Station Support Department

10 CFR 50.90

PECO ENERGY

PECO Energy Company
Nuclear Group Headquarters
965 Chesterbrook Boulevard
Wayne, PA 19087-5691

February 18, 1994

Docket Nos. 50-277
50-278
License Nos. DPR-44
DPR-56

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

SUBJECT: Peach Bottom Atomic Power Station, Units 2 and 3
Technical Specification Change Request

REFERENCE: Letter from G. A. Hunger, Jr. (PECO) to NRC dated November 1, 1993

Dear Sir:

In the referenced letter, PECO Energy Company (PECO) submitted, in accordance with 10 CFR 50.90, Technical Specification Change Request (TSCR) 91-06, which requested changes to Appendix A of the Peach Bottom Atomic Power Station (PBAPS) Operating Licenses. The proposed changes concerned the Main Control Room Intake Air Radiation Monitors.

During their review of TSCR 91-06, the NRC staff requested that PECO provide additional information/clarification on selected issues. PECO provided the requested information/clarifications by conference call on February 1, 1994. During the conference call the staff requested that PECO provide a written follow-up to the verbal clarifications. This letter provides the written information/clarifications as requested.

Stated below are the issues followed by PECO's response.

Issue 1) Compare the system responsiveness of the new control room radiation monitoring system to the existing one.

Response: In comparing the new Radiation Monitoring System (RMS) to the existing system, it is assumed that as outside air is drawn into the control room ventilation plenum mixing occurs so that any radioactive material present will be in a homogenous mixture.

The existing RMS consists of two monitors, external to the plenum, that extract a continuous air sample from the plenum and transport it to a shielded detector chamber for analysis. Due to the length of sample tubing and the sample flow rate, this extraction process creates a delay in the radiation monitors' detection of an increase in radioactivity. The logic for these monitors is configured in a one-out-of-two arrangement. Upon detecting radioactivity, the monitor output relays will actuate to initiate Control Room Emergency Ventilation System (CREV).



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The four (4) new in-situ radiation detectors are grouped together in the same area of the plenum approximately 20 feet closer to the inlet of the ductwork than the existing extraction sample line connection. Therefore, an increase in radioactivity will be detected by all four in-situ detectors simultaneously before the radioactivity would normally have reached the existing sample line connection. The delay involved in extracting and transporting the sample to a detection chamber does not exist.

The new radiation monitoring system is configured in two trains with a one-out-of-two-twice logic. As the radioactivity levels increase, all four detectors in the plenum will detect the increase and provide their respective output to the microprocessors. As the microprocessor output relays actuate, the one-out-of-two-twice logic configuration will initiate CREV in milliseconds.

Because the new RMS system does not have the limiting time factor of sample extraction, and is physically located upstream of the existing RMS sample line connection, the responsiveness of the new RMS is equal to or better than the existing RMS. Therefore, radiation exposures to control room personnel are bounded by existing analysis.

Issue 2) Discuss why an instrument check frequency of once/day was chosen for the Main Control Room Instrument Channel.

Response: The instrument check frequency of once/day was chosen because it is the frequency of the existing RMS system and is consistent with other instrument channels for radiation monitoring systems contained in Table 4.2.D.

PBAPS plans to implement the Improved Technical Specifications (ITS), which requires this instrument check frequency to be once/12 hours.

Issue 3) PECO's submittal states that the new system logic, in addition to the new flow switches, will meet the intent of IEEE 279. Discuss why they do not meet IEEE 279 in its entirety and what aspects they do meet.

Response: The addition of two radiation monitors and re-configuration of the radiation monitor actuation logic to one-out-of-two-twice for the new system is designed in accordance and complies with IEEE 279 in its entirety.

The flow switches were added to the system to initiate CREV when no or very low air flow is sensed in the ventilation system. The flow switch actuation logic is configured in a one-out-of-two logic and complies with IEEE 279.

Section 4.11 of IEEE 279 states that "The system shall be designed to permit any one channel to be maintained, and when required, tested or calibrated during power operation without initiating a protective action at the systems level." The criteria also provides an exception for one-out-of-two logic to violate the single failure criterion during channel bypass provided that acceptable reliability of operation can otherwise be demonstrated. The design of the new system logic uses this exception.

The flow switches during testing or calibration will initiate the protective action of starting CREV. Whenever one flow switch channel is in test, or maintenance is being performed on it, the redundant flow switch will be operable. CREV is an engineered safety feature, but its initiation is not deemed a challenge to the reactor or plant integrity. Initiation of CREV is acceptable since the logic configuration is a one-out-of-two configuration.

If you have any questions concerning this submittal, please contact us.

Sincerely,

M. C. Kray for GAH

G. A. Hunger, Jr., Director
Licensing Section

Enclosure: Affidavit

cc: T. T. Martin, Administrator, Region I, USNRC
W. L. Schmidt, Senior Resident Inspector, PBAPS, USNRC
W. P. Dornsife, Commonwealth of Pennsylvania

COMMONWEALTH OF PENNSYLVANIA :

: SS.

COUNTY OF CHESTER :

D. M. Smith, being first duly sworn, deposes and says:

That he is Senior Vice President of PECO Energy Company the applicant herein; that he has read the attached supplemental information for Technical Specification Change Request (TSCR 91-06) for changes to the Peach Bottom Facility Operating Licenses DPR-44 and DPR-56, and knows the contents thereof: and that the statements and matters set forth therein are true and correct to the best of his knowledge, information and belief.

Senior Vice President

Subscribed and sworn to
before me this 18th day
of February 1994.

Notary Public

Notarial Seal
Erica A. Santon, Notary Public
Tredyffrin Twp. Chester County
My Commission Expires July 10, 1995