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May 28, 1986
NRC/TMI 86-052

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: Safety Evaluation Report (SER) for Core Stratification Sample
Acquisition, Revision 3

The Nuclear Regulatory Commission (NRC) staff has reviewed your December 31, 1985 Safety Evaluation Report (SER) for Core Stratification Sample Acquisition and the additional supporting information provided in your May 13, 1986 letter. As stated in the enclosed safety evaluation issued by the staff, we conclude that the proposed activities can be accomplished without significant risk to the health and safety of the public provided that they are in accordance with the limitations stated in both your SER and responses to the staff's request for additional information. This activity falls within the scope of activities previously considered in the Programmatic Environmental Impact Statement.

We therefore approve the operation of the system as described in your SER contingent upon the submittal of the related procedures subject to Technical Specification 6.8.2.

Sincerely,

ORIGINAL SIGNED BY:
William D. Travers

William D. Travers
Director
TMI-2 Cleanup Project Directorate

Enclosure: As stated

cc: T. F. Demmitt
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SAFETY EVALUATION REPORT FOR CORE
STRATIFICATION SAMPLE ACQUISITION, REVISION 3

INTRODUCTION

On August 30, 1985, GPUN submitted the Safety Evaluation Report for Core Stratification Sample Acquisition (Reference 1). This encompassed drilling core samples down to the lower grid assembly. Upon review, the NRC staff requested additional information (Reference 2). In response, GPUN submitted Reference 3 which also revised the work activity to allow for the option of boring through the flow distributor plate, if necessary to permit TV camera access. The NRC staff approved the original scope of work activity, i.e., drilling to the lower grid assembly (Reference 4) and requested additional information on the revised work activity (Reference 5). In response, GPUN submitted Reference 6.

This safety evaluation addresses the revised work scope described in GPUN submittals, References 3 and 6.

EVALUATION

The change in work scope to allow the option of boring through the flow distributor plate if necessary, does not change the criticality, pyrophoricity, or mechanical force considerations previously evaluated by the NRC. However, the operation could allow the drill string to approach the lower vessel head as close as six inches. Errors in drill string length or coupling could allow the bit to contact the lower vessel head. To prevent this possibility, core bore activities will be restricted to within a cylindrical envelope of approximately 8'1" in diameter centered on the reactor vessel centerline. Additionally, the licensee has committed to a program of measurements and verification of drill string length and coupling to insure that contact with the lower vessel head is not possible when the drill is fully extended into the reactor vessel. The staff finds that the licensee's system of control of the proposed activity is acceptable.

CONCLUSION

The staff has examined and evaluated the potential risks associated with the Core Stratification Sample Acquisition Program (Revision 3), and determined that pyrophoricity, criticality, and mechanical force considerations do not differ from those previously reviewed and approved. The licensee's program to assure that the drill does not adversely affect reactor vessel integrity is acceptable. We therefore conclude that Core Stratification Sample Acquisition Activities (Revision 3) can be implemented without significant risk to the health and safety of the public.

References

1. GPUN letter with attached SER from F. R. Standerfer, 4410-85-L-0147, to B. J. Snyder dated August 30, 1985.
2. NRC letter, NRC/TMI 85-095, W. D. Travers to F. R. Standerfer, "Safety Evaluation Report (SER) for Core Stratification Sample Acquisition" dated November 26, 1985.
3. GPUN letter with attached SER from F. R. Standerfer, 4410-85-L-0248, to W. D. Travers dated December 31, 1985.
4. NRC letter with attached Safety Evaluation NRC/TMI 86-041, W. D. Travers to F. R. Standerfer dated May 5, 1986.
5. NRC letter NRC/TMI 86-038, W. D. Travers to F. R. Standerfer, "Safety Evaluation Report for Core Stratification Sample Acquisition, Revision 3" dated April 23, 1986.
6. GPUN letter from F. R. Standerfer, "Safety Evaluation Report for Core Stratification Sample Acquisition, Revision 3", 4410-86-L-0077, to W. D. Travers dated May 13, 1986.

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