PECO NUCLEAR

Station Support Department

10 CFR 50.91(a)(6)

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

August 6, 1999

Docket No. 50-277 50-278

License No. 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 Exigent License Change Application ECR 99-01727

Dear Sir/Madam:

PECO Energy Company (PECO Energy) hereby submits Exigent License Change Application ECR 99-01727, in accordance with 10 CFR 50.91(a)(6), requesting a change to the Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3 Facility Operating License. This proposed change will incorporate a note into the Technical Specifications (TS) which will permit a one-time exemption until September 30, 1999, from the 90°F limit stated in Surveillance Requirement (SR) 3.7.2.2. This SR currently requires that the average water temperature of the normal heat sink be less than or equal to 90°F as demonstrated on a 24 hour frequency. As stated in the proposed TS note, during the time period between approval and up to September 30, 1999, the average water temperature of the normal heat sink will be limited to less than or equal to 92°F. This exemption is necessary in order to avoid an undesirable transient resulting from the shutdown of both Units.

Information supporting this request is contained in Attachment 1 to this letter, and the proposed pages to the PBAPS, Units 2 and 3 TS are contained in Attachment 2.

We request that the amendment to the PBAPS, Units 2 and 3 TS be approved on an exigent basis. On August 1, 1999 at approximately 1500 hours, the normal heat sink temperature for the intake of Units 2 and 3 reached 89°F. Based on the current and projected low rainfall conditions, above normal atmospheric temperatures, and below normal precipitation, the Conowingo Pond (Normal Heat Sink) temperature is expected to approach and/or exceed 90°F on a periodic basis resulting in the failure to meet Technical Specification SR 3.7.2.2. This would require PBAPS, Units 2 and 3 to enter into Mode 3

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operation within 12 hours and Mode 4 operation within 36 hours.

On July 18, 1999 the normal heat sink temperature reached 86°F, which is four (4) degrees below the TS limit of 90°F. At that time, PBAPS Engineering began to identify the design basis impacts of the increased cooling water temperatures, analyze the environmental conditions that impact the normal heat sink temperature, and develop the analysis which would support continued safe plant operation at elevated cooling water temperatures. Throughout this period, up to the submittal of this exigent license change, significant resources have been committed to performing engineering analysis and preparing related documents, reviews of the analysis by on-site and off-site review groups, and preparation of the license amendment package itself.

Shutdown of the plants would cause undue stress on the regional electrical grid which could potentially destabilize power flow to all customers and to the PBAPS offsite sources. During two periods in the month of July (July 6 and 19, 1999), energy demands resulted in voltage reduction situations. Loss of the PBAPS, Units 2 and 3 capacity during a period in which energy is needed most, could result in a load shedding situation. Additionally, the unforeseen weather conditions resulting in the recent abnormally high normal heat sink temperature did not permit the submittal of this change under the normal license amendment process. Therefore, approval of this change is requested on an exigent basis.

If you have any questions, please do not hesitate to contact us.

Very truly yours,

JG Idulagel In

James A. Hutton Director - Licensing

Enclosures: Affidavit, Attachment 1, Attachment 2

cc: H. J. Miller, Administrator, Region I, USNRC A. C. McMurtray, USNRC Senior Resident Inspector, PBAPS R. R. Janati, Commonwealth of Pennsylvania COMMONWEALTH OF PENNSYLVANIA:

SS.

COUNTY OF CHESTER

J. J. Hagan, being first duly sworn, deposes and says:

That he is Senior Vice President, Nuclear Operations of PECO Energy Company; the Applicant herein; that he has read the attached Exigent License Change Application ECR 99-01727, for Peach Bottom Facility Operating License 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 6th day of

Notary Public

Notarial Seal Carol A. Walton, Notary Public Tredyffrin Twp., Chester County My Commission Expires May 28, 2002

Member, Pennsylvania Association of Notaries

ATTACHMENT 1

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PEACH BOTTOM ATOMIC POWER STATION UNITS 2 AND 3

Docket Nos. 50-277 50-278

License Nos. DPR-44 DPR-56

EXIGENT LICENSE CHANGE APPLICATION ECR 99-01727

Supporting Information - 5 Pages

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Introduction

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PECO Energy Company, Licensee under Facility Operating License DPR-44 and DPR-56 for the Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3, requests that the Technical Specifications (TS) contained in Appendix A to the Operating License be amended to incorporate a note into the Technical Specifications (TS) which will permit a one-time exemption, until September 30, 1999, from the 90°F limit stated in Surveillance Requirement (SR) 3.7.2.2. This SR currently requires that the average water temperature of the normal heat sink be less than or equal to \$0°F as demonstrated on a 24 hour frequency. As stated in the proposed TS note, during the time period between approval and September 30, 1999, the average water temperature of the normal heat sink will be limited to less than or equal to 92°F. This exemption is necessary in order to avoid an undesirable transient resulting from the shutdown of both Units. The TS pages showing the proposed changes are contained in Attachment 2.

This License Change Application provides a discussion and description of the proposed TS changes, a safety assessment of the proposed TS changes, information supporting a finding of No Significant Hazards Consideration and information supporting an Environmental Assessment.

Discussion and Description of the Proposed Change

On August 1, 1999, at approximately 1500 hours, the normal heat sink temperature for the intake of Units 2 and 3 reached 39°F. The apparent root cause for the temperature increase to the Normal Heat Sink has been the abnormally long period of time with low precipitation (rain) resulting in long term reduction in Susquehanna River flow. The low flow increases the variability of Normal Heat Sink temperature. This effect, combined with abnormally hot weather conditions for an extended period of time has resulted in the increase in normal heat sink temperature and the likelihood that the normal heat sink will continue to periodically approach and/or exceed the Technical Specification Requirement of 90°F, thus resulting in required shutdown of both PBAPS, Units 2 and 3.

The resulting shutdown of the both units would result in unnecessary plant transients and increase the possibility of a disturbance to the PBAPS off-site electrical power sources and the regional electrical power distribution system.

Normal heat sink temperature is monitored on a daily basis via Surveillance Test procedure ST-O-098-01N-2, which ensures compliance with SR 3.7.2.2. Review of this data, and other historical records, indicates that there have been no known occurrences of normal heat sink temperature exceeding 90°F since plant operation in 1974 which would have led to a previous license amendment and precluded the need for this exigent license change.

The 90°F limit was included in the TS as part of the conversion to the Improved Technical Specifications in the (Amendment Nos. 210 and 214). Prior to 1995, the

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heat sink limit was not included in the TS for PBAPS, Units 2 and 3. The 90 degree limit has not been exceeded since implementation of the Improved Technical Specifications.

Safety Assessment

In assessing the safety significance of the requested exigent license change, two perspectives were considered. The first perspective was to compare the elevated temperature of the normal heat sink for a short time period (until September 30, 1999) against the alternative of placing PBAPS, Units 2 and 3 in cold shutdown. In this comparison, pursuing an exigent license change is preferred due to the increased risk associated with placing the Units through a shutdown, and negative impact (to both the general public and to the regional electrical grid stability) of the loss of generation when the power is needed most.

The second perspective considers the safety consequences associated with operating Units 2 and 3 at the proposed elevated normal heat sink temperature for a short time period (until September 30, 1999). These consequences are considered minimal in that the normal heat sink temperature increase has been determined to have no impact on the capability of the Emergency Service Water (ESW) and High Pressure Service Water (HPSW) systems to perform their required safety functions. The level of risk associated with the ESW and HPSW systems at a Normal Heat Sink temperature up to and including 92°F, based on engineering analysis, which includes actual equipment conditions, has not been affected.

The basis for the heat sink temperature limit is that the river is the normal heat sink during a design basis accident, and that this source, in conjunction with the safety related ESW/HPSW systems, must be capable of removing the required heat load during a design basis accident. These heat load sources include primary containment, emergency diesel generators, Emergency Core Cooling System (ECCS) compartment cooling and core spray system motor oil coolers.

The existing design analysis used design values for heat exchanger capability, and a normal heat sink temperature limit of 90°F. The engineering analysis performed to evaluate the capability of the ESW and HPSW systems for 92°F inlet temperature included using the actual heat exchanger performance and flow capabilities obtained from recent performance data and trends. These evaluations concluded that the design heat removal rate is maintained for all related components and there is no change in the risk of not being able to perform all design safety functions.

The following equipment is cooled by ESW and HPSW following a DBA:

RHR Heat Exchangers (HPSW) RHR Room Coolers (ESW) Core Spray (CS) Room Coolers (ESW) HPCI Room Coolers (ESW) RCIC Room Coolers (ESW) Diesel Generator Coolers (ESW) HPSW Pump Motor Oil Coolers (HPSW) CS Pump Motor Oil Coolers (ESW)

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The most limiting components identified by the engineering analysis were determined to be the E2 Diesel generator air coolers and 2D RHR heat exchanger. The analysis to determine the impact of increased normal heat sink temperature is discussed in detail below.

The diesel coolers were evaluated based upon (1) the actual diesel loading at one hour following a LOCA (analyzed peak load time), (2) the minimum ESW flow rates for a diesel load of 3000 KW (maximum continuous rated loading) and (3) actual measured ESW flow rates taken on July 11, 1999 in accordance with RT-O-033-600-2. A parametric evaluation was performed using the BALANCE heat exchanger computer program comparing the effects of actual ESW flow rates and diesel loadings on the maximum allowable inlet cooling water temperature. This evaluation was performed for the diesel air coolers which are defined as the most limiting cooler by calculation and Coltec/FMED Engineering Report. This evaluation demonstrated that the E2 Diesel Air Cooler is the most limiting component which is consistent with a previous engineering evaluation. Based upon the most current performance data, the maximum allowable Normal Heat Sink water temperature at which the E2 Diesel Air Cooler will remain capable of performing its design function is greater than 92° F.

The current DBA LOCA analysis uses a minimum RHR heat exchanger heat transfer capacity of 244.5 BTU/sec-F and a maximum Normal Heat Sink temperature of 90° F. Previous analyses demonstrated that the most limiting RHR heat exchanger with respect to heat transfer capability was the 2D heat exchanger. This analysis was based upon RHR heat exchanger data taken between 1992 and 1994 and concluded that the 2D RHR Heat Exchanger could remove the design heat load of 70,000,000 BTU/hr for a river temperature up to 93° F. Based on RHR heat exchanger performance taken for the 2D, 3A and 3D heat exchangers in 1998, the 2D heat exchanger continues to be the most limiting RHR heat exchanger with respect to heat transfer capability. Based upon performance test data obtained in December 1998, the heat transfer capacity of the 2D RHR Heat Exchanger is 250 BTU/sec-F. At this heat transfer capacity, the most limiting RHR heat exchanger will be capable of removing the design heat load at Normal Heat Sink temperatures up to 92° F and the suppression pool water temperature response will remain bounded by the current design license response for a DBA LOCA. Consequently, there is no impact on related containment response and ECCS pump NPSH calculations by operating at the increased Normal Heat Sink temperature.

Given that the plant remains within its design heat removal capabilities, there is no significant impact on the plant's probabilistic safety assessment. If there were a moderate degradation of ESW and HPSW as a result of the increased water temperatures (represented by increased common mode failure rates in the PSA) there would be no significant increase in the core damage frequency (CDF). Additionally, the likelihood of having the design basis LOCA is low during the time interval of this request. Shutdown of the plants during a high power demand situation, could degrade grid reliability which would increase the probability of a loss of offsite power. A loss of offsite power would increase the core damage frequency. Loss of offsite power is a significant contributor to the core damage frequency at PBAPS.

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To ensure that cooling water flow requirements through the heat exchangers that are cooled by the ESW system during accident conditions are maintained, hence assuring that the engineering analysis remains accurate, Routine Test procedure RT-O-033-600-2 has been increased in its performance frequency. This is a flow test of ESW to ECCS Coolers and Diesel Generator Coolers. Normally, this frequency is every six weeks. This test is being conducted every three weeks until the threat of normal heat sink temperature approaching 90°F has been eliminated. Additionally, operation of the Muddy Run Pumped Storage Hydroelectric facility is being managed in order to reduce the impact on the variability of the Normal Heat Sink temperature.

Additionally, there is no scheduled maintenance which would affect RHR heat exchanger or emergency diesel generator performance or availability, prior to September 30, 1999.

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Based on a weather outlook provided by our meteorology consultant the temperatures are expected to remain quite warm through the end of August with a forecasted daily average temperature to be +3.5 °F to +5.0 °F above the normal average, from the Washington, D. C. to Wilmington, Del., and Philadelphia, PA. region, which would include the PBAPS area. Rainfall is expected to remain below normal. These higher-than-average temperatures and the reduced rainfall will contribute to the increased temperature of the heat sink. The forecasted average maximum temperature is expected to drop by the end of September as a result of shorter heating days. Therefore, a TS change until September 30, 1999 is requested in order to allow environmental conditions to moderate. This change is necessary in order to avoid an undesirable transient resulting from the shutdown of both Units and the loss of power during a time period in which power is most needed.

Information Supporting a Finding of No Significant Hazards Consideration

We have concluded that the proposed changes to the PBAPS, Units 2 and 3 TS do not involve a Significant Hazards Consideration. In support of this determination, an evaluation of each of the three (3) standards set forth in 10 CFR 50.92 is provided below.

1. <u>The proposed TS changes do not involve a significant increase in the probability</u> or consequences of an accident previously evaluated.

The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated because the probability of a Loss of Coolant Accident is independent of an increase in the normal heat sink temperature limit. The increase in the heat sink temperature does not affect any accident or transient initiators. The engineering analysis discussed has determined that ESW/HPSW systems remain capable of their design safety functions at the increased normal heat sink temperature and will not impact the consequences of evaluated accidents.

2. <u>The proposed TS changes do not create the possibility of a new or different kind</u> of accident from any accident previously evaluated.

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The proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated because the requested change is increasing the heat sink temperature limit, and this in and of itself does not create the possibility of a new or different kind of accident. Increasing the heat sink temperature does not introduce any new accident initiator. Additionally, this change will not introduce any new failure mechanisms.

The proposed TS changes do not involve a significant reduction in a margin of safety.

The proposed changes do not involve a significant reduction in a margin of safety, because the PBAPS, Units 2 and 3 ESW/HPSW heat exchangers have been analyzed using current plant conditions and performance data. This analysis has concluded that the ESW/HPSW systems will continue to be capable of performing their design bases heat removal functions with normal heat sink temperature as high as 92°F. In order to maintain the margin of safety with a higher normal heat sink temperature, the performance of the equipment must be better than assumed in the design basis analyses. The actual performance of the affected heat exchangers is better than assumed in the accident analyses. Using the actual performance capability of the equipment, based on the most recent plant data and trending, more than compensates for the increased normal heat sink temperature. Additionally, many design calculations used a Normal Heat Sink temperature of 95°F with minimum torus water level. Also, the containment heat-up analysis was performed with conservatisms including a decay heat input which is based on a rated power level which is nominally 5% above the maximum licensed operating power level. These are examples of additional conservative assumptions which remain in the analysis. Therefore, the increase in normal heat sink temperature does not involve a significant reduction in the margin of safety.

Information Supporting an Environmental Assessment

An environmental assessment is not required for the proposed changes since the proposed changes conform to the criteria for "actions eligible for categorical exclusion" as specified in 10 CFR 51.22(c)(9). The proposed changes will have no impact on the environment. The proposed changes do not involve a significant hazards consideration as discussed in the preceding section. The proposed changes do not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite. In addition, the proposed changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Conclusion

The Plant Operations Review Committee and the Nuclear Review Board have reviewed the proposed changes to the PBAPS, Units 2 and 3 TS and have concluded that they do not involve an unreviewed safety question, and will not endanger the health and safety of the public.