UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D. C.

August 13, 1964

Docket No. 50-171

Dr. Herbert Kouts
Chairman, Advisory Committee
on Reactor Safeguards
U. S. Atomic Energy Commission
Washington 25, D. C.

Dear Dr. Kouts:

Transmitted herewith for the use of the Committee are **eighteen (18)** copies of the following:

Volume V(A) - (Annex F) "Design and Fabrication of Reactor Pressure Vessel and Steam Generators" to Part C, Final Hazards Summary Report.

We are also transmitting three copies of letter from the Philadelphia Electric Company dated August 10, 1964, with Amendment No. 6 to its application for construction permit and license.

Sincerely yours,

Edson G. Case
Assistant Director
Division of Reactor Licensing

Enclosures:
As stated above

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August 18, 1964

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THRU : Saul Levine, Chief, Test & Power Reactor Safety Branch
Division of Reactor Licensing

K. R. Goller and J. E. McEwen, Jr.
Test & Power Reactor Safety Branch
Division of Reactor Licensing

VISIT TO PEACH BOTTOM

50-171

The writers and Tom Clark, Materials Licensing Division, visited the Peach Bottom Atomic Power Station on August 14, 1964. The purpose of the visit was primarily to enable us to familiarize ourselves with the plant, to meet personnel, and ask informal questions as part of our review on Philadelphia Electric Company's pending application for a provisional operating license (1 MW) for this plant.

The primary personnel that were contacted during this visit are listed below:

Vincent Boyer	-	Manager, Nuclear Power of the Electric Operations Department, Philadelphia Electric Company.
M. J. Cooney	-	Assistant Station Superintendent
Jack Gibbons	-	Plant Engineer
Al Hogan	-	Research & Engineering Department
Bob Logue	-	Research & Engineering Department
R. Fleischman	-	Engineer in charge of Test Engineers
Martin Kantor	-	General Atomics (instrumentation), acting resident engineer for GA.

J. S. Kemper, the Station Superintendent, was not available because he was on vacation.

The applicant indicated to us that a very recent appraisal indicated that construction was on schedule and expected to be completed late in December 1964. Sub-system checkouts have been initiated. System pre-op checkouts are expected to take 6-8 weeks following the completion of construction. They therefore anticipate that they would

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like to start loading fuel late in February or early in March 1965. This schedule agrees well with the last officially submitted schedule.

We outlined the following as a tentative schedule for licensing proceedings:

1. There will be an ACRS Subcommittee Meeting about mid-September at which many questions which we will have generated are expected to be discussed.

2. Following this subcommittee meeting, we would transmit to the applicant questions which will require formal answers.

3. If all goes well, we would then try to schedule Peach Bottom for the November ACRS full committee meeting.

During our tour of the plant and during a brief meeting period after, we indicated a number of items which our review to date indicated would need to be resolved. The more important of these items are indicated below.

1. The consequences of the MCA for the full duration of the accident must be considered, including calculation of the doses at the outer boundary of the low population zone. In connection with this, we asked whether other post-accident containment atmosphere cleanup equipment such as iodine filters had been considered.

2. We requested clarification on an apparent inconsistency in the FHSR on the doses at the site boundary for the first 2 hours for the primary system rupture accident with the primary blowers operable and with the primary blowers not operable (the MCA) (ref. FHSR, pp. VII-30, 55, and 59). Philadelphia Electric indicated they would obtain an answer on this and telephone us.

3. We will want to review the details of operator actions necessary to activate the emergency cooling system.

4. We did not believe adequate information was provided on consideration of earthquake faults in the Peach Bottom area and evaluation and discussion of "g" valves used in design of all major plant components.

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5. The operating staff currently does not include a health physicist, although Philadelphia Electric indicated that they were attempting to get one. We indicated that most other power reactors have felt the need for fulfilling this function and that it would probably have to be fulfilled at Peach Bottom.

6. We suggested that they review their proposed technical specifications with the objective of eliminating all extraneous detail.

7. Containment retesting after plant startup was discussed in some detail. The technical specifications proposed by the applicant provide for periodic (semi-annual or annual) leak testing of penetrations and integrated leak rate testing of the containment at 3 psig (design pressure is 8 psig) five years from date of initial license and at 10 year intervals thereafter.

   We indicated that this was not in accord with practices generally being followed at other reactors and with present DRL thinking and agreed to assist in arranging a meeting between them and Ray Maccary to discuss this matter further.

8. We suggested that they be prepared to answer questions on the possibility and consequences of other accidents which are not included in the FHSR and to be prepared to substantiate any assumptions made in those accidents which are included in the FHSR. In this matter the following were specifically mentioned:

   a. Accident in which the tilting reflector blocks and fuel elements are spread radially the maximum amount; the reactor is made critical; and then the reflector blocks tilt back into place and the fuel elements are suddenly reassembled.

   b. The possibility and consequences of radial shrinkage of the fuel element graphite, particularly as to the effectiveness of the limited motion, tilting reflector blocks.

   c. The effectiveness of the segmented missile shield in restraining a ruptured reactor vessel fuel handling nozzle.

   d. The basis for the assumption that only one steam generator tube fails during the MCA and the possible consequences if more than one does fail.

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9. It was suggested that consideration be given to a "hot control room test" to verify that all instruments and control equipment will continue to operate satisfactorily in the event of an air conditioning failure.

10. We suggested that they consider the advisability of providing two automatically controlled valves in series in the inlet lines to the fission product purge system.

11. We suggested that they be prepared to discuss at our next meeting provisions and procedures concerning the post-accident ventilation of the control room.

12. We asked them to be prepared to discuss at our next meeting whether operation of a regular control rod in a guide tube in which the thermally fused slug had dropped had been tested.

bcc: R. L. Doan
E. G. Case
J. McEwen
S. Levine
Suppl.
DRL Reading
KRGoller

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Joseph J. DiNunno, Assistant Director
Division of Safety Standards

August 14, 1964

Saul Levine, Chief, Test & Power Reactor
Safety Branch, Division of Reactor Licensing

PEACH BOTTOM REACTOR - DOCKET NO. 50-171

Attached for your review and comment is a copy of Volume V(A)-Plant Description and Safeguards Analysis (Annex F) of Part C - Final Hazards Summary Report for the Peach Bottom Atomic Power Station.

Attachment:
As stated above.

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