Exelon Nuclear
200 Exelon Way
Kennett Square, PA 19348

www.exeloncorp.com

Exelon Nuclear

10CFR50
10CFR54

August 23, 2001

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

Subject: Updated Financial Qualification Information and Editorial Changes to the License Renewal Application

Peach Bottom Atomic Power Station, Units 2 and 3
Facility Operating License Nos. DPR-44 and DPR-56
NRC Docket Nos. 50-277 and 50-278

Reference: July 2, 2001 Letter from Jeffrey A. Benjamin to NRC Document Control Desk Regarding Application for Renewed Operating Licenses

Dear Sir/Madam:

Exelon Generation Company, LLC (Exelon) hereby submits the enclosed updated financial qualification information and editorial changes to the Peach Bottom Atomic Power Station (PBAPS) License Renewal Application (LRA). The reference letter provided financial qualification information for Exelon operations from January 1, 2001 through December 31, 2005 and transmitted the PBAPS LRA.

Exelon has updated the financial qualification information to extend the financial projections from January 1, 2001 through December 31, 2006 in response to your request. The updated financial qualification information continues to demonstrate that Exelon possesses the financial qualifications to meet the applicable requirements of 10CFR50.33(f), "Contents of Applications; General Information," for non-electric utility businesses. Specifically, Exelon possesses, or has reasonable assurance of obtaining, the funds necessary to cover the estimated operating costs for the period of the facility operating licenses, including the period of operation under renewed licenses, in accordance with 10CFR50.33(f)(2).

Exelon has included a Projected Income Statement for Exelon operations from January 1, 2001 through December 31, 2006 as Attachments 1 and 1P. Attachment 1P is a separately bound proprietary addendum to this Application. Exelon is requesting that Attachment 1P be withheld from public disclosure, as described in the attached Affidavit of Joseph J. Hagan, under 10CFR2.790 and 10CFR9.17. A redacted version, suitable for public disclosure, is provided as Attachment 1.

In accordance with the NRC Standard Review Plan on Power Reactor Licensee Financial Qualifications and Decommissioning Funding Assurance (NUREG-1557, Rev. 1) (SRP), this Projected Income Statement provides the estimated total annual operating costs for the nuclear facilities owned by Exelon. The changes in annual operating costs from those provided in the reference letter are primarily due to accounting changes for depreciation and amortization expenses and reduced decommissioning expenses. Depreciation expense was reduced due to a recently completed asset re-valuation. Decommissioning expense was reduced to more accurately reflect the current decommissioning accrual. The source of funds to cover these operating costs will be operating revenues. The changes in operating revenues from those provided in the reference letter are due to declining electricity prices anticipated for the remainder of this year and subsequent years. The Projected Income Statement shows that the anticipated revenues

A001

from sales of capacity and energy by Exelon provide reasonable assurance of adequate funds to meet Exelon's ongoing operating expenses. The projected revenues from the sale of electricity from the nuclear units alone are expected to provide sufficient income to cover the total operating costs of Exelon's nuclear units. In addition, there are substantial additional revenues available from sales of electricity from the more than 5000 MWe of capacity in the fossil-fired and hydroelectric generating stations owned by Exelon, as well as revenue from power marketing and other business operations.

Exelon's projected assets and revenue streams are more than sufficient to cover its share of costs that might be associated with a six-month shutdown at one or more of the nuclear units owned by Exelon. The Exelon Projected Income Statement provided in Attachment 1P demonstrates that Exelon has annual gross revenues of more that $6 billion. Furthermore, based upon the financial stature of the company, Exelon has an investment-grade bond rating, which would enable it to raise additional funds as necessary. Accordingly, Exelon will fully meet or exceed the financial qualifications requirements of 10CFR50.33(f) and the guidelines of the SRP.

Attachment 2 provides replacement pages of the PBAPS LRA that have editorial changes from those pages provided with the reference letter. The replacement pages are necessary to clarify information inadvertently revised when files were converted into CD-ROM format.

If you have any questions or require additional information, please do not hesitate to call.

Very truly yours,

D. A. Kelley /FOR

Michael P. Gallagher
Director - Licensing

Enclosures: Affidavits, Attachment 1, 1P, 2

cc: H. J. Miller, Administrator, Region I, USNRC
A. C. McMurtray, USNRC Senior Resident Inspector, PBAPS

Affidavit of Joseph J. Hagan

I, Joseph J. Hagan, Senior Vice President, do hereby affirm and state:

1. I am authorized to execute this affidavit on behalf of Exelon Generation Company, LLC ("EGC").

2. EGC is providing this information is support of its Application for License Renewal for the Peach Bottom Atomic Power Station Units 2 and 3 ("PBAPS," NRC Facility Operating License Nos. DPR-44 and DPR-56; Docket Nos. 50-277 and 50-278. The documents contained in Attachment 1P contain EGC's financial projections related to the continued operation of PBAPS and other generating facilities. These documents constitute proprietary commercial and financial information that should be held in confidence by the NRC under 10 C.F.R. 2.790(a)(4) and 10 C.F.R. 9.17(a)(4), because:

   i. This information is and has been held in confidence by EGC.
   ii. This information is of a type that is held in confidence by EGC and there is a rational basis for doing so because it is sensitive financial and commercial information concerning EGC's projected operating revenues and expenses.
   iii. This information is being transmitted to the NRC in confidence.
   iv. This information is not available in public sources and could not be gathered readily from other publicly available information.
   v. Public disclosure of this information would create substantial harm to the competitive position of EGC by disclosing EGC's internal financial projections.

3. Accordingly, EGC requests that Attachment 1P be withheld from public disclosure under 10 C.F.R. 2.790 (a)(4) and 10 C.F.R. 9.17 (a)(4).

Joseph J. Hagan
Senior Vice President

Commonwealth of Pennsylvania
County of Chester

Subscribed and sworn to before me, a Notary Public, in and for the County and Commonwealth above named, this 22nd day of August, 2001.

Vivia V. Gallimore
Notary Public

My Commission Expires:

_____

Notarial Seal
Vivia V. Gallimore, Notary Public
Kennett Square Boro, Chester County
My Commission Expires Oct. 6, 2003
Member, Pennsylvania Association of Notaries

ATTACHMENT 1

EXELON GENERATION, LLC
PROJECTED INCOME STATEMENT
($ Thousands)

	2001	2002	2003	2004	2005	2006
Operating Revenues	$	$	$	$	$	$
Operating Expenses						
Fuel / Purchased Power						
Operation & Maintenance						
Depreciation & Amortization						
Administrative & Other						
Decommissioning Expense						
Decommissioning Recoveries						
Total Operating Expenses	$	$	$	$	$	$
Operating Income (Loss)						
Other Income (Deductions)						
Interest Expense						
Income before Income Taxes						
Income Taxes						
Net Income	$	$	$	$	$	$

EXELON GENERATION, LLC
Key Assumptions

Generation (Gwh)	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Nuclear						
Fossil						
Purchases from AmerGen Sales						
Purchases from Other Suppliers						
Total Supply (Gwh)						
Market Sales (Gwh)						
Average Market Price ($/MWh)	$	$	$	$	$	$
Total Generation Revenue ($ Thousands)	$	$	$	$	$	$
Nuclear Capacity Factor	%	%	%	%	%	%

ATTACHMENT 2

4.2 REACTOR VESSEL NEUTRON EMBRITTLEMENT

The PBAPS Unit 2 and 3 reactor vessels are described in UFSAR Chapter 4. Reactor vessel materials are subject to embrittlement, primarily due to exposure to neutron radiation. "Embrittlement" means the material will adsorb less energy during a crack or rupture, and therefore that a crack could more easily propagate under load.

In addition, adsorbed energy is temperature dependent. In most materials adsorbed energy increases with temperature up to a maximum (the "upper-shelf energy," USE). Neutron embrittlement decreases USE. Because fracture energy is low at low temperature, operating pressure-temperature limit curves (P-T curves) are included in Technical Specifications which dictate the limit to which the vessel can be pressurized at a given temperature. RT_{NDT}, nil-ductility transition reference temperature, is determined for vessel materials before irradiation and indicates temperatures above which impact tests will demonstrate an acceptable USE. Neutron embrittlement raises this transition temperature. This increase (ΔRT_{NDT}) means that higher temperatures are required for the material to continue to act in a ductile fashion. The P-T curves are determined by the RT_{NDT} and ΔRT_{NDT} calculations for the licensed operating period.

These limits and effects are calculated on the basis of lifetime neutron fluence, are part of the licensing basis, and support safety determinations. Their calculations are therefore TLAAs. The supporting calculation of vessel neutron fluence is similarly a TLAA. The increases in neutron fluence and RT_{NDT} (ΔRT_{NDT}) also affect the bases for relief from circumferential weld inspection and its associated supporting calculation of limiting axial weld conditional failure probability. Circumferential weld examination relief and axial weld failure probability are thereby also TLAAs.

4.3 METAL FATIGUE

4.3.1 Reactor Vessel Fatigue

Reactor Vessel Fatigue Analyses, RPV Nozzle Thermal Cycle Count, and Reactor Vessel Stud Fatigue Analyses

The PBAPS Unit 2 and Unit 3 reactor vessel fatigue analyses, which include the vessel shell, head, nozzles, nozzle safe ends, and closure studs, depend on cycle count assumptions that assume a 40-year operating period. Applicable analyses have been revised to incorporate licensing changes for power uprate and other operational changes. The analyses demonstrate that the 40-year cumulative usage factors (CUFs) for the critical components of the vessel are below the ASME Code Section III design value of 1.0, except for the closure studs which are included in a fatigue management program that provides for dispositioning if that program indicates the code design value will be exceeded. The current analyses of record are TLAAs.

Analysis

The existing program maintains a count of cumulative reactor pressure vessel thermal and pressure cycles to ensure that licensing and design basis assumptions are not exceeded. An improved program is being implemented which will use temperature, pressure, and flow data to calculate and record accumulated usage factors for critical RPV locations and subcomponents.

Existing reactor vessel fatigue analyses have been reviewed to establish a bounding set of RPV locations for inclusion in the fatigue management program. All locations with 40-year CUFs expected to exceed 0.4 are included. CUF equations will be updated as necessary to incorporate any analysis revisions, and plant transient events will be tracked to ensure that the CUF remains less than 1.0 for all monitored components.

The following information on the Core ΔP/SLC Nozzle is included because of a commitment to BWRVIP-27 [Ref. 4.17]. Exelon is using the license renewal Appendix B of the BWRVIP-27 guidelines for inspection and flaw evaluation of the standby liquid control system and core plate Δ P lines and their common nozzles. This appendix commits each applicant who invokes it to list fatigue of this nozzle (core ΔP/SLC nozzle) as a TLAA, and to describe the usage factor and aging management plan or other disposition.

The original PBAPS design analysis found that the stresses and the expected number of significant cycles in the core ΔP/SLC nozzles were in accordance with Section III, Paragraph N-415.1 of the code of record, and were therefore less than those that required a fatigue analysis. Therefore, no CUF was calculated. Any CUF which might be calculated would be negligible. The fatigue

management program will monitor other, higher-usage factor locations. Any potentially-significant increase in the CUF for these core ΔP/SLC nozzles will be indicated by a significant increase, above predicted values, in the CUFs monitored in these other locations. I

Generic Letter 81-11 Crack Growth Analysis to Demonstrate Conformance to the Intent of NUREG-0619, "BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking" is discussed in Section 4.7.2.

Disposition: Aging Management, 10CFR54.21(c)(1) (iii)

This TLAA will require management of the aging effects (10 CFR 54.21(c)(1)(iii)). Refer to Appendix B, Section B.4.2, Fatigue Management Activities. The required implementing actions will be completed prior to the end of the initial operating license term for PBAPS.

The fatigue management program will monitor at least the reactor vessel, reactor vessel internals, and piping components listed in Table 4.3.1-1 (in both units, except as indicated).

- The recirculation inlet temperatures are within 3°F of each other (531.4°F for PBAPS vs. 529°F for generic BWR-4).
- The recirculation flow rates are the same for both plants (34.2 Mlb/hr for both plants).
- The dome pressures are within 3% of each other (1,050 psig for PBAPS vs. 1,020 psig for generic BWR-4).
- All like transients have the same profiles (i.e., they have the same "size and shape").

Further similarities between PBAPS and the generic BWR-4 evaluated in EPRI Report No. TR-110356 is demonstrated in Table 4.3.4-1, where the design basis transient types and quantities for both plants are compared.

The above comparisons show that the design basis transient definitions associated with the plants are very similar, as expected for similar BWR-type plants. Therefore, it is reasonable to utilize the results and conclusions documented in EPRI Report No. TR-110356 for PBAPS, with some modification to incorporate the results of more recent laboratory testing (as described above).

Table 4.3.4-2 shows the CUF results from EPRI Report TR-110356, with modifications to account for the more recent data in NUREG/CR-6583 and NUREG/CR-5704, as described above. The original design basis CUF for each of the TR-110356 sample plant locations is also shown for comparison. Table 4.3.4-2 clearly demonstrates that the conservatism of design basis transient definitions encompasses all environmental effects. The marginal effect of the reactor coolant environment on CUF, projected to 60 years, is at least a factor of 12.9 below the original design basis CUF for all locations.

The BWR-4 evaluated in EPRI Report TR-110356 did not consider hydrogen water chemistry (HWC), as evidenced by the plots of dissolved oxygen in that report. Both units at PBAPS have implemented HWC. The maximum effect of the change in dissolved oxygen as a result of HWC implementation is adequately addressed by the conservative penalty factors described above.

Two materials issues may affect the application of the EPRI TR-110356 BWR-4 generic study to PBAPS. First, EPRI Report TR-110356 conservatively assumed the sulfur content, where applicable, was a maximum. Second, although the material types (i.e. stainless versus carbon or low-alloy steel) are similar between the two plants, differences were identified and were considered appropriately in all fatigue evaluations. Material types of most BWRs are very similar, as evidenced by the Table 4.3.4-3 comparison between PBAPS and the older vintage BWR-4 evaluated in NUREG/CR-6260 [Ref. 4.10]. Therefore,