

POOR ORIGINAL

DISTRIBUTION:

DN 50-320

NRC PDR

Local PDR

TERA

TMI Program Office HQ r/f

TMI Site r/f

J. T. Collins

A. Fasano

R. Conte

Attorney, ELD

IE (3)

M. Duncan

ACRS (16)

B. J. Snyder

R. Weller

H. Denton

R. Browning

R. Sellamy

J. Wiebe

NOV 7 1980

NOV 12 1980

NRC/TMI-30-145

Docket No. 50-320

Mr. R. C. Arnold
Senior Vice President
Metropolitan Edison Company
100 Interpace Parkway
Parsippany, New Jersey 07054

Dear Mr. Arnold:

Subject: Submerged Demineralizer System

Your letter TLL-478 dated October 13, 1980, concluded that the Technical Evaluation Report (TER) for the Submerged Demineralizer System (SDS) contains the necessary information to facilitate NRC review of the SDS. Since this TER was issued, however, ORNL/TM-7448 has been published containing conflicting information that leads us to conclude that the TER is outdated, and in some cases inaccurate. For example, ORNL/TM-7448 indicates that the performance of the SDS for certain isotopes (particularly strontium) may not be as high as expected. Differences in performance may be as high as 100, which would impact the storage of the effluent of the SDS in the processed water storage tanks. Other specific concerns with the TER are included as an enclosure to this letter.

We request that the TER be updated to address and include the information contained in ORNL/TM-7448, and also our concerns as indicated in the enclosure. We are prepared to meet with you at your convenience to discuss our comments and concerns.

Original signed by
John T. Collins

John T. Collins
Deputy Program Director
TMI Program Office

Enclosure: As Stated

cc: See Service Distribution List

8011280 III P

OFFICE	TMI-PD	TMI-RO	TMI-PO			
SURNAME	J. Wiebe	R. Sellamy	J. Collins			
DATE	11/5/80	11/5/80	11/5/80			

R. C. Arnold
Metropolitan Edison Company

NOV 7 1980

Mr. G. K. Hovey
Director, Unit 2
Metropolitan Edison Company
P. O. Box 480
Middletown, PA 17057

Mr. J. J. Barton
Manager, Site Operations, Unit 2
Metropolitan Edison Company
P. O. Box 480
Middletown, PA 17057

Mr. B. Elam
Manager, Plant Engineering, Unit 2
Metropolitan Edison Company
P. O. Box 480
Middletown, PA 17057

Mr. L. W. Harding
Supervisor, Licensing
Metropolitan Edison Company
P. O. Box 480
Middletown, PA 17057

Mr. E. G. Wallace
Licensing Manager
GPU Service Corporation
100 Interpace Parkway
Parsippany, NJ 07054

Mr. I. R. Finfrock, Jr.
Director-Oyster Creek
Jersey Central Power & Light Company
Madison Avenue at Punch Bowl Road
Morristown, NJ 07950

Mr. R. W. Conrad
Vice President-Generation
Pennsylvania Electric Company
1007 Broad Street
Johnstown, PA 15907

Mr. R. F. Wilson
Director-Technical Functions
GPU Service Corporation
100 Interpace Parkway
Parsippany, NJ 07054

Mr. J. G. Herbein
Director
Nuclear Assurance
Metropolitan Edison Company
P.O. Box 480
Middletown, PA 17057

J. B. Lieberman, Esquire
Berlock, Israel, Lieberman
26 Broadway
New York, NY 10004

George F. Trowbridge, Esquire
Shaw, Pittman, Potts & Trowbridge
1800 M Street, N.W.
Washington, DC 20036

Ms. Mary V. Southard, Chairperson
Citizens for a Safe Environment
P. O. Box 405
Harrisburg, PA 17108

Or. Walter H. Jordan
881 W. Outer Drive
Oak Ridge, TN 37830

Or. Linda W. Little
5000 Hermitage Drive
Raleigh, NC 27612

Karin W. Carter, Esquire
505 Executive House
P. O. Box 2357
Harrisburg, PA 17120

Honorable Mark Cohen
512 E-3 Main Capital Building
Harrisburg, PA 17120

Ellyn Weiss, Esquire
Sheldon, Harmon, Roisman & Weiss
1725 I Street, N.W., Suite 506
Washington, DC 20006

Mr. Steven C. Sholly
304 S. Market Street
Mechanicsburg, PA 17055

R. C. Arnold
Metropolitan Edison Company

73V 7 1980

Mr. Thomas Gerusky
Bureau of Radiation Protection
P. O. Box 2063
Harrisburg, PA 17120

Mr. Marvin I. Lewis
6504 Bradford Terrace
Philadelphia, PA 19149

Ms. Jane Lee
R. D. 3, Box 3521
Etters, PA 17319

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

Robert L. Knupp, Esquire
Assistant Solicitor
Knupp and Andrews
P. O. Box P
407 N. Front Street
Harrisburg, PA 17108

John E. Minnich, Chairperson
Dauphin Co. Board of Commissioners
Dauphin County Courthouse
Front and Market Streets
Harrisburg, PA 17101

Robert Q. Pollard
Chesapeake Energy Alliance
609 Montpelier Street
Baltimore, MD 21218

Chauncey Kepford
Judith H. Johnsrud
Environmental Coalition on Nuclear Power
433 Orlando Avenue
State College, PA 16801

Ms. Frieda Berryhill, Chairperson
Coalition for Nuclear Power Plant
Postponement
2610 Grendon Drive
Wilmington, DE 19808

Holly S. Keck
Anti-Nuclear Group Representing York
245 W. Philadelphia Street
York, PA 17404

John Levin, Esquire
Pennsylvania Public Utilities Commission
P. O. Box 3265
Harrisburg, PA 17120

Jordon D. Cunningham, Esquire
Fox, Farr and Cunningham
2320 N. Second Street
Harrisburg, PA 17110

Ms. Kathy McCaughin
Three Mile Island Alert, Inc.
23 South 21st Street
Harrisburg, PA 17104

Ms. Marjorie M. Aamodt
R. D. #5
Coatesville, PA 19320

Ms. Karen Sheldon
Sheldon, Harmon, Roisman & Weiss
1725 I Street, N.W., Suite 506
Washington, DC 20006

Earl B. Hoffman
Dauphin County Commissioner
Dauphin County Courthouse
Front and Market Street
Harrisburg, PA 17101

Government Publications Section
State of Library of Pennsylvania
Box 1601 Education Building
Harrisburg, PA 17127

Dr. Edward O. Swartz
Board of Supervisors
Londonderry Township
RFD #1 Geyers Church Road
Middletown, PA 17057

R. C. Arnold
Metropolitan Edison Company

NOV 7 1980

U. S. Environmental Protection Agency
Region III Office
ATTN: EIS COORDINATOR
Curtis Building (Sixth Floor)
6th and Walnut Streets
Philadelphia, PA 19106

Dauphin County Office Emergency
Preparedness
Court House, Room 7
Front and Market Streets
Harrisburg, PA 17101

Department of Environmental Resources
ATTN: Director, Office of
Radiological Health
P. O. Box 2063
Harrisburg, PA 17105

Governor's Office of State
Planning and Development
ATTN: Coordinator, Pennsylvania
Clearinghouse
P. O. Box 1323
Harrisburg, PA 17120

Mrs. Rhoda O. Carr
1402 Marene Drive
Harrisburg, PA 17109

Mr. Richard Roberts
The Patriot
812 Market Street
Harrisburg, PA 17105

Mr. Robert B. Borsum
Babcock & Wilcox
Nuclear Power Generation Division
Suite 420, 7735 Old Georgetown Road
Bethesda, MD 20014

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

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

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

Docketing and Service Section
U. S. Nuclear Regulatory Commission
Washington, DC 20555

ENCLOSURE

1. Letter TLL-283 provided a list of piping and instrument drawings and general arrangement drawings. An up-to-date listing of these drawings are requested along with the latest revision of the drawing if the drawing has a later revision date than the one provided in TLL-283. Most of the drawings provided were "Issued for Approval". "Approved for Fabrication" drawings should now be available and we request that these drawings be provided.
2. Conflicting data is available concerning the estimated amount of water to be processed, the estimated activity in the water, the total activity to be retained in each bed and the total number of each type of bed required. For example:

Total amount of water to be processed:

<u>Source</u>	<u>Data</u>
TER	Approximately 1,000,000 gallons
Drawing No. 527 O-A-5005 Issue 1	540,000 gallons in Containment Sump (CS) 85,000 gallons in RCS
ORNL/TM-7081 (Referenced in TLL-283 response to question 16)	540,000 gallons in CS 90,000 gallons in RCS
ORNL/TM-7448 (Transmitted by TLL-408 dated August 22, 1980)	700,000 gallons in CS 90,000 gallons in RCS

Activity in the water:

<u>Source</u>	<u>Data</u>
TER (Table 1.1: summation of all all listed activities)	110.15 uCi/ml or 0.43 Ci/gal in RCS 259.73 uCi/ml or 1.01 Ci/gal in CS
Drawing No. 527D-A-5005 Issue 1	2.0 Ci/gal in RCS 3.75 Ci/gal in CS
ORNL/TM-7448 (Table 1: summation of all listed activities)	97.31 uCi/ml or 0.38 Ci/gal in RCS 189.85 uCi/ml or 0.74 Ci/gal in CS

Some of the discrepancies are undoubtedly due to changing conditions and better information obtained at later gates. However, the effect of this variation in data is that the authors of the documents have come to differing conclusions concerning the amount of activity contained in each bed and total beds required. An up to date estimate of the activity to be retained in each bed (zeolite, cation, polisher, and any other bed proposed to be used) and the total number of columns of each type of bed is requested. Data that is used to develop this estimate should be clearly stated and justified, including bed size, throughput and techniques to be used to determine bed loading where throughput is limited by bed loading.

3. The system design objectives in the TER include reducing concentrations in the processed water to levels that meet existing regulatory requirements for release to the environment. The preliminary projected stream analysis for intermediate streams and product water provided in TLL-283 showed that the proposed system will not meet its design objectives. ORNL/TM-7448 indicates even more pessimistic projection in Table 17 and provides proposed modifications to improve system performance even though these modifications will not be enough to meet the system design objective. In view of the above, indicate your plans to improve system performance. Any proposal which does not meet the system design objectives should be thoroughly justified.
4. The TER, TLL-283 (in the response to question 2 (a)), and ORNL/TM-7448 do not all agree in the expected system OF's, in some cases differing by a factor of 100. An updated process flow diagram of the same format as Table 4 in the response to question 2 (a) in TLL-283 is requested along with justification of the values used.
5. The TER indicates that filtration is necessary to achieve designed decontamination factors. ORNL/TM-7448 states that because of flocculent in the containment sump water, the filters proposed for the SOS might be inadequate. Provide plans to ensure adequate filtering of the process water and the expected radioactivity loading of the prefilter and final filter based on this updated information. Based on this loading provide an estimate of the total number of prefilters and final filters needed to process the water.
6. TLL-283 (in the response to question 3) provided the radioactivity loading of the cation bed and the polishing unit for 15,000 gallons of water. Is the throughput of these columns to be limited to 15,000 gallons? If not, what is the criteria to be used for replacement of these columns. Include in the discussion the ORNL/TM-7448 finding that "very little decontamination, if any, will be obtained in either the organic resin column or in the polishing column" and the TER statement that "the remaining strontium (after the zeolite beds) is effectively removed by the organic cation resin".

7. TLL-293 (in the response to question 6) indicated that the processing method for decontamination of the RCS water would be similar to the method planned for the containment sump water. GRNL/TM-7448 gave another recommendation concerning how to process the water in the RCS. In view of this recommendation, provide your plan for processing RCS water.
8. By mid-1981, burial grounds will require such wastes as the polishing unit resin to be solidified prior to disposal. Provide plans for meeting this projected requirement for the polishing unit resin.
9. Provide an accident analysis of dropping a cask containing a loaded zeolite resin liner from the maximum height of crane travel onto (a) the 305' level of the fuel handling building and (b) the SDS system and its supporting components (eg. '4, system). Include in the response a summary of the health and environmental effects on the public and on operators in the area and the effect on the reactor coolant system.
10. Provide an accident analysis of lifting a loaded zeolite resin liner above the pool surface.