



PECO NUCLEAR

A UNIT OF PECO ENERGY

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

June 13, 1996

Docket No. 50-277

License No. DPR-44

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

SUBJECT: Peach Bottom Atomic Power Station, Unit 2
Facility Operating License Change Request, ECR 96-02011

Dear Sir:

PECO Energy Company hereby submits License Change Request, ECR 96-02011, in accordance with 10 CFR 50.90, requesting changes to Appendix A of the Peach Bottom Atomic Power Station (PBAPS) Unit 2 Facility Operating License.

The proposed change is requested to permit a one time performance of Surveillance Requirement 3.3.1.1.12, for the Average Power Range Monitor Flow Biased High Scram function, with a delayed entry into its associated Technical Specifications Conditions and Required Actions for up to six hours provided core flow is maintained at or above 82%. This change would be in effect until the end of refueling outage 2R11, currently scheduled for early October 1996.

Attachment 1 to this letter describes the proposed change and Attachment 2 contains the revised Technical Specifications and Bases pages.

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

Sincerely,

G. A. Hunger, Jr.

G. A. Hunger, Jr.
Director - Licensing


Enclosures: Affidavit, Attachments

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

COMMONWEALTH OF PENNSYLVANIA :
: SS.
COUNTY OF CHESTER :

D. B. Fetters, being first duly sworn, deposes and says:

That he is Vice President of PECO Energy Company; the applicant herein; that he has read the attached License Change Request (ECR 96-02011) for changes to the Peach Bottom Facility Operating License DPR-44, 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.

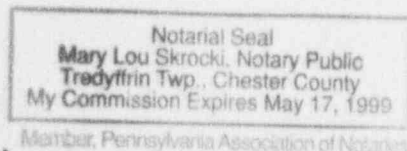


Vice President

Subscribed and sworn to
before me this 13th day
of June 1993.



Notary Public



ATTACHMENT 1

PEACH BOTTOM ATOMIC POWER STATION
UNIT 2

Docket No. 50-277

License No. DPR-44

Facility Operating License Change Request
ECR 96-02011

"APRM Flow Biased High Scram
Surveillance Requirement 3.3.1.1.12"

Supporting Information for Changes
5 pages

PECO Energy Company (PECO Energy), Licensee under Facility Operating License DPR-44 for Peach Bottom Atomic Power Station (PBAPS), Unit 2, requests that the Technical Specifications (TS) contained in Appendix A to the Operating License be amended. The handwritten proposed changes to TS page 3.3-5 and Bases page B 3.3-33 are contained in Attachment 2.

Licensee requests that the proposed changes be approved by August 19, 1996 and be made effective upon issuance of the amendment.

Description of Changes

The proposed change allows for a one time performance of Surveillance Requirement (SR) 3.3.1.1.12, for the Average Power Range Monitor (APRM) Flow Biased High Scram function, without entering the associated Reactor Protection System Instrumentation Conditions and Required Actions for up to six hours provided core flow is maintained at or above 82%. This TS change would be in effect until the end of refueling outage 2R11, currently scheduled for early October 1996, at which time the effected APRM instrumentation will be upgraded.

Licensee proposes the following changes:

- 1) TS Section 3.3.1.1 "Reactor Protection System (RPS) Instrumentation," Surveillance Requirement 3.3.1.1.12, page 3.3-5.

Add Note 3 to read:

"For Function 2.b, until completion of refuel outage 2R11, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided core flow is maintained at or above 82%. This is an exception to Surveillance Requirements Note 2."

- 2) TS Bases Section B 3.3.1.1, "Reactor Protection System (RPS) Instrumentation, Surveillance Requirement 3.3.1.1.12, page B 3.3-33.

Revise paragraph to read:

"....a reasonable time in which to complete the SR. A third note is provided for SR 3.3.1.1.12 that allows the APRM SR to be performed without entering the associated Conditions and Required Actions for up to six hours provided core flow is maintained at or above 82% where the APRM scram setpoint becomes clamped. Once core flow drops below 82%, and the APRM scram setpoints become flow biased, associated Conditions and Required Actions must be entered."

Safety Discussion

PECO Energy proposes to amend Technical Specifications (TS) Surveillance Requirement (SR) 3.3.1.1.12, for the Average Power Range Monitors (APRM) Flow

Biased High Scram function. A note is added which would allow the SR to be performed without entering the associated Conditions and Required Actions for up to six hours provided core flow is at or above 82%. During end of cycle coast down extended core flow operation, the APRM flow biased setpoints are not activated. The six hour delay allows time to complete the calibration for each trip system and is consistent with other TS SR Notes which permit delayed entry into associated Conditions and Required Actions when instrument channels are inoperable solely for the performance of required surveillances. The proposed changes will be in affect until the end of refuel outage 2R11 (early October 1996), at which time the APRM instrumentation affected by this SR will be upgraded.

Performance of SR 3.3.1.1.12 causes the APRM division undergoing calibration to lose its RPS trip capability for the flow biased function. As a result, associated Conditions and Required Actions for TS Section 3.3.1.1, Reactor Protection System (RPS) Instrumentation, requires that the trip function be made capable within 1 hour. In order to restore the flow biased high flux automatic trip capability, and proceed with the SR, the RPS trip system associated with the APRM division undergoing calibration must be placed in the trip position. This action places PBAPS Unit 2 in a half scram condition for the duration of the surveillance which is typically four to five hours. Placing the unit in a half scram condition for this duration is undesirable due to the risk of a full scram occurring from perturbations on the opposite RPS trip system.

The Safety Design Basis and the Power Generation Design Basis for the APRM system do not require the APRM flow biased high scram signal to fulfill its purpose. Furthermore, the Updated Final Safety Analysis Report (UFSAR) accident and transient analyses do not take credit for this function in the mitigation of any accidents or transients. The accidents and transients described in the UFSAR take credit only for the APRM clamped 120% high neutron flux scram setpoint. The APRM clamped high neutron flux setpoint is not being impacted by this TS change and will continue to be automatically enforced regardless of the status of the APRM flow bias circuitry. Regardless of the failure mode of the APRM flow bias instruments, the clamped 120% high neutron flux scram function will remain unaffected since it is derived internal to the APRM. This scram function will operate as designed regardless of the accuracy or functionality of the flow bias instrumentation that feeds the APRM.

Currently, Unit 2 is in an end of cycle coast down extended core flow operating condition. For this operating condition, only the APRM clamped scram setpoint is enforced within the APRM circuitry. In order for the flow bias setpoints to become activated, a flow reduction to below 82% core flow would have to occur. If core flow drops below 82%, where the flow biased setpoints become activated, appropriate TS Conditions and Required Actions will be entered for the APRM trip system undergoing the surveillance. A flow reduction of this magnitude would be either planned or transient in nature and instantly recognized by operations personnel.

Entering the subject Conditions and Required Actions below 82% core flow is conservative from the standpoint that a flow reduction transient in and of itself will not present a high flux condition in the reactor. A simultaneous positive reactivity insertion transient would have to take place during the flow reduction to cause reactor power to rise near a flow bias setpoint. A positive reactivity insertion of the magnitude necessary to approach an APRM high flux setpoint from this end-of-cycle coast down

power level will likely encompass other diverse RPS actuations (i.e. Group 1 isolation, Turbine Load Reject etc.).

Calibration of the APRM flow bias instrumentation will be performed during steady state, end-of-cycle coast down conditions when recirculation flow is operated at maximum flow conditions. In this plant condition, the APRM rod block and scram setpoints are heavily clamped. During calibration of the APRM flow bias high scram instrumentation, various artificial flow values are injected into the loop, many of which are lower in value than current plant recirculation conditions, hence the resultant flow biased setpoints will, at times, be more conservative (i.e., 73% vs. 120%) than plant conditions dictate. During the course of the APRM flow bias high scram surveillance, the flow bias instrumentation will be insensitive to real flow changes. The APRM setpoints will not exceed its designated clamped setting during the course of surveillance 3.3.1.1.12.

In summary, the proposed TS change to allow performance of SR 3.3.1.1.12 with delayed entry into associated Conditions and Required Actions for up to six hours provided core flow is at or above 82% is justified based on the following:

- 1) The current end of cycle coast down extended core flow operating condition of the reactor dictates only a APRM clamped high neutron flux setpoint. This setpoint is unaffected during the course of the subject surveillance.
- 2) The low probability of encountering a core flow reduction event large enough to enter the APRM flow biased portion of the power flow map coincident with a positive reactivity insertion event large enough to reach a flow biased setpoint from end-of-cycle power conditions during the subject six hour period.
- 3) The low safety impact on loss of the APRM flow bias high scram function, as evidenced by its omission in the plant's safety analyses.
- 4) The possibility of receiving a full scram, along with its resultant challenges to reactor systems and operators, is reduced.

No Significant Hazards Consideration

Licensee proposes that this application does not involve significant hazards consideration for the following reasons:

- i) The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The APRM system provides monitoring and accident mitigation functions to limit peak flux in the core during startup and run modes. This proposed TS change for delaying entry into Conditions and Required Actions associated with SR 3.3.1.1.12 for the APRM flow bias function will have no impact on the APRM system or any system that interfaces with it. No pressure boundary interfaces or process control parameters will be challenged.

This change does not affect the operation of any equipment. Delaying entry into Conditions and Required Actions associated with SR 3.3.1.1.12 does not affect either the initiator of any accident previously evaluated or any equipment required to mitigate the consequences of an accident, or the isotopic inventory in the fuel. Thus, the change does not increase either the probability or the consequences of accidents previously evaluated.

- ii) The proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

Because there is no direct pressure boundary interface or process control function associated with the APRM system or its interfacing electronics, the possibility of a new or different type of accident than any previously evaluated will not be created. Although the flow bias instrument loop does employ flow transmitters to measure recirculation drive flow, delaying entry into Conditions and Required Actions associated with SR 3.3.1.1.12 will have no impact on their pressure boundary function. Also, failure of the sensing line associated with these transmitters has already been accounted for in the initial plant design by including excess flow check valves for sensing line break isolation.

The proposed change does not introduce a new mode of plant operation and does not involve the installation of any new equipment or modifications to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

- iii) The proposed change does not involve a significant reduction in a margin of safety.

The APRM flow biased high scram function is not specifically credited in the safety analysis. However, it is intended to provide an additional margin of protection from transient induced fuel damage during operation where recirculation flow is reduced to below the minimum required for rated power operation.

The margin of safety associated with this change refers to the margin inherent in the accident analyses that takes credit for the clamped high flux scram only (i.e., margin between scramming at 120% peak flux and the peak flux necessary for fuel damage). The current reactor operating state (end of cycle coast down extended core flow) dictates that only the 120% flux trip be enforced. This trip remains functional during the APRM flow biased high scram calibration.

Currently, the Conditions and Required Actions associated with SR 3.3.1.1.12 permit a one hour delay prior to entry because it minimizes risk while allowing time for restoration or tripping of channels by operations personnel. Because the APRM flow biased function is not enforced during end of cycle, coast down, extended core flow conditions, extending entry in associated Conditions and Required Actions from one to six hours has no impact on the margin associated with the clamped high flux scram. In the event core flow drops below 82%, the

flow point below which APRM setpoints automatically become flow biased, the associated Conditions and Required Actions will be entered.

Therefore, extending entry into associated Conditions and Required Actions associated with SR 3.3.1.1.12, provided core flow remains at or above 82%, from one to six hours does not reduce any margin of safety.

Environmental Impact Assessment

An environmental impact assessment is not required for the changes proposed by this application because the changes conform to the criteria for "actions eligible for categorical exclusion" as specified in 10 CFR 50.22(c)(9).

The proposed change supports the delayed entry into Conditions and Required Actions associated with the performance of Surveillance Requirement 3.3.1.1.12. This Application involves no significant change in the types or significant increase in the amounts of any effluent that may be released offsite. As a result of the proposed changes, there will be no significant increase in individual or cumulative occupational radiation exposure, and no changes to power levels.

Conclusion

The Plant Operations Review Committee and the Nuclear Review Board have reviewed this proposed change and have concluded that it does not involve an unreviewed safety question and that it is not a threat to the health and safety of the public.