

October 17, 1985

Docket No. 50-320

Mr. F. R. Standerfer
Vice President/Director
Three Mile Island Unit 2
GPU Nuclear Corporation
P.O. Box 480
Middletown, PA 17057

Distribution:
Docket No. 50-320
NRC PDR
Local PDR
TMI HQ R/F
TMI Site R/F
BJSnyder
WDTravers
MTMasnik
RAWeller
PGrant (Site)
RCook (Site)
CCowgill (Site)
LChandler, ELD
IE (5)
TBarnhart (4)
LSchneider

Dear Mr. Standerfer:

Subject: Approval of Exemption from 10 CFR 30.51, 40.61, 70.51(d),
and 70.53

JSaltzman
ACRS (16)
Eisenhut/
Denton

We have reviewed your request, dated April 18, 1985, for exemptions from A Rosenthal the requirements of 10 CFR 30.51, 40.61, 70.51(d), 70.53 and 70.54 regard- RLazo ing record keeping, inventorying, and reporting of core special nuclear, SECY source and byproduct materials. As discussed in the attached Exemption, we M-town Off have determined that you will have sufficient information to comply with the requirements of 10 CFR 70.54 and that an exemption from this regulation is unnecessary. However, we conclude that your request for exemptions from the other regulations are appropriate and acceptable, as stated in the attached Exemption issued by the Director of the Office of Nuclear Reactor Regulation. An environmental assessment of the action considered and a Federal Register notice for this issuance are also enclosed.

Sincerely,

Original signed by
B. J. Snyder

8510230259 851017
PDR ADOCK 05000320
PDR

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

Enclosures:

1. Exemption
2. Environmental Assessment and Notice of Finding of No Significant Environmental Impact
3. Federal Register Notices

cc: T. F. Demmitt
R. E. Rogan
S. Levin
W. H. Linton
J. J. Byrne
A. W. Miller

FFSLB:DS:NMSS
WBBrown*
9/30/85

D:DS:NMSS
RFBurnett*
10/3/85

FCMS:NMSS:D
RECunningham*
10/3/85

*See Previous Concurrence

OFFICE	TMIPO:NRR	Service Distribution List	PD:TMIPO:NRR	ELD	DD:NRR	D:NRR
IRNAME	RWeller;bg*	(see attached)	BJSnyder*	LChandler*	DGEisenhut	HRDenton*
DATE	9/18/85		9/18/85	9/25/85	10/ /85	10/8/85

TMI-2 SERVICE LIST

Dr. Thomas Murley
Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

John F. Wolfe, Esq., Chairman,
Administrative Judge
3409 Shepherd St.
Chevy Chase, MD. 20015

Dr. Oscar H. Paris
Administrative Judge
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. Frederick H. Shon
Administrative Judge
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Karin W. Carter
Assistant Attorney General
505 Executive House
P.O. Box 2357
Harrisburg, PA 17120

Dr. Judith M. Johnsrud
Environmental Coalition on
Nuclear Power
433 Orlando Ave.
State College, PA 16801

George F. Trowbridge, Esq.
Shaw, Pittman, Potts and
Trowbridge
1800 M. St., NW.
Washington, D.C. 20036

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

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

Secretary
U.S. Nuclear Regulatory Commission
ATTN: Chief, Docketing & Service Branch
Washington, D.C. 20555

Mr. Larry Hochendoner
Dauphin County Commissioner
P.O. Box 1295
Harrisburg, PA 17108-1295

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

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

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

Thomas M. Gerusky, Director
Bureau of Radiation Protection
Department of Environmental Resources
P.O. Box 2063
Harrisburg, PA 17120

Dan Kennedy
Office of Environmental Planning
Department of Environmental Resources
P.O. Box 2063
Harrisburg, PA 17120

Willis Bixby, Site Manager
U.S. Department of Energy
P.O. Box 88
Middletown, PA 17057-0311

David J. McGoff
Division of Three Mile Island Programs
NE-23
U.S. Department of Energy
Washington, D.C. 20545

William Lochstet
104 Davey Laboratory
Pennsylvania State University
University Park, PA 16802

Randy Myers, Editorial
The Patriot
812 Market St.
Harrisburg, PA 17105

Robert B. Borsum
Babcock & Wilcox
Nuclear Power Generation Division
Suite 220
7910 Woodmount Ave.
Bethesda, MD. 20814

Michael Churchhill, Esq.
PILCOP
1315 Walnut St., Suite 1632
Philadelphia, PA 19107

Linda W. Little
5000 Hermitage DR.
Raleigh, NC 27612

Marvin I. Lewis
6504 Bradford Terrace
Philadelphia, PA 19149

Jane Lee
183 Valley Rd.
Etters, PA 17319

J.B. Liberman, Esquire
Berlack, Israels, Liberman
26 Broadway
New York, NY 10004

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

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

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

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

Mr. Edwin Kintner
Executive Vice President
General Public Utilities Nuclear Corp.
100 Interpace Parkway
Parsippany, NJ 07054

Ad Crable
Lancaster New Era
8 West King Street
Lancaster, PA 17602

UNITED STATES NUCLEAR REGULATORY COMMISSION

In the Matter of)	
GENERAL PUBLIC UTILITIES NUCLEAR CORPORATION)	Docket No. 50-320
(Three Mile Island Nuclear Station Unit 2))	

EXEMPTION

I.

GPU Nuclear Corporation, Metropolitan Edison Company, Jersey Central Power and Light Company and Pennsylvania Electric Company (collectively, the licensee) are the holders of Facility Operating License No. DPR-73, which has authorized operation of the Three Mile Island Nuclear Station, Unit 2 (TMI-2) at power levels up to 2772 megawatts thermal. The facility, which is located in Londonderry Township, Dauphin County, Pennsylvania, is a pressurized water reactor previously used for the commercial generation of electricity.

By Order for Modification of License, dated July 20, 1979, the licensee's authority to operate the facility was suspended and the licensee's authority was limited to maintenance of the facility in the present shut-down cooling mode (44 Fed. Reg. 45271). By further Order of the Director, Office of Nuclear Reactor Regulation, dated February 11, 1980, a new set of license requirements was imposed to reflect the post-accident condition of the facility and to assure the continued maintenance of the current safe, stable, long-term cooling condition of the facility (45 Fed. Reg. 11292). The license provides, among other things, that it is subject to all rules, regulations and Orders of the Commission now or hereafter in effect.

8510230262 851017
PDR ADOCK 05000320
PDR

II.

By letter dated April 18, 1985, the licensee requested exemptions from 10 CFR 30.51, 40.61, 70.51(d), 70.53, and 70.54 regarding the requirements for record keeping, inventorying, and reporting of core special nuclear, source and byproduct materials. Specifically, 10 CFR 30.51 and 40.61 specify the requirements for keeping records which show the receipt, transfer and disposal of source and byproduct material. 10 CFR 70.51(d) specifies the requirements for the periodic conduct of a physical inventory of all special nuclear material in possession. 10 CFR 70.53 specifies the requirements for the periodic submittal of a Material Balance Report and Physical Inventory Listing of special nuclear material possessed by the licensee. 10 CFR 70.54 specifies the requirements for submitting Nuclear Material Transaction Reports for the transfer or receipt of special nuclear material. In meetings with the licensee held subsequent to the April 18, 1985 exemption request, staff representatives of the NRC and Department of Energy (DOE) have determined that the licensee will have sufficient information to comply with the requirements of 10 CFR 70.54 and that an exemption from this regulation is not necessary.

III.

The accident at Three Mile Island Unit 2 severely damaged the reactor core. Video inspections and topography measurements indicate a cavity in the upper core region which represents approximately 26% of the total original core volume. No more than 2 of the original 177 core fuel assemblies

remain intact and only 42 assemblies have any full length fuel rods. The core damage extends radially all the way out to the core former walls. As a result of the accident induced embrittlement of virtually all fuel rods, no fuel assemblies are expected to be withdrawn intact. There is a significant amount of core debris in ex-core region locations (e.g., an estimated 10 to 20 tons in the lower reactor vessel head) and much of the core byproduct material has been released from the fuel. For example, analyses of core debris bed samples indicate that, on the average, only about 13% of the original Cs-137 inventory remains in the fuel although the percentage retained can vary considerably from sample to sample.

During the defueling of the damaged core, the fuel debris will be collected in canisters by vacuuming or "pick and place" techniques. However, as a result of the damaged condition of the core, the licensee will have no means of accurately characterizing (e.g., U-235 enrichment and total uranium content, fission product radionuclide content and distribution, plutonium content) the fuel debris during the defueling sequence. The capability for characterizing the collected fuel debris in each canister would require sophisticated hot cell and laboratory facilities with the means to homogenize, sample, weigh, and analyze the contents of each canister. Such facilities do not exist at Three Mile Island. Given the damaged condition of the core and lack of sophisticated hot cell and laboratory facilities, there is no practical means for the licensee to perform the measurements or precise calculations necessary to comply with the Commission's regulations related to accountability of special nuclear,

source and byproduct materials. The staff therefore concludes that exemptions from the requirements of 10 CFR 30.51, 40.61, 70.51(d), and 70.53 are appropriate. As previously stated in Section II of this evaluation, staff representatives of the NRC and DOE have determined that the licensee will have sufficient information to comply with the transfer requirements of 10 CFR 70.54 and that exemption from this regulation is not necessary.

The granting of these exemptions does not mean that the licensee will not provide any record keeping or reporting of the canister core debris which is intended to be transferred to the custody of the DOE for research and/or storage at DOE facilities in Idaho. In lieu of the reporting requirements of 10 CFR 70.53, the licensee will provide to the DOE all available information describing the physical contents of each canister including: the canister identification number, canister type (i.e., knockout, fuel, or filter), date of shipment, the shipment number, the empty weight of the canister, the loaded weight of the canister, the dewatered weight of the canister, maximum total curies, the canister pressure, general physical description of the canister contents including videotape data (if available), and any additional information based on mutual agreement between the licensee and the DOE. Further, following the completion of defueling and the offsite shipment of the packaged fuel debris, the licensee will be in a position to comply with the requirements of 10 CFR 70.53 and the licensee will be required to submit a Material Balance Report and Physical Inventory Listing at that time.

In lieu of the requirement in 10 CFR 70.51(d) for the periodic conduct of a physical inventory of all special nuclear material, the licensee will conduct such an inventory upon the completion and analysis of a post-defueling survey.

In lieu of the record keeping requirements of 10 CFR 30.51 and 40.61, the licensee will maintain records of each fuel shipment in accordance with the requirements of 10 CFR 71.91. Such records will include an identification of the shipment packaging, the maximum total curies, the total quantity of each shipment, and the date of shipment.

IV.

Accordingly, the Commission has determined that, pursuant to 10 CFR 30.11, 40.14, and 70.14, these exemptions are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. The Commission hereby grants exemptions from the requirements of 10 CFR 30.51, 40.61, 70.51(d), and 70.53. The exemption from 10 CFR 70.53 shall expire following the completion of the defueling effort, including an assessment of any fuel fines and debris which remain within the plant, and the subsequent offsite shipment of all packaged fuel debris.

It is further determined that the exemptions do 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. In light of this

determination and as reflected in the Environmental Assessment and Notice of Finding of No Significant Environmental Impact prepared pursuant to 10 CFR 51.21 and 51.30 through 51.32, issued September 20, 1985, it was concluded that the instant action is insignificant from the standpoint of environmental impact and an environmental impact statement need not be prepared.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read "HR Denton". The signature is written in a cursive, somewhat stylized font.

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Effective Date: October 17, 1985
Dated at Bethesda, Maryland
Issuance Date: October 17, 1985

UNITED STATES NUCLEAR REGULATORY COMMISSION
GENERAL PUBLIC UTILITIES NUCLEAR CORPORATION

DOCKET NO. 50-320

ENVIRONMENTAL ASSESSMENT AND NOTICE OF FINDING
OF NO SIGNIFICANT ENVIRONMENTAL IMPACT

The U.S. Nuclear Regulatory Commission (the Commission) is planning to issue an Exemption from certain regulations relative to the Facility Operating License No. DPR-73, issued to General Public Utilities Nuclear Corporation (the licensee), for operation of the Three Mile Island Nuclear Station, Unit 2 (TMI-2), located in Londonderry Township, Dauphin County, Pennsylvania.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action: The action being considered by the Commission is the granting of exemptions from the inventory, record keeping and reporting requirements of 10 CFR 30.51, 40.61, 70.51(d), and 70.53 for core special nuclear, source and byproduct materials. Specifically, 10 CFR 30.51 and 40.61 require the maintenance of records showing the receipt, transfer and disposal of source or byproduct material. 10 CFR 70.51(d) specifies the requirements for the periodic conduct of a physical inventory of all special nuclear material in a licensee's possession. 10 CFR 70.53 specifies the requirements for the periodic submittal of a Material Balance Report and a Physical Inventory Listing for special nuclear material (SNM).

The Need for the Action: Given the severely damaged condition of the TMI-2 core fuel, the dislocation of fuel material from its original location in the reactor pressure vessel, and the nonhomogeneity of the dislocated

8510230264 851017
PDR ADOCK 05000320
P PDR

material which has settled into piles of rubble at the bottom of the containment vessel, the licensee is unable to determine the bulk quantity of material in the vessel or to obtain representative samples for determination of source, byproduct, and SNM content in compliance with the core accountability requirements of 10 CFR 30.51, 40.61, 70.51(d) and 70.53. Accordingly, some relief from the Commission's regulatory requirements related to core accountability is warranted.

Environmental Impacts of the Proposed Actions: The staff has evaluated the exemptions and concluded that, as the exemptions are related to record keeping and reporting requirements, there are no significant radiological or nonradiological impacts to the environment as a result of this action.

Alternate to this Action: Since we have concluded that there is no significant environmental impact associated with the exemptions, any alternatives will have either no significant environmental impact or greater environmental impact. Alternatives to the exemptions would not reduce present environmental impacts of plant operations and would result in the application of overly restrictive regulatory requirements when considering the unique conditions of TMI-2.

Agencies and Persons Consulted: The NRC staff reviewed the licensee's request and did not consult other agencies or persons.


Alternate Use of Resources: This action does not involve the use of resources not previously considered in connection with the Final Programmatic Impact Statement for TMI-2 dated March 1981.

Finding of No Significant Impact: The Commission has determined not to prepare an environmental impact statement for the subject Exemption. Based upon the foregoing environmental assessment, we conclude that this action will not have a significant effect on the quality of the human environment.

For further details with respect to this action see; (1) Letter from F. R. Standerfer, GPUNC, to B. J. Snyder, USNRC, Core Accountability Exemption Requests, dated April 18, 1985.

The above documents are available for inspection at the Commission's Local Public Document Room, 1717 H Street, N.W., Washington, DC, and at the Commission's Local Public Document Room at the State Library of Pennsylvania, Government Publications Section, Education Building, Commonwealth and Walnut Streets, Harrisburg, Pennsylvania 17126.

FOR THE NUCLEAR REGULATORY COMMISSION


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

ENCLOSURE 3



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

October 17, 1985

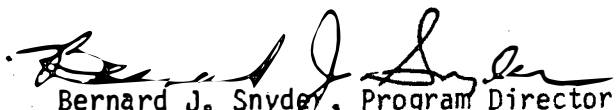
Docket No. 50-320

Docketing and Service Section
Office of the Secretary of the Commission

SUBJECT: Three Mile Island Unit 2
Approval of Exemption from 10 CFR 30.51, 40.61, 70.51(d),
and 70.53

Two signed originals of the Federal Register Notice identified below are enclosed for your transmittal to the Office of the Federal Register for publication. Additional conformed copies () of the Notice are enclosed for your use.

- Notice of Receipt of Application for Construction Permit(s) and Operating License(s).
- Notice of Receipt of Partial Application for Construction Permit(s) and Facility License(s): Time for Submission of Views on Antitrust Matters.
- Notice of Availability of Applicant's Environmental Report.
- Notice of Proposed Issuance of Amendment to Facility Operating License.
- Notice of Receipt of Application for Facility License(s); Notice of Availability of Applicant's Environmental Report; and Notice of Consideration of Issuance of Facility License(s) and Notice of Opportunity for Hearing.
- Notice of Availability of NRC Draft/Final Environmental Statement.
- Notice of Limited Work Authorization.
- Notice of Availability of Safety Evaluation Report.
- Notice of Issuance of Construction Permit(s).
- Notice of Issuance of Facility Operating License(s) or Amendment(s).
- Other: Exemption


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

Enclosure:
As Stated



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

September 16, 1985

Docket No. 50-320

Docketing and Service Section
Office of the Secretary of the Commission

SUBJECT: Three Mile Island Unit 2
Environmental Assessment and Notice of Finding of
No Significant Environmental Impact

Two signed originals of the Federal Register Notice identified below are enclosed for your transmittal to the Office of the Federal Register for publication. Additional conformed copies () of the Notice are enclosed for your use.

- Notice of Receipt of Application for Construction Permit(s) and Operating License(s).
- Notice of Receipt of Partial Application for Construction Permit(s) and Facility License(s): Time for Submission of Views on Antitrust Matters.
- Notice of Availability of Applicant's Environmental Report.
- Notice of Proposed Issuance of Amendment to Facility Operating License.
- Notice of Receipt of Application for Facility License(s); Notice of Availability of Applicant's Environmental Report; and Notice of Consideration of Issuance of Facility License(s) and Notice of Opportunity for Hearing.
- Notice of Availability of NRC Draft/Final Environmental Statement.
- Notice of Limited Work Authorization.
- Notice of Availability of Safety Evaluation Report.
- Notice of Issuance of Construction Permit(s).
- Notice of Issuance of Facility Operating License(s) or Amendment(s).
- Other: Environmental Assessment and Notice of Finding of No
Significant Environmental Impact


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

Enclosure:
As Stated