

February 28, 2019

Mr. D. P. Poroach  
Vice President and Comptroller  
Georgia Power Company  
760 Ralph McGill Blvd NE BIN 10120  
Atlanta, GA 30308-3374

Edwin I. Hatch Nuclear Plant -Units 1 and 2  
Vogtle Electric Generating Plant -Units 1 and 2  
Financial Assurance Requirements for  
Decommissioning Nuclear Power Reactors (10 CFR 50.75 (f)(1))

Dear Mr. Poroach:

Pursuant to 10 CFR 50.75 (f)(1), "Reporting and Recordkeeping for Decommissioning Planning", the U.S. Nuclear Regulatory Commission (NRC) requires nuclear power reactor licensees to report to the NRC the status of its decommissioning funding for each reactor or part of each reactor it owns on a biennial basis. The next decommissioning funding certification report is due to the NRC by March 31, 2019.

The biennial update to the NRC is part of the process for providing reasonable assurance that adequate funds for decommissioning will be available when needed. The funding calculation to be used is defined in NUREG-1307 and includes an adjustment factor that escalates Labor, Energy and Waste Burial to current year dollars to reflect inflation and other changes in economic conditions since January 1986.

To comply with this regulation, the 2018 NRC Minimum Decommissioning Funding for the Edwin I. Hatch Nuclear Plant (Hatch) and the Vogtle Electric Generating Plant (Vogtle) has been calculated and are shown in Table 1 and Table 2 of the enclosed report. Please note the 2018 minimum funding requirement indicates a 3.1% increase for Hatch and a 3.6% increase for Vogtle over the 2017 NRC Minimum Decommissioning Funding values. This 2017/2018 year-over-year minimum funding increase is attributable to changes in several escalation factors as detailed in the enclosed narratives "NRC Minimum Decommissioning Funding Requirement for the Edwin I. Hatch Nuclear Plant", and "NRC Minimum Decommissioning Funding Requirement for the Vogtle Electric Generating Plant".

To facilitate SNC submittal of the decommissioning funding certification prior to the March 31, 2019 deadline, please provide to SNC:

- Enclosures 2 and 6 updated, utilizing the instructions provided in Enclosure 3
- Enclosures 4 and 7 printed on GPC letterhead

In lieu of transmitting this information directly to the NRC, SNC requests that the signed submittal be provided by email to Mr. R. D. Coker, Business Operations Manager, by March 14, 2019. SNC will review the decommissioning funding certification provided by each owner company and transmit the required information to the NRC prior to the March 31, 2019 deadline.

If you have any questions or comments, please contact Clarke Bedingfield at 205-992-5496.

Sincerely,



R. D. Coker

Business Operations Manager

Enclosures:

1. NRC Minimum Decommissioning Funding Requirement for the Edwin I. Hatch Nuclear Plant - 2018
2. Edwin I. Hatch Nuclear Plant Financial Assurance Requirements for Decommissioning Nuclear Power Reactors – 2018 Submittal
3. Instructions for Completion of 10 CFR 50.75 (f)(1) Requirements
4. Edwin I. Hatch Nuclear Plant Draft 10 CFR 50.75 (f)(1) Transmittal Letter – 2018
5. NRC Minimum Decommissioning Funding Requirement for the Vogtle Electric Generating Plant - 2018
6. Vogtle Electric Generating Plant Financial Assurance Requirements for Decommissioning Nuclear Power Reactors – 2018 Submittal
7. Vogtle Electric Generating Plant Draft 10 CFR 50.75 (f)(1) Transmittal Letter – 2018
8. U. S. Department of Labor Bureau of Labor Statistics website (<http://data.bls.gov>), Series ID CIU201000000220I (8) (Employment Cost Index – South 2007 - current)
9. U. S. Department of Labor Bureau of Labor Statistics website (<http://data.bls.gov>), Series ID WPU0543 (Industrial Electric Power 2008 - current)
10. U. S. Department of Labor Bureau of Labor Statistics website (<http://data.bls.gov>), Series ID WPU0573 (Light Fuel Oils 2008 – current)
11. NUREG-1307, Report on Waste Burial Charges, Revision 17

cc: Southern Nuclear Operating Company  
Ms. C. W. Brakefield  
Mr. M. D. Meier  
Ms. C. A. Gayheart  
SNC Document Services – R-Type: GG1.004

Georgia Power Company  
Ms. S. P. Adams  
Mr. R. W. Dodd  
Mr. K. Y. Kim

**Enclosure 1**  
**NRC Minimum Decommissioning Funding Requirement**  
**for the Edwin I. Hatch Nuclear Plant**

**Purpose:**

The purpose of this calculation is to determine the NRC minimum decommissioning funding requirement for the Edwin I. Hatch Nuclear Plant in accordance with the requirements of 10 CFR 50.75(c).

**Scope:**

The NRC minimum funding requirement for decommissioning is intended to provide reasonable assurance that, at license termination, funding will be available to remove a facility or site safely from service and reduce residual radioactivity to a level that permits release of the property for unrestricted use. The minimum requirement does not include the cost of removal and disposal of spent fuel or nonradioactive structures and materials beyond that necessary to terminate the license.

**Summary of Results:**

Based on the results of this calculation, the 2018 NRC minimum funding requirement for each unit of the Edwin I. Hatch Nuclear Plant is \$323,560,000, in 2018 dollars, representing a 3.1% increase in the amount calculated for the 2017 NRC minimum funding calculation. This increased funding requirement is attributable to several factors.

1. During calendar year 2018 the NRC issued an update to NUREG-1307, which is now Revision 17. The revision became final in February 2019. The updated burial factor value is approximately 2.2% higher than the index used for the March 2018 submittal to GPC.
2. The minimum funding calculation also requires the use of published cost escalation factors from the U.S. Department of Labor, Bureau of Labor Statistics producer price indexes, and employment cost index. The escalation factor for each of these indexes increased between the 2017 and 2018 calculations.

See Table 1 for detailed calculations of the 2018 NRC Minimum Funding Requirement.

**Conclusions:**

As stated above, the purpose of this calculation is to determine the NRC minimum decommissioning funding requirement for the Edwin I. Hatch Nuclear Plant. The NRC minimum decommissioning funding requirement is provided in the Summary of Results above. Accordingly, there are no specific conclusions to be drawn from this calculation.

## **Methodology:**

The methodology used to determine the NRC minimum funding requirement in January 1986 dollars for boiling water reactors (BWRs) is specified by 10 CFR 50.75(c)(1)(ii). For BWRs with a thermal power between 1200 MWt and 3400 MWt, the NRC minimum funding requirement formula is:

$$\text{\$104} + 0.009 P \text{ (millions, January 1986 dollars)}$$

where P is the thermal power (MWt) of the reactor. The thermal power (MWt) for Plant Hatch is 2,804.

10 CFR 50.75(c)(2) requires that the following adjustment factor be applied to the January 1986 minimum decommissioning funding requirement to reflect escalation of labor (L), energy (E), and radioactive waste burial (B) as follows:

$$\text{Adjustment Factor} = (.65L + .13E + .22B) \text{ where,}$$

### **“L” is the Labor Escalation Factor**

- The Labor Factor is to be obtained by data provided by the U.S. Department of Labor – Bureau of Labor Statistics (BLS). Specifically, the appropriate regional data from the table entitled “Employment Cost Index – Private Industry Workers”, subtitled “Total Compensation” is to be used.
- For Hatch, data from the South Region is to be used. The BLS re-indexed the Employment Cost Index in 2005 to 100. As a result, the 2005 index became 1.98.
- See Enclosure 8 for support for the 2018 index. The escalation factor for labor (L) for any given year is now determined as follows:

$$\text{Labor (L) Escalation Factor} = (2005 \text{ Base Index} \times \text{Previous Year Index})/100$$

### **“E” is the Energy Escalation Factor**

- As described in NUREG-1307, the escalation factor for energy (E) is listed below in the two-component formula specifically weighted for BWR plants:

$$\text{Energy (E) Escalation Factor} = .54P + .46F$$

- “P” is the component for industrial electric power.
- “F” is the component for light fuel oils.
- Both “P” and “F” can be found in “Producer Price Indices”, published by the U.S. Department of Labor – BLS.
- “P” is to be obtained from the Industrial Electric Power Index and “F” is to be obtained from the Light Fuel Oils Index. The escalation factors for industrial electric power (P) and light fuel oils (F) for any given year are determined by dividing the respective index from the last actual month of the previous year by the January 1986 index.
- The index values from September 2018 were used in this calculation, which was the last actual month of data for 2018 at the time of this report.
- See Enclosures 9 and 10 for support.

**"B" is the Waste Burial Escalation Factor**

- The Waste Burial Factor is to be obtained from NRC report NUREG-1307, "Report on Waste Burial Charge" or its updates.
- The NRC issued NUREG-1307, Revision 17, in February 2019. The option used for Plant Hatch is the "Values for generators located in the unaffiliated states and those located in compact-affiliated states having no disposal facility."
- See Enclosure 11 for support.

**References:**

1. Code of Federal Regulation, Title 10, Part 50, Section 75, Reporting and Recordkeeping for Decommissioning Planning
2. NUREG-1307, Report on Waste Burial Charges, Revisions 1 through 17
3. U. S. Department of Labor Bureau of Labor Statistics website (<http://data.bls.gov>), Series IDs CIU201000000220I (8) (Employment Cost Index – South 2007 - current), WPU0543 (Industrial Electric Power 2008 - current), WPU0573 (Light Fuel Oils 2008 – current)
4. CFS-001, Reporting Requirements for Decommissioning Planning, Version 1.0, dated April 28, 2016

**NRC Minimum Decommissioning Funding Requirement for  
the Edwin I. Hatch Nuclear Plant (2018 Dollars)**

The following table represents the indexes and calculation used in the March 2019 submittal:

<b>Table 1</b>		
<b>March 2019 Submittal</b>	<b>Formulas</b>	<b>Calculations</b>
<b>1986 NRC Minimum Funding Requirement 10 CFR 50.75(c)(1)(ii)</b>	$\$104,000,000 + 9,000(P)$ $\$104,000,000 + 9,000(2,804)$	<b>\$129,236,000</b>
<b>10 CFR 50.75(c)(2) Adjustment Factor</b>	$\$129,236,000 \times (.65L + .13E + .22B)$	
<b>Labor Factor (L)</b>		
2005 Index		1.98
Qtr 4 2018 Index Used (See Enclosure 8)	$(2005 \text{ Index} \times \text{Qtr 4 2018 Index}) / 100$	132.50
<b>Total Labor Escalation (L)</b>		<b>2.624</b>
<b>Energy Factor (E)</b>	$0.54P + 0.46F$	
Industrial Electric Power Factor (P)		
1986 Index		114.2
09/2018 Index Used (See Enclosure 9)	$(09\text{-}2018 \text{ Index} / 1986 \text{ Index})$	255.4
<b>Total Industrial Electric Power Escalation (P)</b>		<b>2.236</b>
Light Fuel Oil Factor (F)		
1986 Index		82.0
09/2018 Index Used (See Enclosure 10)	$(09\text{-}2018 \text{ Index} / 1986 \text{ Index})$	249.8
<b>Total Light Fuel Oils Escalation (F)</b>		<b>3.046</b>
<b>Energy Escalation Factor (E)</b>	$0.54P + 0.46F$	
	$(0.54 \times 2.236) + (0.46 \times 3.046)$	<b>2.609</b>
<b>Total Energy Escalation (E)</b>	$1.2074 + 1.4012$	
<b>Waste Burial Factor (B) (See Enclosure 11)</b>		
Generators located in unaffiliated states and those located in compact-affiliated states having no disposal facility		<b>13.422</b>
<b>NRC Minimum Decommissioning Requirement</b>		
10 CFR 50.75(c)(2) Adjustment Factor	$\$129,236,000 \times (.65L + .13E + .22B)$	
10 CFR 50.75(c)(2) Adjustment Factor	$\$129,236,000 \times (.65(2.624) + .13(2.609) + .22(13.422))$	
<b>NRC Minimum Decommissioning Requirement Per Unit (2018 Dollars)</b>		<b>\$645,828,920</b>
<b>Georgia Power Company % Per Unit (2018 Dollars)</b>	$\$645,828,920 \times 50.1\% \text{ (GPC Ownership \%)}$	<b>\$323,560,289</b>

**Enclosure 2**  
**Edwin I. Hatch Nuclear Plant**  
**Georgia Power Company**  
**Ownership Percentage – 50.1%**

	<b>10 CFR 50.75(f)(1) Requirement</b>	<b>Unit 1</b>	<b>Unit 2</b>
1	The NRC minimum decommissioning estimate, pursuant to 10 CFR 50.75(b) and (c). <sup>1</sup>	\$323,560,000 <sup>2</sup>	\$323,560,000 <sup>2</sup>
2	The amount accumulated at the end of the calendar year preceding the date of the report for items included in 10 CFR 50.75(b) and (c).		
3	A schedule of the annual amounts remaining to be collected; for items in 10 CFR 50.75(b) and (c).	See Schedule in Attachment 1	See Schedule in Attachment 1
4	The assumptions used regarding: (a) rates of escalation in decommissioning costs; (b) rates of earnings on decommissioning funds; (c) real rate of return; and (d) rates of other factors used in funding projections.		
5	Any contracts upon which the licensee is relying pursuant to 10 CFR 50.75(e)(1)(v).		
6	Any modifications to a licensee's current method of providing financial assurance occurring since the last submitted report.		
7	Any material changes to trust agreements.		

**NOTES:**

<sup>1</sup> The NRC formulas in section 10 CFR 50.75(c) include only those decommissioning costs incurred by licensees to remove a facility or site safely from service and reduce residual radioactivity to levels that permit: (1) release of the property for unrestricted use and termination of the license; or (2) release of the property under restricted conditions and termination of the license. The cost of dismantling or demolishing non-radiological systems and structures is not included in the NRC decommissioning cost estimates. The costs of managing and storing spent fuel on-site until transfer to DOE are not included in the cost formulas.

<sup>2</sup> This amount is based on NUREG-1307, Rev. 17, for the burial factor, the December 2018 BLS data for labor and the September 2018 BLS data for energy.

### Enclosure 3

#### Instructions for Completion of 10 CFR 50.75(f)(1) Requirements

	10 CFR 50.75(f)(1) Requirement	Unit 1	Unit 2
1	The NRC minimum decommissioning estimate, pursuant to 10 CFR 50.75(b) and (c). <sup>1</sup>	Provided by Southern Nuclear <sup>2</sup>	
2	The amount accumulated at the end of the calendar year preceding the date of the report for items included in 10 CFR 50.75(b) and (c).	The net market value accumulated in funding account as of 12/31/2018.	
3	A schedule of the annual amounts remaining to be collected; for items in 10 CFR 50.75(b) and (c).	Schedules should include, at a minimum, the: (1) beginning balance, (2) earnings, (3) deposits, and (4) ending balance.	
4	The assumptions used regarding: (a) rates of escalation in decommissioning costs; (b) rates of earnings on decommissioning funds; (c) real rate of return; and (d) rates of other factors used in funding projections.	(a) and (b) – Self explanatory. (c) Rate of earnings on decommissioning funds (b) minus rate of escalation in decommissioning costs (a). If the assumed real rate of return exceeds 2%, <u>indicate the specific rate filing or decision by its rate regulator that documents the earnings rate being used</u> , as provided in 10 CFR 50.75(e)(1)(i) or (ii). (d) Any other factors that may be used in projections should be referenced here.	
5	Any contracts upon which the licensee is relying pursuant to 10 CFR 50.75(e)(1)(v).	Examples may include provisions licensees may have in long term contracts that link decommissioning fund payments to the supply of electricity <b>OR</b> long term take/pay contract with a parent company. If contracts are not relied upon pursuant to 10 CFR 50.75(e)(1)(v), the response to Item 5 should be “none”.	
6	Any modifications to a licensee’s current method of providing financial assurance occurring since the last submitted report.	Indicate the assurance mechanism being used as a source of revenues for the external sinking fund (e.g., traditional “cost of service” ratemaking, a non-bypassable charge, long-term contracts that the NRC has found to be acceptable pursuant to 10 CFR 50.75(e)(v)). If a licensee is using an assurance mechanism other than an external sinking fund, it should include as part of the report adjustments to the assurance mechanisms (e.g., surety bond or letter of credit) to account for any escalation since the previous report. If there are no modifications to the current method for providing financial assurance, the response to Item 6 should be “none”.	
7	Any material changes to trust agreements.	Material revisions to trust agreements include: (1) changes in trustees; (2) provisions for payment into and out of the trust; (3) changes in trust investment management; and (4) any other changes that would have a direct bearing on the amount, availability, and assurance of funds for decommissioning. If there are no material changes to trust agreements, the response to Item 7 should be “none”.	

**NOTES:**

<sup>1</sup> The NRC formulas in section 10 CFR 50.75(c) include only those decommissioning costs incurred by licensees to remove a facility or site safely from service and reduce residual radioactivity to levels that permit: (1) release of the property for unrestricted use and termination of the license; or (2) release of the property under restricted conditions and termination of the license. The cost of dismantling or demolishing non-radiological systems and structures is not included in the NRC decommissioning cost estimates. The costs of managing and storing spent fuel on-site until transfer to DOE are not included in the cost formulas.

<sup>2</sup> This amount is based on NUREG-1307, Rev. 17, for the burial factor, the December 2018 BLS data for labor and the September 2018 BLS data for energy.



**Enclosure 4**

Docket Nos.: 50-321  
50-366

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

Edwin I. Hatch Nuclear Plant  
Financial Assurance Requirements for Decommissioning  
Nuclear Power Reactors (10 CFR 50.75(f)(1))

Dear Ladies and Gentlemen:

Pursuant to 10 CFR 50.75(f)(1), each power reactor licensee is required to report to the NRC the status of its decommissioning funding for each reactor or part of each reactor it owns on a calendar year basis, beginning on March 31, 1999, and every two years thereafter. Georgia Power Company (GPC) hereby submits the enclosed information in accordance with 10 CFR 50.75(f)(1) for operating licenses DPR-57 and NPF-5 issued for Edwin I. Hatch Nuclear Plant Unit 1 and 2, respectively. Southern Nuclear Operating Company, as the operating licensee and as an agent for the owners of the Edwin I. Hatch Nuclear Plant, is providing this information to the NRC on behalf of GPC.

Based on the information presented herein, there is reasonable assurance that the funding necessary for decommissioning the Edwin I. Hatch Nuclear Plant, consistent with the NRC prescribed minimum set forth in 10 CFR 50.75(c), will be available on the expiration date of operating licenses DPR-57 and NPF-5.

Please advise if you have any questions or comments regarding the information provided herein.

Respectfully submitted,

Georgia Power Company, by,

Enclosure

**Enclosure 5**  
**NRC Minimum Decommissioning Funding Requirement for**  
**the Vogtle Electric Generating Plant**

**Purpose:**

The purpose of this calculation is to determine the NRC minimum decommissioning funding requirement for the Vogtle Electric Generating Plant in accordance with the requirements of 10 CFR 50.75(c).

**Scope:**

The NRC minimum funding requirement for decommissioning is intended to provide reasonable assurance that, at license termination, funding will be available to remove a facility or site safely from service and reduce residual radioactivity to a level that permits release of the property for unrestricted use. The minimum requirement does not include the cost of removal and disposal of spent fuel or nonradioactive structures and materials beyond that necessary to terminate the license.

**Summary of Results:**

Based on the results of this calculation, the 2018 NRC minimum funding requirement for each unit of the Vogtle Electric Generating Plant is \$233,586,000, in 2018 dollars, representing a 3.6% increase in the amount calculated for the 2017 NRC minimum funding calculation. This increased funding requirement is attributable to several factors.

1. During calendar year 2018 the NRC issued an update to NUREG-1307, which is now Revision 17. The revision became final in February 2019. The updated burial factor value is approximately 3.1% higher than the index used for the March 2018 submittal to GPC.
2. The minimum funding calculation also requires the use of published cost escalation factors from the U.S. Department of Labor, Bureau of Labor Statistics producer price indexes, and employment cost index. The escalation factor for each of these indexes increased between the 2017 and 2018 calculations.

See Table 2 for detailed calculations of the 2018 NRC Minimum Funding Requirement.

**Conclusions:**

As stated above, the purpose of this calculation is to determine the NRC minimum decommissioning funding requirement for the Vogtle Electric Generating Plant. The NRC minimum decommissioning funding requirement is provided in the Summary of Results above. Accordingly, there are no specific conclusions to be drawn from this calculation.

## **Methodology:**

The methodology used to determine the NRC minimum funding requirement in January 1986 dollars for pressurized water reactors (PWRs) is specified by 10 CFR 50.75(c)(1)(i). For PWRs with a thermal power greater than or equal to 3400 MWt, the NRC minimum funding requirement is \$105,000,000 (January 1986 dollars).

10 CFR 50.75(c)(2) requires that the following adjustment factor be applied to the January 1986 minimum decommissioning funding requirement to reflect escalation of labor (L), energy (E), and radioactive waste burial (B) as follows:

**Adjustment Factor = (.65L + .13E + .22B) where,**

### **“L” is the Labor Escalation Factor**

- The Labor Factor is to be obtained by data provided by the U.S. Department of Labor – Bureau of Labor Statistics (BLS). Specifically, the appropriate regional data from the table entitled “Employment Cost Index – Private Industry Workers”, subtitled “Total Compensation” is to be used.
- For Vogtle, data from the South Region is to be used. The BLS re-indexed the Employment Cost Index in 2005 to 100. As a result, the 2005 index became 1.98.
- See Enclosure 8 for support for the 2018 index. The escalation factor for labor (L) for any given year is now determined as follows:

**Labor (L) Escalation Factor = (2005 Base Index X Previous Year Index)/100**

### **“E” is the Energy Escalation Factor**

- As described in NUREG-1307, the escalation factor for energy (E) is listed below in the two-component formula specifically weighted for PWR plants:

**Energy (E) Escalation Factor = .58P + .42F**

- “P” is the component for industrial electric power.
- “F” is the component for light fuel oils.
- Both “P” and “F” can be found in “Producer Price Indices”, published by the U.S. Department of Labor – BLS.
- “P” is to be obtained from the Industrial Electric Power Index and “F” is to be obtained from the Light Fuel Oils Index. The escalation factors for industrial electric power (P) and light fuel oils (F) for any given year are determined by dividing the respective index from the last actual month of the previous year by the January 1986 index.
- The index values from September 2018 were used in this calculation, which was the last actual month of data for 2018 at the time of this report.
- See Enclosures 9 and 10 for support.

### **“B” is the Waste Burial Escalation Factor**

- The Waste Burial Factor is to be obtained from NRC report NUREG-1307, “Report on Waste Burial Charge” or its updates.
- The NRC issued NUREG-1307, Revision 17, in February 2019. The option used for Plant Vogtle is the “Values for generators located in the unaffiliated states and those located in compact-affiliated states having no disposal facility.”

- See Enclosure 11 for support.

**References:**

1. Code of Federal Regulation, Title 10, Part 50, Section 75, Reporting and Recordkeeping for Decommissioning Planning
2. NUREG-1307, Report on Waste Burial Charges, Revisions 1 through 17
3. U. S. Department of Labor Bureau of Labor Statistics website (<http://data.bls.gov>), Series IDs CIU201000000220I (8) (Employment Cost Index – South 2007 - current), WPU0543 (Industrial Electric Power 2008 - current), WPU0573 (Light Fuel Oils 2008 – current)
4. CFS-001, Reporting Requirements for Decommissioning Planning, Version 1.0, dated April 28, 2016

**NRC Minimum Decommissioning Funding Requirement for  
the Vogtle Electric Generating Plant (2018 Dollars)**

The following table represents the indexes and calculation used in the March 2019 submittal:

<b>Table 2</b>		
<b>March 2019 Submittal</b>	<b>Formulas</b>	<b>Calculations</b>
<b>1986 NRC Minimum Funding Requirement 10 CFR 50.75(c)(1)(i)</b>		<b>\$105,000,000</b>
<b>10 CFR 50.75(c)(2) Adjustment Factor</b>	$\$105,000,000 \times (.65L + .13E + .22B)$	
<b>Labor Factor (L)</b>		
2005 Index	$(2005 \text{ Index} \times \text{Qtr 4 2018 Index}) / 100$	1.98
Qtr 4 2018 Index Used (See Enclosure 8)		132.50
<b>Total Labor Escalation (L)</b>		<b>2.624</b>
<b>Energy Factor (E)</b>	$0.58P + 0.42F$	
Industrial Electric Power Factor (P)	$(09\text{-}2018 \text{ Index} / 1986 \text{ Index})$	
1986 Index		114.2
09/2018 Index Used (See Enclosure 9)		255.4
<b>Total Industrial Electric Power Escalation (P)</b>		<b>2.236</b>
Light Fuel Oil Factor (F)	$(09\text{-}2018 \text{ Index} / 1986 \text{ Index})$	
1986 Index		82.0
09/2018 Index Used (See Enclosure 10)		249.8
<b>Total Light Fuel Oils Escalation (F)</b>		<b>3.046</b>
<b>Energy Escalation Factor (E)</b>	$0.58P + 0.42F$	
	$(0.58 \times 2.236) + (0.42 \times 3.046)$	<b>2.577</b>
<b>Total Energy Escalation (E)</b>	$1.2969 + 1.2793$	
<b>Waste Burial Factor (B) (See Enclosure 11)</b>		
Generators located in unaffiliated states and those located in compact-affiliated states having no disposal facility		<b>12.853</b>
<b>NRC Minimum Decommissioning Requirement</b>		
10 CFR 50.75(c)(2) Adjustment Factor	$\$105,000,000 \times (.65L + .13E + .22B)$	
10 CFR 50.75(c)(2) Adjustment Factor	$\$105,000,000 \times (.65(2.624) + .13(2.577) + .22(12.853))$	
<b>NRC Minimum Decommissioning Requirement Per Unit (2018 Dollars)</b>		<b>\$511,128,646</b>
<b>Georgia Power Company % Per Unit (2018 Dollars)</b>	$\$511,128,646 \times 45.7\% \text{ (GPC Ownership \%)}$	<b>\$233,585,791</b>

**Enclosure 6**  
**Vogtle Electric Generating Plant**  
**Georgia Power Company**  
**Ownership Percentage – 45.7%**

	<b>10 CFR 50.75(f)(1) Requirement</b>	<b>Unit 1</b>	<b>Unit 2</b>
1	The NRC minimum decommissioning estimate, pursuant to 10 CFR 50.75(b) and (c). <sup>1</sup>	\$233,586,000 <sup>2</sup>	\$233,586,000 <sup>2</sup>
2	The amount accumulated at the end of the calendar year preceding the date of the report for items included in 10 CFR 50.75(b) and (c).		
3	A schedule of the annual amounts remaining to be collected; for items in 10 CFR 50.75(b) and (c).	See Schedule in Attachment 1	See Schedule in Attachment 1
4	The assumptions used regarding: (e) rates of escalation in decommissioning costs; (f) rates of earnings on decommissioning funds; (g) real rate of return; and (h) rates of other factors used in funding projections.		
5	Any contracts upon which the licensee is relying pursuant to 10 CFR 50.75(e)(1)(v).		
6	Any modifications to a licensee's current method of providing financial assurance occurring since the last submitted report.		
7	Any material changes to trust agreements.		

**NOTES:**

<sup>1</sup> The NRC formulas in section 10 CFR 50.75(c) include only those decommissioning costs incurred by licensees to remove a facility or site safely from service and reduce residual radioactivity to levels that permit: (1) release of the property for unrestricted use and termination of the license; or (2) release of the property under restricted conditions and termination of the license. The cost of dismantling or demolishing non-radiological systems and structures is not included in the NRC decommissioning cost estimates. The costs of managing and storing spent fuel on-site until transfer to DOE are not included in the cost formulas.

<sup>2</sup> This amount is based on NUREG-1307, Rev. 17, for the burial factor, the December 2018 BLS data for labor and the September 2018 BLS data for energy.

**Enclosure 7**

Docket Nos.: 50-424  
50-425

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

Vogtle Electric Generating Plant  
Financial Assurance Requirements for Decommissioning  
Nuclear Power Reactors (10 CFR 50.75(f)(1))

Dear Ladies and Gentlemen:

Pursuant to 10 CFR 50.75(f)(1), each power reactor licensee is required to report to the NRC the status of its decommissioning funding for each reactor or part of each reactor it owns on a calendar year basis, beginning on March 31, 1999, and every two years thereafter. Accordingly, Georgia Power Company (GPC) hereby submits the enclosed information in accordance with 10 CFR 50.75(f)(1) for operating licenses NPF-68 and NPF-81 issued for Vogtle Electric Generating Plant Units 1 and 2, respectively. Southern Nuclear Operating Company, as the operating licensee and as an agent for the owners of the Vogtle Electric Generating Plant, is providing this information to the NRC on behalf of GPC.

Based on the information presented herein, there is reasonable assurance that the funding necessary for decommissioning of the Vogtle Electric Generating Plant, consistent with the NRC prescribed minimum set forth in 10 CFR 50.75(c), will be available on the expiration date of operating licenses NPF-68 and NPF-81.

Please advise if you have any questions or comments regarding the information provided herein.

Respectfully submitted,

Georgia Power Company, by,

Enclosure

## Enclosure 8

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## Employment Cost Index (NAICS)

Series Id: CID2010000000220I (8)  
 Not seasonally adjusted  
 Series Title: Total compensation for Private industry workers in South, Index  
 Ownership: Private industry workers  
 Component: Total compensation  
 Occupation: All workers  
 Industry: All workers  
 Subcategory: All workers  
 Area: South Region  
 Periodicity: Index number

Download: [XLSX](#)

Year	Period	Estimate Value	Standard Error
2008	Qtr1	107.8	-(A)
2008	Qtr2	108.5	-(A)
2008	Qtr3	109.1	-(A)
2008	Qtr4	109.3	-(A)
2009	Qtr1	109.8	-(A)
2009	Qtr2	110.1	-(A)
2009	Qtr3	110.6	-(A)
2009	Qtr4	110.7	-(A)
2010	Qtr1	111.5	-(A)
2010	Qtr2	112.0	-(A)
2010	Qtr3	112.5	-(A)
2010	Qtr4	112.8	-(A)
2011	Qtr1	113.4	-(A)
2011	Qtr2	114.3	-(A)
2011	Qtr3	114.7	-(A)
2011	Qtr4	115.0	-(A)
2012	Qtr1	116.0	-(A)
2012	Qtr2	116.8	-(A)
2012	Qtr3	117.2	-(A)
2012	Qtr4	117.7	-(A)
2013	Qtr1	118.6	-(A)
2013	Qtr2	119.3	-(A)
2013	Qtr3	119.7	-(A)
2013	Qtr4	120.1	-(A)
2014	Qtr1	120.6	-(A)
2014	Qtr2	121.7	-(A)
2014	Qtr3	122.3	-(A)
2014	Qtr4	122.7	-(A)
2015	Qtr1	123.2	-(A)
2015	Qtr2	123.9	-(A)
2015	Qtr3	124.3	-(A)
2015	Qtr4	124.6	-(A)
2016	Qtr1	125.1	-(A)

8 : See Footnote 8 on [www.bls.gov/ect/cimaprote.htm](http://www.bls.gov/ect/cimaprote.htm).  
 A : Dashes indicate data not available.



Year	Period	Estimate Value	Standard Error
2016	Qtr2	125.9	-(A)
2016	Qtr3	126.2	-(A)
2016	Qtr4	126.2	-(A)
2017	Qtr1	127.1	-(A)
2017	Qtr2	127.9	-(A)
2017	Qtr3	128.7	-(A)
2017	Qtr4	129.2	-(A)
2018	Qtr1	130.4	-(A)
2018	Qtr2	131.4	-(A)
2018	Qtr3	132.0	-(A)
2018	Qtr4	132.5	-(A)

8 : See Footnote 8 on [www.bls.gov/sect/cimacnote.htm](http://www.bls.gov/sect/cimacnote.htm).

A : Dashes indicate data not available.

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## PPI Commodity Data

Series Id: WPU0543

Not Seasonally Adjusted

Series Title: PPI Commodity data for Fuels and related products and power-Industrial electric power, not seasonally adjusted

Group: Fuels and related products and power

Item: Industrial electric power

Base Date: 198200

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Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2009	190.3	190.3	187.6	186.9	190.5	193.3	196.2	194.7	194.9	189.9	186.0	186.0
2010	186.3	186.1	189.0	188.8	192.0	197.8	199.8	200.8	200.0	194.6	190.9	191.4
2011	193.1	194.4	195.0	194.1	196.9	205.7	215.3	216.6	215.8	206.6	204.0	204.4
2012	201.1	200.3	199.8	198.1	201.5	207.7	221.5	222.1	222.8	214.1	212.3	213.8
2013	199.2	199.4	199.0	198.8	203.5	211.9	211.4	210.4	210.3	201.2	199.0	200.5
2014	215.1	214.4	214.8	210.8	215.2	224.0	227.5	227.7	225.1	217.0	210.7	213.9
2015	222.4	221.1	218.2	213.3	217.0	237.2	237.3	236.8	234.2	218.2	213.4	214.8
2016	205.3	204.3	204.5	202.4	206.3	220.4	226.2	227.3	228.1	214.9	211.3	211.7
2017	231.8	232.9	234.2	234.3	237.1	251.0	253.4	251.2	249.0	238.7	236.8	237.4
2018	243.4	245.3	241.0	237.7	241.3	255.2	258.8	258.7	255.4	242.6(P)	239.2(P)	240.2(P)
2019	242.9(P)											

P : Preliminary. All indexes are subject to revision four months after original publication.

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### PFI Commodity Data

Series Id: WFO0873

Not Seasonally Adjusted

Series Title: PFI Commodity data for Fuels and related products and power-light fuel oils, not seasonally adjusted

Group: Fuels and related products and power

Item: Light fuel oils

Base Date: 198200

Download: [xlsx](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2009	159.8	145.6	136.8	159.9	158.6	183.7	165.2	196.1	186.6	193.3	207.8	197.5
2010	220.7	200.2	217.0	231.5	226.0	212.4	209.3	221.4	220.0	235.8	245.3	250.0
2011	260.4	278.8	307.5	325.1	315.1	316.9	311.5	296.9	306.5	299.6	322.7	301.0
2012	308.8	316.5	330.8	327.1	315.6	284.6	287.9	313.4	330.4	334.1	311.6	303.3
2013	303.6	327.7	308.7	303.9	296.4	294.9	300.4	307.4	315.3	306.8	295.3	302.9
2014	297.5	309.1	306.5	306.7	304.4	296.5	295.3	293.9	291.0	271.4	260.9	218.9
2015	173.6	184.3	185.7	178.2	196.6	193.4	187.0	180.4	163.1	165.3	159.7	131.1
2016	114.4	107.7	113.8	116.8	137.8	149.4	152.2	143.5	155.5	153.4	152.9	153.3
2017	158.0	159.7	158.0	157.9	165.3	163.1	169.1	179.0	192.5	202.9	211.2	212.7
2018	218.0	216.6	214.0	220.5	238.8	248.9	244.2	242.0	249.8	257.8(P)	254.2(P)	223.6(P)
2019	191.6(P)											

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Table 2-1 Values of  $B_x$  as a Function of LLW Burial Site and Year<sup>(a)</sup>

	B <sub>x</sub> Values for Washington Site <sup>(f)</sup>				B <sub>x</sub> Values for South Carolina Site				B <sub>x</sub> Values for Texas Site <sup>(b)</sup>				B <sub>x</sub> Values for Generators Located in the Unaffiliated States and those Located in Compact-Affiliated States having no Disposal Facility <sup>(c)</sup>	
	Compact-Affiliated Disposal Facility Only <sup>(g)</sup>		Combination of Compact-Affiliated and Non-Compact Disposal Facilities <sup>(d,e)</sup>		Compact-Affiliated Disposal Facility Only <sup>(e)</sup>		Combination of Compact-Affiliated and Non-Compact Disposal Facilities <sup>(d,e)</sup>		Compact-Affiliated Disposal Facility Only <sup>(e,f)</sup>		Combination of Compact-Affiliated and Non-Compact Disposal Facilities <sup>(d,e)</sup>			
Year	PWR	BWR*	PWR	BWR	PWR	BWR*	PWR*	BWR	PWR*	BWR	PWR	BWR	PWR*	BWR*
2018	10.854	9.118	8.697	7.186	32.329	28.314	11.607	12.872	8.508	8.293	11.054	10.731	12.853	13.422
2016	8.706	7.290	8.129	6.668	30.061	26.329	10.971	12.111	8.508	8.293	10.672	10.441	12.471	13.132
2012	7.335	6.704	7.375	6.076	30.581	27.295	13.885	14.160	NA	NA	NA	NA	NA	NA
2010	8.035	7.423	6.588	5.458	27.292	24.356	12.280	12.540	NA	NA	NA	NA	NA	NA

- (a) The values shown in this table for the years 2018 and 2016 are developed in Appendix B, with all values normalized to the 1986 Washington PWR and BWR values by dividing the calculated burial costs for each site and year by the Washington site burial costs calculated for the year 1986. Refer to previous revisions of NUREG-1307 for development of values prior to 2018.
- (b) Effective with NUREG-1307, Revision 16, the Compact Waste Facility (CWF) in Andrews County, Texas, is available as a full-service (i.e., Class A, B, and C) LLW disposal facility for waste generators located in States affiliated with the Texas Compact. Hence,  $B_x$  values are not available (NA) for earlier versions of NUREG-1307. For Texas LLW generators that may choose to ship some LLW to the Clive, UT, facility, negotiated discounts may be offered based on waste volume. However, information on such discounts would be determined on a case-by-case basis and was not provided by the disposal facility to PNNL, the contractor used by NRC for this revision to NUREG-1307. Accordingly,  $B_x$  values presented in this table do not reflect potentially lower, negotiated discounted burial costs.
- (c) Effective with NUREG-1307, Revision 16, the CWF in Andrews County, Texas, is also available as a full-service (i.e., Class A, B, and C) LLW disposal facility for waste generators located in States not affiliated with the Texas Compact. Out-of-compact generators, however, must submit an import petition to the Texas Compact Commission for approval prior to shipping. The State of Texas also limits total non-compact waste disposed at the CWF to 30 percent of licensed capacity and imposes additional fees on LLW disposed of from out-of-compact generators. With the availability of this full-service disposal facility to out-of-compact waste generators and the Clive, Utah disposal facility for any Class A LLW generated in the U.S., the Generic LLW Disposal Site scenario used in previous versions of NUREG-1307 is replaced with this scenario, which provides  $B_x$  values representing a composite of the disposal rates for these two disposal facilities. These  $B_x$  factors are recommended for use for plants that currently have no disposal site available within their designated LLW Compact.
- (d) Effective with NUREG-1307, Revision 8 (Reference 3), an alternative disposal scenario was introduced in which the bulk of the LLW is assumed to be dispositioned by waste vendors. Effective with NUREG-1307, Revision 14, the bulk of the LLW is assumed to be dispositioned at the Clive, Utah disposal facility.
- (e) Effective with NUREG-1307, Revision 15, the nomenclature for the two disposal scenarios, referred to as "Direct Disposal" and "Direct Disposal with Vendors" in previous revisions of NUREG-1307, was changed to "Compact-Affiliated Disposal Facility Only" and "Combination of Compact-Affiliated and Non-Compact Disposal Facilities" to better describe these scenarios.
- (f) For plants using the "Compact-Affiliated Disposal Facility Only" for the Texas site, the base waste volume charges, base radiology charges, and surcharges remain unchanged from 2016 to 2018. For further explanation see Section 3.4.
- (\*) The six columns highlighted with an asterisk reflect  $B_x$  LLW burial cost escalation factor data used by the 96 operating power reactor licensees that utilized the minimum decommissioning fund formula in decommissioning trust fund status reports submitted to the NRC in 2017.