January 23, 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 SECTION 3.2, AGING MANAGEMENT OF ENGINEERED SAFETY FEATURE SYSTEMS.

On December 26, 2001, after the NRC staff reviewed information provided in Section 3.2 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 aging management of engineered safety feature systems. The information discussed, the applicant's responses, and the follow-up actions are in Attachment 1.

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

Attachment: As stated

cc w/Attachment: See next page

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NAME		RKAnand	
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J. Boska
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Division of Regulatory Improvement Programs
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DATE: January 22, 2002

SUBJECT: TELECOMMUNICATION WITH EXELON GENERATING COMPANY TO DISCUSS INFORMATION IN THEIR LICENSE RENEWAL APPLICATION ON SECTION 3.2, AGING MANAGEMENT OF ENGINEERED SAFETY FEATURE SYSTEMS.

ORIGINATOR: R. Anand

SECRETARY: S. Chey

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	NAME	DATE
1.	R. Anand	/ /02
2.	E. Hylton	/ /02
3.	E. Andruszkiewicz/ J. Medoff	/ /02

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ADAMS ACCESSION NUMBER: **ML** DATE ENTERED: / /01

FORM 665 ATTACHED and filled out: **YES NO**

COMMITMENT FORM ATTACHED: **YES NO**

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

A. F. Kirby, III
External Operations - Nuclear
Delmarva Power & Light Company
P.O. Box 231
Wilmington, DE 19899

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. Joseph Hagan
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

Aging Management of Engineered Safety Feature Systems (ESF) (3.2)
Reactor Core Isolation Cooling System (RCIC) (3.2.4)
Standby Gas Treat System (SGTS) (3.2.7)

(3.2) Global ESF

3.2-1

Confirm that the operating surface temperatures for those ESF components identified in Tables 3.2-1, 3.2-2, 3.2-3, 3.2-4, 3.2-5, 3.2-6, 3.2-7, and 3.2-8 as being exposed to sheltered air and serving a pressure boundary function are higher than the ambient temperature conditions for the sheltered air conditions. If any of these components have surfaces temperatures are lower than the ambient temperatures for sheltered air environments, analyze whether condensation of the surfaces of these components may lead to corrosion or aging of these components. If corrosion or aging is possible, identify the applicable effects associated with such aging, and propose applicable programs or activities to manage the effects.

Response to 3.2-1:

The applicant stated that anti-sweat insulation is installed on all piping, valves, and fittings that are subject to humid air with an operating temperature of 30 – 60 degrees F or with an operating temperature below ambient. This ensures that moisture is not in direct contact with exposed metal and therefore corrosion is not a relevant aging effect for these components in a sheltered environment.

Discussion: The staff indicated that the response is adequate. No further action is needed.

3.2-2

You have not always identified cracking as an applicable aging effect for stainless steel ESF components that are exposed to wetting gas components. For those stainless steel ESF components that are exposed to wetted gas environments for whom you have not identified cracking as an applicable effect, discuss your bases for excluding cracking as an applicable aging effect.

Response to 3.2-2:

The applicant stated that for the Wetted Gas environment, aging management requirements are based on the material and the potential for concentration of contaminants. Stress corrosion cracking in a Wetted Gas environment is judged to be a concern for stainless steel only if there is a potential for concentration of contaminants. The aging management review determined that for those stainless steel ESF components that are exposed to a wetted gas environment, which do not have cracking identified as an applicable effect, the potential for concentration of contaminants is considered not significant.

Discussion: The staff indicated that the response is adequate. However, staff will issue a formal RAI to obtain the response on the docket.

(3.2.4) RCIC

3.2.4.2.1-1

Given the potentially corrosive nature for wetted gas environments, discuss whether loss of material by pitting or general corrosion is an applicable effect for the surfaces of bronze RCIC valve bodies that are exposed to these environments. Provide your bases for your determination. If loss of material is an applicable aging effect for the bronze valve bodies exposed to wetted gas environments, an aging management program/activity must be proposed to manage the effect during the extended terms of operation for the PBAPS units.

Response to 3.2.4.2.1-1:

The applicant stated that there is only one bronze component in this environment for the RCIC system – it is the relief valve on the barometric condenser (RV-2(3)-13C-121). The aging management review determined that loss of material is not an applicable aging effect for bronze in a wetted gas environment.

Discussion: The applicant's response to 3.2.4.2.1-1 does not provide the technical basis for omitting loss of material as an applicable aging effect for the bronze relief valve on the barometric condenser. The staff indicated that the response needs to be revised to provide these bases or to commit to a appropriate AMP. A formal RAI will be issued.

3.2.4.2.1-2

For those RCIC components that are fabricated from bronze or brass, discuss whether selective leaching of the primary zinc or tin alloying elements is an additional aging effect that requires management for the environmental conditions with water that are expected during the extended periods of operation for the PBAPS units. If selective leaching of the primary zinc or tin alloying elements is an additional aging effect that requires management, an aging management program/activity must be proposed to manage the effect during the extended terms of operation for the PBAPS units.

Response 3.2.4.2.1-2:

As stated above, there is only one bronze component in this environment for the RCIC system. There is no potential for selective leaching in this wetted gas environment. Selective leaching requires liquid water mass in contact with the metal. NUREG-1801 "Generic Aging Lessons Learned (GALL) Report", Chapter XI.M33, Selective leaching of materials program, lists only liquid water environments that would lead to selective leaching mechanism.

Discussion: The staff indicated that the response is adequate. No further action is needed.

3.2.4.2.1-3

On LRA page 3-45 for heat exchanger in RCIC pump rooms cooling coils (tubes), why is the component intended function pressure boundary and the aging effect flow blockage? Why isn't reduction of heat transfer identified as the aging effect?

Response to 3.2.4.2.1-3

The applicant stated that The cooling function of the RCIC room coolers is not required for RCIC system operability. The coils (tubes) are required to maintain pressure boundary integrity of the Emergency Service Water system. Therefore, the component intended function of "Pressure Boundary" is appropriate and the component intended function of "Heat Transfer" is not.

Flow blockage of the RCIC pump room cooling coils could potentially disrupt the ESW system flow balance. Therefore, flow blockage is considered an aging effect requiring management.

Discussion: The staff indicated that the response is adequate. No further action is needed.

(3.2.7) SGTS

3.2.7.2.1-1

The staff is not familiar with the term dielectric unions. Clarify the definition of dielectric unions (that is whether the term refers to dielectric materials, bi-metallic welds, or composite material types). Provide your bases why there are no applicable aging effects associated with these materials. If there are applicable aging effects associated with the SGTS dielectric union materials, aging management programs must be proposed to manage such effects.

Response 3.2.7.2.1-1:

The applicant stated that the plant installation specification called for suitable insulating unions where steel attaches to copper. The dielectric union mentioned in the LRA is a coupling between steel and copper in the SGTS plenum. This is not in a liquid environment. It is in the SGTS ventilation environment that has heaters to dry the air after it enters the plenum. Therefore, galvanic corrosion is not an applicable aging mechanism because there is no conductive medium. As described in Section 3.0 page 3-9 of the LRA, there are no aging effects requiring aging management for metallic components in the ventilation environment.

Discussion: The staff indicated that the response is adequate. No further action is needed.