2. Safety Evaluation
- 3. Notice of Issuance

cc w/encl:
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Mr. J. Sarton Meneger, Site Operations, TMI-2 Metropolitan Edison Company P. O. Box ABC Hiddletown, FA 17057

Mr. E. S. Fuller TWE-Z Licensing Supervisor Metropolitan Edison Company P. O. Bas Addo Hiadletown, PA 17057

Mr. E. S. Hallace PuB Licensing Manager GPU Service Corporation 100 Interpace Partway Parstppany, NJ 07054

Nr. 2. 8. Siberman, Esquire Berlack, Esreis, Liberman 25 Broadway New York, NY 10004

Mr. G. F. Troubridge, Esquire Snaw, Pittman, Patts & Troubridge 1800 H Street, N.M. Weshington, DC 20036

Dr. walter H. Jordan BBI H. Guter Drive Gas Rigge, TN -37830

Or. Linda H. Little 5000 mermitage Drive Raleign, MC 27612

saria a. Carter, Escuire SCS Executive House P. 0. Bos 2157 Marrisburg, PA 17120

monorable Mars Conon 512 E-3 Mare Capital Building Marrisburg, PA 17120

Ellym werss, Esquire Sneidon, Marmon, Baisman & weiss 1725 I Street, R.M., Swite 506 Washington, DC 20006

Mr. Steles C. Shally 304 S. Marset Street Mechanicsburg, PA 17055

mr. Thomas Gerussy Burgeu of Radiation Protection P. 0. Ecs 2063 Herrisburg, PA 17120

Mr. Marvin 1. Louis 6504 Brastard Terrace Philapelphia, PA 19149

Ms. Jane Lee E. D. J. Box 2521 Etters, PA 17315

Walter W. Cohen, Consumer Advocate Department of Justice Strewberry Square, 14th Floor merrisburg, PA 17127

Asbert 1. Knudd, Estul Assistant Salicitor Enugg and Andrews P. O. Box P 607 M. Front Street Marrisburg, PA 17108 (saatre

John E. Winnich, Dialroperson Desents Co. Sodra of Coerisioners Desents County Courtnoise Frent and Mariet Streets Marrisburg, 74 17101

Robert C. Pollard Chesapeak Energy Alliance 609 Montpoller Street Baltimore, MC 21218

Chauncey restore Suetto - Jonstud Environmental Coalistion on Nuclear Power 433 Driands Argue State College, 78 16801

Ms. frieds Berrynill, Chairperson Coalition for Nuclear Power Plant Postponement 2610 Grendon Srive etTerngton, CE 19608

Holly 5. Fect Anti-Muclear Group Representing form (45 W. Finlagelphia Street fars, Fa 17604

John Levin, Esbuire Pennylivania Public Utilities Commission P. D. Box 3265 Harribury, PA 17120

Coroon 2. Cunningnam, Esquire Fox, Forr and Cunningham 2320 0. Second Street narrisburg, PA 17130

POOR ORIGINAL

Ms. Kathy Relaughts Three Hile Island Alert, Inc. 23 South 21st Street Marrisburg, PA 17104

Ma. Marjorte M. Aamoet 8, 3, 85 Contesville, PA 19320

Ma, Karen Sheldon Sheldon, Harmon, Helsnen & Welss 1725 I Street, N.W., Suite 506 Weshington, OC 20006

Earl B. Hoffman Daugnin County Commissioner Daugnin County Counthouse Front and Market Street Hearrisburg, PA (1710)

Government Publications Section State of Library of Pennsylvania Box 1601 Education Building marrisburg, FA 17327

Dr. Edward D. Swarts Board of Supervisors Londonderry Township RFD #1 Geyers Church Road Hiddletown, PA. 17057

U. S. Environmental Protection Agency Region III Office ATTR: [15 Coordinator Curtis Building (Slath Floor) &th and Mainut Streats Philomiphia, PA 19108

Dauphin County Office Emergency Presareoness Court Mouse, Foom 7 Front and Market Streets Harrisburg, FA 17101

Department of Enviormmental Resources ATTR: Director, Office of Ratiological median P. O. 800 2003 merrisburg, PA 17105

Governor's Office of State Flawning and Development ATTN: Coordinator, Pennsylvania Clearinghouse P. C. Ses 1323 Marrisburg, PA 17120

Mrs. Rhoda D. Carr 1402 Marene Drive Marrisburg, P4 17105

Mr. Bichard Roberts The Patrist B12 Marset Street Marrisburg, P& 17105

Mr. Robert B. Borsum Redocts & Milcos Ruclear Power Generation Division Suite 470, 7735 016 Georgetown Road Betherses, MD. 20014

Ivan W. Smith, Esquire Atomic Safety and Licensing Board U. S. Nuclear Regulatory Commission Weshington, OC 20555

Atomic Safety and Licensing Board Pamel U. S. Nuclear Regulatory Commission Washington, DC 20555

Atomic Safety and Litemsing Appeal Panel U. S. Nuclear Regulatory Commission Washington, DC 20555

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METROPOLITAN EDISON COMPANY

JERSEY CENTRAL POWER AND LIGHT COMPANY

PENNSYLVANIA ELECTRIC COMPANY

DOCKET NO. 50-320

THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 13 License No. DPR-73

- 1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Metropolitan Edison Company, Jersey Central Power and Light Company, and Pennsylvania Electric Company (the Licensee) dated March 11, 1981, 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 Order for Modification of License dated July 20, 1979, the Order of February 11, 1980, the Modification of Order dated August 11, 1980, the Amendment of Order dated November 14, 1980, the application for amendment, 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.
- Accordingly, the license is amended by changing paragraph 2.E.(4) to Facility Operating License No. DPR-73, to read as follows:

2.E.(4) Deleted.

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3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

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Bernard J. Snyder, Program Director Three Mile Island Program Office Office of Nuclear Reactor Regulation

Date of Issuance: MAR 2 5 1981

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION METROPOLITAN EDISON COMPANY JERSEY CENTRAL POWER AND LIGHT COMPANY PENNSYLVANIA ELECTRIC COMPANY DOCKET NO. 50-320 THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 2

Introduction

By letter dated February 19, 1981, (Reference 1) the Metropolitan Edison Company (licensee) requested the NRC staff to waive the requirement for solidification of all spent resins from EPICOR-II prior to shipment offsite for disposal. The licensee supplemented this request by letter dated March 11, 1981 (Reference 2) in which he proposed to delete license condition 2.E.(4) of the TMI-2 Operating License and to dispose of 25 dewatered but unsolidified EPICOR-II spent resin liners by shallow land burial. The proposed amendment would delete the requirement for solidification of the EPICOR-II spent resins prior to shipment offsite. The requirements contained in this license condition were imposed by the Commission's Memorandum and Order of October 16, 1979, and the Order for Modification of License dated October 18, 1979, by the Director, Office of Nuclear Reactor Regulation. License condition 2.E(4) was formally added to the TMI-2 Operating License on March 12, 1980, as part of License Amendment No. 10 (Reference 3).

Evaluation

License condition 2.E(4) of the TMI-2 Operating License currently requires that the licensee shall not ship EPICOR-II spent resins offsite unless they have been solidified and that the licensee shall expeditiously construct a facility for solidification of the spent resins. The requirement for solidification of the EPICO²-II spent resins was based on the understanding that solidification of resin wastes: (1) would help immobilize the radionuclides after disposal, (2) would eventually be required by all the burial sites, (3) would be a practical way to meet the then existing burial site requirement that the wastes contain no free liquids, and (4) would help ensure there were no leaks or spills during the shipment of the wastes.

The licensee's proposal recommended that the 25 low level resin liners (3 prefilter liners, 15 cation bed liners, and 7 mixed bed polishing liners) listed in Table 1 be disposed of in the dewatered but unsolidified condition. This proposal also recommended that the following additional provisions be applicable to the disposal of these liners:

- 1. In addition to the dewatering operation which was performed when they were removed from service, these liners would be dewatered again prior to shipment unless experience gained during this second dewatering operation shows that a second dewatering step is unnecessary and that the burial site requirements can be met without the second dewatering, in which case this step may be omitted as a prerequisite to shipment.
- 2. The spent resin liners would be packaged and transported to the burial site in accordance with existing Federal regulations. The environmental impact of this activity was evaluated in Section 9.1.2 of the Final PEIS (Reference 5) and was estimated to be a cumulative population dose of 1.3 person-rem for transportation to a western disposal site.

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- All of these liners would be buried at an arid shallow land burial site to mitigate concerns about migration of radionuclides.
- 4. Contingent upon the agreement of the burial site operator and the state government, all of these 25 liners would be placed at the bottom of a 30 feet deep burial trench inside concrete containers or provided with equivalent protection against a potential intruder following closure of the site and termination of administrative control.
- 5. The licensee would ensure that none of the 25 liners contain transuranic specific activities in excess of the burial site limit of 10 nCi/g.

We have evaluated the licensee's request to waive the solidification requirement for all resin liners and the proposal to delete license condition 2.E.(4) and to permit disposal of the 25 EPICOR-II low level resin liners in a commercial shallow land burial site. In view of the above noted licensee-proposed additional provisions applicable to the disposal of these liners and the following considerations, we have concluded that the solidification requirement is unwarranted for the 22 second and third stage liners (15 cation bed liners and 7 mixed bed liners). Therefore, we approve deletion of license condition 2.E.(4) as it applies to solidification of these 22 liners and the disposal of these 22 liners in accordance with the previously noted additional provisions.

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- The contents of the 22 liners are within the normal range of reactor resin wastes with regard to total curie content.
- Burial of the 22 second and third stage liners in accordance with plans proposed by the licensee should provide adequate assurance that the radionuclides of concern (Cs-137 and Sr-90) will not migrate beyond the burial site environment.
- The burial site license conditions do not currently require solidification of wastes, such as in the second and third stage liners.
- Some of the burial sites now permit a limited amount of liquid in dewatered resins.
- Dewatering experience for TMI-2 resins and procedures planned as noted above and recent experience in shipping reactor dewatered resin liners indicates transportation of dewatered resins should not be a concern.

The remaining EPICOR-II spent resin liners consist of 50 prefilters (first stage liners). Three of the first stage liners are similar to the second and third stage liners in that their total curie content is within the normal range of reactor resin wastes. The remaining 47 EPICOR-II first stage liners contain specific activities in excess of 10 Ci/ft³. In the staff's view, the wastes in the latter 47 liners are unique and unlike those routinely generated and disposed of by other nuclear power plants. DOE has a program underway to ex-

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amine and characterize the condition of the resins and liners for one of these units at a DOE contractor's facility. Due to the high specific activities involved, the staff believes that this DOE effort should receive the highest priority of all EPICOR-II waste handling activities. The staff believes that the knowledge gained from the characterization work by DOE may provide an improved basis for the handling and disposal of all first stage wastes and it would be prudent to defer any decisions on disposal of first stage wastes until such information is obtained. As stated in Section 9.1.3.3 of the Final PEIS, the staff believes that the only capability for dealing with such wastes is vested in the Federal Government at DOE facilities which can handle future processing and disposal as appropriate.

In addition, we have been informed by DOE that they have a priority program underway to develop a high integrity container for high-specific activity waste (e.g., the first stage EPICOR-II liners) which may also contribute to the solution for management of these wastes.

Based upon the foregoing, we have concluded that deletion of license condition 2.E.(4) as proposed by the licensee is also appropriate for these higher specific activity wastes in order not to foreclose future options (e.g., special processing or immobilization at DOE facilities) for waste handling and eventual disposal. Therefore, we approve deletion of license condition 2.E.(4) as it applies to solidification of all EPICOR-II liners including the 50 first stage liners as well as the 22 second and third stage liners discussed above.

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The environmental assessment for the operation of EPICOR-II at TMI-2 (NUREG-0591, October 3, 1979, included as Appendix D of the Final PEIS, NUREG-0683) provided an analysis of the operation of EPICOR-II as well as for the packaging, transportation and burial of the solid wastes (including unsolidified spent resins) resulting from the operation of EPICOR-II. Those analyses (particularly in Section 3.4 of the EPICOR-II environmental assessment) included the potential consequences of accidents resulting from operation of EPICOR-II. Sections 3.4, 5.2.1 and 5.2.2 of the EPICOR-II environmental assessment included analyses for dropping and rupturing a spent resin liner during handling while Section 5.2.3 and 5.2.4 discussed the packaging, transportation and burial of solid wastes resulting from operation of EPICOR-II. Those evaluations remain valid for the proposed action. On-site storage of the spent resin liners was also evaluated in Section 5.2 of the EPICOR-II environmental assessment. Therefore, the proposed action does not significantly change the previously evaluated operations at the plant. The environmental impacts evaluated in the EPICOR-II environmental assessment are not altered by this proposed action and consequently its conclusion that the use of EPICOR-II will not significantly affect the quality of human environment remains valid.

Environmental Consideration

As outlined above, the proposed actions have been considered in the Final PEIS. We have determined that this amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that this amendment involves an action which is insig-

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nificant from the standpoint of environmental impact and, pursuant to 10 CFR 51.5(d) (4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

Based upon our review of the proposed deletion of license condition 2.E.(4), we find the licensee's request to be acceptable and grant the request. The proposed deletion will delete the requirement to solidify the EPICOR-II spent resins prior to shipment offsite. Based on these considerations, we have concluded that: (1) the modification does not authorize any significant change in the plant's operation, (2) the modification does not involve a significant increase in the probability or consequences of accidents previously considered or a significant reduction in a margin of safety and, therefore, does not involve a significant hazards consideration, (3) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the modified manner, and (4) such activities will be conducted in compliance with the Commission's regulations and the issuance of this modification will not be inimical to the common defense and security or to the health and safety of the public.

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TABLE 1

EPICOR-II LOW LEVEL LINER CURIE DEPOSITION

LINER NUMBER	TOTAL	SPECIFIC ACTIVITY - Ci/ft ³			
	CURIES	Co-60	Sr-90	Cs-134	Cs-137
Prefilter-5	150.551	1.88×10^{-4}	4.92×10^{-2}	3.04×10^{-1}	2.21
Prefilter-6	149.548	1.88×10^{-4}	5.11 x 10 ⁻²	3.02×10^{-1}	2.19
Prefilter-10	252.286	7.50×10^{-4}	2.76×10^{-1}	4.59×10^{-1}	3.32
Cation-1	0.995	3.13×10^{-6}	1.00×10^{-2}	6.25×10^{-4}	4.31×10^{-3}
Cation-2	8.381	3.13×10^{-5}	6.11 × 10 ⁻²	8.75×10^{-3}	6.23×10^{-2}
Cation-3	31.605	6.25×10^{-5}	1.25×10^{-1}	6.33×10^{-2}	3.46×10^{-1}
Cation-4	13.644	3.13×10^{-5}	1.08×10^{-1}	1.45×10^{-2}	1.00×10^{-1}
Cation-5	18.969	1.25×10^{-5}	2.20×10^{-1}	9.94×10^{-3}	7.15×10^{-2}
Cation-6	10.827	1.56×10^{-5}	8.08 x 10 ⁻²	1.12×10^{-2}	8.12×10^{-2}
Cation-7	0.577	1.88×10^{-5}	6.66×10^{-3}	2.50×10^{-4}	1.88×10^{-3}
Cation-8	2.116	3.13×10^{-5}	2.37×10^{-2}	5.00×10^{-4}	8.50×10^{-3}
Cation-9	3.149	6.25×10^{-5}	2.65×10^{-2}	2.16×10^{-3}	1.80×10^{-2}
Cation-10	4.183	3.13×10^{-5}	5.22×10^{-2}	3.34×10^{-3}	5.41×10^{-3}
Cation-11	1.641	1.56×10^{-4}	1.20×10^{-2}	9.69×10^{-4}	7.34×10^{-3}
Cation-12	2.956	1.25×10^{-4}	2.94×10^{-2}	1.28×10^{-3}	9.19×10^{-3}
Cation-13	1.342	3.13×10^{-5}	1.60×10^{-2}	4.06×10^{-4}	3.38×10^{-3}
Cation-14	2.137	6.25×10^{-5}	1.43×10^{-2}	1.03×10^{-3}	8.19×10^{-3}
Cation-15	4.955	9.38 x 10 ⁻⁵	2.69×10^{-2}	5.78×10^{-3}	4.26×10^{-2}
Mixed Bed-1	5.237	5.0×10^{-6}	2.11×10^{-2}	4.92×10^{-5}	3.65×10^{-4}
Mixed Bed-2	40.099	3.75×10^{-5}	1.34×10^{-1}	4.38×10^{-3}	3.11×10^{-2}
Mixed Bed-3	5.833	3.33×10^{-5}	2.39×10^{-2}	3.50×10^{-5}	2.43×10^{-4}
Mixed Bed-4	0.589	2.17×10^{-6}	1.97×10^{-3}	5.50×10^{-5}	3.08×10^{-4}
Mixed Bed-5	7.374	3.33×10^{-6}	3.03×10^{-2}	2.08×10^{-5}	1.70×10^{-4}
Mixed Bed-6	5.25	3.53×10^{-3}	1.49×10^{-2}	2.25×10^{-4}	2.78×10^{-3}
Mixed Bed-7	4.01	2.25×10^{-5}	1.44×10^{-2}	1.20×10^{-4}	7.82×10^{-4}

REFERENCES

- Letter to B. Snyder, USNRC, from G. K. Hovey, Met. Ed./GPU, "Revision of Orders re Solidification of EPICOR-II Resins", dated February 19, 1981, (LL2-81-0040).
- Letter to B. Snyder, USNRC, from G. K. Hovey, Met. Ed./GPU, License Amendment Request No. 2, dated March 11, 1981, (LL2-81-0072).
- Amendment No. 10 to DPR-73, Enclosure No. 1 of letter to R. C. Arnold, Met. Ed./GPU, from R. H. Vollmer, USNRC, dated March 12, 1980.
- Order for Modification of License, Enclosure No. 1 of letter to R. C. Arnold, Met. Ed./GPU, from R. H. Vollmer, USNRC, dated October 22, 1979.
- Final Programmatic Environmental Impact Statement related to decontamination and disposal of radioactive wastes resulting from March 28, 1979, accident Three Mile Island Nuclear Station, Unit 2, NUREG-0683, March 1981.

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-320

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

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 13 to Facility Operating License No. DPR-73, issued to Metropolitan Edison Company, Jersey Central Power and Light Company, and Pennsylvania Electric Company which deleted license condition 2.E.(4) for operation of the Three Mile Island Nuclear Station, Unit 2 (the facility) located in Dauphin County, Pennsylvania. The amendment is effective as of its date of issuance.

The amendment deletes license condition 2.E.(4) requiring solidification of the EPICOR-II spent resins prior to shipment offsite.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5 (d) (4) an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

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For further details with respect to this action, see (1) the application for amendment dated March 11, 1981, (2) Amendment No. 13 to License No. DPR-73, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. 20555 and at the Government Publications Section, State Library of Pennsylvania, Education Building, Commonwealth and Walnut Streets, Harrisburg, Pennsylvania 17126. A copy of items (2) and (3) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, TMI Program Office.

Dated at Bethesda, Maryland this 25th day of March 1981.

FOR THE NUCLEAR REGULATORY COMMISSION

Bernard J. Snydor, Program Director Three Mile Island Program Office Office of Nuclear Reactor Regulation