February 6, 2002

APPLICANT: Exelon Generation Company, LLC (Exelon)

FACILITIES: Peach Bottom Atomic Power Station, Units 2 and 3

SUBJECT: TELECOMMUNICATION WITH EXELON GENERATING COMPANY TO DISCUSS INFORMATION IN THEIR LICENSE RENEWAL APPLICATION ON SECTIONS 2.3.1, 2.3.2, AND 2.3.3

On February 4, 2002, after the NRC staff reviewed information provided in Section 2.3 of the license renewal application (LRA), a conference call was conducted between the staff and representatives of Exelon Generating Company to clarify information presented in the application pertaining to Section 2.3.1 Reactor Coolant Systems, Section 2.3.2 Engineered Safety Features Systems, and Section 2.3.3 Auxiliary Systems. The information discussed, the applicant's responses, and the follow-up actions are in Attachment 1. A list of participants is included in Attachment 2.

A draft of this telephone conversation summary was provided to the applicant to allow them the opportunity to comment on the contents of its input prior to the summary being issued.

/***RA***/

Raj K. Anand, Project Manager
License Renewal and Environmental Impacts Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket Nos. 50-277 and 50-278

Attachments: As stated

cc w/attachments: See next page

APPLICANT: Exelon Generation Company, LLC (Exelon)

FACILITIES: Peach Bottom Atomic Power Station, Units 2 and 3

SUBJECT: TELECOMMUNICATION WITH EXELON GENERATING COMPANY TO DISCUSS INFORMATION IN THEIR LICENSE RENEWAL APPLICATION ON SECTIONS 2.3.1, 2.3.2, AND 2.3.3

On February 4, 2002, after the NRC staff reviewed information provided in Section 2.3 of the license renewal application (LRA), a conference call was conducted between the staff and representatives of Exelon Generating Company to clarify information presented in the application pertaining to Section 2.3.1 Reactor Coolant Systems, Section 2.3.2 Engineered Safety Features Systems, and Section 2.3.3 Auxiliary Systems. The information discussed, the applicant's responses, and the follow-up actions are in Attachment 1. A list of participants is included in Attachment 2.

A draft of this telephone conversation summary was provided to the applicant to allow them the opportunity to comment on the contents of its input prior to the summary being issued.

/***RA***/

Raj K. Anand, Project Manager
License Renewal and Environmental Impacts Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket Nos. 50-277 and 50-278

Attachments: As stated

cc w/attachments: See next page

DISTRIBUTION: See next page
Document Name: C:\Program Files\Adobe\Acrobat 4.0\PDF Output\Telecon SRXB.wpd

OFFICE	LA	PM:RLEP	SC: SRXB
NAME		RKAnand	R. Caruso/M. Razzaque
DATE	02/4/02	02/4/02	02/4/02

OFFICIAL RECORD COPY

DISTRIBUTION:
HARD COPY
RLEP RF
E. Hylton
E-MAIL:
PUBLIC
J. Johnson
W. Borchardt
D. Matthews
F. Gillespie
C. Grimes
J. Strosnider (RidsNrrDe)
E. Imbro
G. Bagchi
K. Manoly
W. Bateman
J. Calvo
C. Holden
P. Shemanski
G. Holahan
S. Black
B. Boger
D. Thatcher
G. Galletti
B. Thomas
R. Architzel
J. Moore
R. Weisman
M. Mayfield
A. Murphy
W. McDowell
S. Droggitis
N. Dudley
RLEP Staff

Peach Bottom Atomic Power Station, Units 2 and 3
cc:

Mr. Edward Cullen
Vice President & General Counsel
Exelon Generation Company, LLC
300 Exelon Way
Kennett Square, PA 19348

Mr. J. Doering
Site Vice President
Peach Bottom Atomic Power Station
1848 Lay Road
Delta, PA 17314

Mr. G. Johnston
Plant Manager
Peach Bottom Atomic Power Station
1848 Lay Road
Delta, PA 17314

Mr. A. Winter
Regulatory Assurance Manager
Peach Bottom Atomic Power Station
1848 Lay Road
Delta, PA 17314

Resident Inspector
U.S. Nuclear Regulatory Commission
Peach Bottom Atomic Power Station
P.O. Box 399
Delta, PA 17314

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. Roland Fletcher
Department of Environment
Radiological Health Program
2400 Broening Highway
Baltimore, MD 21224

Correspondence Control Desk
Exelon Generation Company, LLC
200 Exelon Way, KSA 1-N-1
Kennett Square, PA 19348

Chief-Division of Nuclear Safety
PA Dept. of Environmental Protection
P.O. Box 8469
Harrisburg, PA 17105-8469

Board of Supervisors
Peach Bottom Township
R. D. #1
Delta, PA 17314

Public Service Commission of Maryland
Engineering Division
6 St. Paul Center
Baltimore, MD 21202-6806

Mr. Richard McLean
Power Plant and Environmental Review Division
Department of Natural Resources
B-3, Tawes State Office Building
Annapolis, MD 21401

Dr. Judith Johnsrud
National Energy Committee, Sierra Club
433 Orlando Avenue
State College, PA 16803

Manager-Financial Control & Co-Owner Affairs
Public Service Electric and Gas Company
P.O. Box 236
Hancocks Bridge, NJ 08038-0236

Mr. Frederick W. Polaski
Manager License Renewal
Exelon Corporation
200 Exelon Way
Kennett Square, PA 19348

Mr. Jeffrey A. Benjamin
Vice President-Licensing
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

Mr. Charles Pardee
Senior Vice President
Mid-Atlantic Regional Operating Group
Exelon Generation Company, LLC
200 Exelon Way, KSA 3-N
Kennett Square, PA 19348

Mr. John Skolds
Chief Operating Officer
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

Mr. William Bohlke
Senior Vice President, Nuclear Services
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

Mr. James Meister
Senior Vice President, Operations Support
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

Mr. Alan Nelson
Nuclear Energy Institute
1776 I Street, Suite 400
Washington, DC 20006

SUMMARY OF TELECOMMUNICATION WITH
EXELON GENERATING COMPANY
PEACH BOTTOM UNITS 2 AND 3

REACTOR COOLANT SYSTEMS (RCS)

RAI - 2.3.1 - RCS - 1

In Table 3.1-1 of the LRA, "spraying" of the fuel assemblies following a LOCA was not identified as an intended function for the core spray spargers. The table also identified "cracking" as the only aging effect for the subject components. The staff requests the applicant to address the following staff concerns:

a) The staff believes that adequate long-term core cooling following a LOCA can only be assured by retaining the original spray distribution over the core which was assumed for the CLB. As a result, it is essential that spraying water on the fuel assemblies in a pattern that was originally designed for the core be acknowledged as one of the license renewal intended function of the spargers, and that the applicant's aging management activities be designed to provide a reasonable assurance that the original spray distribution will be preserved during the period of extended operation.

b) The staff believes that "cracking" of the core spray spargers is not the only aging mechanism which can degrade the spray distribution over the core following a LOCA, as Table 3.1-1 has suggested. Blockage, partially or fully, of the spray holes due to either corrosion or by foreign objects (loose parts) can also influence the core spray pattern. The staff understands that the applicant's ISI program (B.2.7) for the vessel internals is geared towards detecting cracking of the internals. The staff, therefore, requests the applicant to explain how they plan to detect other means of degradation of the spray pattern, as discussed above, when the B.2.7 program is used for managing the aging effects due only to cracking and loss of material, as stated in page B-64 of the LRA.

Response to RAI – 2.3.1 - RCS - 1:

The applicant stated that:

a) The core spray sparger is identified in BWRVIP-06, "Safety Assessment of BWR Reactor Internals," as a safety-related component. The BWRVIP-06, section 2.5.2 on safety assessment of core spray sparger states " The loss of the ability to distribute coolant to individual fuel bundles only has safety significance when the core cannot be fully flooded, as in the case of a recirculation line break…However, this loss of localized cooling would affect a limited number of bundles. The resultant consequences for BWR/3-6 plants would be bounded by plant safety analyses…In BWR/3 and BWR/4 plants (PBAPS is a BWR/4 plant), analysis has shown that steaming of water in the lower bundle provides adequate localized cooling. Therefore, in these plants, the loss of spray distribution has no safety significance." Hence, water spray is not a license renewal intended function.

b) Core spray piping is made of stainless steel material, corrosion is not a credible aging mechanism to cause flow blockage. Also, BWRVIP-18, "Core Spray Internals Inspection and Flaw Evaluation Guidelines," provides a means to inspect the core spray piping. Moreover,

adequate core spray distribution is not an assumption or requirement in the LOCA analysis for Peach Bottom.

Discussion: The applicant's response is not acceptable. To further clarify the staff's concern, the following RAI will be issued:

In Table 3.1-1 of the LRA, "spraying" of the fuel assemblies following a LOCA was not identified as an intended function for the core spray spargers. The table also identified "cracking" as the only aging effect for the subject components. The staff requests the applicant to address the following staff concerns:

a) The staff believes that adequate long-term core cooling following a LOCA can only be assured by retaining the original spray distribution over the core which was assumed for the CLB (The long-term core cooling evaluation is documented in NEDE-20566, Vol.II, Sec.III., and it is applicable to all BWRs and is independent of fuel type). As a result, it is essential that spraying water on the fuel assemblies in a pattern that was originally designed for the core be acknowledged as one of the license renewal intended function of the spargers, and that the applicant's aging management activities be designed to provide a reasonable assurance that the original spray distribution will be preserved during the period of extended operation.

If the plant is to be operated at a higher core power (power uprate), then maintaining the original spray distribution will be even more urgent. This is because, the affect of loss of localized cooling due to a skewed spray distribution may not then be limited just to few bundles, as described in the BWRVIP-06, Sec.2.5.2.

b) The staff believes that "cracking" of the core spray spargers is not the only aging mechanism which can degrade the spray distribution over the core following a LOCA, as Table 3.1-1 has suggested. Blockage, partially or fully, of the spray holes due to either corrosion or by foreign objects (loose parts) can also influence the core spray pattern. The staff understands that the applicant's ISI program (B.2.7) for the vessel internals is geared towards detecting cracking of the internals. The staff, therefore, requests the applicant to explain how they plan to detect other means of degradation of the spray pattern, as discussed above, when the B.2.7 program is used for managing the aging effects due only to cracking and loss of material, as stated in page B-64 of the LRA.

RAI - 2.3.1 - RCS – 2

The staff requests the applicant to verify whether the plant is equipped with thermal shield, whose intended function is to provide shielding for reactor vessel and the internals from gammas and neutrons. If the component exists at Peach Bottom, please justify its exclusion from aging management.

Response to RAI – 2.3.1- RCS - 2:

The applicant stated that the BWR internals do not provide gamma or neutron shielding. This function is accomplished by the water. Further, the BWR design does not employ a thermal shield. Therefore, there is no need to identify such a component in the LRA.

Discussion: The applicant's response is acceptable. The staff will issue a RAI.

RAI - 2.3.1 - RCS – 3

The staff requests the applicant to verify whether the pumps at Peach Bottom, such as the recirculation pumps, are designed with lube motor-oil collection systems, as required under 10 CFR 50, App. R, III O. If they are, then the components should be in scope requiring aging management. It appears that the subject components were not identified in the LRA, and therefore, it is requested that the exclusion be justified.

Response to RAI - 2.3.1 - RCS – 3:

The applicant stated that 10 CFR 50 App R III O requires oil collection systems for reactor coolant pumps if the containment is not inerted during normal operation. The Peach Bottom containments are inerted during normal operation. Therefore, this requirement is not applicable.

Discussion: The applicant's response is acceptable. The staff will issue a RAI.

ENGINEERED SAFETY FEATURES (ESF) SYSTEMS

RAI - 2.3.2 - ESF – 1

One of the intended functions of the main steam line flow restrictors is to limit steam line flow during a steam line rupture outside of primary containment until the MSIVs can close, thereby limiting potential radioactive release. Over the extended life of the plant, it is therefore, essential to maintain the flow area of the flow restrictors used in the CLB to calculate the amount of steam released. The staff believes that erosion/corrosion due to high energy steam flow can eventually increase this flow area beyond the value used in the CLB. It appears from the Table 3.4-1 of the LRA that the applicant's aging management program for flow-accelerated corrosion (FAC), which was implemented as required by NRC Generic Letter 89-08, "Erosion/Corrosion-Induced Pipe Wall Thinning" has not been applied to the flow restrictor component groups; however for some of the flow restrictors, the Inservice Inspection (ISI) program is applied in addition to RCS chemistry control. The staff requests the applicant to provide the following information:

a) Are the main steam line flow restrictors, and their flow restriction function within scope? If not, why?

b) If in scope, how will the applicant determine that the flow area does not exceed more than the value used in the CLB, so that the intended functions will be maintained consistent with the CLB for the period of extended operation?.

Response to RAI - 2.3.2 - ESF – 1:

The applicant stated that:

a) The main steam line flow restrictors are in the scope of license renewal. The main steam line flow restrictors are identified under Piping Specialties in LRA Table 3.4.1. The main steam

line flow restrictor is identified in the LRA as a flow element consisting of a body and a throat. The intended function of the flow element throat is identified as Throttle, which addresses the main steam line flow restriction function.

b) The main steam line flow restrictors are designed with a throat constructed of stainless steel. In accordance with EPRI NSAC-202L-R2, "Recommendations for an Effective Flow-Accelerated Corrosion Program," stainless steel components are not susceptible to flow-accelerated corrosion. The LRA identifies aging effects of Loss of Material and Cracking for the stainless steel throat. The RCS Chemistry Activity (LRA Appendix B.1.2) is adequate to manage these aging effects, such that the intended functions will be maintained consistent with the CLB for the period of extended operation.

Discussion: The applicant's response is acceptable. The staff will issue a RAI.

RAI - 2.3.2 - ESF – 2

The low pressure coolant injection (LPCI) coupling was identified in the BWRVIP-06 report as a safety-related component. It appears, however, that the component was not identified in the LRA requiring an AMR. If the component exists at Peach Bottom, then the staff requests the applicant to justify its exclusion from aging management.

Response to RAI-2.3.2-ESF-2:

The applicant stated that as is noted in BWRVIP-06, the use of a LPCI coupling is limited to three BWR/4 plants. Neither Peach Bottom units has a LPCI coupling, so it is not identified in the LRA.

Discussion: The applicant's response is acceptable. The staff will issue a RAI.

AUXILIARY (AUX) SYSTEMS

RAI - 2.3.3 - AUX – 1

The staff understands that the control rod drop accident is a design-basis event for Peach Bottom, and that in the CLB it is assumed that the control rod drive is fully withdrawn before the stuck rod falls out of the core at a maximum velocity of 5 ft/sec. According to Section 1.6.2.13 of the UFSAR, the control rod velocity limiter, an engineered safeguard, limits the rod drop velocity to less than this value, and the velocity limiters contain no moving parts. Furthermore, the staff understands that the limiter is relied upon to keep the resultant doses due to radioactive material release below the guideline values of 10 CFR 100. One of the required functions designated in the rule for safety-related SSCs, as delineated in 10 CFR 54.4(a)(1)(iii), is the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposure comparable to the 10 CFR 100 guidelines. It appears that the subject components were not identified in the LRA, and therefore, the staff requests the applicant to either include the subject components within the scope of license renewal requiring an AMR, or submit a basis for concluding that the components are not in scope.

Response to RAI - 2.3.3 - AUX – 1:

The applicant stated that the control rod velocity limiter is part of the control rod blade, which is short lived and therefore is not subject to aging management review requirements.

Discussion: The applicant's response is acceptable. The staff will issue a RAI.

RAI - 2.3.3 - AUX – 2

Section 1.6.2.14 of the UFSAR states that the CRD Housing Supports (CRDHS) limit the travel of a control rod in the event that a control rod housing is ruptured. The supports prevent a nuclear excursion as a result of a housing failure, thus protecting the fuel barrier, and limiting radioactive releases. In addition, Section 3.4.6.4 of the UFSAR states that following a postulated failure of the drive housing at the attachment weld at the same time the control rod is withdrawn, and if the collet were to stay unlatched, the housing would separate from the vessel, and the drive and housing would be blown downward against the CRDHS. Since, credit is taken for the CRDHS, and that the CRDHS are passive and long-lived, the staff believes that the subject components should be within scope of license renewal requiring aging management. It appears, however, that the subject components and it's intended function of limiting travel of the control rod following control rod housing rupture have not been identified in the LRA. Therefore, the staff requests the applicant to provide an explanation.

Response to RAI - 2.3.3 - AUX – 2:

The applicant stated that the CRD housing supports are included in the scope of license renewal and subject to aging management review. The supports are not listed separately in the LRA; but included in the component support commodity group described in section 2.4.13 of the LRA. This approach is consistent with NUREG-1800, wherein CRD housing supports are not listed separately.

Discussion: The applicant's response is acceptable. The staff will issue a RAI.

RAI - 2.3.3 - AUX – 3

The staff believes that the scram discharge volume, as discussed in the Peach Bottom UFSAR (Rev. 14, page 3.4-13), should be in scope requiring aging management. However, it appears that the subject component was not identified in the LRA. Please justify.

Response to RAI - 2.3.3 - AUX – 3:

The applicant stated that the scram discharge volume is in the scope of license renewal for Peach Bottom and does have aging management requirements. The scram discharge volume is actually piping. It is included in LRA Table 3.3.3 on page 3-65. The aging management program for this piping is the Inservice Inspection program described in LRA Appendix B.1.8. The scram discharge piping is shown on boundary drawing LR-M-356.

Discussion: The applicant's response is acceptable. No further action is needed.

Telecon Summary Participants

NRC	EXELON
Ralph Caruso	Erach Patel
Muhammad Razzaque	Jerry Phillabaum
Raj Anand	

Attachment 2