Docket No. 50-320

Mr. F. R. Standerfer
Vice President/Director, TMI-2
GPU Nuclear Corporation
P. O. Box 480
Middletown, PA 17057

Dear Mr. Standerfer:

Subject: Seismic Design Criteria for Modified Containment Penetrations

The NRC staff has reviewed your request (reference 1) for deletion of the constraint of 20 ft.² of modified penetrations between the reactor building and auxiliary/fuel handling buildings given in our November 5, 1984 letter (reference 4). In our previous analyses the penetrations to the auxiliary and fuel handling buildings were not the limiting case. As discussed in the enclosure, if a total of 40 ft.² of these penetrations were modified the offsite dose consequences of the modeled accident would remain a small portion of the limits in 10 CFR 100. Thus the staff concurs with expanding the limit to 40 ft.².

Any additional modifications for which the potential offsite dose consequences could be estimated to exceed a small portion of the 10 CFR 100 limits (references 5 and 6), however, will be evaluated on a case by case basis (reference 2). The staff will consider the nature of the modification, the duration of the modification, and any restriction of activities while the modification is in place in addition to the potential offsite dose consequences.

Sincerely,

[Signature]

William D. Travers, Director
TMI-2 Cleanup Project Directorate

Enclosure: As stated

cc: T. F. Deemitt
    R. E. Rogan
    S. Levin
    J. E. Frew
    J. J. Byrne
    A. W. Miller
    Service Distribution List
    (see attached)
SAFETY EVALUATION FOR EXPANDING LIMITS ON
MODIFIED CONTAINMENT PENETRATIONS

BACKGROUND

General Public Utilities Nuclear Corporation (GPUNC), the licensee, applied for an exemption from General Design Criteria 2, 50 and 51 in a letter dated April 16, 1985 (reference 7). This would allow modification of containment penetrations such that they would no longer be seismically qualified. The NRC staff analyzed the potential offsite dose consequences of accidents involving modified containment penetrations coincident with seismic events (reference 4). The staff concluded that the potential consequences did not represent a threat to the health and safety of the public and subsequently allowed GPUNC to modify containment penetrations, to a limit of 20 ft.², based on this analysis and the granting of the exemption to criteria 2, 50, and 51.

GPUNC has subsequently requested deletion of the current 20 ft.² limit on modified penetrations. The NRC staff has reviewed its previous analysis and GPUNC’s submittals (references 1 and 3) and has performed additional calculations in making a determination of what action to take on the licensee’s request.

EVALUATION

In the staff’s previous analysis modified containment penetrations to the auxiliary and fuel handling buildings (including the annulus area) were restricted to 20 ft.² in area. With this restriction they did not represent the limiting case in the staff’s analysis. The staff evaluated doubling the amount of these penetrations and doubled the source leaving the reactor building via these penetrations. The resultant worst case involved a dropped fuel canister coincident with the failed penetrations. The potential offsite dose consequences for the maximally exposed individual were less than 0.5 rem (i.e., 387 mrem) whole body dose equivalent. With 40 ft.² of modified penetrations the licensee could reasonably effect temporary repairs and terminate the release within a few hours as was previously assumed. With an unrestricted modification this assumption would not be valid and potential offsite doses could exceed a small fraction of 10 CFR 100 guidelines.

CONCLUSIONS

The staff has evaluated the potential risks associated with modifying up to 40 ft.² of penetrations between the containment (reactor building) and the auxiliary and fuel handling buildings. The staff has determined that this action does not involve a significant increase in the probability or consequences of an accident perviously evaluated or create the possibility of a new accident or involve a significant reduction in the margin of safety. This action does not authorize an increase in effluents from the facility and falls within the bounds of activities previously described in the Programmatic Environmental Impact Statement (PEIS). We therefore conclude that up to 40 ft.² of the described penetrations can be modified without significant risk to the health and safety of the public.
REFERENCES


4. NRC letter, B. J. Snyder to F. R. Standerfer, dated November 5, 1984, re Exemptions from General Design Criteria 2, 50 and 51.


6. NUREG 0800 "Standard Review Plan".

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

Sheldon J. Wolfe, Esq., Chairman
Administrative Judge
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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

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

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

Ernest L. Blake, Jr., Esq.
Shaw, Pittman, Potts, and Trowbridge
2300 N Street, N.W.
Washington, D.C. 20037

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

Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Frederick S. Rice, Chairman
Dauphin County Board of Commissioners
Dauphin County Courthouse
Front and Market Streets
Harrisburg, PA 17101

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

Ad Crable
Lancaster New Era
8 West King Street
Lancaster, PA 17601

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

David J. McGoff
Office of LWR Safety and Technology
NE-23
U.S. Department of Energy
Washington, D.C. 20545

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

Frank Lynch, Editorial
The Patriot
812 Market Street
Harrisburg, PA 17105

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

Michael Churchill, Esq.
PILCOP
1315 Walnut Street, Suite 1632
Philadelphia, PA 19107

Marvin I. Lewis
7801 Roosevelt Blvd. #62
Philadelphia, PA 19152

Jane Lee
183 Valley Road
Etters, PA 17319

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

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

US Environmental Prot. Agency
Region III Office
ATTN: EIS Coordinator
Curtis Building (Sixth Floor)
6th and Walnut Streets
Philadelphia, PA 19106