

May 26, 2015

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

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

Subject: Response to Request for Additional Information
License Amendment Request to Revise Technical Specifications Definition for
RECENTLY IRRADIATED FUEL

- References:
- 1) Letter from James Barstow (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission – License Amendment Request - Revise Technical Specifications Definition for RECENTLY IRRADIATED FUEL, dated July 25, 2014 (ML14211A019)
 - 2) U.S. Nuclear Regulatory Commission Memorandum from R. B. Ennis to M. K. Khanna – Peach Bottom Atomic Power Station, Units 2 and 3, Draft Request for Additional Information (TAC Nos. MF4523 and MF4524), dated November 4, 2014 (ML14309A773)
 - 3) Letter from James Barstow (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission – Response to Request for Additional Information - License Amendment Request - Revise Technical Specifications Definition for RECENTLY IRRADIATED FUEL, dated January 13, 2015 (ML15014A175)
 - 4) U.S. Nuclear Regulatory Commission Electronic Mail Request from R. B. Ennis – Peach Bottom Atomic Power Station, Units 2 and 3, Draft Request for Additional Information - Revise Technical Specification Definition for Recently Irradiated Fuel, dated April 27, 2015
 - 5) U.S. Nuclear Regulatory Commission Memorandum from R. B. Ennis to D. A. Broaddus – Peach Bottom Atomic Power Station, Units 2 and 3, Draft Request for Additional Information (TAC Nos. MF4523 and MF4524), dated May 6, 2015 (ML15127A247)

ADD
MRR

By letter dated July 25, 2014 (Reference 1), Exelon Generation Company, LLC, (Exelon) submitted a License Amendment Request (LAR) for Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3, requesting changes to the Technical Specifications (TS) to revise the definition for RECENTLY IRRADIATED FUEL. Currently, the definitions in the PBAPS, Units 2 and 3, TS include limitations requiring that certain ground-level hatches remain closed during movement of any irradiated fuel in Secondary Containment. The proposed changes would modify the definitions for RECENTLY IRRADIATED FUEL to: 1) revise the specific restriction identifying the Secondary Containment hatches listed, and 2) address a discrepancy in the designation for identifying the Secondary Containment hatch numbers.

In the U.S. Nuclear Regulatory Commission (NRC) memorandum dated November 4, 2014 (Reference 2), the NRC indicated that it had reviewed the information submitted in the Reference 1 letter pertaining to the proposed license amendment and requested additional clarifying information to support its continued review. The Reference 2 memorandum identified draft NRC questions, which were further discussed during a December 4, 2014, teleconference between Exelon and NRC representatives.

By letter dated January 13, 2015 (Reference 3), Exelon provided a response to the NRC's request for additional information described in the Reference 2 memorandum.

Subsequently, in an electronic mail message dated April 27, 2015 (Reference 4), the NRC issued a draft request for additional information. The Reference 4 electronic mail message identified two draft questions, which were the subject of further discussions with the NRC during a teleconference on May 6, 2015. In a memorandum dated May 6, 2015 (Reference 5), the NRC documented the transmittal of the draft request for additional information to further facilitate the teleconference discussions. As a result of the discussions, the NRC is requesting that Exelon provide additional clarifying information in support of the continued review of the Reference 1 License Amendment Request (LAR). In an effort to support the NRC's review, Exelon made available some of the requested information (i.e., calculation and data files) informally in advance of this submittal. This same information is included as part of this response.

Accordingly, Attachment 1 provides Exelon's response to the request for additional information contained in the Reference 4 electronic mail request. Attachment 2 contains a copy of PBAPS Calculation PM-1055, Revision 1, "*Calculation of Alternative Source Term (AST) Onsite and Offsite X/Q Values.*" Attachment 3 includes PBAPS 1984-1988 meteorological tower data and Attachment 4 contains ARCON96 meteorological data and supporting information.

Exelon has reviewed the information supporting a finding of No Significant Hazards Consideration and the Environmental Consideration provided to the NRC in the Reference 1 letter. The additional information provided in this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. In addition, the additional information provided in this submittal does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment needs to be prepared in connection with the proposed amendment.

U.S. Nuclear Regulatory Commission
Response to Request for Additional Information
License Amendment Request
Revise Definition of RECENTLY IRRADIATED FUEL
Docket Nos. 50-277 and 50-278
May 26, 2015
Page 3

There are no regulatory commitments contained in this submittal.

If you have any questions or require additional information, please contact Richard Gropp at (610) 765-5557.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 26th day of May 2015.

Respectfully,



David P. Helker
Manager, Licensing and Regulatory Affairs
Exelon Generation Company, LLC

Attachments: 1) Response to Request for Additional Information - License Amendment Request to Revise Technical Specifications Definition for RECENTLY IRRADIATED FUEL
 2) *PBAPS Calculation PM-1055, Revision 1, "Calculation of Alternative Source Term (AST) Onsite and Offsite X/Q Values"*
 3) PBAPS 1984-1988 Meteorological Tower Data Files (Compact Disk)
 4) ARCON96 Meteorological Input Data Files and Supporting Information (Compact Disk and Supporting Document)

cc:	NRC Region I, Regional Administrator	w/ Attachment 1
	NRC Project Manager, NRR - Peach Bottom	"
	NRC Senior Resident Inspector - Peach Bottom	"
	S. T. Gray, State of Maryland	"
	R. R. Janati, Bureau of Radiation Protection, Commonwealth of Pennsylvania	"

ATTACHMENT 1

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 AND 3

NRC Docket Nos. 50-277 and 50-278

Renewed Facility Operating License Nos.
DPR-44 and DPR-56

Response to Request for Additional Information
License Amendment Request to
Revise Definition of RECENTLY IRRADIATED FUEL

Response to Request for Additional Information
License Amendment Request to Revise Technical Specifications
Definition of RECENTLY IRRADIATED FUEL

Background

By letter dated July 25, 2014 (Reference 1), Exelon Generation Company, LLC, (Exelon) submitted a License Amendment Request (LAR) for Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3, requesting changes to the Technical Specifications (TS) to revise the definition for RECENTLY IRRADIATED FUEL. Currently, the definitions in the PBAPS, Units 2 and 3, TS include limitations requiring that certain ground-level hatches remain closed during movement of any irradiated fuel in Secondary Containment. The proposed changes would modify the definitions for RECENTLY IRRADIATED FUEL to: 1) revise the specific restriction identifying the Secondary Containment hatches listed, and 2) address a discrepancy in the designation for identifying the Secondary Containment hatch numbers.

In the U.S. Nuclear Regulatory Commission (NRC) memorandum dated November 4, 2014 (Reference 2), the NRC indicated that it had reviewed the information submitted in the Reference 1 letter pertaining to the proposed license amendment and requested additional clarifying information to support its continued review. The Reference 2 memorandum identified draft NRC questions, which were further discussed during a December 4, 2014, teleconference between Exelon and NRC representatives.

By letter dated January 13, 2015 (Reference 3), Exelon provided a response to the NRC's request for additional information described in the Reference 2 memorandum.

Subsequently, in an electronic mail message dated April 27, 2015 (Reference 4), the NRC issued a draft request for additional information. The Reference 4 electronic mail message identified two draft questions, which were the subject of further discussions with the NRC during a teleconference on May 6, 2015. In a memorandum dated May 6, 2015 (Reference 5), the NRC documented the transmittal of the draft request for additional information to further facilitate the teleconference discussions. As a result of the discussions, the NRC is requesting that Exelon provide additional clarifying information in support of the continued review of the Reference 1 License Amendment Request (LAR). In an effort to support the NRC's review, Exelon made available some of the requested information (i.e., calculation and data files) informally in advance of this submittal. This same information is included as part of this response.

NRC Question 1 – (MET-RAI-1)

Please provide a copy of the PBAPS 1984-1988 meteorological tower data and a copy of the ARCON96 meteorological input files and assumptions so that the NRC staff may conduct a confirmatory analysis of the control room atmospheric dispersion factors (X/Qs) presented in Section 8.0 of Attachment 4 (Calculation PM-1170, Revision 0) and Attachment G of Attachment 3 (Calculation PM-1059, Revision 5) to the application.

Response

Attachment 2 includes a copy of PBAPS Calculation PM-1055, Revision 1, "*Calculation of Alternative Source Term (AST) Onsite and Offsite X/Q Values.*" This calculation presents the atmospheric relative concentration (X/Q) values for Alternative Source Term (AST) accident evaluations. The purpose of this calculation is to determine the Control Room, Exclusion Area Boundary (EAB), and the outer boundary of the Low Population Zone (LPZ) relative concentration values (i.e., X/Q, in sec/m^3) for the PBAPS site. The values resulting from this calculation serve as input to the calculation of the radiological doses for use in AST in accordance with the guidance in Regulatory Guide 1.183, "*Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors.*" Attachment 3 contains a compact disk with the requested PBAPS meteorological tower data for 1984 - 1988. Attachment 4 contains a compact disk with the requested ARCON96 meteorological input data files along with supporting information. The assumptions are described in Section 4.0, "*Assumptions,*" of PM-1170, "*PBAPS Atmospheric Dispersion Factors(X/Qs) for post-FHA Ground Hatch Releases,*" which was previously provided in the July 25, 2014, submittal (Reference 1). The assumptions specific to the modeling are described in Regulatory Guide (RG) 1.194, "*Atmospheric Relative Concentrations for Control Room Radiological Habitability Assessments at Nuclear Power Plants,*" and RG 1.145, "*Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants.*"

NRC Question 2 – (MET-RAI-2)

Please justify how using meteorological data from the years 1984-1988 are representative of the PBAPS site area as compared to more recently observed on-site yearly meteorological data.

Response

In accordance with RG 1.194, the X/Q values utilized in calculations PM-1170, "*PBAPS Atmospheric Dispersion Factors (X/Qs) for post-FHA Ground Hatch Releases,*" and PM-1059, "*EAB, LPZ, and CR Doses Due to Fuel Handling Accident (FHA),*" that were included in the July 25, 2014 submittal (Reference 1), are 95th percentile X/Q values. This signifies that the X/Q values are not exceeded by more than 5.0 percent of the X/Q values generated with the meteorological observations in the data set. Section 3.1, "*Meteorological Data Input,*" of RG 1.194 specifies the following:

"The meteorological data needed for X/Q calculations include wind speed, wind direction, and a measure of atmospheric stability. These data should be obtained from an onsite meteorological measurement program based on the guidance of Safety Guide 23, "Onsite Meteorological Programs" (Ref. 12), that includes quality assurance provisions consistent with Appendix B to 10 CFR Part 50. The meteorological data set used in these measurements should represent hourly averages as defined in Safety Guide 23. Data should be representative of the overall site conditions and be free from local effects such as building and cooling tower wakes, brush and vegetation, or terrain. Collected data should be reviewed to identify instrumentation problems and missing or anomalous observations (see Ref. 13)...."

Section 3.1 of RG 1.194 also states: "*The NRC considers 5 years of hourly observations to be representative of long-term trends at most sites.*" PBAPS used five years of meteorological observations (1984-1998) in its submittal to the NRC, which satisfies the guidance in RG 1.194. Using the guidance in RG 1.194 produces sufficiently high X/Q values such that yearly averages are bounded and periodic reviews are considered unnecessary.

References

1. Letter from James Barstow (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission – License Amendment Request - Revise Technical Specifications Definition for RECENTLY IRRADIATED FUEL, dated July 25, 2014 (ML14211A019)
2. U.S. Nuclear Regulatory Commission Memorandum from R. B. Ennis to M. K. Khanna – Peach Bottom Atomic Power Station, Units 2 and 3, Draft Request for Additional Information (TAC Nos. MF4523 and MF4524), dated November 4, 2014 (ML14309A773)
3. Letter from James Barstow (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission – Response to Request for Additional Information - License Amendment Request - Revise Technical Specifications Definition for RECENTLY IRRADIATED FUEL, dated January 13, 2015 (ML15014A175)
4. U.S. Nuclear Regulatory Commission Electronic Mail Request from R. B. Ennis – Peach Bottom Atomic Power Station, Units 2 and 3, Draft Request for Additional Information - Revise Technical Specification Definition for Recently Irradiated Fuel, dated April 27, 2015
5. U.S. Nuclear Regulatory Commission Memorandum from R. B. Ennis to D. A. Broaddus – Peach Bottom Atomic Power Station, Units 2 and 3, Draft Request for Additional Information (TAC Nos. MF4523 and MF4524), dated May 6, 2015 (ML15127A247)