

**SCHEDULE SB
(Form 5500)**

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

**Single-Employer Defined Benefit Plan
Actuarial Information**

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6059 of the Internal Revenue Code (the Code).

▶ **File as an attachment to Form 5500 or 5500-SF.**

OMB No. 1210-0110

2018

This Form is Open to Public Inspection

For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

▶ **Round off amounts to nearest dollar.**

▶ **Caution:** A penalty of \$1,000 will be assessed for late filing of this report unless reasonable cause is established.

A Name of plan THE SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC MULTIPLE EMPLOYER PENSION PLAN	B Three-digit plan number (PN) ▶	001
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC	D Employer Identification Number (EIN) 61-1565172	
E Type of plan: <input type="checkbox"/> Single <input checked="" type="checkbox"/> Multiple-A <input type="checkbox"/> Multiple-B	F Prior year plan size: <input type="checkbox"/> 100 or fewer <input type="checkbox"/> 101-500 <input checked="" type="checkbox"/> More than 500	

Part I Basic Information

1 Enter the valuation date: Month 01 Day 01 Year 2018

2 Assets:		
a Market value.....	2a	2,867,371,201
b Actuarial value.....	2b	2,718,474,258

3 Funding target/participant count breakdown	(1) Number of participants	(2) Vested Funding Target	(3) Total Funding Target
a For retired participants and beneficiaries receiving payment.....	9,964	1,874,770,616	1,874,770,616
b For terminated vested participants.....	3,066	168,507,448	168,507,448
c For active participants.....	3,751	1,299,086,344	1,320,272,020
d Total.....	16,781	3,342,364,408	3,363,550,084

4 If the plan is in at-risk status, check the box and complete lines (a) and (b).....

a Funding target disregarding prescribed at-risk assumptions.....	4a	
b Funding target reflecting at-risk assumptions, but disregarding transition rule for plans that have been in at-risk status for fewer than five consecutive years and disregarding loading factor.....	4b	

5 Effective interest rate.....	5	5.73%
6 Target normal cost.....	6	81,751,472

Statement by Enrolled Actuary

To the best of my knowledge, the information supplied in this schedule and accompanying schedules, statements and attachments, if any, is complete and accurate. Each prescribed assumption was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.

SIGN HERE	DAVID R. JARRETT	
	Signature of actuary	10/07/2019
	DAVID R. JARRETT	Date
	Type or print name of actuary	1704821
	BUCK GLOBAL, LLC	Most recent enrollment number
	Firm name	412-281-2506
	11 STANWIX STREET, SUITE 700	Telephone number (including area code)
	PITTSBURGH PA 15222	
	Address of the firm	

If the actuary has not fully reflected any regulation or ruling promulgated under the statute in completing this schedule, check the box and see instructions

For Paperwork Reduction Act Notice, see the Instructions for Form 5500 or 5500-SF.

Schedule SB (Form 5500) 2018
v. 171027

Part V Assumptions Used to Determine Funding Target and Target Normal Cost

21 Discount rate:

a Segment rates:	1st segment: 3.92 %	2nd segment: 5.52 %	3rd segment: 6.29 %	<input type="checkbox"/> N/A, full yield curve used
-------------------------	------------------------	------------------------	------------------------	-----------------------------------------------------

b Applicable month (enter code) **21b** 4

22 Weighted average retirement age **22** 62

23 Mortality table(s) (see instructions) Prior regulation: Prescribed - combined Prescribed - separate Substitute
 Current regulation: Prescribed - combined Prescribed - separate Substitute

Part VI Miscellaneous Items

24 Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment Yes No

25 Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment Yes No

26 Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment Yes No

27 If the plan is subject to alternative funding rules, enter applicable code and see instructions regarding attachment **27**

Part VII Reconciliation of Unpaid Minimum Required Contributions For Prior Years

28 Unpaid minimum required contributions for all prior years	28	0
29 Discounted employer contributions allocated toward unpaid minimum required contributions from prior years (line 19a)	29	0
30 Remaining amount of unpaid minimum required contributions (line 28 minus line 29)	30	0

Part VIII Minimum Required Contribution For Current Year

31 Target normal cost and excess assets (see instructions):

a Target normal cost (line 6)	31a	81,751,472
b Excess assets, if applicable, but not greater than line 31a	31b	0

32 Amortization installments:	Outstanding Balance	Installment
a Net shortfall amortization installment	645,075,826	67,286,674
b Waiver amortization installment	0	0

33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount **33**

34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33).....	34	149,038,146
	Carryover balance	Prefunding balance
35 Balances elected for use to offset funding requirement.....	0	0
36 Additional cash requirement (line 34 minus line 35).....	36	149,038,146
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c).....	37	149,038,146

38 Present value of excess contributions for current year (see instructions)

a Total (excess, if any, of line 37 over line 36)	38a	0
b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances	38b	0

39 Unpaid minimum required contribution for current year (excess, if any, of line 36 over line 37)..... **39** 0

40 Unpaid minimum required contributions for all years **40** 0

Part IX Pension Funding Relief Under Pension Relief Act of 2010 (See Instructions)

41 If an election was made to use PRA 2010 funding relief for this plan:

a Schedule elected 2 plus 7 years 15 years

b Eligible plan year(s) for which the election in line 41a was made 2008 2009 2010 2011

Multiple Employer Plan Participating Employer Information

**THE SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC
MULTIPLE EMPLOYER PENSION PLAN**

EIN NO. 61-1565172/PLAN NO. 001

(a) Savannah River Nuclear Solutions, LLC	(b) EIN 26-0240191	(c) 74.24%
(a) Savannah River Remediation, LLC	(b) EIN 26-3972730	(c) 25.76%

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(Form 5500)**

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Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

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**Single-Employer Defined Benefit Plan
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C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC		D Employer Identification Number (EIN) 61-1565172	
E Type of plan: <input type="checkbox"/> Single <input checked="" type="checkbox"/> Multiple-A <input type="checkbox"/> Multiple-B		F Prior year plan size: <input type="checkbox"/> 100 or fewer <input type="checkbox"/> 101-500 <input checked="" type="checkbox"/> More than 500	

Part I Basic Information

1 Enter the valuation date: Month 01 Day 01 Year 2018

2 Assets:

a Market value.....	2a	2,123,424,985
b Actuarial value.....	2b	2,013,159,705

3 Funding target/participant count breakdown

	(1) Number of participants	(2) Vested Funding Target	(3) Total Funding Target
a For retired participants and beneficiaries receiving payment.....	7,203	1,387,319,136	1,387,319,136
b For terminated vested participants.....	2,083	113,326,677	113,326,677
c For active participants.....	2,821	974,317,916	990,207,225
d Total.....	12,107	2,474,963,729	2,490,853,038

4 If the plan is in at-risk status, check the box and complete lines (a) and (b).....

a Funding target disregarding prescribed at-risk assumptions.....	4a	
b Funding target reflecting at-risk assumptions, but disregarding transition rule for plans that have been in at-risk status for fewer than five consecutive years and disregarding loading factor.....	4b	

5 Effective interest rate..... **5** 5.73%

6 Target normal cost..... **6** 60,674,410

Statement by Enrolled Actuary

To the best of my knowledge, the information supplied in this schedule and accompanying schedules, statements and attachments, if any, is complete and accurate. Each prescribed assumption was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.

**SIGN
HERE**

Signature of actuary

DAVID R. JARRETT

Type or print name of actuary

BUCK GLOBAL, LLC

Firm name

11 STANWIX STREET, SUITE 700

PITTSBURGH PA 15222

Address of the firm

Date

1704821

Most recent enrollment number

412-281-2506

Telephone number (including area code)

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Schedule SB (Form 5500) 2018
v. 171027

Part V Assumptions Used to Determine Funding Target and Target Normal Cost

21 Discount rate:

a Segment rates:	1st segment: 3.92 %	2nd segment: 5.52 %	3rd segment: 6.29 %	<input type="checkbox"/> N/A, full yield curve used
-------------------------	------------------------	------------------------	------------------------	-----------------------------------------------------

b Applicable month (enter code) **21b** 4

22 Weighted average retirement age **22** 62

23 Mortality table(s) (see instructions) Prior regulation: Prescribed - combined Prescribed - separate Substitute
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Part VI Miscellaneous Items

24 Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment Yes No

25 Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment Yes No

26 Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment Yes No

27 If the plan is subject to alternative funding rules, enter applicable code and see instructions regarding attachment **27**

Part VII Reconciliation of Unpaid Minimum Required Contributions For Prior Years

28 Unpaid minimum required contributions for all prior years	28	0
29 Discounted employer contributions allocated toward unpaid minimum required contributions from prior years (line 19a)	29	0
30 Remaining amount of unpaid minimum required contributions (line 28 minus line 29)	30	0

Part VIII Minimum Required Contribution For Current Year

31 Target normal cost and excess assets (see instructions):

a Target normal cost (line 6)	31a	60,674,410
b Excess assets, if applicable, but not greater than line 31a	31b	0

32 Amortization installments:	Outstanding Balance	Installment
a Net shortfall amortization installment	477,693,333	49,972,082
b Waiver amortization installment	0	0

33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount **33**

34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33).....	34	110,646,492
	Carryover balance	Prefunding balance
35 Balances elected for use to offset funding requirement.....	0	0
36 Additional cash requirement (line 34 minus line 35).....	36	110,646,492
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c).....	37	110,646,492
38 Present value of excess contributions for current year (see instructions)		
a Total (excess, if any, of line 37 over line 36)	38a	0
b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances	38b	0
39 Unpaid minimum required contribution for current year (excess, if any, of line 36 over line 37).....	39	0
40 Unpaid minimum required contributions for all years	40	0

Part IX Pension Funding Relief Under Pension Relief Act of 2010 (See Instructions)

41 If an election was made to use PRA 2010 funding relief for this plan:

a Schedule elected 2 plus 7 years 15 years

b Eligible plan year(s) for which the election in line 41a was made 2008 2009 2010 2011

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2018

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C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF SAVANNAH RIVER REMEDIATION	D Employer Identification Number (EIN) 65-1565172	
E Type of plan: <input type="checkbox"/> Single <input checked="" type="checkbox"/> Multiple-A <input type="checkbox"/> Multiple-B		
F Prior year plan size: <input type="checkbox"/> 100 or fewer <input type="checkbox"/> 101-500 <input checked="" type="checkbox"/> More than 500		

Part I Basic Information

1 Enter the valuation date: Month 01 Day 01 Year 2018

2 Assets:		
a Market value.....	2a	743,946,216
b Actuarial value.....	2b	705,314,553

3 Funding target/participant count breakdown	(1) Number of participants	(2) Vested Funding Target	(3) Total Funding Target
a For retired participants and beneficiaries receiving payment.....	2,761	487,451,480	487,451,480
b For terminated vested participants.....	983	55,180,771	55,180,771
c For active participants.....	930	324,768,428	330,064,795
d Total.....	4,674	867,400,679	872,697,046

4 If the plan is in at-risk status, check the box and complete lines (a) and (b).....

a Funding target disregarding prescribed at-risk assumptions.....	4a	
b Funding target reflecting at-risk assumptions, but disregarding transition rule for plans that have been in at-risk status for fewer than five consecutive years and disregarding loading factor.....	4b	

5 Effective interest rate.....	5	5.73%
6 Target normal cost.....	6	21,077,062

Statement by Enrolled Actuary

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**SIGN
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Signature of actuary

DAVID R. JARRETT

Type or print name of actuary

BUCK GLOBAL, LLC

Firm name

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PITTSBURGH PA 15222

Address of the firm

Date

1704821

Most recent enrollment number

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Schedule SB (Form 5500) 2018
v. 171027

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21 Discount rate:

a Segment rates:	1st segment: 3.92 %	2nd segment: 5.52 %	3rd segment: 6.29 %	<input type="checkbox"/> N/A, full yield curve used
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b Applicable month (enter code) **21b** 4

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Part VIII Minimum Required Contribution For Current Year

31 Target normal cost and excess assets (see instructions):

a Target normal cost (line 6)	31a	21,077,062
b Excess assets, if applicable, but not greater than line 31a	31b	0

32 Amortization installments:	Outstanding Balance	Installment
a Net shortfall amortization installment	167,382,493	17,314,592
b Waiver amortization installment	0	0

33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount **33**

34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33).....	34	38,391,654
	Carryover balance	Prefunding balance
35 Balances elected for use to offset funding requirement.....	0	0
36 Additional cash requirement (line 34 minus line 35).....	36	38,391,654
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c).....	37	38,391,654

38 Present value of excess contributions for current year (see instructions)

a Total (excess, if any, of line 37 over line 36)	38a	0
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SCHEDULE SB (Form 5500) <small>Department of the Treasury Internal Revenue Service</small> <small>Department of Labor Employee Benefits Security Administration</small> <small>Pension Benefit Guaranty Corporation</small>	Single-Employer Defined Benefit Plan Actuarial Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6059 of the Internal Revenue Code (the Code). File as an attachment to Form 5500 or 5500-SF.	<small>OMB No. 1210-0110</small> 2018 This Form is Open to Public Inspection
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A Name of plan THE SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC MULTIPLE EMPLOYER PENSION PLAN	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;">B Three-digit plan number (PN) ▶</td> <td style="width:40%; text-align: center;">001</td> </tr> </table>	B Three-digit plan number (PN) ▶	001
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C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;">D Employer Identification Number (EIN)</td> <td style="width:40%; text-align: center;">61-1565172</td> </tr> </table>	D Employer Identification Number (EIN)	61-1565172
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F Prior year plan size: <input type="checkbox"/> 100 or fewer <input type="checkbox"/> 101-500 <input checked="" type="checkbox"/> More than 500			

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1 Enter the valuation date: Month <u>01</u> Day <u>01</u> Year <u>2018</u>			
2 Assets:			
a Market value.....	2a		2,867,371,201
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d Total.....	16,781	3,342,364,408	3,363,550,084
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a Funding target disregarding prescribed at-risk assumptions.....		4a	
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SIGN HERE	DAVID R. JARRETT Signature of actuary	<u>10/7/2019</u> Date 1704821 Most recent enrollment number 412-281-2506 Telephone number (including area code)
	DAVID R. JARRETT Type or print name of actuary BUCK GLOBAL, LLC Firm name 11 STANWIX STREET, SUITE 700 PITTSBURGH PA 15222 Address of the firm	

If the actuary has not fully reflected any regulation or ruling promulgated under the statute in completing this schedule, check the box and see instructions

**Savannah River Nuclear Solutions, LLC
Multiple Employer Pension Plan**

EIN: 61-1565172

PLAN NUMBER: 001

**ATTACHMENT TO SCHEDULE SB OF 2018
FORM 5500**

Schedule SB – Statement by Enrolled Actuary

In preparing this Schedule SB, the actuary relied on other parties for, and applied reasonability tests to, information on assets, contributions, plan provisions and data on people covered by the plan.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, changes expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions, applicable law or regulations. An analysis of the potential range of such future differences is beyond the scope of this report.

**Savannah River Nuclear Solutions, LLC
Multiple Employer Pension Plan**

EIN: 61-1565172

PLAN NUMBER: 001

ATTACHMENT TO SCHEDULE SB OF 2018 FORM 5500

Schedule SB, Part V: Statement of Actuarial Assumptions/Methods

Prescribed Funding/PBGC Assumptions and Methods

The following assumptions and methods are prescribed by ERISA.

Funding interest rates

For 2018 Plan Year: Segment Rates with four-month lookback, constrained in accordance with relevant legislation as follows:

	Unconstrained Rates*	Rates Reflecting Corridor**
First Segment Rate	1.75%	3.92%
Second Segment Rate	3.76%	5.52%
Third Segment Rate	4.66%	6.29%
Effective Rate	4.07%	5.73%

For 2017 Plan Year: Segment Rates with four-month lookback, constrained in accordance with relevant legislation as follows:

	Unconstrained Rates*	Rates Reflecting Corridor**
First Segment Rate	1.52%	4.16%
Second Segment Rate	3.80%	5.72%
Third Segment Rate	4.79%	6.48%
Effective Rate	4.09%	5.89%

*Used for maximum tax-deduction purposes and PBGC premium purposes.

**Used for minimum funding and benefit restriction purposes.

Mortality

Mortality tables mandated by PPA as specified in IRS Regulation 1.430(h)(3)-1, as revised in October 2017, applied on a fully generational basis.

Actuarial cost method

The Funding Target is the present value of accrued benefits based on compensation and service to date. The Target Normal Cost is the present value of benefits expected to be accrued during the current plan year, reflecting the effect of expected compensation increases during the year and including expected plan administrative and investment related expenses to be paid from plan assets during the year.

Non-Prescribed Funding Assumptions and Methods

The following assumptions were selected by the plan's enrolled actuary. The assumptions are chosen based on the experience study done in 2016. The asset valuation method was selected by the plan sponsor with the actuary's advice and is an acceptable method under PPA. The expected asset return is based on an analysis conducted by the plan's investment consultant

Salary increases

Based on actual experience and future expectations. Includes cost-of-living and merit adjustments. Select ages shown.

Age	Current Year
25	7.67%
30	6.09%
35	4.93%
40	4.22%
45	3.92%
50	3.70%
55	3.56%
60	3.50%

Expenses

Expected plan administrative expenses of \$10,968,257 were added to the Target Normal Cost. The expected plan administrative expenses consist of PBGC premiums and administrative expenses anticipated for the plan year.

Frequency of optional payment forms

30% of participants are assumed to elect a single life annuity and 70% are assumed to elect the level income option.

Marital percentage

75% of participants are assumed to be married at death. Husbands are assumed to be 3 years older than their wives.

Retirement rates

Age	Probability of Reduced Retirement	Probability of Unreduced Retirement	Portion Assumed to Receive Optional Retirement Benefits
50	3.00%		5.00%
51	2.00		6.00
52	2.00		7.00
53	3.00		7.00
54	4.00		7.00
55	4.00		8.00
56	5.00		8.00
57	7.00		8.00
58	7.00	20.00%	8.00
59	7.00	16.00	8.00
60	10.00	16.00	8.00
61	13.00	16.00	8.00
62	16.00	22.00	8.00
63	15.00	18.00	8.00
64	15.00	18.00	8.00
65		30.00	7.00
66		30.00	7.00
67		30.00	7.00
68		30.00	7.00
69		30.00	7.00
70		100.00	0.00

Terminated vested participants are assumed to commence receiving benefits the earliest age eligible for unreduced benefits.

Disability rates

Age	Assumption
35	0.03%
40	0.04
45	0.07
50	0.29
55	0.77
60	1.11

Withdrawal rates for active participants not eligible for retirement

Based on actual experience and future expectations. Sample rates as follows:

Age	Assumption
20	13.00%
25	13.00
30	11.60
35	4.90
40	2.70
45	1.80
50	1.90
55	4.80
60	8.80

Asset valuation method

The Actuarial Value of Assets is market value as of the valuation date, including discounted receivable contributions, reduced by 2/3 and 1/3 of the of the gain/(loss) in each of the prior 2 years, respectively. The gain/(loss) for each period is determined as the actual return on market value during the period less the expected return on market value based on an assumed earnings rate chosen by the actuary but required by PPA to be not greater than the applicable third Segment Rate. The resulting value is constrained to be within a corridor of 90% to 110% of market value, including discounted receivable contributions.

	Actuary's Assumption	Third Segment Rate	Reflecting PPA Limit
2018 Expected Return	6.40%	6.29%	6.29%
2017 Expected Return	6.40%	6.48%	6.40%
2016 Expected Return	6.40%	6.65%	6.40%

Future actuarial measurements

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, changes expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions, applicable law or regulations. An analysis of the potential range of such future differences is beyond the scope of this report.

Summary of Changes from the January 1, 2017 Valuation

Prescribed Assumptions: The interest rates and mortality tables were updated to the current rates in accordance with PPA and BBA 2015, including the regulations issued in October 2017 that revised the underlying mortality tables and mortality improvement scales applicable to funding and PBGC purposes from the RP-2000 tables with Mortality Improvement Scale AA to the RP-2014 tables with Mortality Improvement Scale MP-2016.

Non-Prescribed Assumptions: None.

These assumption changes increased the Funding Target approximately \$197,253,000, decreased the plan's AFTAP by 5.0%.

**Savannah River Nuclear Solutions, LLC
Multiple Employer Pension Plan**

EIN: 61-1565172

PLAN NUMBER: 001

ATTACHMENT TO SCHEDULE SB OF 2018 FORM 5500

Schedule SB, Part V – Summary of Plan Provisions

Effective Date

Initially effective as of April 1, 1989 and has periodically been amended since then.

Eligible Employees

Any eligible employee who was a participant of the prior plan on March 31, 1989 became a participant on April 1, 1989. Every other Full Service employee becomes a participant as of date of hire. Every other Limited Service employee becomes a participant upon completion of one year of eligibility service. Participation in the plan was frozen for SRNS employees hired after August 1, 2008. Participation in the plan was frozen for SRR employees hired after July 1, 2009.

Retirement Types

Normal Retirement: Age 65 with 15 years of service.

Early Unreduced Retirement: Attainment of age 58 with combined age and service equal to 85 years or more.

Early Retirement: Age 50 with 15 years of service.

Incapability Retirement: Permanent incapacity after completion of 15 years of service.

Optional Retirement: Involuntary termination for reasons other than discharge for dishonesty, insubordination or other misconduct after completion of 15 years of service and attainment of age 50 or completion of 25 years of service and attainment of age 45. The length of benefit service required for eligibility shall be reduced by 2 months for each month which has elapsed since the employee reached age 45.

Special Window Retirement (effective May 31, 2000): Employees eligible for Normal Retirement or Early Unreduced Retirement no later than September 30, 2000, after adding an additional three years to their age and service. Also, certain other employees were included.

Special Window Retirement (effective April 30, 2002): Employees eligible for Normal Retirement or Early Unreduced Retirement no later than September 30, 2002, after adding an additional six years to their age and/or eligibility service.

Ad hoc Cost of Living Adjustment (effective September 1, 2002): Retirees (and their survivors) who retired prior to May 1, 1999.

Normal Retirement Benefit

The monthly regular pension is the greater of (1), (2) or (3) as follows:

- (1) 1.2% of average monthly pay multiplied by benefit service,
- (2) 1.5% of average monthly pay multiplied by benefit service, minus 50% of the Primary Social Security Benefit, or
- (3) \$9 multiplied by benefit service, plus 10% of average monthly pay accrued on a pro-rata basis prior to attainment of 15 years of benefit service.

Unreduced Early Retirement Benefit

Equal to the normal retirement pension accrued to date of retirement.

Early Retirement Benefit

The monthly regular pension is either:

- (a) a regular pension deferred to age 65 equal to the normal retirement pension accrued to date of retirement; or
- (b) an immediate regular pension equal to the deferred pension as follows:
 - i) If service at retirement is less than or equal to 20 years, 5% for each year prior to age 65 that payments start (50% maximum reduction),
 - ii) If service at retirement is greater than 20 and less than 27, 5% times (85 minus age minus service) up to a maximum of 50%, or
 - iii) If service at retirement is greater than or equal to 27, 5% for each year prior to age 58 that payments commence.

Vested Termination & Benefit

Equal to the normal retirement pension accrued to date of termination, except that under formula (3), a prorated percent of average monthly pay shall be substituted for 10% of average monthly pay when benefit service is less than 15 years.

The pension is payable based on the following table:

Years of Eligibility Service at Termination	Age When Payment May Begin	
	Reduced	Unreduced
Less than 10	Not Available	65 and over
10 through 14	60 through 64	65 and over
15 through 29	50 through 64	65 and over
30 or more	50 through 59	60 and over

Incapability Retirement Benefit

Equal to the normal retirement pension accrued to date of retirement, plus a supplement equal to the greater of 1) 50% of his Primary Social Security Benefit, or 2) \$90 a month. The supplement is payable until the earliest date on which the participant becomes eligible for an old-age benefit or until he starts receiving a disability benefit under the Federal Social Security Act. The supplement is no longer payable for Incapability Retirements occurring after December 31, 2011.

Optional Retirement Benefit

The monthly regular pension is either:

- (a) a regular pension deferred to age 65 equal to the normal retirement pension accrued to date of retirement; or
- (b) an immediate regular pension equal to the deferred pension reduced 5% for each year that the date of retirement precedes the earlier of age 65 or the unreduced early retirement date.

Normal Form of Payment

If the employee is unmarried, the benefit will be payable as a monthly annuity for the life of the employee. If the employee is married, the benefit will be an amount actuarially equivalent to the single life amount, payable as a joint and survivor benefit, where 50% of the payment amount (including any Grandfathered Employer-Paid Post-Retirement Death Benefit) will continue to the spouse upon the death of the employee.

Pre-Retirement Death Benefit

The spouse of a vested participant (active or terminated) who dies prior to entering pay status is entitled to a death benefit on the earliest date the participant would have been eligible to receive a benefit, unless the participant had at least 15 years of service at the time of his death, in which case the death benefit is payable immediately.

The death benefit is equal to 50% of the participant's benefit, reduced for early commencement and for the 50% joint and survivor option.

Grandfathered Employer-Paid Post-Retirement Death Benefit

Participants who accrued service prior to January 1, 2012 and who retire from active service after attaining age 50 with at least 15 years of service are eligible for a grandfathered death benefit payable to the spouse (or minor children if there is no spouse).

The monthly benefit is the greater of:

- (1) .5% of average monthly pay as of December 31, 2011 multiplied by benefit service as of December 31, 2011, or
- (2) \$4 multiplied by benefit service as of December 31, 2011, plus 4% of average monthly pay as of December 31, 2011.

This amount is reduced for early retirement, if applicable.

Summary of Changes from the January 1, 2017 Valuation

None.

**Savannah River Nuclear Solutions, LLC
Multiple Employer Pension Plan**

EIN: 61-1565172

PLAN NUMBER: 001

ATTACHMENT TO SCHEDULE SB OF 2018 FORM 5500

**Schedule SB, Line 15 – Reconciliation of differences between valuation results and
amounts used to calculate AFTAP**

Combined	
Component	Adjustment
Funding Target	None
Actuarial Value of Assets	The difference of \$22,943,744 is attributable to a 2017 Plan Year contribution of \$23,883,436 made on September 14, 2018.
Funding Standard Carryover Balance	None
Prefunding Balance	None

Savannah River Nuclear Solutions	
Component	Adjustment
Funding Target	None
Actuarial Value of Assets	The difference of \$16,661,495 is attributable to a 2017 Plan Year contribution of \$17,343,889 made on September 14, 2018.
Funding Standard Carryover Balance	None
Prefunding Balance	None

Savannah River Remediation

Component	Adjustment
Funding Target	None
Actuarial Value of Assets	The difference of \$6,282,249 is attributable to a 2017 Plan Year contribution of \$6,539,547 made on September 14, 2018.
Funding Standard Carryover Balance	None
Prefunding Balance	None

**Savannah River Nuclear Solutions, LLC
Multiple Employer Pension Plan**

EIN: 61-1565172

PLAN NUMBER: 001

ATTACHMENT TO SCHEDULE SB OF 2018 FORM 5500

Schedule SB, Line 22 – Description of Weighted Average Retirement Age

Combined				
(1) Age	(2) Expected Active Headcount	(3) Retirement Rate	(4) Expected Retirements (2)*(3)	(5) Weighted Age (1)*(4)
50	473.7361	0.0163	7.7223	386.1142
51	599.8503	0.0198	11.8621	604.9677
52	768.5547	0.0198	15.2008	790.4437
53	966.1710	0.0298	28.7624	1,524.4089
54	1,166.9208	0.0399	46.5664	2,514.5877
55	1,360.1189	0.0399	54.2200	2,982.0977
56	1,553.9561	0.0498	77.3801	4,333.2884
57	1,735.2993	0.0697	121.0325	6,898.8512
58	1,856.4374	0.1917	355.9274	20,643.7873
59	1,720.3462	0.1550	266.6363	15,731.5415
60	1,651.9242	0.1572	259.7574	15,585.4412
61	1,591.7555	0.1587	252.6355	15,410.7637
62	1,497.3158	0.2180	326.4279	20,238.5299
63	1,282.2095	0.1789	229.4119	14,452.9499
64	1,149.1628	0.1791	205.7815	13,170.0178
65	1,007.4906	0.2993	301.5275	19,599.2880
66	767.7518	0.3000	230.3255	15,201.4850
67	570.3389	0.3000	171.1017	11,463.8124
68	424.2374	0.3000	127.2712	8,654.4437
69	309.8819	0.3000	92.9646	6,414.5558
70	226.6367	1.0000	226.6367	15,864.5705
71	10.0000	1.0000	10.0000	710.0000
72	7.0000	1.0000	7.0000	504.0000
73	6.0000	1.0000	6.0000	438.0000
74	2.0000	1.0000	2.0000	148.0000
75	5.0000	1.0000	5.0000	375.0000
76	1.0000	1.0000	1.0000	76.0000
77	2.0000	1.0000	2.0000	154.0000
78	1.0000	1.0000	1.0000	78.0000
79	0.0000	1.0000	0.0000	0.0000
80	1.0000	1.0000	1.0000	80.0000
81	0.0000	1.0000	0.0000	0.0000
82	0.0000	1.0000	0.0000	0.0000
83	1.0000	1.0000	1.0000	83.0000
Total			3,445.1518	215,111.9463
WARA:			Total (5) / Total (4) =	62.44 years

**Savannah River Nuclear Solutions, LLC
Multiple Employer Pension Plan**

EIN: 61-1565172

PLAN NUMBER: 001

ATTACHMENT TO SCHEDULE SB OF 2018 FORM 5500

Schedule SB, Line 26 - Schedule of Active Participant Data

Combined Distribution by Age & Service as of January 1, 2018

Age		<1	1-4	5-9	10-14	15-19	20 - 24	25 - 29	30 - 34	35 - 39	40 +
<25	Number	0	0	0	0	0	0	0	0	0	0
	Avg. Salary										
25 - 29	Number	0	0	0	0	0	0	0	0	0	0
	Avg. Salary										
30 - 34	Number	0	0	3	8	0	0	0	0	0	0
	Avg. Salary										
35 - 39	Number	0	0	4	30	26	0	0	0	0	0
	Avg. Salary				\$112 592	\$103 480					
40 - 44	Number	0	0	4	21	76	0	0	0	0	0
	Avg. Salary				\$108 919	\$111 967					
45 - 49	Number	0	0	2	13	63	21	158	0	0	0
	Avg. Salary					\$113 597	\$126 577	\$111 075			
50 - 54	Number	0	0	3	4	61	20	697	197	1	0
	Avg. Salary					\$117 115	\$130 132	\$111 601	\$108 649		
55 - 59	Number	0	0	1	7	43	32	562	463	177	2
	Avg. Salary					\$113 765	\$126 623	\$111 012	\$109 403	\$116 543	
60 - 64	Number	0	0	1	8	38	17	347	184	182	41
	Avg. Salary					\$123 225		\$115 372	\$107 905	\$112 856	\$105 785
65-69	Number	0	0	1	3	14	5	101	25	21	21
	Avg. Salary							\$119 747	\$98 800	\$114 035	\$119 982
70 +	Number	0	0	0	0	4	2	25	6	2	4
	Avg. Salary							\$125 841			
		0	0	19	94	325	97	1 890	875	383	68

Savannah River Nuclear Solutions Distribution by Age & Service as of January 1, 2018

Age		<1	1-4	5-9	10-14	15-19	20 - 24	25 - 29	30 - 34	35 - 39	40 +
<25	Number	0	0	0	0	0	0	0	0	0	0
	Avg. Salary										
25 - 29	Number	0	0	0	0	0	0	0	0	0	0
	Avg. Salary										
30 - 34	Number	0	0	2	8	0	0	0	0	0	0
	Avg. Salary										
35 - 39	Number	0	0	4	22	20	0	0	0	0	0
	Avg. Salary				\$112 150	\$102 809					
40 - 44	Number	0	0	4	19	56	0	0	0	0	0
	Avg. Salary					\$109 936					
45 - 49	Number	0	0	2	12	50	16	107	0	0	0
	Avg. Salary					\$113 498		\$107 742			
50 - 54	Number	0	0	3	4	47	19	479	151	0	0
	Avg. Salary					\$115 185		\$110 142	\$107 689		
55 - 59	Number	0	0	0	4	28	20	407	368	143	2
	Avg. Salary					\$116 192	\$126 290	\$110 518	\$107 166	\$112 435	
60 - 64	Number	0	0	1	6	25	9	265	146	157	35
	Avg. Salary					\$127 175		\$115 854	\$105 239	\$112 263	\$105 389
65-69	Number	0	0	1	1	10	4	76	18	17	18
	Avg. Salary							\$119 820			
70 +	Number	0	0	0	0	3	2	18	6	2	4
	Avg. Salary										
		0	0	17	76	239	70	1 352	689	319	59

Savannah River Remediation Distribution by Age & Service as of January 1, 2018

Age		<1	1-4	5-9	10-14	15-19	20 - 24	25 - 29	30 - 34	35 - 39	40 +
<25	Number	0	0	0	0	0	0	0	0	0	0
	Avg. Salary										
25 - 29	Number	0	0	0	0	0	0	0	0	0	0
	Avg. Salary										
30 - 34	Number	0	0	1	0	0	0	0	0	0	0
	Avg. Salary										
35 - 39	Number	0	0	0	8	6	0	0	0	0	0
	Avg. Salary										
40 - 44	Number	0	0	0	2	20	0	0	0	0	0
	Avg. Salary					\$117 654					
45 - 49	Number	0	0	0	1	13	5	51	0	0	0
	Avg. Salary							\$118 070			
50 - 54	Number	0	0	0	0	14	1	218	46	1	0
	Avg. Salary							\$114 807	\$111 800		
55 - 59	Number	0	0	1	3	15	12	155	95	34	0
	Avg. Salary							\$112 307	\$118 067	\$133 821	
60 - 64	Number	0	0	0	2	13	8	82	38	25	6
	Avg. Salary							\$113 817	\$118 147	\$116 585	
65-69	Number	0	0	0	2	4	1	25	7	4	3
	Avg. Salary							\$119 525			
70 +	Number	0	0	0	0	1	0	7	0	0	0
	Avg. Salary										
		0	0	2	18	86	27	538	186	64	9

**Savannah River Nuclear Solutions, LLC
Multiple Employer Pension Plan**

EIN: 61-1565172

PLAN NUMBER: 001

ATTACHMENT TO SCHEDULE SB OF 2018 FORM 5500

Schedule SB, Line 32 – Schedule of Amortization Bases

Combined					
Date Established	Initial Amount	Type Of Base	Years Remaining	Shortfall Amortization Installment	Present Value of Remaining Installments as of January 1, 2018
January 1, 2010	\$ 446,323,155	Shortfall	7	\$ 44,523,815	\$ 272,734,207
January 1, 2011	206,398,232	Shortfall	8	19,985,736	136,144,945
January 1, 2012	(221,815,164)	Shortfall	1	(37,647,489)	(37,647,489)
January 1, 2013	36,617,102	Shortfall	2	6,111,104	11,991,689
January 1, 2014	(172,655,662)	Shortfall	3	(28,895,475)	(83,457,614)
January 1, 2015	31,272,667	Shortfall	4	5,200,742	19,655,216
January 1, 2016	85,373,277	Shortfall	5	14,105,666	65,404,438
January 1, 2017	72,952,391	Shortfall	6	11,979,650	64,703,993
January 1, 2018	195,546,441	Shortfall	7	<u>31,922,925</u>	<u>195,546,441</u>
Total				\$ 67,286,674	\$ 645,075,826

Elections have been made under the Pension Relief Act of 2010 (PRA) to use the alternative 15-year amortization period for the bases established in 2010 and 2011.

Savannah River Nuclear Solutions

Date Established	Type Of Base	Years Remaining	Shortfall Amortization Installment	Present Value of Remaining Installments as of January 1, 2018
January 1, 2010	Shortfall	7	\$ 32,796,271	\$ 200,896,194
January 1, 2011	Shortfall	8	14,721,506	100,284,454
January 1, 2012	Shortfall	1	(27,731,164)	(27,731,164)
January 1, 2013	Shortfall	2	4,501,443	8,833,086
January 1, 2014	Shortfall	3	(21,284,425)	(61,474,930)
January 1, 2015	Shortfall	4	3,830,411	14,476,311
January 1, 2016	Shortfall	5	10,284,223	47,685,364
January 1, 2017	Shortfall	6	9,006,741	48,646,839
January 1, 2018	Shortfall	7	<u>23,847,076</u>	<u>146,077,180</u>
Total			\$ 49,972,082	\$ 477,693,333

Savannah River Remediation

Date Established	Type Of Base	Years Remaining	Shortfall Amortization Installment	Present Value of Remaining Installments as of January 1, 2018
January 1, 2010	Shortfall	7	\$ 11,727,544	\$ 71,838,013
January 1, 2011	Shortfall	8	5,264,230	35,860,491
January 1, 2012	Shortfall	1	(9,916,325)	(9,916,325)
January 1, 2013	Shortfall	2	1,609,661	3,158,603
January 1, 2014	Shortfall	3	(7,611,050)	(21,982,683)
January 1, 2015	Shortfall	4	1,370,331	5,178,906
January 1, 2016	Shortfall	5	3,821,443	17,719,074
January 1, 2017	Shortfall	6	2,972,909	16,057,154
January 1, 2018	Shortfall	7	<u>8,075,849</u>	<u>49,469,260</u>
Total			\$ 17,314,592	\$ 167,382,493