



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 13, 2011

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: PEACH BOTTOM ATOMIC POWER STATION, UNIT NOS. 2 AND 3:
ENVIRONMENTAL ASSESSMENT REGARDING THE LICENSE AMENDMENT
REQUEST TO STORE LOW-LEVEL RADIOACTIVE WASTE GENERATED AT
LIMERICK GENERATING STATION (TAC NOS. ME3092 AND ME3093)

Dear Mr. Pacilio:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your license amendment request dated January 6, 2010, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML100200009), as supplemented on August 20, 2010, October 14, 2010, and December 6, 2010 (ADAMS Accession Nos. ML102350035, ML102880108, and ML103410085). The proposed amendment would enable Peach Bottom Atomic Power Station (PBAPS), Unit Nos. 2 and 3, to possess byproduct and special nuclear material from Limerick Generating Station (LGS), Units 1 and 2. Specifically, the revised license paragraph would permit storage of low-level radioactive waste (LLRW) from LGS in the PBAPS LLRW Storage Facility. The PBAPS LLRW Storage Facility currently provides storage for LLRW generated at PBAPS.

The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

A handwritten signature in black ink that reads "John D. Hughey".

John D. Hughey, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-277 and 50-278

Enclosure:
Environmental Assessment

cc w/encl: Distribution via ListServ

NUCLEAR REGULATORY COMMISSION
EXELON GENERATION COMPANY, LLC
DOCKET NOS. 50-277 AND 50-278
PEACH BOTTOM ATOMIC POWER STATION UNIT NOS. 2 AND 3
ENVIRONMENTAL ASSESSMENT AND FINDING OF
NO SIGNIFICANT IMPACT
[NRC-2011-XXXX]

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an amendment for renewed Facility Operating License Nos. DPR-44 and DPR-56, issued to Exelon Generation Company, LLC (Exelon, the licensee) for operation of the Peach Bottom Atomic Power Station, Unit Nos. 2 and 3 (PBAPS), located near Lancaster, Pennsylvania, in accordance with Title 10 of the Code of Federal Regulations (10 CFR) Section 50.90. In accordance with 10 CFR 51.21, the NRC staff prepared an environmental assessment documenting its finding. Based on the results of the environmental assessment, the NRC is issuing a finding of no significant impact.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed action would revise the renewed Facility Operating Licenses for PBAPS to possess, but not separate, byproduct material, specifically Class B and Class C low-level radioactive waste (LLRW), from Exelon's Limerick Generating Station, Units 1 and 2 (LGS). The LLRW will be stored in the PBAPS Low-Level Radioactive Waste Storage Facility (LLRWSF).

The proposed action is in accordance with the licensee's application dated January 6, 2010, as supplemented by letters dated August 20, 2010, October 14, 2010, and December 6, 2010.

The Need for the Proposed Action:

The proposed action is needed to provide the licensee with adequate storage capacity, in lieu of constructing alternate storage facilities, for its Class B and Class C LLRW generated at LGS since it does not currently have access to a licensed disposal facility for this LLRW. The State of South Carolina's licensed low-level radioactive waste disposal facility, located in Barnwell, has limited access to the facility from radioactive waste generators located in States that are not part of the Atlantic Low-Level Waste Compact. Pennsylvania is not a member of the Atlantic Low-Level Waste Compact. Therefore, LGS and PBAPS do not have access to the Barnwell disposal facility for their Class B and Class C LLRW. LGS does not have the capability to store all the LLRW it generates. However, PBAPS has a LLRWSF capable of safely storing a large amount of LLRW, on an interim basis.

Environmental Impacts of the Proposed Action:

The proposed action involves the transportation of LLRW from LGS for interim storage at PBAPS. The LLRW will be transported by truck in accordance with U.S. Department of Transportation and NRC regulations. The distance between the plant sites is less than the distance that was previously traveled to the Barnwell disposal facility in South Carolina. The licensee anticipates that there will be approximately two to three shipments a year of LLRW to PBAPS from LGS. The projected number of shipments is consistent with the past annual average number of trips to the Barnwell facility. While the total travel distance for LLRW generated at LGS, once a new disposal site is determined, may be more or less than the current travel distance from LGS to the Barnwell facility, this circumstance is subject to change regardless of interim storage at PBAPS. Since eventual transport of LLRW to a final disposal

site will be accomplished in accordance with NRC and DOT regulations, no significant environmental impact will result regardless of the distance to the final disposal site. However, the proposed action will reduce the total annual number of miles driven for the transport of LLRW during the interim storage period. With less miles traveled, it is expected that there will be no change or possibly a corresponding reduction in the impacts associated with transportation during the interim storage period, such as lower radiation exposure to the truck driver and members of the public along the transportation route. The proposed action would not result in an increased risk of accidents and radiological hazards beyond those associated with the transport to the Barnwell facility. There will be no change to radioactive effluents from the power plants or the LLRW containers that affect radiation exposures to plant workers and members of the public. The interim storage building is designed to comply with NRC regulatory guidance, primarily Generic Letter 81-38, "Storage of Low-Level Radioactive Wastes at Power Reactor Sites," November 10, 1981, and to meet radiation protection standards in 10 CFR Part 20, "Standards for Protection Against Radiation," and 40 CFR Part 190, "Environmental Radiation Protection Standards for Nuclear Power Operations." Guidance in Section 11.4, "Solid Waste Management System," of NUREG-0800, "Safety Review Plan for the Review of Safety Analysis and Reports for Nuclear Power Plants," Revision 3, March 2007, was also reviewed and assessed with respect to the proposed action. The cumulative dose from handling the LLRW from PBAPS and from the additional LLRW from the LGS will be controlled by station procedures to ensure compliance with the radiation dose standards to workers and members of the public. Based on this information, the staff concludes that the radiological impacts associated with the transportation, handling, and storage of LLRW at PBAPS will not result in a significant impact to plant workers and members of the public.

The proposed action will not significantly increase the probability or consequences of accidents. No changes are being made in the types of effluents that may be released offsite.

There is no significant increase in the amount of any effluent released offsite. There is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

The proposed action does not involve a change to plant buildings or land areas on the PBAPS site. The proposed action does not result in changes to land use or water use, or result in changes to the quality or quantity of non-radiological effluents. With less miles traveled, it is expected that there will be no change or possibly a corresponding reduction in the impacts associated with transportation such as reduced use of fossil fuels and reduced air emissions that would affect air quality during the interim storage period. No changes to the National Pollutant Discharge Elimination System permit are needed. No effects on the aquatic or terrestrial habitat in the vicinity of the plant, or to threatened, endangered, or protected species under the Endangered Species Act, or impacts to essential fish habitat covered by the Magnuson-Stevens Act are expected. There are no impacts to historical and cultural resources. There would be no impact to socioeconomic resources. Therefore, no changes to or different types of non-radiological environmental impacts are expected as a result of the proposed action.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action.

The details of the NRC staff's safety evaluation will be provided in the license amendment, if approved by the NRC, which will be issued as part of the letter to the licensee approving the proposed action.

Environmental Impacts of the Alternatives to the Proposed Action:

As an alternative to the proposed action, the NRC staff also considered denial of the proposed actions (i.e., the "no-action" alternative). Denial of the proposed action may result in the eventual need to construct additional LLRW storage space at LGS. The construction of a new storage facility at LGS could involve the disturbance of previously undisturbed soil and

would require additional decommissioning and decontamination activities. However, the construction and decommissioning of a LLRW storage facility would be accomplished in accordance with NRC regulations and the LGS Operating License. Therefore, the environmental impact of this alternative would be minimal.

Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the "no action" alternative are similar.

Alternative Use of Resources:

The action does not involve the use of any different resources than those previously considered in the Final Environmental Statement for PBAPS Unit Nos. 1, 2, and 3, dated April 1973, and for PBAPS Unit Nos. 2 and 3, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants," (NUREG-1437, Supplement 10), dated January 2003.

Agencies and Persons Consulted:

In accordance with its stated policy, on December 2, 2010, the NRC staff consulted with the Commonwealth of Pennsylvania official, Rich Janati, regarding the environmental impact of the proposed action. In response, the Pennsylvania Department of Environmental Protection (PADEP) submitted the following comments on Exelon Generation Company's (EGC) proposed action:

The Pennsylvania Department of Environmental Protection (PADEP) is providing comments regarding a license amendment request by Exelon Generating Company, LLC (EGC), dated January 6, 2010, to store low-level radioactive waste (LLRW) from Limerick Generating Station (LGS) in the Peach Bottom Atomic Power Station (PBAPS) LLRW Storage Facility.

Considering the nature of the waste, the projected number of shipments and the existing capacity of the on-site storage facility for Class B and C wastes at PBAPS, it is our assessment that the transfer and storage of LLRW from LGS to PBAPS would not pose any danger to public health, safety and the environment. However, this practice should not set a precedent for the transfer of spent nuclear fuel from one facility to another.

It is expected that EGC would immediately cease shipments of LLRW from LGS to PBAPS when a disposal facility for Class B and C wastes becomes available.

It is also expected that EGC would implement a waste minimization program, consistent with the latest industry guidelines, to reduce the generation of Class B and C wastes at LGS. We are also requesting that EGC report to PADEP, on an annual basis, the amount of LGS waste (by volume and activity) being stored at PBAPS and inform PADEP in advance of any shipments of LLRW from LGS to PBAPS.

The NRC staff evaluated PADEP's comments to determine whether a change was needed to the EA. The NRC staff finds PADEP's assessment that the transfer and storage of LLRW from LGS to PBAPS would not pose any danger to public health, safety and the environment consistent with the staff's finding on no significant impact. Therefore, no change will be made to the EA based on the comment.

The other comments from PADEP are directed to the licensee, Exelon, and do not change the NRC staff's assessment that there are no significant environmental impacts associated with the proposed action. Therefore, no change will be made to the EA based on these comments. With regard to PADEP's comments concerning the transfer of spent nuclear fuel, the NRC staff notes that the proposed action does not involve any transfer of spent nuclear fuel from LGS to PBAPS.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated January 6, 2010, as supplemented by letters dated August 20, 2010, October 14, 2010, and December 6, 2010. These documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, Public File Area O-1F21,

11555 Rockville Pike (first floor), Rockville, Maryland 20852. Publicly available documents created or received at the NRC are available online in the NRC Library at

<http://www.nrc.gov/reading-rm/adams.html>.

Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff by telephone at 1-800-397-4209 or 301-415-4737, or send an e-mail to pdr.resource@nrc.gov.

Dated at Rockville, Maryland, this 13th day of May 2011.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read "John D. Hughey". The signature is written in a cursive style with a large initial "J" and "H".

John D. Hughey, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

May 13, 2011

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
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Sincerely,

/RA/

John D. Hughey, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-277 and 50-278

Enclosure:
Environmental Assessment

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