OPTIONAL FORM NO. 10

UNITED STATES GOVERNMENT

Memorandum

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TO : Files 245
THRU: M. B. Biles, Chief
TPRSB, DL&R

DATE: aug 25, 1960

FROM : Robert W. Sliger RWS.
Test & Power Reactor Safety Br., DL&R

SUBJECT: MEETING WITH APPLICANT - PEACH BOTTOM ATOMIC POWER STATION

A meeting was held on August 24, 1960 to review with the applicant his preliminary hazards report on the Peach Bottom Atomic Power Station. The meeting began at 9:00 a.m. and continued until 5:00 p.m. Those in attendance were:

TPRSB	Phil. Elec. Co.
C. Beck (Part time)	J. L. Allen
M. Biles (Part time)	E. J. Bradley
R. Hurst	J. L. Everett
R. Sliger	
AEC-DRD	**HTRDA**
D. Groelsema	I.C. McChesney
R. Pahler	(from Rochester G&E Co.)
Gen. Atomics	**Bechtel Corp.**
A. Harris	G.H. Bosworth
E. Heller	W.O. Dickinson
D. Rose	R. P. Schmitz
H. Stewart	

The meeting followed a general pattern of informal question and answer session. The report (Part B) was covered by each chapter in sequence rather than random questions. On each question a general discussion was held to clarify or resolve the action to future meetings.

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I-2-What tests and results are known to back up the choice of graphite?

II-1-What information exists on flow seals on the graphite reflector ring?

II-4-What information or program exists to show that fuel element fission product trap will work?

II-5-It is not stated that the effects of H_2O and O_2 on graphite

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or the fuel carbides will be studied in the program. Can this be clarified?

II-6-No drawings or details of the control rods are given, the following items are of concern should be covered:

a. in Sec V-7 it states the rod has overtravel devise for disconnect. What prevents this from happening during operation?

b. Tests are mentioned for the rod which cover normal insertion. What studies of graphite-B_4C effects, scram shock, and temperature will be conducted?

c. With only 3.2 ΔP across the core, what is the required flow rate thru the central rod and resulting temperature, both normal and abnormal?

d. The report states that on complete loss of coolant the stainless steel flexure joints may fail. Will this affect the ability of the rod to scram? What is the guide tube material to prevent its failure also?

II-7-No details of drive mechanism (pneumatic stepping motor) or its control is presented to evaluate the design.

II-8-Is there any additional information which can clarify whether the vent system between the reactor and fission product traps will be doubly contained?

II-9-How do they define "by-pass trapping system"?

II-11-Results of tests will need to be evaluated on both internal and external trap system.

II-13-What are the temperatures in operation of the internal traps?

II-17-From storage to installation, what inspection of fuel elements will be made?

II-17-If the fuel is changed through a sealed system, what is purpose of negative pressure and chance of introducing contaminants?

II-22-Why is not the inner duct more likely to rupture than the outer duct and what are the effects on the core?

II-22-In the event of steam leak can the primary system relieve over pressure?

II-23-If the main drives on the circulators are steam what provisions are made in case of steam loss for a period of approximately 1 hour? If the drives are electric is emergency power provided?

II-25-If only 50% flow is available (loss of one circulator) what is the effect on fuel temperature and what is failure temperature?

II-26-Where are the neutron channel chambers located?

II-26-How many rods equal the minimum shutdown margin?

II-27-What is definition of "Unrodded Ks"?

II-28-Where is burnable poison located in core?

II-30-What are the units of prompt temperature coeff.?

II-31-Where are the flux measurements taken?

II-32-What are the withdrawal prohibits on rods?

II-35-What provisions are made to cool the shield mass?

IV-1 -The previous submittal for site consideration stated that leakage from containment would be designed for on the basis of 0.05% leak/day. The present report states 0.2%/day. What is justification for this change?

V-3 -It is not stated what the start-up source will be or where it may be located.

V-5 -How is circulator speed maintained after shutdown if the speed control is related to steam flow during operation?

V-7 -What prevents overtravel function on control rod from decoupling during operation? Is the rod up or down during the decouple?

VI-2- With regard to A^{41} released, has it been determined what method is used to cool the shield around the core tank and what activation takes place? (EGCR shows 400 c/day).

VI-4 -Will control rods and guide tube be canned to prevent contamination of pool water?

VII -2-In case of the event of one circulator failure, has the effects of coolant inlet on one side of reactor vessel been considered?

VII-3-The report states that steam will supply a convenient and available source of energy during shutdown. Elsewhere it states that steam will be cut-off at some point. Please explain.

VII-5-Has consideration been given to the issue that ThC andVC decompose in presence of water?

VII-6-Due to a loss of coolant if the core does heat to 3000°F has the effect of vessel and internal components been considered? This applies to the loops as well.

VII-7-If shield is air cooled and vents are shut off, how is the heat released to avoid thermal stresses?

VII-8-Please discuss the sentence onself-sustained chemical reaction of graphite.

VII-9-In consideration of a large leak and the system drops from 350 psi, has it been considered whether overpressure in the core tank cavity is sufficient to damage the lower bulkhead? Would this cause the rods to unlatch and drop from the core?

VII-14-The report previous to this point states a leak rate of 0.2%/day to be tested for with the penetrations sealed. Yet this section uses 0.2% to calculate the effects of leakage due to accidents. The value to be tested for after penetrations are installed should be used.

VII-14-Past start-up test on containment leakage should be accounted for.

VII-22-The considerations for the methods used to ensure afterheat cooling need to reviewed?

VII-27-Why is there no pressure head associated with the maximum credible accident?

The meeting was terminated at 5:00 p.m. and the applicant was informed that his information would be further reviewed and they may want to submit further information for review.