DISTRIBUTION:
Docket No. 50-320
NRC PDR
Local PDR
DCS
TMI HQ R/F
TMI Site R/F
BJSnyder
LBarrett
OLynch
TPoindexter
WTravers
RWeller
RBellamy (TMI Site)
AFasano (TMI Site)
JWeibe (TMI Site)
LChandler, ELD
IE (3)
ACRS (16)
LBell

SEP 24 1982

Docket No. 50-320

Mr. B K. Kanga, Director
Three Mile Island Unit 2
GPU Nuclear Corporation
P.O. Box 480
Route 441 South
Middletown, PA 17057

Dear Mr. Kanga:

We have conducted an environmental and safety review of your proposal to perform an extended containment building decontamination effort. In our review, we have evaluated the potential environmental impacts, the impact of the decontamination activities on the waste generation rate and the impact on the health and safety of the public and the workers. We find both the scope and the expected impacts associated with your proposed decontamination effort to be within the scope of activities already assessed in the PEIS. We also conclude that adequate protection is being provided for both the public and workers' health and safety. Based on our evaluation, we find your proposal to conduct an extended decontamination effort acceptable, subject to our approval of the procedures used to implement the decontamination effort. The rationale for our approval and a discussion of our evaluation is attached.

Sincerely,

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

cc: J. Barton
L. King
J. Larson
Service List (see attached)

Enclosure: As stated

OFFICE	TMIPO:NRR	TMIPO:NRR	TMIPO:NRR	TMIPO:NRR	TMIPO:NRR		
SURNAME	LBell:bg	RWeller	OLynch	LBarrett	BJSnyder		
DATE	9/ /82	9/ /82	9/ /82	9/24/82	9/ /82		

SERVICE DISTRIBUTION LIST

Ronald C. Haynes
Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
631 Park Ave.
King of Prussia, PA 19406

John F. Wolf, Esq., Chairman,
Administrative Judge
3409 Shepherd Street
Chevy Chase, MD 20015

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

Mr. Frederick J. Shon
Administrative Judge
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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

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

George F. Trowbridge, Esq.
Shaw, Pittman, Potts and
Trowbridge
1800 M Street, NW
Washington, DC 20036

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

Secretary
U.S. Nuclear Regulatory Commission
ATTN: Chief
Docketing & Service Branch
Washington, DC 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 and Walnut Streets
Philadelphia, PA 19106

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

David Hess
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

Herbert Feinroth, Acting Deputy
Director of Coordination and
Special Projects, NE-550
U.S. Dept. of Energy
Washington, DC 20545

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

Randy Myers, Editorial
The Patriot
812 Market Street
Harrisburg, PA 17105

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

Judith A. Dorsey
1315 Walnut Street
Suite 1632
Philadelphia, PA 19107

Linda W. Little
5000 Hermitage Drive
Raleigh, NC 27612

Marvin I. Lewis
6504 Bradford Terrace
Philadelphia, PA 19149

Jane Lee
183 Valley Road
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 Road
Middletown, PA 17057

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

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

John Levin, Esquire
Pennsylvania Public Utilities
Commission
P.O. Box 3265
Harrisburg, PA 17120
Honorable Mark Cohen
512 E-E Main Capital Building
Harrisburg, PA 17120

RATIONALE FOR APPROVAL

THE CONTAINMENT BUILDING EXTENDED DECONTAMINATION ACTIVITIES

On November 21, 1979, the Nuclear Regulatory Commission announced its decision to prepare a programmatic environmental impact statement (PEIS) on the decontamination and disposition of radioactive wastes resulting from the March 28, 1979, accident at Three Mile Island Nuclear Station, Unit 2. The final PEIS was issued on March 1981 . In the Commission's Policy Statement on Cleanup of Three Mile Island Plant issued on April 29, 1981, the Commission states that "under the Policy Statement, the NRC staff may act on each major cleanup activity if the activity and associated environmental impacts fall within the scope of those already assessed in the PEIS." In keeping with this policy, the NRC staff has performed an evaluation of the expected environmental impacts of the licensee's proposal to perform an extended decontamination effort of the containment building and compared those impacts with the environmental impacts of those reactor building decontamination activities evaluated in the PEIS.

On September 23, 1982, the licensee submitted a proposal delineating the scope and purpose of a major containment building decontamination effort at the TMI Unit 2. The licensee indicates the primary purpose of the extended decontamination activities is aimed at reducing the radiation levels attributed to surface contamination and to reduce the concentration of airborne radioactivity. The principal areas to be decontaminated

during this effort will include the reactor building dome, major equipment, floor, and vertical and horizontal surfaces on the 305' and 347' elevations of the reactor building and the surfaces and rails of the polar crane. In addition, the decontamination effort is to include the enclosed stairwell, ventilation duct internals, and the elevator shaft down to the 305'0" level. Due to the high radiation levels in the enclosed stairwell and the elevator shaft, special radiological controls will be necessary. As a result of the decontamination experiment conducted in March of 1982, it was shown that water flushes in various combinations of pressure and temperature decreased airborne radioactivity and removed particulate deposits. During the extended containment building decontamination effort, the techniques which appeared most effective during the decontamination experiment will be used to decontaminate the building further. In addition to water flushes, mechanical scrubbing, and localized chemical cleaning may be used. Strippable coatings will be used to control the spread of contamination and to decrease airborne activity. As a result of the extended containment building decontamination activities, it is expected that surface contamination and airborne radioactivity will be reduced in the reactor building. Water previously processed through the SDS and the EPICOR-II System will be used for flushing during the decontamination effort. After flushing, this water will be collected in the reactor building sump via the built-in draining system, and will be reprocessed using the SDS/EPICOR-II systems.

The staff has conducted an environmental and safety review of the proposed containment building decontamination effort. Based on the review, the staff makes the following findings and conclusions:

1. The decontamination effort is expected to reduce contamination levels in the reactor building. The proposed extended decontamination effort is within the scope of activities discussed in the PEIS (Chapter 5) pertaining to the gross decontamination of the reactor building.

2. Average airborne radioactivity concentrations in the reactor building are expected to be reduced as a result of the extended decontamination efforts. This is based on the measurements of airborne radioactivity made during the previous decontamination experiment in the first quarter of March 1982 which involved activities similar to those proposed in the extended decontamination effort. Breathing zone air measurements made during the decontamination experiment indicated that airborne radioactivity was reduced. The effluent monitors did not detect any increase in particulate effluents during the initial gross decontamination operation. The staff has evaluated the offsite environmental impacts resulting from the ventilation of the reactor building atmosphere during the reactor building extended decontamination. Based upon actual past TMI-2 reactor building experience we expect offsite releases and radiation doses to the public resulting from the containment building decontamination to be within the scope of the impacts assessed in the PEIS. Additionally, the rate of radioactivity releases in airborne effluents is expected to be well within the technical specification limits of TMI-2 as discussed in Appendix R of the PEIS.

3. The cumulative occupational dose expected to be incurred during the containment building extended decontamination is 180-550 man-rem. This is based on measured radiation levels in the reactor building, estimated cumulative occupancy time by personnel performing the decontamination (man-hours), as well as personnel dose data obtained from previous entries into the reactor building. This estimated occupational dose is a small fraction of the occupational dose discussed in the PEIS for activities

related to reactor building decontamination. The corresponding potential health effects are, therefore, also well within the scope of those provided in the PEIS.

4. The staff has reviewed the proposed plans and engineering features aimed at reducing occupational doses and releases to the environment expected to be in place during reactor building decontamination and found them to be suitable for providing adequate assurance that the experiment will be conducted consistent with the principle of maintaining radiation doses as low as reasonably achievable (ALARA). The staff will continue to closely monitor your overall ALARA program.

5. The activities associated with the reactor building extended decontamination effort will not affect the safe condition of the reactor coolant system or the fuel. Radiation monitors, including the airborne effluent monitor, will be operational to assure that the reactor building ventilation can be secured and decontamination terminated prior to exceeding technical specification limits for offsite releases of airborne radioactivity.

6. Low level solid wastes, such as contaminated, disposable, protective clothing and compactable trash, of approximately 800 cubic feet will be generated. Water used during the experiment will be collected in the reactor building sump and reprocessed by the Submerged Demineralizer System and EPICOR-II System for reuse or storage onsite. The volume of wastes from the SDS and EPICOR-II Systems generated as a result of the extended decontamination will be less than 200 cubic feet, including spent liners. As such, these solid wastes are a small fraction of the wastes estimated in the PEIS to be generated as a result of reactor building decontamination activities.

Based on the above evaluation and findings, the staff concludes that the containment building extended decontamination, as proposed, is safe and is expected to result in environmental impacts within the scope of those activities discussed in the PEIS. Therefore, the extension of the decontamination effort is acceptable and can be conducted with adequate assurance for the protection of the public health and safety subject to the staff's approval of the licensee's implementation procedures.