



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

May 26, 2010

Mr. Charles G. Pardee  
President and Chief Nuclear Officer  
Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: BYRON STATION, UNIT NOS. 1 AND 2, AND BRAIDWOOD STATION,  
UNITS 1 AND 2 - REQUEST FOR ADDITIONAL INFORMATION  
REGARDING THE DECOMMISSIONING FINANCIAL ASSURANCE  
PLANS (TAC NOS. ME0489, ME0490, ME0496, AND ME0497)

Dear Mr. Pardee:

The Nuclear Regulatory Commission (NRC) staff is continuing its review of the status of decommissioning funding at Braidwood Station (Braidwood), Units 1 and 2, and Byron Station (Byron), Unit Nos. 1 and 2. On March 31, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML090900463), Exelon Generation Company, LLC (Exelon), submitted its "Report on Status of Decommissioning Funding for Reactors," pursuant to Title 10 of the *Code of Federal Regulations*, Section 50.75. At the request of the NRC staff, by letter dated July 29, 2009 (ADAMS Accession No. ML092220037), Exelon submitted its Decommissioning Funding Assurance Plan for, among other plants, Braidwood and Byron. The NRC staff requested additional information in letters dated October 2, 2009 (ADAMS Accession No. ML092730496), January 7 (ADAMS Accession No. ML100060167), and April 20, 2010 (ADAMS Accession No. ML101100338).

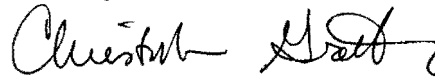
The request for additional information provided herein is related to the letter submitted by Exelon on March 10, 2010 (ADAMS Accession No. ML100700098), regarding decommissioning funding assurance calculations for Braidwood and Byron. The specific information requested is addressed in the enclosure to this letter. During a discussion with your staff on May 20, 2010, it was agreed that the response to this information request and the response to the request dated April 20, 2010, can be combined into a single response due within 30 days of the date of this letter.

C. Pardee

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The NRC staff considers that timely responses to requests for additional information help ensure sufficient time is available for staff review and contribute toward the NRC's goal of efficient and effective use of staff resources. If circumstances result in the need to revise the requested response date, please contact me at (301) 415-1055.

Sincerely,

A handwritten signature in black ink, appearing to read "Christopher Gratton". The signature is fluid and cursive, with a prominent initial "C" and a long, sweeping tail.

Christopher Gratton, Senior Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-456, STN 50-457,  
STN 50-454 and STN 50-455

Enclosure:  
Request for Additional Information

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION  
REGARDING THE DECOMMISSIONING FUNDING ASSURANCE PLAN  
BYRON STATION, UNIT NOS. 1 AND 2,  
AND BRAIDWOOD STATION, UNITS 1 AND 2  
DOCKET NOS. STN 50-454, STN 50-455,  
STN 50-456 AND STN 50-457

The requests for additional information provided herein pertain to the Decommissioning Funding Assurance Plan, dated July 29, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML092220037) and supplemental submittals dated November 16, 2009 (ADAMS Accession No. ML093210130), January 11, 2010 (ADAMS Accession No. ML100120241) and March 10, 2010 (ADAMS Accession No. ML100700098) from Exelon Generation Company, LLC (Exelon, the licensee). Since the licensee and its management are in possession of all facts relating to a licensee's decommissioning trust funds, they are responsible for the completeness and accuracy of the information they provide under the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.9.

**Regulatory Basis:**

Pursuant to 10 CFR Section 50.75(e)(2), the Nuclear Regulatory Commission (NRC) staff reserves the right to take the following steps in order to ensure a licensee's adequate accumulation of decommissioning funds: review, as needed, the rate of accumulation of decommissioning funds; and, either independently or in cooperation with the Federal Energy Regulatory Commission and the licensee's State Public Utility Commission, take additional actions as appropriate on a case-by-case basis, including modification of a licensee's schedule for the accumulation of decommissioning funds.

**Question 1**

Attachment 1 to the March 10, 2010, submittal is a table summarizing the projected SAFSTOR cash flow for Braidwood Station (Braidwood), Units 1 and 2. Attachment 2 provides the same information for Byron Station (Byron), Units 1 and 2.

Please provide a numerical example that shows how the values in the columns titled "Radiological Decommissioning Cost less Decommissioning Period Credit," were calculated. Provide a description of the calculation, or a formula, in sufficient detail for the NRC staff to reproduce the figures reported in the columns. Provide a computer file with an Excel spreadsheet containing the formulas used for the calculations to permit the NRC staff to verify your methods.

Enclosure

**Question 2**

Attachment 3 to the March 10, 2010, submittal includes two tables titled "NRC Funding Assurance Calculations," for Braidwood, Units 1 and 2. Attachment 4 includes two tables with the same information for Byron, Units 1 and 2.

For Braidwood Unit 1:

Line 8 of the first table in Attachment 3 is titled:

"Total Projected Trust Fund Amount (G) = (E) + (F)"

The amount listed under the column "Braidwood Unit 1 Site-Specific SAFSTOR Decommissioning Cost Estimate," for line 8 is \$600,008,000.

For Braidwood Unit 2:

Line 8 of the second table in Attachment 3 is titled:

"Total Projected Trust Fund Amount (G) = (E) + (F)"

The amount listed under the column "Braidwood Unit 2 Site-Specific SAFSTOR Decommissioning Cost Estimate," for line 8 is \$660,543,000.

For Byron Unit 1:

Line 8 of the first table in Attachment 4 is titled:

"Total Projected Trust Fund Amount (G) = (E) + (F)"

The amount listed under the column "Byron Unit 1 Site-Specific SAFSTOR Decommissioning Cost Estimate," for line 8 is \$614,327,000.

For Bryon Unit 2:

Line 8 of the second table in Attachment 4 is titled:

"Total Projected Trust Fund Amount (G) = (E) + (F)"

The amount listed under the column "Byron Unit 2 Site-Specific SAFSTOR Decommissioning Cost Estimate," for line 8 is \$635,618,000.

The NRC staff's independent calculations indicate that the trust amounts cannot reach the projected amounts reported above using the 2 percent earnings credit permitted under 10 CFR 50.75(e)(1)(i), when applied to the cash flows submitted in the March 10, 2010, submittal. Please revise the projected trust fund amounts by submitting a table showing the annual year end projected trust balance after first subtracting the annual expense from the previous year's balance and then crediting the remainder with a 2 percent annual credit. If you choose, you may provide an alternate projection, and include a numerical example and an explanation how your calculations meet the requirements of 10 CFR 50.75(e)(1)(i). Provide a computer file with an

Excel spreadsheet containing the formulas used for the calculations to permit the staff to verify your methods.

**Question 3**

Attachment 3 to the March 10, 2010, submittal includes two tables titled "NRC Funding Assurance Calculations," for Braidwood, Units 1 and 2. Attachment 4 includes two tables with the same information for Byron, Units 1 and 2.

For Braidwood, Unit 1:

Line 7 of the first table in Attachment 3 is titled:

"Decommissioning Period Earnings Credit (F)"

The amount listed under the column "Braidwood Unit 1 Site-Specific SAFSTOR Decommissioning Cost Estimate," for line 7 is \$313,775,000.

For Braidwood, Unit 2:

Line 7 of the second table in Attachment 3 is titled:

"Decommissioning Period Earnings Credit (F)"

The amount listed under the column "Braidwood Unit 2 Site-Specific SAFSTOR Decommissioning Cost Estimate," for line 7 is \$338,938,000.

For Byron Unit 1:

Line 7 of the first table in Attachment 4 is titled:

"Decommissioning Period Earnings Credit (F)"

The amount listed under the column "Byron Unit 1 Site-Specific SAFSTOR Decommissioning Cost Estimate," for line 7 is \$307,538,000.

For Bryon Unit 2:

Line 7 of the second table in Attachment 4 is titled:

"Decommissioning Period Earnings Credit (F)"

The amount listed under the column "Byron Unit 2 Site-Specific SAFSTOR Decommissioning Cost Estimate," for line 7 is \$325,716,000.

Provide a description of the calculation, or a formula, in sufficient detail for the NRC staff to reproduce the figures reported in Attachments 3 and 4 as Decommissioning Period Earnings Credit. Provide a computer file with an Excel spreadsheet containing the formulas used for the calculations to permit the NRC staff to verify your methods.

**Question 4**

Per 10 CFR 50.75, the NRC staff determined that the amount of the decommissioning funding assurance shortfalls, rounded to the nearest million, using the trust fund balances and SAFSTOR costs included in your March 10, 2010, submittal, are:

\$69 million for Braidwood, Unit 1  
\$63 million for Braidwood, Unit 2  
\$87 million for Byron, Unit 2

These amounts meet the regulatory requirement of 10 CFR 50.75(e)(1)(i) for calculating the earnings credit using up to a 2 percent annual real rate of return during the SAFSTOR period that is specifically described in the estimate.

As a supplement to the 2009 Biennial Decommissioning Report, Exelon submitted supplemental information on March 10, 2010, including a parent company guarantee in the amount of:

\$14.2 million for Braidwood, Unit 1  
\$10.5 million for Braidwood, Unit 2  
\$19.5 million for Byron, Unit 2

During a phone call on May 5, 2010, your staff indicated that the above values were derived from net present value calculations. In our letter of October 2, 2009, the NRC staff informed you that 10 CFR 50.75(e)(1)(i) does not provide for using net present value calculations to determine the amount of a potential guarantee.

Provide revised calculations of the shortfalls in decommissioning financial assurance based on your March 10, 2010, fund balances and SAFSTOR expenses that are based on using up to a 2 percent annual real rate of return during a period of safe storage that is specifically described in the estimate. If your calculated amounts, do not equal or exceed the figures noted above by the staff, provide your basis for concluding that a lower amount satisfies the regulatory requirement.

Examples of calculations that the NRC staff have found to be acceptable may be found in a letter dated March 12, 2009 (ADAMS Accession No. ML090760499), on pages 2-3 of the "Enclosure to the Supplement to Irradiated Fuel Management Plan and Preliminary Decommissioning Cost Estimates for Prairie Island Nuclear Generating Plant," and in a letter dated January 1, 2009 (ADAMS Accession No. ML090210156), on pages 8-9 of the "Enclosure to a Response to Requests for Additional Information for Prairie Island."

C. Pardee

- 2 -

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Sincerely,

*/RA/*

Christopher Gratton, Senior Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
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Docket Nos. STN 50-456, STN 50-457,  
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**DISTRIBUTION:**

PUBLIC	LPL3-2 R/F	RidsNrrDorlLpl3-2 Resource
RidsNrrPMBByron Resource	RidsNrrPMBraidwood Resource	RidsNrrLATHarris Resource
RidsOgcRp Resource	RidsRgn3MailCenter Resource	RidsNrrDorlDpr Resource
RidsAcrcAcnw_MailCTR Resource		
ASimmons, NRR		
TFredrichs, NRR		

ADAMS Accession No. ML101440323      \*e-mail dated 5/24/10      NRR-088

OFFICE	LPL3-2/PM	LPL3-2/LA	DIRS/PFPB*	LPL3-2/BC
NAME	CGratton	THarris	CGratton for RCarlson	SCampbell
DATE	5/25/10	5/25/10	5/24/10	5/26/10

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