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January 30, 1986

Docket Nos. 50-277
50-278

Mr. Daniel R. Muller, Director
BWR Project Directorate #2
Division of Boiling Water Reactor Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: Peach Bottom Atomic Power Station
Units 2 and 3 - Installation of
New Spent Fuel Storage Racks

Dear Mr. Muller:

During recent telephone conferences, several questions and requests for additional spent fuel pool evaluations have been made by the NRC Staff. In response to those requests, the following attachments are provided:

- o ATTACHMENT A - Provides responses to questions one and two in regards to interpreting the Safety Analysis Report submitted August 1, 1985.
- o ATTACHMENT B - Provides an evaluation of the off-site dose rate consequences of allowing the spent fuel pool to boil at 212 degrees Fahrenheit.

The off-site dose evaluation of a boiling spent fuel pool was first completed for the Limerick Generating Station. Because of the design similarities between the Peach Bottom Atomic Power Station and the Limerick Generating Station facilities and systems, an evaluation was completed based on the previous analysis performed for the Limerick Station. The differences between the Peach Bottom spent fuel pool and the Limerick pool were incorporated into the evaluation assumptions. The evaluation is provided in Attachment B.

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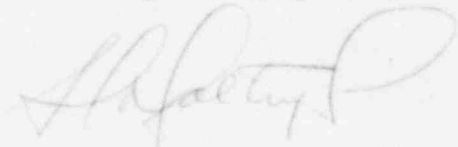
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Mr. Daniel R. Muller

January 30, 1986
Page 2

Should you have any further questions or need additional information, please do not hesitate to contact us.

Very truly yours,

A handwritten signature in cursive script, likely belonging to T. P. Johnson, the Resident Site Inspector mentioned in the distribution list.

Attachments

cc: Dr. T. E. Murley, Administrator, Region 1, NRC w/o attachments
T. P. Johnson, Resident Site Inspector w/o attachments

January 30, 1986
Docket Nos. 50-277
50-278
ATTACHMENT A

Responses to Request for Additional
Information - January 30, 1986

Peach Bottom Atomic Power Station
Units 2 And 3
Installation of New Spent Fuel Racks

ATTACHMENT A

- o Page 1 of 2, Response to
Question #1
- o Page 2 of 2, Response to
Question #2

Question #1

Page 3-20, Rev. 1, indicates normal refueling; (3)(c) "with one exchanger in service - time to reach 150 degrees F = 7.3 days*," and full core offload (4)(c) "time to reach 150 degrees F one exchanger in service = 7.3 days*". However, the heat load for the first case is shown as 13.14×10^6 BTU/HR and the heat load is shown as 23.12×10^6 BTU/HR for the second case. Are both correct?

Response to Question #1

The heat loads for both cases are correct. The loads of 13.14×10^6 BTU/HR for normal refueling (1/3 core offload) and 23.12×10^6 BTU/HR for full core offload, represent the heat generated at the completion of fuel transfer. In both cases, the time to reach 150 degrees Fahrenheit is measured from the start of fuel transfer, with the fuel bundles being offloaded at the same rate for each case (20 bundles per day). Consequently, the heat load rate of increase is the same in each case and the time of 7.3 days to reach 150 degrees Fahrenheit is the same for both cases. At the time 150 degrees Fahrenheit is reached, fuel transfer is in progress in each case, since the time to complete normal refueling (1/3 core offload) is approximately 13 days at the normal (20 bundle per day) fuel transfer rate.

Question #2

On page 3-15 it states that the time for the pool to reach boiling at 212 degrees F is "82 hours" after core offloading; yet, 3-20, (4)(d) states "27.5 days". Is there a discrepancy?

Response to Question 2

The "82 hours" to boil on page 3-15 is different from the "27.5 days" to boil on page 3-20 because the "82 hours" is based on no heat exchangers available while the "27.5 days" is based on having one heat exchanger in service.

January 30, 1986
Docket Nos. 50-277
50-278
ATTACHMENT B

Responses to Request for Additional
Information - January 30, 1986

Peach Bottom Atomic Power Station
Units 2 And 3
Installation of New Spent Fuel Racks

ATTACHMENT B

- o Page 1 of 1, Response to
request for evaluation
of spent fuel pool boiling

Request:

"Evaluate the offsite dose rate consequences of allowing the spent fuel pool to boil".

Conclusion:

A parametric evaluation of the offsite dose effects of a boiling spent fuel pool at Peach Bottom has been completed. This evaluation is based on the spent fuel pool boiling analysis performed for Limerick as presented in LGS FSAR Section 9.1.3, modifying the assumptions as necessary to reflect the differences between the two plants such as: atmospheric dispersion factors, pool water volume, maximum decay heat, and time to boil. No basic changes were made to the model. The results of this evaluation show that the resultant worst-case offsite thyroid dose from a boiling spent fuel pool at Limerick was determined to be 0.375 rem.. Based on the parametric evaluation, the Peach Bottom results are only 83% greater than the results of the Limerick calculations. Therefore, the expected Peach Bottom offsite dose is well below the guideline value of 300 rem stipulated in 10 CFR, Part 100.