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P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

PRODUCTION DEPARTMENT

September 1, 1981

U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D. C. 20556

Attention: Mr. Harold R. Denton, Director

Dear Mr. Denton:



SUBJECT: Grand Gulf Nuclear Station
Units 1 and 2
Docket Nos. 50-416 and 50-417
File 0260/0755/L-860.0
NUREG-0737, Item II.B.2,
Plant Shielding
AECM-81/332

The purpose of this letter is to transmit additional information concerning Item II.B.2 of NUREG-0737. This information was informally requested by your Radiological Assessment Branch and is delineated below:

ITEM 1: Verification that containment was used as a source in II.B.2 evaluations.

RESPONSE: Dose contributions from the containment and penetrations were combined with the contributions from contained sources for use in the II.B.2 evaluation.

ITEM 2: Specification as to why the post-accident sampling stations, technical support center, radwaste panel and radiochemical/chemical analysis laboratory were excluded from the vital area review.

RESPONSE: a) The post-accident sampling station was included in the II.B.2 review and is identified in FSAR Table 12.6-1. However, the post-accident sampling station has been moved from the Auxiliary Building (119'-0") to the Turbine Building (93'-0"). FSAR Table 12.6-1 is being revised to reflect this change.

b) The Technical Support Center is in the Control Building (177'-0") and was included in the review. See FSAR Table 12.6-1.

c) The radwaste panel is not required to function during or immediately following an accident and was not included in the review for this reason. See FSAR subsection 18.1.34 for further information.

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sub-section 18.1.34 for further information.

- d) The radioactive chemistry laboratory is located in the Radwaste Building (118'-0") and was included in the review. See FSAR Table 12.6-1.

ITEM 3: "Radiation Maps" showing location of vital areas.

RESPONSE: Drawings showing the post-accident radiation zones with areas of review indicated have been informally provided to the Radiological Assessment Branch. A final list of vital areas will be generated as part of the 11.B.2 evaluation. This list will be based on pre-planned activities indicated by the emergency procedures, as discussed in the response to Item 4 below. Zone maps with the vital areas identified will be provided formally as part of the final report on this subject.

ITEM 4: Integrated personnel doses for post-accident operations.

RESPONSE: MP&L is presently developing dose estimates to personnel for pre-planned activities specified in the emergency procedures which will be performed during the period following an accident. The estimates will be reviewed against the personnel dose rate guidelines of GDC 19, and additional shielding requirements will be identified as necessary.

ITEM 5: Post-Accident sampling system location, design shielding and dose to personnel taking and analyzing the sample.

RESPONSE: The post-accident sampling equipment and grab sample cask are located in the Turbine Building (93'-0") and are shielded so that surface dose rates for undiluted samples are within 100 mR/hr. To meet this requirement, the sampling equipment is mounted on the Turbine Building basement slab and is surrounded, top and sides, by 7 inches of lead shielding. The sample cask surrounds the sample with 14 inches of lead.

Only diluted grab samples will be analyzed onsite. In order to estimate the dose to personnel drawing and analyzing a sample, the following parameters were evaluated:

- a) The sample is drawn approximately 24 hours after the accident.
- b) The sample cask holds 10ml of liquid.
- c) The sample, diluted 1000:1, contains 10 uCi/cc of activity, this results in a dose rate of 0.1 mR/hr to the operator.

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- d) The sample is analyzed for Boron; the analysis is run once.

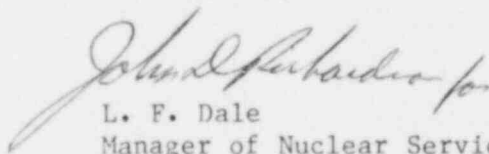
To obtain a sample, it was estimated that the operator would spend 1-2 minutes in the sample area. Transportation of the sample to the laboratory was estimated to take 5-10 minutes. The two operators would receive a dose of less than 0.1 mR due to direct radiation from the sample.

Analysis of the sample would require 30-60 minutes giving this person a dose of 300-600 mR.

The evaluation associated with TMI Item II.B.2 is currently in progress. Our findings, including vital areas identified on the basis of GGNS emergency procedures, integrated personnel doses for pre-planned activities, and apparent shielding inadequacies, will be reported no later than October 9, 1981.

Pertinent portions of the above responses will be incorporated into the next available FSAR amendment.

Yours truly,



L. F. Dale
Manager of Nuclear Services

WWK/SHH/JDR:lt

cc: Mr. N. L. Stampley
Mr. R. B. McGehee
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