

Form 5500 Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Annual Return/Report of Employee Benefit Plan This form is required to be filed for employee benefit plans under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and sections 6057(b) and 6058(a) of the Internal Revenue Code (the Code). ▶ Complete all entries in accordance with the instructions to the Form 5500.	OMB Nos. 1210-0110 1210-0089 2020 This Form is Open to Public Inspection
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Part I	Annual Report Identification Information
For calendar plan year 2020 or fiscal plan year beginning <u>01/01/2018</u> and ending <u>12/31/2018</u>	
A This return/report is for:	☐ a multiemployer plan ☐ a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.) ☒ a single-employer plan ☐ a DFE (specify) _____
B This return/report is:	☐ the first return/report ☐ the final return/report ☒ an amended return/report ☐ a short plan year return/report (less than 12 months)
C If the plan is a collectively-bargained plan, check here.	☐
D Check box if filing under:	☒ Form 5558 ☐ automatic extension ☒ the DFVC program ☐ special extension (enter description)

Part II	Basic Plan Information —enter all requested information				
1a Name of plan <u>AMERICAN ELECTRIC POWER SYSTEM RETIREMENT PLAN</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">1b Three-digit plan number (PN) ▶</td> <td style="width: 20%; text-align: center;"><u>001</u></td> </tr> <tr> <td colspan="2">1c Effective date of plan <u>12/01/1940</u></td> </tr> </table>	1b Three-digit plan number (PN) ▶	<u>001</u>	1c Effective date of plan <u>12/01/1940</u>	
1b Three-digit plan number (PN) ▶	<u>001</u>				
1c Effective date of plan <u>12/01/1940</u>					
2a Plan sponsor's name (employer, if for a single-employer plan) Mailing address (include room, apt., suite no. and street, or P.O. Box) City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions) <u>AMERICAN ELECTRIC POWER SERVICE CORPORATION</u> <u>1 RIVERSIDE PLAZA</u> <u>COLUMBUS, OH 43215</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>2b Employer Identification Number (EIN) <u>13-4922641</u></td> </tr> <tr> <td>2c Plan Sponsor's telephone number <u>614-716-1000</u></td> </tr> <tr> <td>2d Business code (see instructions) <u>221100</u></td> </tr> </table>	2b Employer Identification Number (EIN) <u>13-4922641</u>	2c Plan Sponsor's telephone number <u>614-716-1000</u>	2d Business code (see instructions) <u>221100</u>	
2b Employer Identification Number (EIN) <u>13-4922641</u>					
2c Plan Sponsor's telephone number <u>614-716-1000</u>					
2d Business code (see instructions) <u>221100</u>					

Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.

Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including accompanying schedules, statements and attachments, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.

SIGN HERE	Filed with authorized/valid electronic signature.	09/24/2021	JULIE SLOAT
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE			
	Signature of employer/plan sponsor	Date	Enter name of individual signing as employer or plan sponsor
SIGN HERE			
	Signature of DFE	Date	Enter name of individual signing as DFE

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

Form 5500 (2020)
v. 200204

3a Plan administrator's name and address ☒ Same as Plan Sponsor		3b Administrator's EIN	
		3c Administrator's telephone number	
4 If the name and/or EIN of the plan sponsor or the plan name has changed since the last return/report filed for this plan, enter the plan sponsor's name, EIN, the plan name and the plan number from the last return/report: a Sponsor's name c Plan Name		4b EIN 4d PN	
5 Total number of participants at the beginning of the plan year		5	35647
6 Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines 6a(1) , 6a(2) , 6b , 6c , and 6d).			
a(1) Total number of active participants at the beginning of the plan year.....		6a(1)	16796
a(2) Total number of active participants at the end of the plan year		6a(2)	16673
b Retired or separated participants receiving benefits.....		6b	11677
c Other retired or separated participants entitled to future benefits		6c	3535
d Subtotal. Add lines 6a(2) , 6b , and 6c		6d	31885
e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.		6e	3529
f Total. Add lines 6d and 6e		6f	35414
g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)		6g	
h Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested		6h	107
7 Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item).....		7	
8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions: 1C 3H 1A 3F 1E			
b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:			
9a Plan funding arrangement (check all that apply) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor		9b Plan benefit arrangement (check all that apply) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor	
10 Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)			
a Pension Schedules (1) ☒ R (Retirement Plan Information) (2) ☐ MB (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary (3) ☒ SB (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary		b General Schedules (1) ☒ H (Financial Information) (2) ☐ I (Financial Information – Small Plan) (3) ☐ A (Insurance Information) (4) ☒ C (Service Provider Information) (5) ☒ D (DFE/Participating Plan Information) (6) ☐ G (Financial Transaction Schedules)	

Part III Form M-1 Compliance Information (to be completed by welfare benefit plans)

11a If the plan provides welfare benefits, was the plan subject to the Form M-1 filing requirements during the plan year? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

If "Yes" is checked, complete lines 11b and 11c.

11b Is the plan currently in compliance with the Form M-1 filing requirements? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

11c Enter the Receipt Confirmation Code for the 2020 Form M-1 annual report. If the plan was not required to file the 2020 Form M-1 annual report, enter the Receipt Confirmation Code for the most recent Form M-1 that was required to be filed under the Form M-1 filing requirements. (Failure to enter a valid Receipt Confirmation Code will subject the Form 5500 filing to rejection as incomplete.)

Receipt Confirmation Code _____

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 2020 This Form is Open to Public Inspection
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For calendar plan year 2020 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 <u>AMERICAN ELECTRIC POWER SYSTEM RETIREMENT PLAN</u>	B Three-digit plan number (PN) ▶ <u>001</u>
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF <u>AMERICAN ELECTRIC POWER SERVICE CORPORATION</u>	D Employer Identification Number (EIN) <u>13-4922641</u>

E Type of plan: ☒ Single ☐ Multiple-A ☐ Multiple-B	F Prior year plan size: ☐ 100 or fewer ☐ 101-500 ☒ More than 500
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Part I	Basic Information
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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	<u>5183145851</u>	
b Actuarial value	2b	<u>5129602801</u>	
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.....	<u>15255</u>	<u>2221473200</u>	<u>2221473200</u>
b For terminated vested participants.....	<u>3596</u>	<u>225854745</u>	<u>225854745</u>
c For active participants	<u>16796</u>	<u>1663602223</u>	<u>1681343034</u>
d Total.....	<u>35647</u>	<u>4110930168</u>	<u>4128670979</u>
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	<u>5.59</u> %	
6 Target normal cost.....	6	<u>92185812</u>	

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		<u>07/02/2019</u>
Signature of actuary		Date
<u>JOSEPH A. PERKO</u>		<u>17-06491</u>
Type or print name of actuary		Most recent enrollment number
<u>WILLIS TOWERS WATSON US LLC</u>		<u>216-937-4000</u>
Firm name		Telephone number (including area code)
<u>1001 LAKESIDE AVENUE, SUITE 1500</u> <u>CLEVELAND, OH 44114-1172</u>		
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) 2020
v. 200204

Part II Beginning of Year Carryover and Prefunding Balances

	(a) Carryover balance	(b) Prefunding balance
7 Balance at beginning of prior year after applicable adjustments (line 13 from prior year)	152206815	611820254
8 Portion elected for use to offset prior year's funding requirement (line 35 from prior year)		
9 Amount remaining (line 7 minus line 8)	152206815	611820254
10 Interest on line 9 using prior year's actual return of <u>12.98</u> %	19756445	79414269
11 Prior year's excess contributions to be added to prefunding balance:		
a Present value of excess contributions (line 38a from prior year)		91834387
b(1) Interest on the excess, if any, of line 38a over line 38b from prior year Schedule SB, using prior year's effective interest rate of <u>5.80</u> %		5326394
b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		
c Total available at beginning of current plan year to add to prefunding balance		97160781
d Portion of (c) to be added to prefunding balance		45548227
12 Other reductions in balances due to elections or deemed elections		
13 Balance at beginning of current year (line 9 + line 10 + line 11d – line 12)	171963260	736782750

Part III Funding Percentages

14 Funding target attainment percentage	14	102.23 %
15 Adjusted funding target attainment percentage	15	124.24 %
16 Prior year's funding percentage for purposes of determining whether carryover/prefunding balances may be used to reduce current year's funding requirement	16	105.86 %
17 If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage	17	%

Part IV Contributions and Liquidity Shortfalls**18** Contributions made to the plan for the plan year by employer(s) and employees:

(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees	(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees
Totals ▶			18(b)	0	18(c) 0

19 Discounted employer contributions – see instructions for small plan with a valuation date after the beginning of the year:

a Contributions allocated toward unpaid minimum required contributions from prior years	19a	
b Contributions made to avoid restrictions adjusted to valuation date	19b	
c Contributions allocated toward minimum required contribution for current year adjusted to valuation date	19c	

20 Quarterly contributions and liquidity shortfalls:

- a** Did the plan have a "funding shortfall" for the prior year? ☐ Yes ☒ No
- b** If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? ☐ Yes ☐ No
- c** If line 20a is "Yes," see instructions and complete the following table as applicable:

Liquidity shortfall as of end of quarter of this plan year			
(1) 1st	(2) 2nd	(3) 3rd	(4) 4th

Part V	Assumptions Used to Determine Funding Target and Target Normal Cost
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21 Discount rate:			
a Segment rates:	1st segment: 3.92 %	2nd segment: 5.52 %	3rd segment: 6.29 % ☐ N/A, full yield curve used
b Applicable month (enter code)	21b		3
22 Weighted average retirement age	22		64
23 Mortality table(s) (see instructions) ☐ Prescribed - combined ☐ Prescribed - separate ☐ Substitute			

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

Part VIII	Minimum Required Contribution For Current Year
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31 Target normal cost and excess assets (see instructions):			
a Target normal cost (line 6)	31a	92185812	
b Excess assets, if applicable, but not greater than line 31a	31b	92185812	
32 Amortization installments:	Outstanding Balance		Installment
a Net shortfall amortization installment			
b Waiver amortization installment			
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	0	
	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement			0
36 Additional cash requirement (line 34 minus line 35)	36	0	
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	37		
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		
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)
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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

SCHEDULE C (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Service Provider Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ▶ File as an attachment to Form 5500.	OMB No. 1210-0110
		2020
		This Form is Open to Public Inspection.

For calendar plan year 2020 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018		
A Name of plan AMERICAN ELECTRIC POWER SYSTEM RETIREMENT PLAN	B Three-digit plan number (PN) ▶	001
C Plan sponsor's name as shown on line 2a of Form 5500 AMERICAN ELECTRIC POWER SERVICE CORPORATION	D Employer Identification Number (EIN) 13-4922641	

Part I	Service Provider Information (see instructions)
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You must complete this Part, in accordance with the instructions, to report the information required for **each person** who received, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of monetary value) in connection with services rendered to the plan or the person's position with the plan during the plan year. If a person received **only** eligible indirect compensation for which the plan received the required disclosures, you are required to answer line 1 but are not required to include that person when completing the remainder of this Part.

1 Information on Persons Receiving Only Eligible Indirect Compensation

- a** Check "Yes" or "No" to indicate whether you are excluding a person from the remainder of this Part because they received only eligible indirect compensation for which the plan received the required disclosures (see instructions for definitions and conditions).. ☒ Yes ☐ No
- b** If you answered line 1a "Yes," enter the name and EIN or address of each person providing the required disclosures for the service providers who received only eligible indirect compensation. Complete as many entries as needed (see instructions).

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation
HAMILTON LANE
23-2962336

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation
TOWNSEND GROUP
45-3073569

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation
JP MORGAN CHASE BANK
13-4994650

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation

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2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

EDINBURGH PARTNERS

12 CHARLOTTE SQUARE
EDINBURGH, SCOTLAND EH24DJ GB

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
28 50 51 68 71	NONE	1490134	Yes ☒ No ☐	Yes ☒ No ☐	0	Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

JENNISON ASSOCIATES

52-2069785

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
28 50 51	NONE	1358091	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

SANDS CAPITAL MANAGEMENT

20-2830751

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
28 50 51 68	NONE	1315740	Yes ☒ No ☐	Yes ☒ No ☐	0	Yes ☐ No ☐

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

HAMILTON LANE

23-2962336

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
28 50 51	NONE	1153125	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

J.P.MORGAN INVESTMENT MANAGEMENT

13-3200244

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
27 28 50 51	NONE	1150128	Yes ☒ No ☐	Yes ☒ No ☐	0	Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

WELLINGTON

04-2683227

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
28 50 51	NONE	1143999	Yes ☒ No ☐	Yes ☒ No ☐	0	Yes ☐ No ☐

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

MERCER

20-1932099

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
13 15 38 50	NONE	1118004	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

TEMPLETON INVESTMENT COUNCIL LLC

94-3385113

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
28 50 51 68	NONE	1045361	Yes ☒ No ☐	Yes ☒ No ☐	0	Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

NISA INVESTMENT ADVISORS

48-1140940

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
28 50 51	NONE	1027329	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

VONTOBEL

13-3223264

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
28 50 51	NONE	1003234	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

BNY MELLON

13-5160382

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
18 19 21 25 31 34 49 50 62	NONE	769988	Yes ☒ No ☐	Yes ☒ No ☐	0	Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

TOWNSEND

45-3073569

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
28 50 51	NONE	677468	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

STONE HARBOR INVESTMENT PARTNERS LP

31 WEST 52ND STREET, 16TH FLOOR
NEW YORK, NY 10019

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
28 50 51	NONE	300257	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

MELLON CAPITAL MANAGEMENT

25-1442864

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
28 50 51	NONE	288898	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

TOWERS WATSON INVESTMENT SERVICES

52-1868818

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
16 27 50 70	NONE	205105	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

POLARIS CAPITAL MANAGEMENT

04-3269043

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
25 50 51	NONE	186027	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

TOWERS WATSON ACTUARY SERVICE

53-0181291

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
11 17 50 70	NONE	83366	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

PLANTE MORAN

38-1357951

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
10 16 50 70	NONE	73900	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

ARIEL INVESTMENTS, LLC

02-0712418

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
28 50 51	NONE	67406	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

BROOKFIELD ASSET MANAGEMENT

13-3519673

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
25 50 51	NONE	12000	Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

DELOITTE & TOUCHE LLP

13-3891517

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
10 16 50 70	NONE	8881	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

Part I Service Provider Information (continued)

3. If you reported on line 2 receipt of indirect compensation, other than eligible indirect compensation, by a service provider, and the service provider is a fiduciary or provides contract administrator, consulting, custodial, investment advisory, investment management, broker, or recordkeeping services, answer the following questions for (a) each source from whom the service provider received \$1,000 or more in indirect compensation and (b) each source for whom the service provider gave you a formula used to determine the indirect compensation instead of an amount or estimated amount of the indirect compensation. Complete as many entries as needed to report the required information for each source.

(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	

Part II Service Providers Who Fail or Refuse to Provide Information

4 Provide, to the extent possible, the following information for each service provider who failed or refused to provide the information necessary to complete this Schedule.

(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide

Part III Termination Information on Accountants and Enrolled Actuaries (see instructions)
(complete as many entries as needed)

a Name:	PLANTE MORAN	b EIN:	38-1357951
c Position:	AUDITOR		
d Address:	250 S HIGH ST SUITE 100 COLUMBUS, OH 43215	e Telephone:	614-222-9058

Explanation: FIRM RESIGNED ON 11/19/18 AFTER IDENTIFYING POTENTIAL INDEPENDENCE ISSUES

a Name:		b EIN:	
c Position:			
d Address:		e Telephone:	

Explanation:

a Name:		b EIN:	
c Position:			
d Address:		e Telephone:	

Explanation:

a Name:		b EIN:	
c Position:			
d Address:		e Telephone:	

Explanation:

a Name:		b EIN:	
c Position:			
d Address:		e Telephone:	

Explanation:

SCHEDULE D (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration	DFE/Participating Plan Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ► File as an attachment to Form 5500.	OMB No. 1210-0110 2020 This Form is Open to Public Inspection.
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For calendar plan year 2020 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

A Name of plan <u>AMERICAN ELECTRIC POWER SYSTEM RETIREMENT PLAN</u>	B Three-digit plan number (PN) ►	<u>001</u>
C Plan or DFE sponsor's name as shown on line 2a of Form 5500 <u>AMERICAN ELECTRIC POWER SERVICE CORPORATION</u>	D Employer Identification Number (EIN) <u>13-4922641</u>	

Part I	Information on interests in MTIAs, CCTs, PSAs, and 103-12 IEs (to be completed by plans and DFEs) (Complete as many entries as needed to report all interests in DFEs)
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a Name of MTIA, CCT, PSA, or 103-12 IE: CPTF LONG DURATION INVESTMENT GRADE

b Name of sponsor of entity listed in (a): JP MORGAN CHASE BANK, N.A.

c EIN-PN <u>26-0199869-001</u>	d Entity code <u>C</u>	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) <u>154609375</u>
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a Name of MTIA, CCT, PSA, or 103-12 IE: EB TEMPORARY INVESTMENT

b Name of sponsor of entity listed in (a): THE BANK OF NEW YORK MELLON

c EIN-PN <u>25-6078093-023</u>	d Entity code <u>C</u>	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) <u>9550023</u>
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a Name of MTIA, CCT, PSA, or 103-12 IE: CPTF SPECIAL SITUATION PROPERTY

b Name of sponsor of entity listed in (a): JP MORGAN CHASE BANK, N.A.

c EIN-PN <u>13-3980309-001</u>	d Entity code <u>C</u>	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) <u>18400599</u>
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a Name of MTIA, CCT, PSA, or 103-12 IE: EB DV ACWI FUND

b Name of sponsor of entity listed in (a): THE BANK OF NEW YORK MELLON

c EIN-PN <u>25-6078093-191</u>	d Entity code <u>C</u>	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) <u>458181265</u>
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a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
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a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
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a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
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a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
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a Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
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103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)

Part II Information on Participating Plans (to be completed by DFEs)

(Complete as many entries as needed to report all participating plans)

a Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN

SCHEDULE H (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Financial Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA), and section 6058(a) of the Internal Revenue Code (the Code). ► File as an attachment to Form 5500.	OMB No. 1210-0110 2020 This Form is Open to Public Inspection
For calendar plan year 2020 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018		
A Name of plan AMERICAN ELECTRIC POWER SYSTEM RETIREMENT PLAN	B Three-digit plan number (PN) ►	001
C Plan sponsor's name as shown on line 2a of Form 5500 AMERICAN ELECTRIC POWER SERVICE CORPORATION	D Employer Identification Number (EIN) 13-4922641	

Part I Asset and Liability Statement			
1 Current value of plan assets and liabilities at the beginning and end of the plan year. Combine the value of plan assets held in more than one trust. Report the value of the plan's interest in a commingled fund containing the assets of more than one plan on a line-by-line basis unless the value is reportable on lines 1c(9) through 1c(14). Do not enter the value of that portion of an insurance contract which guarantees, during this plan year, to pay a specific dollar benefit at a future date. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 1b(1), 1b(2), 1c(8), 1g, 1h, and 1i. CCTs, PSAs, and 103-12 IEs also do not complete lines 1d and 1e. See instructions.			
Assets		(a) Beginning of Year	(b) End of Year
a Total noninterest-bearing cash.....	1a	67589	
b Receivables (less allowance for doubtful accounts):			
(1) Employer contributions	1b(1)		
(2) Participant contributions.....	1b(2)		
(3) Other	1b(3)	69967669	132894783
c General investments:			
(1) Interest-bearing cash (include money market accounts & certificates of deposit)	1c(1)	36082032	43033471
(2) U.S. Government securities	1c(2)	1859078524	1576804248
(3) Corporate debt instruments (other than employer securities):			
(A) Preferred	1c(3)(A)	801461300	
(B) All other	1c(3)(B)	824249884	1392858466
(4) Corporate stocks (other than employer securities):			
(A) Preferred	1c(4)(A)		
(B) Common	1c(4)(B)	923579052	661829557
(5) Partnership/joint venture interests	1c(5)	758024880	734547413
(6) Real estate (other than employer real property)	1c(6)		
(7) Loans (other than to participants)	1c(7)		
(8) Participant loans	1c(8)		
(9) Value of interest in common/collective trusts	1c(9)	778338943	640741264
(10) Value of interest in pooled separate accounts	1c(10)		
(11) Value of interest in master trust investment accounts	1c(11)		
(12) Value of interest in 103-12 investment entities	1c(12)		
(13) Value of interest in registered investment companies (e.g., mutual funds)	1c(13)		
(14) Value of funds held in insurance company general account (unallocated contracts).....	1c(14)		
(15) Other.....	1c(15)	147309369	296078490

		(a) Beginning of Year	(b) End of Year
1d Employer-related investments:			
(1) Employer securities.....	1d(1)		
(2) Employer real property.....	1d(2)		
e Buildings and other property used in plan operation	1e		
f Total assets (add all amounts in lines 1a through 1e)	1f	6198159242	5478787692

Liabilities

g Benefit claims payable	1g		
h Operating payables	1h	6211571	103251041
i Acquisition indebtedness.....	1i		
j Other liabilities.....	1j	543510962	269520434
k Total liabilities (add all amounts in lines 1g through 1j)	1k	549722533	372771475

Net Assets

l Net assets (subtract line 1k from line 1f)	1l	5648436709	5106016217
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Part II Income and Expense Statement

2 Plan income, expenses, and changes in net assets for the year. Include all income and expenses of the plan, including any trust(s) or separately maintained fund(s) and any payments/receipts to/from insurance carriers. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 2a, 2b(1)(E), 2e, 2f, and 2g.

Income

		(a) Amount	(b) Total
a Contributions:			
(1) Received or receivable in cash from: (A) Employers	2a(1)(A)	0	
(B) Participants	2a(1)(B)	0	
(C) Others (including rollovers).....	2a(1)(C)	0	
(2) Noncash contributions	2a(2)	0	
(3) Total contributions. Add lines 2a(1)(A) , (B) , (C) , and line 2a(2)	2a(3)		0
b Earnings on investments:			
(1) Interest:			
(A) Interest-bearing cash (including money market accounts and certificates of deposit).....	2b(1)(A)	-928	
(B) U.S. Government securities	2b(1)(B)	34608913	
(C) Corporate debt instruments	2b(1)(C)	60800727	
(D) Loans (other than to participants)	2b(1)(D)	0	
(E) Participant loans.....	2b(1)(E)	0	
(F) Other	2b(1)(F)	3327011	
(G) Total interest. Add lines 2b(1)(A) through (F)	2b(1)(G)		98735723
(2) Dividends: (A) Preferred stock.....	2b(2)(A)	41263	
(B) Common stock	2b(2)(B)	15745741	
(C) Registered investment company shares (e.g. mutual funds).....	2b(2)(C)	3456	
(D) Total dividends. Add lines 2b(2)(A) , (B) , and (C)	2b(2)(D)		15790460
(3) Rents	2b(3)		0
(4) Net gain (loss) on sale of assets: (A) Aggregate proceeds	2b(4)(A)	4814833507	
(B) Aggregate carrying amount (see instructions).....	2b(4)(B)	4777123082	
(C) Subtract line 2b(4)(B) from line 2b(4)(A) and enter result	2b(4)(C)		37710425
(5) Unrealized appreciation (depreciation) of assets: (A) Real estate	2b(5)(A)	0	
(B) Other	2b(5)(B)	-237276258	
(C) Total unrealized appreciation of assets. Add lines 2b(5)(A) and (B)	2b(5)(C)		-237276258

		(a) Amount	(b) Total
(6) Net investment gain (loss) from common/collective trusts.....	2b(6)		-49446084
(7) Net investment gain (loss) from pooled separate accounts.....	2b(7)		0
(8) Net investment gain (loss) from master trust investment accounts	2b(8)		0
(9) Net investment gain (loss) from 103-12 investment entities	2b(9)		
(10) Net investment gain (loss) from registered investment companies (e.g., mutual funds)	2b(10)		-56674
c Other income	2c		16168805
d Total income. Add all income amounts in column (b) and enter total.....	2d		-118373603

Expenses

e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers.....	2e(1)	373338227	
(2) To insurance carriers for the provision of benefits	2e(2)	0	
(3) Other.....	2e(3)	32169825	
(4) Total benefit payments. Add lines 2e(1) through (3)	2e(4)		405508052
f Corrective distributions (see instructions)	2f		0
g Certain deemed distributions of participant loans (see instructions).....	2g		0
h Interest expense.....	2h		0
i Administrative expenses: (1) Professional fees	2i(1)	140823	
(2) Contract administrator fees	2i(2)	0	
(3) Investment advisory and management fees	2i(3)	12010738	
(4) Other.....	2i(4)	6387276	
(5) Total administrative expenses. Add lines 2i(1) through (4)	2i(5)		18538837
j Total expenses. Add all expense amounts in column (b) and enter total.....	2j		424046889

Net Income and Reconciliation

k Net income (loss). Subtract line 2j from line 2d	2k		-542420492
l Transfers of assets:			
(1) To this plan.....	2l(1)		0
(2) From this plan	2l(2)		0

Part III Accountant's Opinion

3 Complete lines 3a through 3c if the opinion of an independent qualified public accountant is attached to this Form 5500. Complete line 3d if an opinion is not attached.

a The attached opinion of an independent qualified public accountant for this plan is (see instructions):

(1) ☐ Unmodified (2) ☐ Qualified (3) ☒ Disclaimer (4) ☐ Adverse

b Check the appropriate box(es) to indicate whether the IQPA performed an ERISA section 103(a)(3)(C) audit. Check both boxes (1) and (2) if the audit was performed pursuant to both 29 CFR 2520.103-8 and 29 CFR 2520.103-12(d). Check box (3) if pursuant to neither.

(1) ☒ DOL Regulation 2520.103-8 (2) ☐ DOL Regulation 2520.103-12(d) (3) ☐ neither DOL Regulation 2520.103-8 nor DOL Regulation 2520.103-12(d).

c Enter the name and EIN of the accountant (or accounting firm) below:

(1) Name: PRICEWATERHOUSECOOPERS LLP

(2) EIN: 13-4008324

d The opinion of an independent qualified public accountant is **not attached** because:

(1) ☐ This form is filed for a CCT, PSA, or MTIA. (2) ☐ It will be attached to the next Form 5500 pursuant to 29 CFR 2520.104-50.

Part IV Compliance Questions

4 CCTs and PSAs do not complete Part IV. MTIAs, 103-12 IEs, and GIAs do not complete lines 4a, 4e, 4f, 4g, 4h, 4k, 4m, 4n, or 5. 103-12 IEs also do not complete lines 4j and 4l. MTIAs also do not complete line 4l.

During the plan year:

a Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? Continue to answer "Yes" for any prior year failures until fully corrected. (See instructions and DOL's Voluntary Fiduciary Correction Program.)

	Yes	No	Amount
4a		X	

	Yes	No	Amount
b Were any loans by the plan or fixed income obligations due the plan in default as of the close of the plan year or classified during the year as uncollectible? Disregard participant loans secured by participant's account balance. (Attach Schedule G (Form 5500) Part I if "Yes" is checked.)			
4b		X	
c Were any leases to which the plan was a party in default or classified during the year as uncollectible? (Attach Schedule G (Form 5500) Part II if "Yes" is checked.)			
4c		X	
d Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a. Attach Schedule G (Form 5500) Part III if "Yes" is checked.)			
4d		X	
e Was this plan covered by a fidelity bond?	X		35000000
f Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?		X	
4f		X	
g Did the plan hold any assets whose current value was neither readily determinable on an established market nor set by an independent third party appraiser?			
4g		X	
h Did the plan receive any noncash contributions whose value was neither readily determinable on an established market nor set by an independent third party appraiser?			
4h		X	
i Did the plan have assets held for investment? (Attach schedule(s) of assets if "Yes" is checked, and see instructions for format requirements.)	X		
4i	X		
j Were any plan transactions or series of transactions in excess of 5% of the current value of plan assets? (Attach schedule of transactions if "Yes" is checked and see instructions for format requirements.)	X		
4j	X		
k Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?		X	
4k		X	
l Has the plan failed to provide any benefit when due under the plan?		X	
4l		X	
m If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)			
4m			
n If 4m was answered "Yes," check the "Yes" box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3.			
4n			

5a Has a resolution to terminate the plan been adopted during the plan year or any prior plan year? ☐ Yes ☒ No
If "Yes," enter the amount of any plan assets that reverted to the employer this year _____.

5b If, during this plan year, any assets or liabilities were transferred from this plan to another plan(s), identify the plan(s) to which assets or liabilities were transferred. (See instructions.)

5b(1) Name of plan(s)	5b(2) EIN(s)	5b(3) PN(s)

5c Was the plan a defined benefit plan covered under the PBGC insurance program at any time during this plan year? (See ERISA section 4021 and instructions.) ☒ Yes ☐ No ☐ Not determined
If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year 4182637.

SCHEDULE R (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Retirement Plan Information This schedule is required to be filed under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6058(a) of the Internal Revenue Code (the Code). ▶ File as an attachment to Form 5500.	OMB No. 1210-0110 2020 This Form is Open to Public Inspection.
For calendar plan year 2020 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018		
A Name of plan AMERICAN ELECTRIC POWER SYSTEM RETIREMENT PLAN		B Three-digit plan number (PN) ▶ 001
C Plan sponsor's name as shown on line 2a of Form 5500 AMERICAN ELECTRIC POWER SERVICE CORPORATION		D Employer Identification Number (EIN) 13-4922641
Part I	Distributions	
All references to distributions relate only to payments of benefits during the plan year.		
1 Total value of distributions paid in property other than in cash or the forms of property specified in the instructions.....		1 0
2 Enter the EIN(s) of payor(s) who paid benefits on behalf of the plan to participants or beneficiaries during the year (if more than two, enter EINs of the two payors who paid the greatest dollar amounts of benefits): EIN(s): 13-5160382		
Profit-sharing plans, ESOPs, and stock bonus plans, skip line 3.		
3 Number of participants (living or deceased) whose benefits were distributed in a single sum, during the plan year		3 896
Part II	Funding Information (If the plan is not subject to the minimum funding requirements of section 412 of the Internal Revenue Code or ERISA section 302, skip this Part.)	
4 Is the plan administrator making an election under Code section 412(d)(2) or ERISA section 302(d)(2)? ☐ Yes ☒ No ☐ N/A		
If the plan is a defined benefit plan, go to line 8.		
5 If a waiver of the minimum funding standard for a prior year is being amortized in this plan year, see instructions and enter the date of the ruling letter granting the waiver. Date: Month _____ Day _____ Year _____		
If you completed line 5, complete lines 3, 9, and 10 of Schedule MB and do not complete the remainder of this schedule.		
6 a Enter the minimum required contribution for this plan year (include any prior year accumulated funding deficiency not waived)		6a
b Enter the amount contributed by the employer to the plan for this plan year		6b
c Subtract the amount in line 6b from the amount in line 6a. Enter the result (enter a minus sign to the left of a negative amount).....		6c
If you completed line 6c, skip lines 8 and 9.		
7 Will the minimum funding amount reported on line 6c be met by the funding deadline? ☐ Yes ☐ No ☐ N/A		
8 If a change in actuarial cost method was made for this plan year pursuant to a revenue procedure or other authority providing automatic approval for the change or a class ruling letter, does the plan sponsor or plan administrator agree with the change? ☐ Yes ☐ No ☒ N/A		
Part III	Amendments	
9 If this is a defined benefit pension plan, were any amendments adopted during this plan year that increased or decreased the value of benefits? If yes, check the appropriate box. If no, check the "No" box..... ☐ Increase ☐ Decrease ☐ Both ☒ No		
Part IV	ESOPs (see instructions). If this is not a plan described under section 409(a) or 4975(e)(7) of the Internal Revenue Code, skip this Part.	
10 Were unallocated employer securities or proceeds from the sale of unallocated securities used to repay any exempt loan? ☐ Yes ☐ No		
11 a Does the ESOP hold any preferred stock? ☐ Yes ☐ No		
b If the ESOP has an outstanding exempt loan with the employer as lender, is such loan part of a "back-to-back" loan? (See instructions for definition of "back-to-back" loan.) ☐ Yes ☐ No		
12 Does the ESOP hold any stock that is not readily tradable on an established securities market? ☐ Yes ☐ No		
For Paperwork Reduction Act Notice, see the Instructions for Form 5500.		
Schedule R (Form 5500) 2020 v. 200204		

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that contributed more than 5% of total contributions to the plan during the plan year (measured in dollars). See instructions. *Complete as many entries as needed to report all applicable employers.*

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

- 14** Enter the number of deferred vested and retired participants (inactive participants), as of the beginning of the plan year, whose contributing employer is no longer making contributions to the plan for:

a The current plan year. Check the box to indicate the counting method used to determine the number of inactive participants: ☐ last contributing employer ☐ alternative ☐ reasonable approximation (see instructions for required attachment).....

b The plan year immediately preceding the current plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment).....

c The second preceding plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment).....

14a	
14b	
14c	

- 15** Enter the ratio of the number of participants under the plan on whose behalf no employer had an obligation to make an employer contribution during the current plan year to:

a The corresponding number for the plan year immediately preceding the current plan year.....

b The corresponding number for the second preceding plan year.....

15a	
15b	

- 16** Information with respect to any employers who withdrew from the plan during the preceding plan year:

a Enter the number of employers who withdrew during the preceding plan year.....

b If line 16a is greater than 0, enter the aggregate amount of withdrawal liability assessed or estimated to be assessed against such withdrawn employers.....

16a	
16b	

- 17** If assets and liabilities from another plan have been transferred to or merged with this plan during the plan year, check box and see instructions regarding supplemental information to be included as an attachment. ☐

Part VI Additional Information for Single-Employer and Multiemployer Defined Benefit Pension Plans

- 18** If any liabilities to participants or their beneficiaries under the plan as of the end of the plan year consist (in whole or in part) of liabilities to such participants and beneficiaries under two or more pension plans as of immediately before such plan year, check box and see instructions regarding supplemental information to be included as an attachment..... ☐

- 19** If the total number of participants is 1,000 or more, complete lines (a) through (c)

a Enter the percentage of plan assets held as:
 Stock: 22 % Investment-Grade Debt: 61 % High-Yield Debt: 3 % Real Estate: 5 % Other: 9 %

b Provide the average duration of the combined investment-grade and high-yield debt:
☐ 0-3 years ☐ 3-6 years ☐ 6-9 years ☒ 9-12 years ☐ 12-15 years ☐ 15-18 years ☐ 18-21 years ☐ 21 years or more

c What duration measure was used to calculate line 19(b)?
☐ Effective duration ☐ Macaulay duration ☒ Modified duration ☐ Other (specify):

- 20 PBGC missed contribution reporting requirements.** If this is a multiemployer plan or a single-employer plan that is not covered by PBGC, skip line 20.

a Is the amount of unpaid minimum required contributions for all years from Schedule SB (Form 5500) line 40 greater than zero? ☐ Yes ☐ No

b If line 20a is "Yes," has PBGC been notified as required by ERISA sections 4043(c)(5) and/or 303(k)(4)? Check the applicable box:
☐ Yes.
☐ No. Reporting was waived under 29 CFR 4043.25(c)(2) because contributions equal to or exceeding the unpaid minimum required contribution were made by the 30th day after the due date.
☐ No. The 30-day period referenced in 29 CFR 4043.25(c)(2) has not yet ended, and the sponsor intends to make a contribution equal to or exceeding the unpaid minimum required contribution by the 30th day after the due date.
☐ No. Other. Provide explanation _____

American Electric Power System Retirement Plan

Financial Statements

**December 31, 2018 and 2017, and Supplemental Schedules at
December 31, 2018 and for the year then ended**

American Electric Power System Retirement Plan

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December 31, 2018 and 2017

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Schedule H, Part IV, Line 4i - Schedule of Assets (Acquired and Disposed of Within Year)	Schedule 3
Note: All other schedules required by 29 CFR 2520.103-10 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act ("ERISA") of 1974 have been omitted because they are not applicable.	



Report of Independent Auditors

To the Administrator of American Electric Power System Retirement Plan

Report on the Financial Statements

We were engaged to audit the accompanying financial statements of American Electric Power System Retirement Plan (the "Plan"), which comprise the statements of net assets available for benefits and of accumulated plan benefits as of December 31, 2018, and the related statements of changes in net assets available for benefits and of changes in accumulated plan benefits for the year ended December 31, 2018, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility for the 2018 Financial Statements

Our responsibility is to express an opinion on the 2018 financial statements based on conducting the audit in accordance with auditing standards generally accepted in the United States of America. Because of the matter described in the Basis for Disclaimer of Opinion paragraph, however, we were not able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion on the 2018 financial statements.

Basis for Disclaimer of Opinion on the 2018 Financial Statements

As permitted by 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974, the plan administrator instructed us not to perform, and we did not perform, any auditing procedures with respect to the information summarized in Note 3, which was certified by the Bank of New York Mellon/BNY Mellon, N.A., the trustee of the Plan, except for comparing such information with the related information included in the 2018 financial statements. We have been informed by the plan administrator that the trustee holds the Plan's investment assets and executes investment transactions. The plan administrator has obtained a certification from the trustee as of and for the year ended 2018 that the information provided to the plan administrator by the trustee is complete and accurate.



Disclaimer of Opinion on the 2018 Financial Statements

Because of the significance of the matter described in the Basis for Disclaimer of Opinion paragraph, we have not been able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion on the 2018 financial statements. Accordingly, we do not express an opinion on the 2018 financial statements as a whole.

Other Matters

2017 Financial Statements

The financial statements of the Plan as of and for the year ended December 31, 2017 were audited by predecessor auditors. As permitted by 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974, the Plan administrator instructed the predecessor auditors not to perform and they did not perform, any auditing procedures with respect to the information certified by Bank of New York Mellon/BNY Mellon, N.A., the trustee of the Plan, except for comparing such information with the related information included in the 2017 financial statements. Their report, dated October 10, 2018, indicated that (a) because of the significance of the information that they did not audit, they were not able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion and accordingly, they did not express an opinion on the 2017 financial statements and (b) the form and content of the information included in the 2017 financial statements other than that derived from the information certified by the trustee, were presented in compliance with the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974.

Supplementary Information

The supplemental Schedule H, Part IV, Line 4i – Schedule of Assets (Held at End of Year) at December 31, 2018, Schedule H, Part IV, Line 4j - Schedule of Reportable Transactions for the year ended December 31, 2018 and Schedule H, Part IV, Line 4i – Schedule of Assets (Acquired and Disposed of Within Year) for the year ended December 31, 2018 are required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974 and are presented for the purpose of additional analysis and are not a required part of the financial statements. Because of the significance of the matter described in the Basis for Disclaimer of Opinion paragraph, we do not express an opinion on these supplemental schedules.



Report on Form and Content in Compliance with DOL Rules and Regulations 2018

The form and content of the information included in the 2018 financial statements and supplemental schedules, other than that derived from the information certified by the trustee, have been audited by us in accordance with auditing standards generally accepted in the United States of America and, in our opinion, are presented in compliance with the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974.

PricewaterhouseCoopers LLP

March 5, 2021

AMERICAN ELECTRIC POWER SYSTEM RETIREMENT PLAN
STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS
December 31, 2018 and 2017

	<u>2018</u>	<u>2017</u>
Assets		
Investments at fair value:		
Short-term investments	\$ 38,329,722	\$ 36,501,746
Corporate stock (including securities on loan of \$62,043,773 for 2018 and \$78,321,934 for 2017)	680,173,644	853,743,285
U.S. government obligations (including securities on loan of \$170,520,717 for 2018 and \$399,413,186 for 2017)	1,513,659,182	1,377,399,111
Corporate obligations (including securities on loan of \$8,266,711 for 2018 and \$13,279,962 for 2017)	1,312,839,328	1,545,394,581
State and local government obligations (including securities on loan of \$0 for 2018 and \$1,065,919 for 2017)	28,195,057	71,370,131
Common/Collective trusts and commingled fund	379,907,974	474,064,717
Partnership/Joint venture interests	<u>737,702,581</u>	<u>796,253,266</u>
Total investments at fair value	4,690,807,488	5,154,726,837
Collateral held under securities lending (Note 5)	245,114,475	502,177,251
Net assets held in 401(h) account at fair value (Note 6)	411,758,023	472,343,050
Due from broker for securities sold	84,997,908	37,059,608
Accrued dividend and interest income	<u>46,109,798</u>	<u>30,982,071</u>
Total assets	5,478,787,692	6,197,288,817
Liabilities		
Due to broker for securities purchased	103,251,041	38,998,873
Investment advisory and other fees payable	22,780,479	6,022,272
Obligation under securities lending (Note 5)	246,739,955	503,830,963
Payables for investments held in 401(h) account at fair value (Note 6)	<u>411,758,023</u>	<u>472,343,050</u>
Total liabilities	784,529,498	1,021,195,158
Net Assets Available for Benefits	<u><u>\$4,694,258,194</u></u>	<u><u>\$5,176,093,659</u></u>

See notes to financial statements.

AMERICAN ELECTRIC POWER SYSTEM RETIREMENT PLAN
STATEMENTS OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
For the Years Ended December 31, 2018 and 2017

	<u>2018</u>	<u>2017</u>
Additions		
Employer contributions	\$ —	\$ 94,325,000
Investment income (loss):		
Interest and dividends	108,220,803	106,932,959
Net (depreciation) appreciation in fair value of investments	(214,668,917)	502,497,664
Other investment income	15,986,733	14,917,185
	<u>(90,461,381)</u>	<u>624,347,808</u>
Net investment income (loss)		
	<u>(90,461,381)</u>	<u>718,672,808</u>
Total (deductions) additions	(90,461,381)	718,672,808
Deductions		
Benefits paid directly to participants or beneficiaries	373,338,227	346,487,697
Administrative expenses	18,035,857	19,991,721
	<u>391,374,084</u>	<u>366,479,418</u>
Total deductions		
	<u>391,374,084</u>	<u>366,479,418</u>
Net (Decrease) Increase in Net Assets Available for Benefits	(481,835,465)	352,193,390
Net Assets Available for Benefits		
Beginning of year	5,176,093,659	4,823,900,269
	<u>5,176,093,659</u>	<u>4,823,900,269</u>
End of year	<u>\$4,694,258,194</u>	<u>\$5,176,093,659</u>

See notes to financial statements.

AMERICAN ELECTRIC POWER SYSTEM RETIREMENT PLAN
STATEMENTS OF ACCUMULATED PLAN BENEFITS
December 31, 2018 and 2017

	<u>2018</u>	<u>2017</u>
Actuarial Present Value of Accumulated Plan Benefits		
Vested benefits:		
Participants and beneficiaries currently receiving benefit payments	\$2,135,473,032	\$1,759,300,433
Other participants	<u>1,657,800,897</u>	<u>2,193,094,529</u>
Total vested benefits	3,793,273,929	3,952,394,962
Nonvested benefits	<u>23,575,244</u>	<u>18,345,040</u>
Total Actuarial Present Value of Accumulated Plan Benefits	<u><u>\$3,816,849,173</u></u>	<u><u>\$3,970,740,002</u></u>

See notes to financial statements.

AMERICAN ELECTRIC POWER SYSTEM RETIREMENT PLAN
STATEMENTS OF CHANGES IN ACCUMULATED PLAN BENEFITS
For the Years Ended December 31, 2018 and 2017

	<u>2018</u>	<u>2017</u>
Actuarial Present Value of Accumulated Plan Benefits - Beginning of year	\$3,970,740,002	\$4,013,604,704
Increase (decrease) during the year attributable to:		
Benefits accumulated	65,008,243	69,080,997
Actuarial losses (gains)	30,729,926	18,060,921
Interest due to the decrease in the discount period	231,105,899	234,719,412
Benefits paid	(373,338,227)	(346,487,697)
Changes in actuarial assumptions	(107,396,670)	(18,238,335)
Net decrease	(153,890,829)	(42,864,702)
Actuarial Present Value of Accumulated Plan Benefits - End of year	<u>\$3,816,849,173</u>	<u>\$3,970,740,002</u>

See notes to financial statements.

AMERICAN ELECTRIC POWER SYSTEM RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
December 31, 2018 and 2017

Note 1 - Plan Description

The following description of American Electric Power System Retirement Plan (the "Plan") provides only general information. Participants should refer to the Plan's governing documents for a more complete description of the Plan's provisions.

General

The Plan is a noncontributory trustee plan established by American Electric Power Service Corporation and affiliated companies (all of which are collectively referred to as the "Company," AEPSC, or AEP). The Plan is administered under the direction of American Electric Power Service Corporation (the "Plan Administrator"), which has delegated supervision of the plan investment policy to the Benefits Finance Committee (BFC). The BFC is responsible for monitoring the investment policy for the Plan and its Investment Subcommittee (IC) has been delegated responsibility for the engagement of investment managers to direct the Plan's investments. The Plan was amended and restated effective January 1, 2017. The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA). Plan assets are held in a tax-exempt trust at the Bank of New York Mellon/BNY Mellon, N.A., the Plan's trustee (the "Trustee" or "BNYM").

The Plan consists of an insured Group Annuity Plan (GAP), contributions to which were suspended on May 1, 1955, and a Trusteed Plan, which was added on May 1, 1955. Benefits under the Plan are determined solely by reference to terms of the Trusteed Plan, but participants who were covered by the suspended GAP also receive payments under the GAP. Any payments made under the GAP offset the payments required under the Trusteed Plan. Insurance contracts purchased for the GAP are excluded from plan assets and accumulated plan benefit obligations.

The Plan's trust includes a separate account maintained under the terms of the Plan and Internal Revenue Code (IRC) Section 401(h) to provide funding for certain retiree health benefits.

Pension Benefits

The Plan, as amended to date, covers substantially all employees of the Company not covered by any other private defined benefit pension plan to which the Company contributes. Employees who have completed one year of service are eligible to participate in the Plan. Plan benefits generally accrue under a cash balance formula, although certain long-time participants were grandfathered into certain benefit formulas. Although there are a number of participants who had been covered by the former Central and South West System Cash Balance Retirement Plan who continue to accrue benefits under certain grandfathered benefit formulas, most plan participants were credited benefits only through December 31, 2010 based on their then final average base pay and years of service. After December 31, 2010, these participants earned benefits under the cash balance formula. The cash balance formula includes an expanded definition of earnings and, for applicable grandfathered participants, an opening balance calculation that provided credit for the then value of the participant's then-accrued benefit. All eligible employees become

fully vested once credited with at least three years of service. Payment of vested benefits is available as an annuity or lump sum or for rollover to an eligible retirement plan after the participant's employment with the Company ends.

Funding Policy

The funding policy is to contribute annually an amount at least equal to the minimum funding requirement under code section 412. The Plan also operates in compliance with the minimum funding requirements of ERISA. In 2018 and 2017, the Plan met the minimum funding requirements.

Party-in-interest Transactions

Certain transactions involving the Plan and its assets involved party-in-interest with respect to the Plan, but those transactions were not prohibited transactions under ERISA because of the applicability of one or more exemptions. Bank of New York Mellon, N.A. acts as trustee and custodian for the Plan's investments. Fees paid by the Plan to the trustee for trustee services amounted to \$865,887 for the year ended December 31, 2018. The Plan held investments managed by BNYM totaling \$369,314,082 at December 31, 2018. BNYM is the lending agent for the securities lending transactions detailed in Note 5.

Note 2 - Summary of Significant Accounting Policies

Basis of Accounting

The financial statements are prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America.

Investment Valuation and Income Recognition

Investments are recorded at fair value. Dividend income is recorded based on the ex-dividend date. Interest and other income are recorded on the accrual basis. Investment transactions are recorded on the trade date. Net appreciation (depreciation) includes the Plan's gains and losses on investments bought and sold, as well as held, during the year.

Fair Value Measurement of Assets

The accounting guidance for "Fair Value Measurements and Disclosures" establishes a fair value hierarchy that prioritizes the inputs used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted market prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). AEPSC's staff independently monitors valuation policies and procedures and provides members of the BFC and its IC various monthly and quarterly reports, regarding compliance with policies and procedures. The BFC consists of AEPSC's chief financial officer, treasurer, chief administrative officer, chief risk officer, and executive vice president general counsel, in addition to the executive vice president - energy supply of AEP. The IC consists of AEPSC's treasurer, director of trust and investments, and two managing directors of corporate finance.

The Plan utilizes its Trustee's external pricing service to determine the fair value of the underlying investments held in the Plan. The Trustee uses multiple pricing vendors for the assets held in trust. The Plan's investment managers review and validate the prices utilized by the Trustee to determine fair value. The Plan Administrator performs its own valuation testing to verify the fair values of the securities, in part by reviewing audit reports of the Trustee's operating controls and valuation processes.

Assets in the Plan are classified using the following methods. Equities are classified as Level 1 holdings if they are actively traded on exchanges. Items classified as Level 1 are investments in equity securities. They are valued based on observable inputs primarily unadjusted quoted prices in active markets for identical assets. Items classified as Level 2 are primarily investments in fixed-income securities. Fixed income securities generally do not trade on exchanges and do not have an official closing price, but their valuation inputs are based on observable market data.

The Trustee's pricing vendors calculate fixed-income securities valuations using financial models and matrices. The models use observable inputs, including yields on benchmark securities, quotes by securities brokers, rating agency actions, discounts on premiums on securities compared to par prices, changes in yields for U.S. Treasury securities, corporate actions by bond issuers, prepayment schedules and histories, economic events, and, for certain securities, adjustments to yields to reflect changes in the rate of inflation. Short-term funds are held to provide liquidity and meet short-term cash needs. The underlying holdings in these funds consist of commercial paper, common collective trusts, certificates of deposit, treasury bills, and other short-term debt securities. Short-term debt securities are valued based on observable market data by the trust banks pricing vendor. Other securities with model-derived valuation inputs that are observable are also classified as Level 2 investments. Investments with unobservable valuation inputs are classified as Level 3 investments.

The following investments are valued at net asset value (NAV) as a practical expedient. The NAV per share (or its equivalent, such as member units or an ownership interest in partners' capital to which a proportionate share of net assets is attributed) is used as a practical expedient to estimate fair value. This practical expedient is not used when it is determined to be probable that the fund will sell the investment for an amount different than the reported NAV. These investments are primarily short-term investments, common collective trusts and partnership/joint venture interests

Short-term Investments

The objective of short-term investments is to provide liquidity and meet short-term cash needs. Short-term investments are used to provide diversification and preserve principal. The underlying holdings include commercial paper, a common collective trust, certificates of deposit, treasury bills, and other types of investment-grade short-term debt securities. The short-term investments are valued each business day and provide daily liquidity. The EB Temporary Investment Fund's redemption frequency and redemption notice period are both daily. The common collective trust has no unfunded commitments.

JPMorgan Long Duration Fund

The objective of the JPMorgan Long Duration Fund is to track the performance of the Bloomberg Barclays Long Government/Credit Index. The majority of the holdings in the fund are corporate or government bonds. The redemption frequency and redemption notice period is daily. The fund has no unfunded commitments. The fund may suspend the valuation of assets or the right to make redemptions at management's discretion when redemptions would not be reasonably practicable and are not deemed to be in the best interest of the fund or its shareholders.

Vontobel India Fund

The Vontobel India Fund is an open-ended commingled fund that is a 103-12 investment entity that is held as a component of a separately managed global equity portfolio. The objective of the fund is to realize capital growth and generate income through investments in equities domiciled in the country of India as part of an overall portfolio that tracks the Morgan Stanley Capital International All-Country World Index (MSCI). The underlying holdings are equity securities, and the fund will invest at least 75 percent of its assets in companies which have a registered office in India. The redemption frequency is daily and the redemption notice period is five days. The fund has no unfunded commitments. The fund may suspend the valuation of assets or the right to make redemptions at management's discretion when redemptions would not be reasonably practicable and are not deemed to be in the best interest of the fund or its shareholders.

Mellon Capital All-Country World Index Fund

The Mellon Capital All-Country World Index (ACWI) Fund is a common collective trust that is independently audited each year. The fund's objective is to track the performance of the MSCI All Country World Index. The fund is part of a global equity strategy and is used to provide investment returns and to diversify portfolio holdings. Redemption frequency is weekly and the redemption notice period is two days. The fund has no unfunded commitments. The fund may suspend the valuation of assets or the right to make redemptions at management's discretion when redemptions would not reasonably be practicable and are not deemed to be in the best interest of the fund or its shareholders.

Alternative Investments

The objective of the alternative investments portfolio is to add return and provide diversification. Alternative investments are not actively traded, and typically require a long-time horizon to evaluate investment performance. The Plan uses limited partnerships and commingled funds to invest across the alternative credit spectrum. The underlying holdings are currently composed of high yield bonds, bank loans, and emerging market debt. Alternative investment funds are used to enhance holdings diversity. At December 31, 2018, the Plan holds investments of \$63,738,586 in limited partnerships and of \$79,526,614 in commingled funds across the alternative investment spectrum. Redemption frequencies for the commingled funds range from daily to quarterly, with redemption notice periods ranging from 1 day to 60 days. At December 31, 2018, the limited partnership interests have no unfunded commitments. Investments in these limited partnerships are not eligible for immediate redemption.

Included in the alternative investment designation is \$301,632,278 and \$296,820,675 of private equity investments at December 31, 2018 and 2017, respectively, whose portfolio objective is to add return and provide diversification. Private equity investments are not actively traded, and typically require a long-time horizon to evaluate investment performance. The Plan uses limited partnerships to invest across the private equity spectrum. The private equity holdings are with multiple general partners who help monitor the investments and provide investment selection and expertise. The private equity portfolio has \$120,599,531 and \$146,241,977 in unfunded commitments as of December 31, 2018 and 2017, respectively. The portfolio does not have a readily determinable fair value and is illiquid. Investments in these limited partnerships are not eligible for immediate redemption. The Plan generally expects to liquidate the limited partnerships within three to 15 years.

Real Estate

The objective of the real estate portfolio is to add return, provide diversification, and hedge against inflation. Real estate investments are not actively traded, and typically require a long-time horizon to evaluate investment performance. The Plan uses external real estate managers to invest in commingled funds and limited partnerships that hold real estate properties. At December 31, 2018, the Plan holds investments of \$145,406,351 in limited partnerships and of \$75,122,758 in commingled funds across the real estate investment spectrum. Redemption frequencies for the commingled funds range from none to quarterly, with redemption notice periods ranging from 30 to 90 days. To mitigate investment risk in the real estate portfolio, commingled real estate funds are used to ensure that holdings are diversified by region, property type, and risk classification. The real estate portfolio has \$39,660,079 and \$18,421,951 in unfunded commitments as of December 31, 2018 and 2017, respectively. Limited partnerships have original terms averaging 8 to 12 years, although those periods may be subsequently extended.

Infrastructure

The objective of the infrastructure portfolio is to add return, provide diversification, and hedge against inflation. Infrastructure investments are not actively traded, and typically require a long-time horizon to evaluate investment performance. The Plan uses limited partnerships to invest across the infrastructure spectrum. To mitigate investment risk in the infrastructure portfolio, infrastructure funds are used to ensure that holdings are diversified by region, property type, and risk classification. Investments in these limited partnerships are not eligible for immediate redemption. The infrastructure portfolio has \$25,803,206 and \$34,201,373 in unfunded commitments as of December 31, 2018 and 2017, respectively and have original terms averaging 10 to 25 years.

Allocated Insurance Contracts

The Plan has allocated insurance contracts for retirees who were covered under the Plan in prior years. These contracts remain intact, and no additional contracts have been purchased. The activity related to the allocated insurance contracts for retirees receiving benefits is excluded from the financial statements.

Actuarial Present Value of Accumulated Plan Benefits

Accumulated plan benefits are those future periodic payments, including lump-sum distributions that are attributable under the Plan's provisions to service rendered by employees as of the valuation date, but excluding those covered by allocated insurance contracts. Accumulated plan benefits include benefits expected to be paid to (1) retired or terminated employees or their beneficiaries, (2) beneficiaries of employees who have died, and (3) present employees or their beneficiaries. The actuarial present value of accumulated plan benefits is determined by an independent actuary and is the amount that results from applying actuarial assumptions to adjust the accumulated plan benefits to reflect the time value of money (through discounts for interest) and the probability of payment (by means of decrements, such as for death, disability, withdrawal, or retirement) between the valuation date and the expected date of payment. Assumptions include, but are not limited to, retirement ages and discount rate.

Actuarial Assumptions

The significant actuarial assumptions used in the valuation of the Plan at December 31, 2018 and 2017 are summarized as follows:

Actuarial cost method	Projected unit credit
Interest rate	2018 6.25 percent and 2017 6.00 percent
	During 2018, Pri-2012 mortality table without collar or quartile adjustments and projected forward on a generational basis using an adjusted version of MP-2019.
	During 2017, RP-2014 mortality table with improvements factored to 2006 with no collar adjustments and projected forward on a generational basis using an adjusted version of MP-2017.
Mortality basis	
Average retirement age	64

The foregoing actuarial assumptions are based on the presumption that the Plan will continue. Were the Plan to terminate, different actuarial assumptions and other factors might be applicable in determining the actuarial present value of accumulated plan benefits.

The most significant changes in actuarial assumptions between 2017 and 2018 was the change from RP-2014 mortality table with MP-2017 improvement to Pri-2012 mortality table, with MP-2019 improvement and the increase in the interest rate. The most significant change in actuarial assumptions between 2016 and 2017 was the change from the MP-2016 to a modified MP-2017 mortality table.

Benefit Payments

Benefits payments are recorded when paid.

Administrative and Other Expenses

The Plan makes annual premium payments to the Pension Benefit Guaranty Corporation (the "PBGC"), which guarantees payment of certain retirement benefits in the event the Plan cannot meet its obligations.

The Plan pays investment advisory and management fees and other fees in connection with the maintenance and administration of the Plan and its trust. Personnel and facilities of the Company are provided at no cost to the Plan. An outside firm, Mercer HR Services, LLC (Mercer), performs services relative to the Plan including, but are not limited to, administration of plan eligibility, participation, benefit calculations, participant communications, data maintenance and disbursement processing, and provision of personnel to respond to participant inquiries. Fees paid to Mercer for these services have been presented as administrative expenses in the statement of changes in net assets available for benefits.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities and the actuarial present value of accumulated plan benefits at the date of the financial statements. Actual results could differ from those estimates.

Risks and Uncertainties

Contributions to the Plan and the accumulated plan benefits are reported based on certain assumptions pertaining to interest rates, inflation rates, and employee demographics. Due to the changing nature of these assumptions, it is at least reasonably possible that changes in these assumptions will occur in the near term and, due to the uncertainties inherent in setting assumptions, that the effect of such changes could be material to the financial statements. Investment securities are exposed to various risks, such as interest rate, market, and credit risks. It is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the financial statements.

Derivatives

The Plan may hold various instruments that meet the definition of a derivative under Financial Accounting Standards Board Accounting Certification (FASB ASC) Topic 815, *Derivatives and Hedging*, including futures contracts. The Plan's primary objective in holding these derivatives is to hedge investment risk. Derivatives are not used to fundamentally increase the risk/return profile of the portfolio relative to the benchmark for the portfolio, nor to invest in asset classes that are not consistent with the benchmark or the approved strategy for the portfolio. Derivatives held by the Plan are recorded at their fair value, and changes in fair value are recorded as additions to net assets attributable to net appreciation in fair value of investments in the accompanying statement of change in net assets available for benefits.

Subsequent Events

In March 2020, COVID-19 was declared a pandemic by the World Health Organization and the Centers for Disease Control and Prevention. Its rapid spread around the world and throughout the United States prompted many countries, including the United States, to institute restrictions on travel, public gatherings and certain business operations. The ultimate impact of COVID-19 on the Plan depends on factors beyond the Plan Sponsor's knowledge or control, including the duration and severity of this outbreak as well as third-party actions taken to contain its spread and mitigate its public health effects. Therefore, the Plan Sponsor cannot estimate the potential

future impact to the amounts reported in the Statement of Net Assets Available for Benefits, benefit obligations or contributions, but the impacts could be material.

No other subsequent events were identified through March 5, 2021, which is the date the financial statements were available to be issued.

Note 3 - Information Certified by Trustee

The following is a summary of the Plan's investment balances and related investment activity as of and for the year ended December 31, 2018, included in the Plan's financial statements and supplemental schedules, that was prepared by or derived from information prepared by the Trustee of the Plan, and furnished to the Plan Administrator. The Plan Administrator has obtained a certification from the Trustee that such information is complete and accurate in accordance with 29 CFR 2520.103-5 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA and, accordingly, no audit work has been performed on the investment balances and related investment information. Investments at fair value (excluding Partnership/Joint venture interests), accrued dividend and interest income, due from (to) broker for securities (purchased) sold, investment income (excluding investment activity related to the Partnership/joint venture interests of \$14,979,691 and securities lending of \$511,092), the investment information included in Notes 4 (excluding leveling, partnership/joint venture interests and collateral held under securities lending), 6 and 7, as well as the information included in the Schedule of Assets (Held at End of Year), the Schedule of Assets (Acquired and Disposed of Within Year) and the Schedule of Reportable Transactions, excluding Partnership/joint venture interests, are certified as complete and accurate by the Trustee.

The 2017 investment balances and related investment income and losses included in the accompanying financial statements are based solely on information certified by the Trustee.

Note 4 - Fair Value Measurements

For a discussion of fair value accounting and the classification of assets within the fair value hierarchy, see the "Fair Value Measurements of Assets" section of Note 2.

	Assets Measured at Fair Value on a Recurring Basis at December 31, 2018		
	Investments (at Fair Value)	Level 1	Level 2
Short-term investments	\$ 35,984,390	\$ (371,675)	\$ 36,356,065
Equity - Corporate stock	680,173,644	661,829,557	18,344,087
Fixed income:			
U.S. government obligations	1,513,659,182	169,436	1,513,489,746
Corporate obligations	1,312,839,328	—	1,312,839,328
State and local government obligations	28,195,057	—	28,195,057
Collateral held under securities lending:			
Short-term investments	28,260,556	—	28,260,556
Fixed income securities - U.S. government obligations	56,063,894	—	56,063,894
Fixed income securities - U.S. agency obligations	162,415,504	—	162,415,504
Net assets held in 401(h) account - Fixed income:			
U.S. government obligations	63,145,066	—	63,145,066
Corporate obligations	80,019,138	—	80,019,138
State and local government obligations	4,420,790	—	4,420,790
Total	3,965,176,549	<u>\$661,627,318</u>	<u>\$3,303,549,231</u>
Investments measured at NAV as a practical expedient:			
Short-term investments	2,345,332		
Common/Collective Trusts and Commingled Fund:			
Common/collective trust	9,550,024		
Vontobel India Fund	15,245,431		
Mellon Capital All-Country World Index Fund	355,112,519		
Partnership/Joint Venture Interests:			
Alternative investments	444,897,479		
Real estate	220,529,108		
Infrastructure	72,275,994		
Net assets held in 401(h) account			
Short-term investments	4,707,831		
Common/Collective Trusts and Commingled Fund:			
JPM Long Duration Fund	154,609,375		
Mellon Capital All-Country World Index Fund	103,068,746		
Total investments at fair value	<u>\$5,347,518,388</u>		

Assets Measured at Fair Value on a Recurring Basis at December 31, 2017			
	Investments (at Fair Value)	Level 1	Level 2
Short-term investments	\$ 36,087,627	\$ 451,413	\$ 35,636,214
Equity - Corporate stock	853,743,285	826,791,410	26,951,875
Fixed income:			
U.S. government obligations	1,377,399,111	49,061	1,377,350,050
Corporate obligations	1,545,394,581	—	1,545,394,581
Other investments	71,370,131	—	71,370,131
Collateral held under securities lending:			
Short-term investments	71,089,753	—	71,089,753
Fixed income securities - U.S. government obligations	69,144,313	—	69,144,313
Fixed income securities - U.S. agency obligations	361,943,185	—	361,943,185
Net assets held in 401(h) account - Fixed income:			
U.S. government obligations	71,640,829	—	71,640,829
Corporate obligations	87,561,244	—	87,561,244
Other investments	9,687,382	—	9,687,382
Total	4,555,061,441	<u>\$827,291,884</u>	<u>\$3,727,769,557</u>
Investments measured at NAV as a practical expedient:			
Other	414,119		
Common/Collective Trusts and Commingled Fund:			
Short-term investments	20,820,583		
Vontobel India Fund	14,870,406		
Mellon Capital All-Country World Index Fund	438,373,728		
Partnership/Joint Venture Interests:			
Alternative investments	446,252,831		
Real estate	290,437,396		
Infrastructure	59,563,039		
Net assets held in 401(h) account			
Other	4,102,927		
Common/Collective Trusts and Commingled Fund:			
JPM Long Duration Fund	176,116,915		
Mellon Capital All-Country World Index Fund	122,178,188		
Total investments at fair value	<u>\$6,128,191,573</u>		

The Plan's policy is to recognize transfers between levels of the fair value hierarchy as of the actual date of the event of change in circumstances that caused the transfer.

Note 5 - Securities Lending

The Plan has an agreement with Bank of New York Mellon, N.A., which acts as trustee and custodian for the Plan's investments and authorizes the bank to lend securities held in the Plan's accounts to third parties. The bank must obtain collateral from the borrower in the form of cash or securities. Both the collateral and the securities loaned are marked-to-market on a daily basis, with additional collateral obtained or refunded as necessary. In the event that the loaned securities are not returned by the borrower, the bank will, at its own expense, either replace the loaned securities or, if unable to purchase those securities on the open market, credit the Plan's accounts with cash equal to the fair value of the loaned securities. All loans are collateralized by at least 102 percent of the loaned asset's market value and the collateral invested.

The Plan receives net revenue derived from all securities lending activities and pays the Trustee a fee for providing the service. Interest and dividend income reported in the statement of changes in net assets available for benefits includes \$507,489 and \$439,157 earned by the Plan during the years ended December 31, 2018 and 2017, respectively, in conjunction with the securities lending program.

Although the Plan's securities lending activities are collateralized as described above, and although the terms of the securities lending agreement with the custodial bank require the bank to comply with government rules and regulations related to the lending of securities held by ERISA plans, the securities lending program involves both market and credit risk. In this context, market risk refers to the possibility that the borrower of securities will be unable to collateralize the loan upon a sudden material change in the fair value of the loaned securities or the collateral, or that the bank's investment of collateral received from the borrowers of the Plan's securities may be subject to unfavorable market fluctuations. Credit risk refers to the possibility that counterparties involved in the securities lending program may fail to perform in accordance with the terms of their contracts.

At December 31, 2018 and 2017, the fair value of securities loaned was \$240,831,201 and \$492,081,001, respectively, while the collateral held was \$246,739,955 and \$503,830,963, respectively. Collateral received consisted of U.S. government obligations, U.S. agency obligations, and cash totaling \$245,114,475 and \$502,177,251 as of December 31, 2018 and 2017, respectively. The cash collateral totaled \$28,260,557 and \$71,089,753 as of December 31, 2018 and 2017, respectively, and was invested in various pooled investments that hold short-term and fixed income securities (including repurchase agreements). The noncash collateral received totaled \$218,479,399 and \$431,087,498 as of December 31, 2018 and 2017, respectively. In accordance with accounting standards, the value of the collateral held and a corresponding liability to return the collateral have been reported on the accompanying statement of net assets available for benefits.

Note 6 - 401(h) Account

The Plan includes a medical benefit (health and welfare) component in addition to the normal retirement benefits to fund a portion of the postretirement obligations for certain retirees and their beneficiaries in accordance with Section 401(h) of the IRC. A separate account has been established and maintained in the Plan for the net assets related to the health and welfare component (401(h) account). In accordance with IRC Section 401(h), the Plan's investments in

the 401(h) account may not be used for, or diverted to, any purpose other than providing health and welfare benefits for retired participants, their spouses, and dependents. The Trustee holds the assets of the 401(h) account.

Any assets transferred to the 401(h) account from the defined benefit pension plan in a qualified transfer of excess pension plan assets (and any respective income) that are not used during the plan year must be transferred out of the account to the pension plan. There were no qualified transfers to the 401(h) account for the years ended December 31, 2018 and 2017.

The related obligations for health and welfare benefits are not included in the Plan's statement of accumulated plan benefits but are reflected as plan obligations in the financial statements of the American Electric Power System Comprehensive Medical Plan (the "Medical Plan"), the health and welfare plan that covers plan participants of the 401(h) component. Plan participants do not contribute to the 401(h) account. Employer contributions or qualified transfers to the 401(h) account are determined annually and are at the discretion of the Company.

Effective July 1, 2018, the 401(h) account is designed to pay 90.5 percent of the retiree medical benefits for eligible plan participants (other than those who are defined as key employees or whose benefits have been collectively bargained) and their dependents under the Medical Plan. No account has been established under the Plan for the purpose of paying the remaining 9.5 percent of the health and welfare benefits to those participants and their dependents, although the Company maintains certain trusts in connection with the Medical Plan that may be used for that purpose.

The net assets available for postretirement health and welfare benefits in the 401(h) account as of December 31, 2018 and 2017 and the changes in net assets for the years then ended are as follows:

	<u>2018</u>	<u>2017</u>
Investments at fair value:		
Common/Collective trusts	\$ 257,678,121	\$ 302,398,030
Corporate and government bonds	143,164,204	159,202,073
Other investments	9,128,621	9,687,382
Accrued income and other receivables	1,966,414	1,925,990
Fees payable by 401(h) and other	(179,337)	(870,425)
Net assets held in 401(h) account	<u>\$ 411,758,023</u>	<u>\$ 472,343,050</u>
Changes in net assets in 401(h) account:		
Net (depreciation) appreciation in fair value of investments	\$ (34,217,603)	\$ 76,685,197
Interest and dividend income	6,305,380	6,482,659
Administrative expenses	(502,979)	(1,193,842)
Retiree Medical Reimbursement	(32,169,826)	—
Net (decrease) increase in net assets held in 401(h) account	<u>\$ (60,585,028)</u>	<u>\$ 81,974,014</u>

Note 7 - Derivatives

The Plan has futures contracts with a current notional amount of \$1,146,869,338 and \$470,000,000 at December 31, 2018 and 2017, respectively. The notional amount represents the contract amount, not the amount at risk. Futures prices are quoted market prices on active exchanges and are marked-to-market on a daily basis and are presented within U.S. government obligations on the statement of net assets available for benefits.

The Plan also holds forward contracts in a loss position which are also presented within U.S. government obligations in the statement of net assets available for benefits. Forward contracts are valued based on inputs derived from observable market data.

The primary risk managed by the Plan in using interest rate forward and futures contracts is the fluctuation of interest rates on the investments of the Plan. On behalf of the Plan, investment managers entered into interest rate forward contracts, which are agreements to exchange interest rates at a specified future date at a specified rate, the terms of which are not standardized on an exchange. The interest rate contracts are intended to minimize the effect of interest rate fluctuations on the performance of investments. Risk arises from both the possible inability of the counterparties to meet the terms of the contracts (credit risk) and from the movements in foreign currency exchange rates (market risk). The contracts are recorded at fair value on the date the contract is entered into, which is typically zero.

The following table lists the fair value of derivative instruments held by the Plan, by contract type and on a gross basis, as of December 31, 2018:

	Asset Derivatives	Liability Derivatives
	Fair Value	Fair Value
Contract Type		
Forward Foreign Currency Exchange Contracts	\$ 16,448,274	\$ 16,662,736
Interest Rate Swaps	176,283	—
Treasury Bond Forwards	30,342,774	14,970,007
Future Contracts	9,041,548	9,243,787
Totals	\$ 56,008,879	\$ 40,876,530

The following table lists the fair value of derivative instruments held by the Plan by contract type and on a gross basis, as of December 31, 2017:

	Asset Derivatives	Liability Derivatives
	Fair Value	Fair Value
Contract Type		
Treasury Bond Forwards	—	1,359,607
Totals	\$ —	\$ 1,359,607

Unrealized gains and losses of derivative instruments held by the Pension trust were (\$1,219,757) for the year ended December 31, 2018. Unrealized gains and losses are recorded in Net (depreciation) appreciation in fair value of investments on the statement of changes in net assets available for benefits.

The Plan is subject to master netting agreements with certain counterparties. These agreements set the terms for OTC derivative transactions between two counterparties, including setting protections should one of the counterparties default. One of the terms in the agreement is that any payments from OTC derivatives transactions between two counterparties are net together, which allows for one payment to be made by whichever counterparty in the agreement owes the most, rather than multiple payments being made between parties for each transaction. Collateral was pledged to counterparties against derivative assets and liabilities in the amount of \$3,289,862 as of December 31, 2018.

Note 8 - Federal Income Tax

The Plan obtained its latest favorable determination letter dated May 14, 2018 in which the IRS stated that the Plan, as then designed, was in compliance with the applicable requirements of the IRC and related guidance under consideration for the cycle for which the application was submitted (the 2015 Cumulative List of Changes in Plan Qualification Requirements). The Plan has been amended since receiving this determination letter. The Company believes that the Plan is currently designed and operated in compliance with the applicable requirements of the IRC and that the Plan's Trust continues to be tax-exempt. Therefore, no provision for income taxes has been included in the Plan's financial statements.

GAAP requires Plan management to evaluate tax positions taken by the Plan and recognize a tax liability (or asset) if the Plan has taken an uncertain position that more likely than not would not be sustained upon examination by the IRS. The Plan Administrator analyzed the tax positions taken by the Plan, and concluded that as of December 31, 2018, there were no uncertain positions taken or expected to be taken that would require recognition of a liability (or asset) or disclosure in the financial statements. The Plan is subject to routine audits by taxing jurisdictions. However, there are currently no audits for any tax periods in progress. The Plan Administrator believes that the Trust is no longer subject to income tax examinations for years prior to 2017.

The Plan may incur Unrelated Business Income Tax depending on a number of factors, including whether the trust (a) realizes non-exempt debt-financed income or (b) realizes or is allocated unrelated business income through its investments. The Plan incurred Unrelated Business Income Tax liabilities for the year ended December 31, 2018. The estimated Unrelated Business Income Tax paid was \$5,100 for the year ended December 31, 2018.

Note 9 - Plan Termination

The Company expects and intends to continue the Plan indefinitely but reserves the right to amend or terminate it. If the Plan is terminated, the net assets of the Plan will be distributed to participants in an order of priority determined in accordance with ERISA and its applicable regulations and in the applicable provisions of the plan document. Certain benefits under the Plan are insured by the PBGC if the Plan terminates. Generally, the PBGC guarantees most

vested normal age retirement benefits, early retirement benefits, and certain disability and survivor's pensions. However, the PBGC does not guarantee all types of benefits under the Plan and the amount of benefit protection is subject to certain limitations. Vested benefits under the Plan are guaranteed at the level in effect on the date of the Plan's termination, subject to a statutory ceiling on the amount of an individual's monthly benefit.

Whether all participants receive benefits should the Plan be terminated at some future time will depend on the adequacy of the Plan's net assets to provide those benefits, the priority of those benefits to be paid and the level and type of benefits guaranteed by the PBGC at that time. Some benefits may be fully or partially provided by the existing assets and the PBGC guaranty, while other benefits may not be provided for at all.

Note 10 - Reconciliation of the Financial Statements to Form 5500

The following is a reconciliation of net assets available for benefits per the financial statements at December 31, 2018 and 2017 to Form 5500:

	2018	2017
Net assets available for benefits per the financial statements	\$4,694,258,194	\$5,176,093,659
Net assets held in 401(h) account included as assets in Form 5500	411,758,023	472,343,050
Net assets available for benefits per Form 5500	<u>\$5,106,016,217</u>	<u>\$5,648,436,709</u>

The following is a reconciliation of the statement of changes in net assets available for benefits to the Form 5500 for the year ended December 31, 2018 to Form 5500:

	2018	2017
Net (decrease) increase in net assets available for benefits per the financial statements	\$(481,835,465)	\$ 352,193,390
Net investment loss from 401(h) account	(27,912,223)	83,167,856
Administrative expenses related to 401(h) account	(502,979)	(1,193,842)
Transfer from 401(h) account to Medical Plan	(32,169,826)	—
Net decrease in net assets available for benefits per Form 5500	<u>\$(542,420,493)</u>	<u>\$ 434,167,404</u>

AMERICAN ELECTRIC POWER SYSTEM RETIREMENT PLAN
Schedule 1
SCHEDULE H, PART IV, LINE 4i - SCHEDULE OF ASSETS (HELD AT END OF YEAR)
At December 31, 2018

(a) Identity of issue, borrower, lessor, or similar party	(b) Description of investment including maturity date, rate of interest, collateral, par, or maturity value	(c) Cost	(d) Current Value
Short-term Investments			
	90DAY EURO\$ FUTURE (CME) EXP DEC 19	—	120,338
	90DAY EURO\$ FUTURE (CME) EXP DEC 20	—	(152,650)
	90DAY EURO\$ FUTURE (CME) EXP MAR 19	—	158,250
	90DAY EURO\$ FUTURE (CME) EXP MAR 20	—	(497,613)
	AUD (AUSTRALIAN DOLLARS)	31,979	31,164
*	BNY MELLON CASH RESERVE 1.590% 04/15/2020 DD 09/20/17	4,082	4,082
	CAD (CANADIAN DOLLARS)	101,785	99,542
	CASH HELD AT BOA	253,000	253,000
	CHF (SWISS FRANC)	333	334
	DKK (DANISH KRONE)	341	337
	EUR (EURO)	1,676,474	1,680,286
	GBP (GREAT BRITISH POUNDS)	325	324
	HKD (HONG KONG DOLLARS)	9,296	9,296
	JPY (JAPANESE YEN)	65,676	66,077
	MXN (MEXICAN PESO)	1,986	2,058
	INTEREST AND DIVIDENDS	—	(229,891)
	SEK (SWEDISH KRONA)	4,506	4,603
	SGD (SINGAPORE DOLLARS)	181,965	183,693
	SOCIETE GENERALE/NEW YORK NY 1.490% 05/15/2020 DD 06/27/17	900,000	900,000
	THB (THAI BAHT)	3	3
	TWD (TAIWAN DOLLAR)	5,419	5,448
	ZAR (SOUTH AFRICAN RAND)	4,332	4,327
	Short-term Investments Total	3,241,502	2,643,008
Commercial Paper			
	ATLANTIC ASSET DISC 1.720% 01/21/2020 DD 09/20/17	990,978	990,978
	ATLANTIC ASSET DISC 2.890% 09/21/2020 DD 09/26/18	987,144	987,144
	BANK NOVA SCOTIA DISC 1.460% 10/15/2019 DD 06/27/17	1,771,335	1,771,335
	BARTON CAP CORP DISC 1.480% 02/18/2020 DD 03/29/17	992,875	992,875
	BNP PARIBAS DISC VAR RT 06/15/2021 DD 07/19/16	848,262	848,262
	COLLATERALIZED CP IB NT VAR RT 09/30/2019 DD 09/30/16	1,385,000	1,385,000
	DANSKE CORP DISC VAR RT 07/13/2020 DD 07/13/18	1,338,792	1,338,792

DBS BANK LTD DISC 1.460% 01/15/2020 DD 05/17/17	1,181,892	1,181,892
DBS BANK LTD DISC 1.830% 12/16/2019 DD 10/10/17	1,339,851	1,339,851
DNB NOR BANK DISC 1.500% 08/15/2020 DD 08/15/17	1,469,410	1,469,410
DNB NOR BANK DISC 2.830% 04/15/2021 DD 07/25/18	993,150	993,150
FEDERATION DES DISC VAR RT 12/12/2019 DD 12/12/16	997,917	997,917
GOTHAM FDG CORP DISC VAR RT 06/15/2020 DD 06/15/17	1,341,139	1,341,139
HSBC BANK PLC IB NT VAR RT 12/31/49 FEE CL 00	1,175,000	1,175,000
J P MORGAN SECS DISC VAR RT 07/14/2020 DD 07/14/17	1,078,715	1,078,715
MANHATTAN AST FDG DISC VAR RT 04/20/2021 DD 04/20/18	1,095,277	1,095,277
MUFG BANK LTD NY DISC VAR RT 08/09/2019 DD 08/09/16	1,677,225	1,677,225
NATIONAL AUST BK DISC VAR RT 04/26/2021 DD 04/26/18	1,380,182	1,380,182
NATIONAL BK CANADA IB NT 0.100% 12/31/2049 DD 06/26/97	1,400,000	1,400,000
NATIXIS NY BRH DISC 2.625% 07/23/2020 DD 07/23/15	1,589,585	1,589,585
NORDEA BANK AB DISC VAR RT 04/15/2019 DD 04/15/16	1,226,603	1,226,603
ONTARIO TEACHERS FIN DISC VAR RT 10/26/2020 DD 10/26/17	1,809,661	1,809,661
OVERSEA-CHINESE BK IB NT VAR RT 08/02/2019 DD 11/02/18	550,165	550,165
OVERSEA-CHINESE DISC VAR RT 09/08/2020 DD 09/08/17	992,378	992,378
SKANDINAVISKA ENS DISC VAR RT 10/24/2019 DD 10/24/17	1,382,395	1,382,395
SUMITOMO MTSU BKG DISC VAR RT 09/17/2020 DD 09/17/18	1,181,635	1,181,635
SUMITOMO TR & BKG DISC VAR RT 01/25/2021 DD 01/25/18	1,338,491	1,338,491
UNITED OVERSEAS DISC VAR RT 01/18/2019 DD 01/18/17	1,184,773	1,184,773
UNITED OVERSEAS DISC VAR RT 11/09/2020 DD 11/09/17	986,128	986,128
Commercial Paper Total	35,685,958	35,685,958

Corporate Stock

3D SYSTEMS CORP	343,148	254,545
58.COM INC	228,406	213,045
ABBOTT LABORATORIES	1,144,474	2,018,875
ABIOMED INC	1,817,922	1,462,680
ABSA GROUP LTD	317,109	292,423
ACACIA COMMUNICATIONS INC	25,032	29,982
ACCOR SA	521,494	424,902
ACUITY BRANDS INC	64,494	56,900
ADYEN NV	1,604,243	2,103,789
AES TIETE ENERGIA SA	361,435	341,260
AFFILIATED MANAGERS GROUP INC	315,030	293,294
AIRPORTS OF THAILAND PCL	759,909	2,546,123
AIXTRON SE	465,486	302,737
AJINOMOTO CO INC	353,014	349,608
ALACER GOLD CORP	282,781	292,278
ALIBABA GROUP HOLDING LTD	6,473,566	8,929,425

ALIGN TECHNOLOGY INC	3,909,066	3,371,823
ALIMENTATION COUCHE-TARD INC	4,699,853	5,791,393
ALLERGAN PLC	2,846,904	2,215,014
ALLETE INC	2,937,853	2,888,586
ALMA MEDIA OYJ	112,564	87,250
ALPHA BANK AE	599,754	356,035
ALPHABET INC-CL A	956,872	3,056,508
ALPHABET INC-CL C	5,420,871	8,898,997
ALTABA INC	427,710	382,404
AMAZON.COM INC	5,958,897	12,825,322
AMBEV SA ADR	2,690,929	2,043,512
AMDOCS LTD	637,066	573,674
AMERICAN EXPRESS CO	146,119	139,072
AMERICAN TOWER CORP	2,121,593	3,471,480
AMERIS BANCORP	2,849,935	1,740,742
AMERISUR RESOURCES PLC GBP0.001	349,795	355,565
AMS AG	465,704	315,185
ANDRITZ AG	3,065,008	2,496,241
ANGLO AMERICAN PLC	452,890	455,973
ANHEUSER-BUSCH INBEV SA/NV	6,415,360	4,141,085
ANIMA HOLDING SPA	912,297	652,417
ANTHEM INC	2,904,205	3,069,094
AP MOLLER - MAERSK A/S	429,820	406,942
APACHE CORP	434,349	272,974
APPLE INC	296,982	282,355
APPLIED MATERIALS INC	148,128	142,419
APPLUS SERVICES SA	814,939	599,682
ARCOS DORADOS HOLDINGS INC	453,054	511,304
ARTISAN PARTNERS ASSET MANAGEM	282,370	261,561
ASML HOLDING NV	1,710,051	4,886,468
ASOS PLC GBP0.035	731,914	406,491
ASSICURAZIONI GENERALI SPA	507,007	491,103
ATLASSIAN CORP PLC	2,485,339	3,915,120
ATOS SE	218,494	223,892
AVIANCA HOLDINGS SA ADR	464,484	288,772
AVNET INC	2,844,768	2,354,875
BABCOCK INTERNATIONAL GROUP PL	2,698,424	1,761,671
BAIDU INC ADR	4,199,000	2,632,126
BAKER HUGHES A GE CO	682,839	461,412
BANCA FARMAFACTORING SPA	624,993	529,837
BANCO BTG PACTUAL SA	452,736	497,037

BANCO SANTANDER CHILE ADR	97,365	91,404
BANCO SANTANDER MEXICO SA INST ADR	104,845	81,035
BANCOLOMBIA SA	816,927	639,921
BANGKOK BANK PCL	471,786	468,547
BANK OF AMERICA CORP	1,291,469	1,032,170
BANK OF CHINA LTD HK/03988	522,728	481,209
BANK OF IRELAND GROUP PLC	425,185	290,364
BANK OF KYOTO LTD/THE	707,439	621,383
BANKINTER SA	565,046	451,465
BASF SE	3,217,111	2,368,287
BAYER AG	706,664	578,756
BAYERISCHE MOTOREN WERKE AG	203,623	177,806
BB SEGURIDADE PARTICIPACOES SA	36,800	39,259
BBA AVIATION PLC	1,928,234	1,213,662
BEC WORLD PCL	304,246	207,855
BECTON DICKINSON AND CO	4,424,155	4,403,654
BEIJING CAPITAL INTERNATIONAL HK/00694	301,312	285,833
BELLWAY PLC	3,036,604	2,512,547
BERKSHIRE HATHAWAY INC	5,853,963	7,743,731
BHP GROUP PLC ADR	2,719,209	2,665,754
BIOMARIN PHARMACEUTICAL INC	1,518,885	2,273,505
BIOTOSCANA INVESTMENTS SA	233,083	200,397
BITAUTO HOLDINGS LTD	368,669	373,036
BLUE APRON HOLDINGS INC	862,692	306,516
BNP PARIBAS SA	1,042,090	754,820
BOLSA DE VALORES DE COLOMBIA	6,962	6,242
BOOKING HOLDINGS INC	4,861,456	6,894,847
BORGWARNER INC	155,374	146,603
BORR DRILLING LTD	581,354	330,166
BR MALLS PARTICIPACOES SA	315,339	384,983
BRASIL BROKERS PARTICIPACOES S	84,507	150,959
BRIDGESTONE CORP	22,723	23,165
BROADBAND TOWER INC	249,317	391,199
BROOKLINE BANCORP INC	725,419	534,682
CAIRN HOMES PLC	403,105	264,724
CANADIAN NATIONAL RAILWAY CO	2,483,047	2,437,360
CAPITAL ONE FINANCIAL CORP	2,952,875	2,295,668
CARNIVAL PLC	141,976	138,505
CARTER'S INC	3,043,123	2,119,100
CATERPILLAR INC	82,416	74,971
CEGEDIM SA	1,238,037	745,161

CEMEX LATAM HOLDINGS SA	583,877	277,260
CEMEX SAB DE CV ADR	760,955	544,270
CERVED GROUP SPA	413,907	339,054
CGG SA	774,396	411,068
CHARLES SCHWAB CORP/THE	2,516,358	4,605,677
CHEMRING GROUP PLC	747,028	526,146
CHESAPEAKE ENERGY CORP	508,171	352,380
CHINA LESSO GROUP HOLDINGS LTD HK/02128	545,740	443,202
CHINA LIFE INSURANCE CO LTD HK/02628	499,386	420,179
CHINA LONGYUAN POWER GROUP COR HK/00916	344,726	263,459
CHINA MENGNIU DAIRY CO LTD HK/02319	327,563	314,764
CHINA MERCHANTS BANK CO LTD HK/03968	486,639	458,212
CHINA MOBILE LTD HK/00941	2,484,078	2,738,040
CHINA NEW HIGHER EDUCATION GRO HK/02001	310,758	222,834
CHINA OILFIELD SERVICES LTD HK/02883	161,227	142,949
CHINA OVERSEAS LAND & INVESTME HK/00688	382,455	419,166
CHINA PACIFIC INSURANCE GROUP HK/02601	327,582	278,517
CHINA RESOURCES MEDICAL HOLDIN HK/01515	65,501	65,853
CHINA SANJIANG FINE CHEMICALS HK/02198	427,659	340,013
CHINA YONGDA AUTOMOBILES SERVI HK/03669	659,958	464,135
CHINASOFT INTERNATIONAL LTD HK/00354	399,480	319,920
CHONGQING RURAL COMMERCIAL BAN HK/03618	345,723	308,991
CHOW TAI FOOK JEWELLERY GROUP HK/01929	364,663	291,414
CHUBB LTD	2,909,743	2,821,291
CIE GENERALE DES ETABLISSEMENT	4,756,546	3,781,782
CIELO SA	249,166	191,299
CIMB GROUP HOLDINGS BHD	320,466	307,200
CINEWORLD GROUP PLC	2,863,856	2,701,942
CITIGROUP INC	1,200,870	879,658
CITIZENS FINANCIAL GROUP INC	796,396	591,330
CITY DEVELOPMENTS LTD	77,331	75,719
CJ CORP	248,223	230,194
CJ ENM CO LTD	482,671	442,595
CME GROUP INC	5,576,318	6,725,102
CNOOC LTD HK/00883	438,488	427,476
COATS GROUP PLC	956,174	955,194
COCA-COLA BOTTLERS JAPAN HOLDI	256,365	281,447
COCA-COLA ICECEK AS	233,175	297,951
COLOPL INC	393,891	425,399
CONCORDIA FINANCIAL GROUP LTD	514,771	375,402
CONSORCIO ARA SAB DE CV	51,496	36,198

CONTINENTAL AG	517,122	416,867
CORE LABORATORIES NV	366,045	194,014
CORP AMERICA AIRPORTS SA	722,938	464,710
CORP FINANCIERA ALBA SA	495,890	420,056
CORP INMOBILIARIA VESTA SAB DE	441,000	389,908
COSCO CAPITAL INC	346,302	383,562
COSCO SHIPPING PORTS LTD	216,203	231,422
COSTCO WHOLESALE CORP	468,434	436,347
COTY INC	212,655	170,494
COVIVIO	251,301	236,975
CP ALL PCL	2,193,677	4,116,132
CREDIT SUISSE GROUP AG	930,436	645,546
CRITEO SA	758,134	566,546
CVS HEALTH CORP	76,237	61,589
DAIBIRU CORP	529,103	526,593
DAI-ICHI LIFE HOLDINGS INC	842,554	681,156
DAITO TRUST CONSTRUCTION CO LT	106,658	109,484
DCC ORD EURO0.25	2,174,484	1,956,598
DCC PLC	166,531	149,706
DENA CO LTD	564,525	488,108
DEUTSCHE BOERSE AG	1,563,449	1,364,700
DEUTSCHE LUFTHANSA AG	586,968	536,585
DEUTSCHE TELEKOM AG	2,883,309	3,035,524
DEVON ENERGY CORP	518,723	262,388
D'IETEREN SA/NV	428,324	367,406
DIME COMMUNITY BANCSHARES INC	957,488	810,880
DIRECIONAL ENGENHARIA SA	547,405	559,827
DISCOVER FINANCIAL SERVICES	23,564	19,286
DNB ASA	2,798,310	2,304,954
DOUBLEGAMES CO LTD	390,937	440,434
DOWA HOLDINGS CO LTD	268,206	258,670
DR HORTON INC	148,470	142,106
DROPBOX INC	770,806	514,468
DUNI AB	784,901	676,277
EBAY INC	533,005	457,822
ECKOH PLC	307,138	287,156
ECORODOVIAS INFRAESTRUTURA E L	709,378	774,045
EDWARDS LIFESCIENCES CORP	3,654,090	6,151,767
ELECTROLUX AB	82,113	80,193
ELLAKTOR SA	551,013	339,804
ENDESA SA	483,056	482,208

ENERPLUS CORP	486,180	286,922
ENI SPA	883,844	730,795
EOG RESOURCES INC	518,243	405,265
EPRICE SPA	50,503	49,825
ETABLISSEMENTS MAUREL ET PROM	531,080	291,365
EURAZEO SE	420,041	380,644
EUROBANK ERGASIAS SA	401,606	257,027
EUTELSAT COMMUNICATIONS SA	111,746	100,621
EXOR NV	439,214	367,480
EXPEDITORS INTERNATIONAL OF WA	24,889	23,083
EXXON MOBIL CORP	319,505	262,463
FACEBOOK INC	1,239,756	2,880,047
FANG HOLDINGS LTD ADR	431,311	188,139
FANUC CORP	149,625	135,226
FAST RETAILING CO LTD	1,927,440	2,723,064
FINECOBANK BANCA FINECO SPA	385,050	323,454
FINGERPRINT CARDS AB	244,287	367,810
FIRST DATA CORP	315,583	234,778
FLUOR CORP	1,166,116	786,968
FOOT LOCKER INC	70,911	71,980
FORTRESS TRANSPORTATION & INFR	7,176,942	7,659,811
FOURLIS HOLDINGS SA	239,849	169,376
FRANKLIN RESOURCES INC	2,870,109	2,661,896
FRASER AND NEAVE LTD	91,447	77,482
FREEPORT-MCMORAN INC	883,324	698,977
FRESENIUS KABI PHARMACEUTICALS RTS EXP 12/31/2010	750	750
FRESENIUS SE & CO KGAA	4,878,492	3,382,694
FUFENG GROUP LTD HK/00546	478,532	442,216
FUKUDA DENSHI CO LTD	140,403	130,585
FUTURE CORP	92,182	98,873
GAFISA SA	349,167	467,832
GALAPAGOS NV	3,020,070	2,764,768
GAM HOLDING AG	107,731	126,147
GEELY AUTOMOBILE HOLDINGS LTD HK/00175	164,474	161,102
GEMALTO NV	928,979	924,217
GENERAL DYNAMICS CORP	2,953,415	2,377,644
GENERAL ELECTRIC CO	581,175	343,686
GENERAL MILLS INC	229,970	205,993
GENOMMA LAB INTERNACIONAL SAB	363,784	258,303
GENTERA SAB DE CV	434,371	323,661
GENTING BHD	448,404	322,234

GENTING SINGAPORE LTD	695,744	537,788
GETINGE AB	289,477	246,932
GILEAD SCIENCES INC	2,892,710	2,338,619
GINKO INTERNATIONAL CO LTD	274,867	311,054
GLAXOSMITHKLINE PLC	2,859,626	2,674,841
GOURMET MASTER CO LTD	271,985	240,710
GREENCORE GROUP PLC	2,778,462	2,699,538
GREENLIGHT CAPITAL RE LTD	409,280	251,859
GREENTOWN SERVICE GROUP CO LTD HK/02869	257,887	261,832
GRESHAM HOUSE PLC	229,663	227,338
GRIVALIA PROPERTIES REIC AE	220,431	209,264
GRUPO DE INVERSIONES SURAMERIC	395,294	311,942
GRUPO NUTRESA SA	411,111	322,017
GRUPO TRAXION SAB DE CV	200,599	147,398
GRUPPO MUTUIONLINE SPA	179,297	209,750
GULF KEYSTONE PETROLEUM LTD	537,091	355,898
HAITONG SECURITIES CO LTD HK/06837	592,918	554,356
HANNOVER RUECK SE	2,925,396	3,042,551
HDFC BANK LTD ADR	547,554	557,521
HEIDELBERGCEMENT AG	560,082	429,773
HEIJMANS NV	679,304	480,727
HELLENIC EXCHANGES - ATHENS ST	376,547	294,824
HERIGE SADCS	74,590	69,954
HEWLETT PACKARD ENTERPRISE CO	1,444,171	1,233,193
HI SUN TECHNOLOGY CHINA LTD HK/00818	406,193	420,460
HOLLYSYS AUTOMATION TECHNOLOGI	639,034	480,650
HUSKY ENERGY INC	228,677	158,063
HUTCHISON PORT HOLDINGS TRUST	266,891	245,419
HYUNDAI GLOVIS CO LTD	272,580	272,035
HYUNDAI MOBIS CO LTD	2,386,429	2,029,584
IBERSOL SGPS SA	421,848	319,450
IGM FINANCIAL INC	176,741	134,339
IJM CORP BHD	593,091	485,275
ILLUMINA INC	2,870,875	5,068,817
IMAX CHINA HOLDING INC HK/01970	164,313	180,760
IMERYS SA	3,240,882	2,030,913
IMMOBILIARE GRANDE DISTRIBUZION	582,359	421,552
INCHCAPE PLC	1,472,042	989,422
INCYTE CORP	5,193,868	2,886,986
INDRA SISTEMAS SA	339,808	281,775
INDUSTRIA DE DISEÑO TEXTIL SA	4,652,781	3,289,128

INDUSTRIAS ROMI SA	431,862	525,591
INFOSYS LTD ADR	2,949,774	2,806,782
ING GROEP NV	794,964	589,443
INMOBILIARIA COLONIAL SOCIMI S	411,676	338,921
INTERCONTINENTAL EXCHANGE INC	161,096	160,076
INTERNATIONAL BANCSHARES CORP	2,952,096	2,266,788
INTERNATIONAL BUSINESS MACHINE	601,760	487,303
INTERNATIONAL MEAL CO ALIMENTA	285,499	254,093
INTERNET INITIATIVE JAPAN INC	147,498	171,029
INTESA SANPAOLO SPA	586,088	457,948
INVERSIONES LA CONSTRUCCION SA	362,908	347,030
IPSOS	965,176	656,627
IQIYI INC ADR	79,920	57,993
ISHARES MSCI INDIA ETF	368,160	391,845
ISRAEL CHEMICALS LTD	274,555	329,933
JANUS HENDERSON GROUP PLC	159,407	152,914
JAPAN PETROLEUM EXPLORATION CO	238,134	190,523
JAPAN TOBACCO INC	874,160	789,374
JARDINE CYCLE & CARRIAGE LTD	87,689	93,368
JD.COM INC	631,187	401,437
JM SMUCKER CO/THE	2,924,710	2,497,772
JOHNSON & JOHNSON	4,287,675	4,487,198
JOHNSON CONTROLS INTERNATIONAL	383,119	319,805
JPM STRUCT PROD BV L/WTS 30-SEPT-19(HOUSING DEV FIN)USD	3,444,461	5,165,846
JPM STRUCT PROD BV L/WTS 30-SEPT-19(TITAN CO)USD0.0001	1,599,961	3,401,101
JPM STRUCT PROD BV LEPO WTS 04-MAR-20(MARUTI SUZUKI IND)US	2,410,561	4,554,776
JPM STRUCT PROD BV LEPO WTS 14-MAY-20(EICHER MRS)USD0.0001	1,676,488	1,980,720
JPM STRUCT PROD BV LEPW 15-JAN-20(ASIAN PAINTS)USD0.00	1,662,082	2,411,024
JPM STRUCT PROD BV LEPW 15-JAN-20(MOTHEPERSON SUMI)USD	717,989	830,620
JPMORGAN CHASE & CO	4,028,057	3,511,880
JUMBO SA	366,442	339,704
JUVENTUS FOOTBALL CLUB SPA	332,798	380,208
KANGWON LAND INC	411,832	507,847
KANSAI ELECTRIC POWER CO INC/T	3,011,877	3,111,562
KASIKORNBANK PCL	298,042	261,224
KDDI CORP	2,947,137	2,499,275
KEPPEL CORP LTD	469,106	400,215
KEYENCE CORP	6,809,064	6,138,680
KGINICIS CO LTD	560,273	480,977
KIA MOTORS CORP	2,231,379	2,372,893
KNOW IT AB	187,758	166,354

KOC HOLDING AS	460,224	467,915
KONE OYJ	3,094,986	2,654,790
KONICA MINOLTA INC	613,258	604,588
KONINKLIJKE AHOLD DELHAIZE NV	467,771	468,741
KT&G CORP	2,175,098	2,058,018
KUNLUN ENERGY CO LTD HK/00135	249,896	311,673
L BRANDS INC	2,444,672	1,979,645
LAFARGE MALAYSIA BHD	358,364	203,622
LANDIS+GYR GROUP AG	428,618	384,170
LANXESS AG	2,889,910	1,672,105
LAS VEGAS SANDS CORP	2,282,631	2,623,841
LEGG MASON INC	415,528	323,900
LG CHEM LTD	327,254	349,550
LG CORP	270,659	254,592
LG HOUSEHOLD & HEALTH CARE LTD	796,106	669,007
LG UPLUS CORP	2,199,901	2,674,771
LI & FUNG LTD	544,058	302,889
LIFE HEALTHCARE GROUP HOLDINGS	244,603	247,863
LINDE PLC	5,757,994	5,568,260
LINK NET TBK PT	280,696	326,235
LLOYDS BANKING GROUP PLC	836,316	666,717
LOMA NEGRA CIA INDUSTRIAL ARGE ADR	270,878	345,008
LOOMIS AB	1,974,157	1,802,676
LVMH MOET HENNESSY LOUIS VUITT	443,033	371,018
M&T BANK CORP	1,840,654	1,943,992
MAGNA INTL INC	2,823,642	2,178,887
MAIL.RU GROUP LTD GDR	627,515	543,451
MAKEMYTRIP LTD	619,920	430,933
MALAYSIA AIRPORTS HOLDINGS BHD	310,368	284,302
MARATHON OIL CORP	512,785	352,678
MARATHON PETROLEUM CORP	2,942,209	2,394,095
MARCOPOLO SA RTS	—	2,657
MARISA LOJAS SA	515,068	574,874
MARTIN MARIETTA MATERIALS INC	2,263,398	2,249,435
MASTERCARD INC	2,301,092	6,827,244
MCKESSON CORP	842,996	701,374
MEDIASET SPA	329,019	317,012
MEDIATEK INC	348,599	313,596
MEDIOBANCA BANCA DI CREDITO FI	564,212	482,801
MEDTRONIC PLC	4,659,782	5,543,011
MEGA MANUNGGAL PROPERTY TBK PT	340,879	347,778

MELCO INTERNATIONAL DEVELOPMEN HK/00200	351,966	249,572
MELCO RESORTS AND ENTERTAINMEN	431,215	500,935
MERCADOLIBRE INC	437,014	362,548
METHANEX CORP	2,863,673	1,937,109
MEYER BURGER TECHNOLOGY AG	429,220	379,615
MGM CHINA HOLDINGS LTD HK/02282	579,319	489,728
MICHAEL KORS HOLDINGS LTD	218,768	216,144
MICRON TECHNOLOGY INC	331,293	306,512
MICROSOFT CORP	11,711,638	11,206,722
MINCON GROUP PLC	208,439	169,755
MINWISE CO LTD	262,586	222,616
MITSUBISHI ESTATE CO LTD	287,690	263,252
MODERN TIMES GROUP MTG AB	384,994	345,585
MOMO INC ADR	285,376	172,283
MOSAIC CO/THE	388,084	390,625
MS&AD INSURANCE GROUP HOLDINGS	551,919	508,131
MUENCHENER RUECKVERSICHERUNGS-	2,864,988	2,913,657
MURATA MANUFACTURING CO LTD	17,495	13,631
MYLAN NV SHS EURO	607,813	478,294
NASPERS LTD	1,855,668	3,063,977
NATIONAL GRID PLC	306,574	269,503
NATIONAL OILWELL VARCO INC	791,366	544,326
NEINOR HOMES SA	367,476	290,859
NESTLE SA	3,837,091	4,279,152
NETFLIX INC	2,333,503	4,309,326
NEWELL BRANDS INC	78,837	68,783
NEXANS SA	74,763	83,439
NEXON CO LTD	3,460,053	3,071,599
NEXT PLC	2,916,569	1,870,369
NEXTERA ENERGY INC	2,959,858	3,026,901
NICHI-IKO PHARMACEUTICAL CO LT	300,219	312,759
NIKE INC	5,127,570	8,699,588
NINTENDO CO LTD	1,489,477	1,201,135
NIPPON INDOSARI CORPINDO TBK P	359,652	454,256
NIPPON PARKING DEVELOPMENT CO	376,144	292,374
NIPPON TELEGRAPH & TELEPHONE C	968,061	874,218
NOBLE CORP PLC	812,659	430,888
NOKIA OYJ	1,227,061	1,178,914
NOMURA HOLDINGS INC	656,150	502,436
NOVABASE SGPS SA	18,784	13,573
NOVARTIS AG	3,112,547	3,212,241

NS SOLUTIONS CORP	357,305	327,248
NSI NV	358,136	347,207
NTT DOCOMO INC	1,337,580	1,178,615
OCADO GROUP PLC	401,747	270,894
OCCIDENTAL PETROLEUM CORP	460,263	366,684
OCEAN WILSONS HOLDINGS LTD	60,295	58,889
OKAMOTO INDUSTRIES INC	172,981	178,809
OPHIR ENERGY PLC	390,827	295,963
O'REILLY AUTOMOTIVE INC	1,273,932	2,092,493
QUE LTD	608,342	524,054
PADDY POWER BETFAIR PLC	5,620,801	4,352,850
PARQUES REUNIDOS SERVICIOS CEN	283,026	236,488
PAYPAL HOLDINGS INC	598,918	550,958
PEPSICO INC	4,468,996	4,959,779
PEPTIDREAM INC	1,129,392	1,305,382
PETROLEUM GEO-SERVICES ASA	655,351	252,421
PEUGEOT SA	500,115	388,001
PHILIP MORRIS INTERNATIONAL IN	2,328,356	1,914,810
PING AN HEALTHCARE AND TECHNOL HK/01833	376,490	217,505
PING AN INSURANCE GROUP CO OF HK/02318	361,386	344,454
PIONEER NATURAL RESOURCES CO	718,879	548,438
PIRAEUS PORT AUTHORITY SA	352,079	298,403
PLAYTECH PLC	210,641	206,480
PNC FINANCIAL SERVICES GROUP I	2,013,225	1,971,103
POPULAR INC	2,976,933	2,942,042
PPC LTD	394,419	332,642
PRADA SPA HK/01913	740,441	581,454
PROFARMA DISTRIBUIDORA DE PROD FARMACEUTICOS COM NPV	399,577	284,842
PROSEGUR CASH SA	349,958	305,062
PUBLICIS GROUPE SA	2,570,072	2,337,704
PURPLEBRICKS GROUP PLC	497,310	283,548
QGEP PARTICIPACOES SA	587,627	330,021
QINGLING MOTORS CO LTD HK/01122	17,585	16,422
QIWI PLC ADR	581,658	514,328
QUALCOMM INC	167,314	153,657
QUALICORP CONSULTORIA E CORRET	476,193	321,606
QUDIAN INC ADR	442,847	311,540
QUEST DIAGNOSTICS INC	3,402,664	2,476,533
RAIFFEISEN BANK INTERNATIONAL	510,611	400,514
RAKUTEN INC	435,230	419,268
RALPH LAUREN CORP	352,461	294,447

RECKITT BENCKISER GROUP PLC	6,535,529	5,930,094
REGENERON PHARMACEUTICALS INC	3,121,353	3,641,625
RELX PLC	2,980,526	3,352,993
REPSOL SA	499,899	407,942
REPSOL SA RTS	11,600	11,589
RESONA HOLDINGS INC	600,642	498,269
RHYTHMONE PLC	100,511	87,228
RIO TINTO LTD	547,675	503,815
ROCHE HOLDING AG	3,192,371	3,339,651
ROCKET INTERNET SE	451,949	299,894
ROHM CO LTD	597,370	454,939
ROYAL BANK OF SCOTLAND GROUP P	614,050	514,786
ROYAL CARIBBEAN CRUISES LTD	2,381,599	2,192,941
RWE AG	514,462	434,095
SAFRAN SA	5,662,753	5,968,856
SAIPEM SPA	631,184	489,678
SALVATORE FERRAGAMO SPA	478,020	415,554
SAMSUNG C&T CORP	291,669	257,651
SAMSUNG ELECTRONICS CO LTD	3,500,296	2,915,680
SAMSUNG LIFE INSURANCE CO LTD	331,084	286,236
SANDS CHINA LTD HK/01928	156,053	168,448
SANTOS LTD	186,608	175,342
SAP SE	4,065,945	4,875,588
SARANTIS SA	166,073	161,722
SAREPTA THERAPEUTICS INC	2,074,779	1,582,385
SBERBANK OF RUSSIA PJSC ADR	555,928	429,411
SBI HOLDINGS INC/JAPAN	544,771	407,340
SBM OFFSHORE NV	371,457	396,508
SCHIBSTED ASA	301,983	288,588
SCHLUMBERGER LTD	1,801,801	1,055,629
SDL PLC	389,418	350,309
SECOM CO LTD	84,373	91,377
SEINO HOLDINGS CO LTD	466,798	345,665
SELCUK ECZA DEPOSU TICARET VE	207,181	183,648
SEMEN INDONESIA PERSERO TBK PT	429,486	654,508
SEMPRA ENERGY	24,566	23,261
SER EDUCACIONAL SA	73,699	71,857
SHANGRI-LA ASIA LTD HK/00069	614,192	568,343
SHINHAN FINANCIAL GROUP CO LTD	2,152,721	1,946,497
SHOP APOTHEKE EUROPE NV	336,068	239,154
SHOPIFY INC	1,672,984	3,751,995

SIAM COMMERCIAL BANK PCL/THE	2,912,950	3,205,066
SIEMENS GAMESA RENEWABLE ENERG	425,565	366,061
SIME DARBY BHD	357,186	342,824
SIME DARBY PROPERTY BHD	717,508	519,398
SINA CORP/CHINA	677,144	453,794
SJM HOLDINGS LTD HK/00880	256,892	199,531
SK HYNIX INC	1,453,849	1,016,756
SMILES FIDELIDADE SA	152,522	128,371
SNAM SPA	471,251	475,969
SNAP INC	576,393	276,519
SOCIETE BIC SA	228,908	245,607
SOCIETE GENERALE SA	544,506	402,492
SOFTBANK GROUP CORP	709,213	552,627
SOHU.COM LTD ADR	610,348	360,368
SOLOCAL GROUP	1,145,313	511,970
SOLVAY SA	2,948,534	2,295,857
SOMERO ENTERPRISES INC	1,122,914	846,485
SOMPO HOLDINGS INC	317,479	268,722
SONAE SGPS SA	436,537	356,918
SOUTH32 LTD	551,413	476,465
SOUTHERN CO/THE	636,720	588,484
SOUTHWESTERN ENERGY CO	509,416	328,376
SP SETIA BHD GROUP	461,307	346,695
SPAREBANK 1 SR-BANK ASA	2,120,096	1,991,086
SPOTIFY TECHNOLOGY SA	768,903	468,301
STANDARD CHARTERED PLC	3,308,385	2,884,284
STARBUCKS CORP	5,116,164	5,934,396
STERICYCLE INC	450,261	261,233
STUDIO CITY INTERNATIONAL HOLD ADR	508	512
SUBARU CORP	593,894	464,622
SUBSEA 7 SA	283,502	179,059
SUMITOMO MITSUI FINANCIAL GROU	1,241,370	1,023,251
SUMITOMO MITSUI TRUST HOLDINGS	492,615	439,903
SUNCOR ENERGY INC NEW	175,847	120,102
SVENSKA HANDELSBANKEN AB	2,948,038	2,829,416
SWIRE PACIFIC LTD HK/00087	135,910	128,542
SWISSCOM AG	324,763	342,102
TAIHEIYO CEMENT CORP	503,867	507,478
TAIWAN SEMICONDUCTOR MANUFACTU ADR	2,483,152	2,531,362
TAKEDA PHARMACEUTICAL CO LTD	382,017	303,924
TAPESTRY INC	147,763	103,208

TARPON INVESTIMENTOS SA	20,921	17,140
TAYLOR WIMPEY PLC	2,978,647	2,228,164
TECHNOS SA	119,560	136,209
TELEFONICA DEUTSCHLAND HOLDING	462,512	428,301
TENARIS SA	481,627	295,834
TENCENT HOLDINGS LTD HK/00700	6,128,488	6,202,195
TENCENT MUSIC ENTERTAINMENT GR ADR	613	613
TEVA PHARMACEUTICAL INDUSTRIES ADR	2,769,715	1,862,582
TEXWINCA HOLDINGS LTD HK/00321	319,166	244,034
THALES SA	41,706	36,613
TINEXTA SPA	81,955	80,021
TINGYI CAYMAN ISLANDS HOLDING HK/00322	577,429	342,016
TIONG NAM LOGISTICS HOLDINGS	412,094	275,906
TITAN CEMENT CO SA	446,751	418,582
TJX COS INC/THE	1,722,963	2,455,242
TKH GROUP NV	249,793	188,757
TOD'S SPA	484,125	378,175
TOMTOM NV	714,414	626,906
TOWER BERSAMA INFRASTRUCTURE T	418,574	314,987
TOYO TANSO CO LTD	319,293	218,667
TOYOTA INDUSTRIES CORP	343,054	292,275
TRANSOCEAN LTD	967,219	535,032
TSINGTAO BREWERY CO LTD HK/00168	496,240	379,393
TSUMURA & CO	171,810	150,362
TULLOW OIL PLC	547,700	437,727
TWITTER INC	749,299	548,647
TYSON FOODS INC	2,804,352	2,335,502
UBE INDUSTRIES LTD	338,242	268,776
UBS GROUP AG	520,422	402,286
UNICREDIT SPA	638,708	435,346
UNILEVER NV	5,700,159	7,084,304
UNIPOL GRUPPO SPA	497,309	496,969
UNITED OVERSEAS BANK LTD	2,838,706	2,640,869
UNITEDHEALTH GROUP INC	6,760,706	10,137,938
UNIVERSAL ENTERTAINMENT CORP	476,225	393,389
US BANCORP	312,896	280,050
VALEO SA	151,483	146,392
VALID SOLUCOES E SERVICOS DE S	491,245	493,639
VALUE PARTNERS GROUP LTD HK/00806	795,207	712,963
VAN LANSCHOT KEMPEN NV	762,402	625,181
VEECO INSTRUMENTS INC	783,994	418,309

VEON LTD ADR	323,526	248,213
VERIZON COMMUNICATIONS INC	4,027,109	4,461,394
VICAT SA	526,437	387,549
VIENNA INSURANCE GROUP AG WIEN	473,258	390,542
VINA CONCHA Y TORO SA	318,112	287,240
VINCI SA	2,860,035	2,384,679
VISA INC	4,126,650	14,559,843
VOYA FINANCIAL INC	490,898	394,014
WAL-MART DE MEXICO SAB DE CV	168,169	145,677
WALT DISNEY CO/THE	3,550,574	3,787,859
WANT WANT CHINA HOLDINGS LTD HK/00151	369,737	311,469
WEBSTER FINANCIAL CORP	3,011,191	2,216,571
WELLS FARGO & CO	4,710,838	4,241,480
WESCO INTERNATIONAL INC	2,968,390	2,400,720
WESTERN UNION CO/THE	2,893,043	2,433,694
WH GROUP LTD HK/00288	327,351	307,686
WHIRLPOOL CORP	146,502	137,862
WIIT SPA	481,301	404,601
WILSON SONS LTD	221,613	189,909
WING TAI HOLDINGS LTD	603,219	544,025
WING TAI PROPERTIES LTD HK/00369	301,063	260,711
WIRTUALNA POLSKA HOLDING SA	259,157	278,691
WORKDAY INC	3,438,626	6,626,720
WYNN MACAU LTD HK/01128	279,499	286,479
XAAR PLC	11,641	6,364
XIAOMI CORP HK/01810	75,389	77,858
XINYI SOLAR HOLDINGS LTD HK/00968	124,744	154,055
YAGEO CORP	227,129	182,556
YAHOO JAPAN CORP	391,859	289,946
YANDEX NV	664,941	495,062
YARA INTERNATIONAL ASA	3,005,503	2,766,781
YOMA STRATEGIC HOLDINGS LTD	434,400	402,387
YPF SA ADR	78,114	65,611
YUM CHINA HOLDINGS INC	292,087	292,348
YY INC ADR	308,868	267,574
ZALANDO SE	3,276,237	1,836,704
ZHEJIANG EXPRESSWAY CO LTD HK/00576	330,696	339,962
ZHONGAN ONLINE P&C INSURANCE C HK/06060	82,071	75,508
ZIONS BANCORP NA	697,433	543,798
ZOOPLUS AG	478,323	374,053
ZYNGA INC	609,247	578,343

Corporate Stock Total	669,907,052	680,174,394
U.S. Government Obligations		
FEDERAL HOME LN BK CONS BD 2.790% 08/10/2038 DD 08/10/16	3,227,065	3,222,299
FEDERAL HOME LN BK CONS BD 3.250% 11/16/2028 DD 11/16/18	2,361,269	2,425,235
FEDERAL HOME LN MTG CORP 6.750% 03/15/2031 DD 10/25/00	4,330,852	4,357,582
FEDERAL NATL MTG ASSN 1.875% 09/24/2026 DD 09/27/16	2,166,968	2,140,035
FEDERAL NATL MTG ASSN 2.875% 09/12/2023 DD 09/14/18	5,447,573	5,534,382
FEDERAL NATL MTG ASSN 7.250% 05/15/2030 DD 05/05/00	6,649,411	6,635,054
HASHEMITE KINGDOM OF JORDAN GO 3.000% 06/30/2025 DD 06/30/15	532,135	513,281
IRAQ GOVERNMENT AID BOND 2.149% 01/18/2022 DD 01/18/17	3,527,090	3,436,720
ISRAEL ST AID 5.500% 04/26/2024 DD 04/26/04	347,774	329,733
ISRAEL ST AID 5.500% 09/18/2033 DD 09/18/03	1,485,786	1,783,451
PRIVATE EXPORT FUNDING CORP 3.550% 01/15/2024 DD 01/14/14	1,061,358	1,107,568
U S TREASURY BD CPN STRIP 0.000% 05/15/2039 DD 05/15/09	4,372,356	4,464,200
U S TREASURY BD PRIN STRIP 0.000% 02/15/2043 DD 02/15/13	7,978,641	10,449,608
U S TREASURY BILL 0.000% 02/12/2019 DD 12/18/18	26,280,525	26,280,525
U S TREASURY BOND 2.250% 08/15/2046 DD 08/15/16	13,692,465	13,764,138
U S TREASURY BOND 2.500% 02/15/2045 DD 02/15/15	52,453,748	52,594,219
U S TREASURY BOND 2.500% 02/15/2046 DD 02/15/16	72,445,653	70,067,084
U S TREASURY BOND 2.500% 05/15/2046 DD 05/15/16	47,619,701	47,581,078
U S TREASURY BOND 2.750% 08/15/2047 DD 08/15/17	9,667,774	9,603,290
U S TREASURY BOND 2.750% 11/15/2042 DD 11/15/12	4,875,970	5,153,541
U S TREASURY BOND 2.875% 08/15/2045 DD 08/15/15	63,971,244	65,178,742
U S TREASURY BOND 3.000% 02/15/2047 DD 02/15/17	15,125,678	14,698,581
U S TREASURY BOND 3.000% 02/15/2048 DD 02/15/18	3,298,437	3,346,997
U S TREASURY BOND 3.000% 05/15/2042 DD 05/15/12	29,848,482	29,713,653
U S TREASURY BOND 3.000% 05/15/2045 DD 05/15/15	12,089,938	11,996,942
U S TREASURY BOND 3.000% 05/15/2047 DD 05/15/17	18,059,285	17,557,079
U S TREASURY BOND 3.000% 08/15/2048 DD 08/15/18	28,793,183	30,171,710
U S TREASURY BOND 3.000% 11/15/2044 DD 11/15/14	19,038,263	18,377,024
U S TREASURY BOND 3.125% 02/15/2043 DD 02/15/13	10,227,725	10,118,797
U S TREASURY BOND 3.125% 05/15/2048 DD 05/15/18	13,109,827	13,608,478
U S TREASURY BOND 3.125% 08/15/2044 DD 08/15/14	15,123,242	14,925,409
U S TREASURY BOND 3.125% 11/15/2041 DD 11/15/11	22,248,356	21,931,295
U S TREASURY BOND 3.625% 02/15/2044 DD 02/15/14	10,961,876	10,750,520
U S TREASURY BOND 3.625% 08/15/2043 DD 08/15/13	22,545,858	22,459,204
U S TREASURY BOND 3.750% 11/15/2043 DD 11/15/13	31,749,268	31,188,657
U S TREASURY BOND 4.250% 05/15/2039 DD 05/15/09	15,997,529	15,616,460
U S TREASURY BOND 5.250% 02/15/2029 DD 02/15/99	6,183,964	5,840,197
U S TREASURY BOND 5.250% 11/15/2028 DD 11/15/98	16,451,652	16,868,885

U S TREASURY BOND 6.250% 05/15/2030 DD 11/15/99	8,777,140	8,770,990
U S TREASURY BOND FWD 2.750% 11/15/2042 DD 11/15/12	1,839,310	1,845,431
U S TREASURY BOND FWD 3.125% 02/15/2043 DD 02/15/13	3,471,805	3,492,411
U S TREASURY BOND FWD 3.625% 08/15/2043 DD 08/15/13	2,623,807	2,629,721
U S TREASURY NOTE 1.125% 08/31/2021 DD 08/31/16	2,517,828	2,553,033
U S TREASURY NOTE 1.250% 03/31/2019 DD 03/31/17	55,951,926	55,781,568
U S TREASURY NOTE 1.500% 04/15/2020 DD 04/15/17	100,999,288	99,712,886
U S TREASURY NOTE 1.500% 05/31/2020 DD 05/31/15	1,855,930	1,862,236
U S TREASURY NOTE 1.500% 06/15/2020 DD 06/15/17	7,370,654	7,400,880
U S TREASURY NOTE 1.500% 07/15/2020 DD 07/15/17	5,013,699	5,034,899
U S TREASURY NOTE 1.625% 02/15/2026 DD 02/15/16	7,130,254	7,352,987
U S TREASURY NOTE 1.625% 05/15/2026 DD 05/15/16	19,356,349	19,591,753
U S TREASURY NOTE 1.625% 07/31/2020 DD 07/31/15	11,423,454	11,287,639
U S TREASURY NOTE 1.625% 10/15/2020 DD 10/15/17	6,988,066	7,013,921
U S TREASURY NOTE 1.625% 11/30/2020 DD 11/30/15	3,035,044	2,975,148
U S TREASURY NOTE 1.750% 05/15/2022 DD 05/15/12	8,049,286	8,168,590
U S TREASURY NOTE 1.750% 05/31/2022 DD 05/31/17	13,822,039	13,999,425
U S TREASURY NOTE 1.750% 11/15/2020 DD 11/15/17	3,166,460	3,135,544
U S TREASURY NOTE 1.875% 01/31/2022 DD 01/31/17	16,322,044	15,926,211
U S TREASURY NOTE 1.875% 03/31/2022 DD 03/31/17	72,298,865	70,818,775
U S TREASURY NOTE 1.875% 04/30/2022 DD 04/30/17	30,113,683	29,793,623
U S TREASURY NOTE 1.875% 07/31/2022 DD 07/31/17	23,865,123	24,119,174
U S TREASURY NOTE 1.875% 10/31/2022 DD 10/31/15	13,940,266	14,171,182
U S TREASURY NOTE 1.875% 12/15/2020 DD 12/15/17	1,250,098	1,240,053
U S TREASURY NOTE 2.000% 01/15/2021 DD 01/15/18	29,069,882	29,128,396
U S TREASURY NOTE 2.000% 02/15/2025 DD 02/15/15	16,895,763	16,787,665
U S TREASURY NOTE 2.000% 10/31/2021 DD 10/31/14	10,220,855	9,960,344
U S TREASURY NOTE 2.125% 02/29/2024 DD 02/28/17	8,977,034	9,092,201
U S TREASURY NOTE 2.125% 05/15/2025 DD 05/15/15	9,775,953	9,969,717
U S TREASURY NOTE 2.125% 07/31/2024 DD 07/31/17	5,179,091	5,262,931
U S TREASURY NOTE 2.125% 08/31/2020 DD 08/31/13	5,690,821	5,721,754
U S TREASURY NOTE 2.125% 09/30/2024 DD 09/30/17	12,179,169	12,473,830
U S TREASURY NOTE 2.125% 12/31/2022 DD 12/31/15	10,952,778	11,056,869
U S TREASURY NOTE 2.250% 02/15/2021 DD 02/15/18	14,140,738	14,187,541
U S TREASURY NOTE 2.250% 02/15/2027 DD 02/15/17	9,215,095	9,069,327
U S TREASURY NOTE 2.250% 08/15/2027 DD 08/15/17	15,412,056	15,339,155
U S TREASURY NOTE 2.250% 10/31/2024 DD 10/31/17	8,522,204	8,643,383
U S TREASURY NOTE 2.250% 11/15/2024 DD 11/15/14	35,144,153	35,625,413
U S TREASURY NOTE 2.250% 11/15/2027 DD 11/15/17	14,896,529	15,219,015
U S TREASURY NOTE 2.375% 04/15/2021 DD 04/15/18	18,947,305	18,952,500
U S TREASURY NOTE 2.375% 04/30/2020 DD 04/30/18	1,797,794	1,800,199

U S TREASURY NOTE 2.375% 08/15/2024 DD 08/15/14	2,930,304	2,967,506
U S TREASURY NOTE 2.500% 05/15/2024 DD 05/15/14	4,927,903	4,856,048
U S TREASURY NOTE 2.500% 05/31/2020 DD 05/31/18	1,723,517	1,728,443
U S TREASURY NOTE 2.500% 06/30/2020 DD 06/30/18	21,940,873	21,952,863
U S TREASURY NOTE 2.625% 07/31/2020 DD 07/31/18	15,380,630	15,408,622
U S TREASURY NOTE 2.625% 12/15/2021 DD 12/15/18	12,142,218	12,204,554
U S TREASURY NOTE 2.750% 02/15/2028 DD 02/15/18	5,273,653	5,397,709
U S TREASURY NOTE 2.750% 06/30/2025 DD 06/30/18	15,465,520	15,636,038
U S TREASURY NOTE 2.750% 08/15/2021 DD 08/15/18	19,665,857	19,843,240
U S TREASURY NOTE 2.750% 09/30/2020 DD 09/30/18	4,661,304	4,692,531
U S TREASURY NOTE 2.750% 11/30/2020 DD 11/30/18	19,443,543	19,555,186
U S TREASURY NOTE 2.875% 05/15/2028 DD 05/15/18	3,584,686	3,650,183
U S TREASURY NOTE 2.875% 05/31/2025 DD 05/31/18	35,647,444	36,335,456
U S TREASURY NOTE 2.875% 07/31/2025 DD 07/31/18	4,115,901	4,197,188
U S TREASURY NOTE 2.875% 09/30/2023 DD 09/30/18	955,376	975,600
U S TREASURY NOTE 2.875% 10/15/2021 DD 10/15/18	6,342,424	6,401,834
U S TREASURY NOTE 2.875% 11/30/2023 DD 11/30/18	12,020,348	12,142,908
U S TREASURY NOTE 2.875% 11/30/2025 DD 11/30/18	4,920,275	5,033,664
U S TREASURY NOTE 3.125% 11/15/2028 DD 11/15/18	4,457,499	4,548,429
U S TREASURY NOTE FWD 1.500% 02/28/2023 DD 02/29/16	4,869,904	4,913,140
U S TREASURY NOTE FWD 2.000% 08/15/2025 DD 08/15/15	1,248,331	1,261,334
U S TREASURY NOTE FWD 2.250% 08/15/2027 DD 08/15/17	(14,804,132)	(14,970,007)
U S TREASURY NOTE VAR RT 01/15/2020 DD 01/23/18	9,377,229	9,437,930
UKRAINE GOVERNMENT AID BONDS 1.471% 09/29/2021 DD 09/29/16	3,438,925	3,382,995
US 10 YR TREAS NTS FUT (CBT) EXP MAR 19	—	(152,940)
US 10YR ULTRA FUTURE (CBT) EXP MAR 19	—	1,007,013
US 2YR NOTE FUTURE (CBT) EXP MAR 19	—	1,570,817
US 5YR NOTE FUTURE (CBT) EXP MAR 19	—	(1,971,783)
US TREAS BD FUTURE (CBT) EXP MAR 19	—	(4,816,509)
US TREAS-CPI INFLAT 0.125% 01/15/2023 DD 01/15/13	17,387,441	17,305,356
US TREAS-CPI INFLAT 0.750% 02/15/2042 DD 02/15/12	3,677,108	3,510,343
US TREAS-CPI INFLAT 1.000% 02/15/2046 DD 02/15/16	2,471,040	2,159,943
US TREAS-CPI INFLAT FWD 0.375% 07/15/2027 DD 07/15/17	16,144,823	16,200,737
US ULTRA BOND (CBT) EXP MAR 19	—	4,694,947
USD IRS 10YR PRIM FUTURE (CBT) EXP DEC 18	—	(162,109)
U.S. Government Obligations Total	1,512,957,503	1,513,659,182
Corporate Obligations		
21ST CENTURY FOX AMERICA INC 4.750% 11/15/2046 DD 11/18/16	599,436	628,935
21ST CENTURY FOX AMERICA INC 6.150% 03/01/2037 DD 03/02/07	369,166	374,110
21ST CENTURY FOX AMERICA INC 6.200% 12/15/2034 DD 12/03/04	228,838	224,927

21ST CENTURY FOX AMERICA INC 6.400% 12/15/2035 DD 12/23/05	2,191,399	2,307,968
21ST CENTURY FOX AMERICA INC 6.650% 11/15/2037 DD 11/15/07	1,424,616	1,928,995
21ST CENTURY FOX AMERICA INC 7.850% 03/01/2039 DD 02/13/09	2,126,767	2,280,834
ABBOTT LABORATORIES 2.550% 03/15/2022 DD 03/10/15	504,162	491,976
ABBOTT LABORATORIES 2.800% 09/15/2020 DD 03/15/17	683,215	671,011
ABBOTT LABORATORIES 2.900% 11/30/2021 DD 11/22/16	2,503,891	2,503,058
ABBOTT LABORATORIES 3.400% 11/30/2023 DD 11/22/16	2,595,351	2,616,994
ABBOTT LABORATORIES 4.750% 11/30/2036 DD 11/22/16	3,848,908	3,930,434
ABBVIE INC 4.400% 11/06/2042 DD 05/06/13	2,426,780	2,163,349
ABBVIE INC 4.500% 05/14/2035 DD 05/14/15	3,342,975	3,122,246
ABBVIE INC 4.700% 05/14/2045 DD 05/14/15	1,382,364	1,245,892
ABBVIE INC 4.875% 11/14/2048 DD 09/18/18	1,677,084	1,581,435
ABN AMRO BANK NV 144A 1.650% 09/18/2020 DD 05/17/17	395,000	395,043
AERCAP IRELAND CAPITAL DAC / A 3.875% 01/23/2028 DD 01/23/18	1,190,973	1,042,877
AETNA INC 2.800% 06/15/2023 DD 06/09/16	1,722,482	1,640,492
AETNA INC 3.875% 08/15/2047 DD 08/10/17	428,158	410,620
AETNA INC 4.125% 11/15/2042 DD 11/07/12	629,119	575,684
AETNA INC 4.750% 03/15/2044 DD 03/07/14	1,342,559	1,292,833
AFLAC INC 3.625% 06/15/2023 DD 06/10/13	1,522,067	1,479,897
AFLAC INC 4.750% 01/15/2049 DD 10/31/18	605,974	622,475
AIR LEASE CORP 4.625% 10/01/2028 DD 09/17/18	1,333,242	1,284,561
AIR LIQUIDE FINANCE SA 144A 2.500% 09/27/2026 DD 09/27/16	448,299	413,870
ALABAMA POWER CO 2.450% 03/30/2022 DD 03/03/17	744,389	725,325
ALABAMA POWER CO 4.150% 08/15/2044 DD 08/26/14	84,323	83,159
ALABAMA POWER CO 4.300% 07/15/2048 DD 06/28/18	1,159,205	1,169,880
ALIBABA GROUP HOLDING LTD 3.400% 12/06/2027 DD 12/06/17	2,459,434	2,311,650
ALIBABA GROUP HOLDING LTD 4.000% 12/06/2037 DD 12/06/17	1,667,712	1,498,140
ALIMENTATION COUCHE-TARD 144A 2.350% 12/13/2019 DD 12/14/17	2,294,725	2,273,588
ALLERGAN FUNDING SCS 3.450% 03/15/2022 DD 03/12/15	1,954,206	1,948,399
ALLERGAN FUNDING SCS 4.550% 03/15/2035 DD 03/12/15	2,743,348	2,608,650
ALTRIA GROUP INC 2.850% 08/09/2022 DD 08/09/12	1,608,828	1,540,768
ALTRIA GROUP INC 4.250% 08/09/2042 DD 08/09/12	553,849	520,231
ALTRIA GROUP INC 5.375% 01/31/2044 DD 10/31/13	497,870	466,235
AMAZON.COM INC 4.050% 08/22/2047 DD 02/22/18	3,743,172	3,649,469
AMAZON.COM INC 4.250% 08/22/2057 DD 02/22/18	996,779	976,498
AMAZON.COM INC 4.950% 12/05/2044 DD 12/05/14	909,089	997,767
AMERICA MOVIL SAB DE CV 6.125% 03/30/2040 DD 03/30/10	111,298	117,732
AMERICA MOVIL SAB DE CV 6.375% 03/01/2035 DD 02/25/05	972,558	1,280,652
AMERICAN AIRLINES 2017-1 CLASS 3.650% 08/15/2030 DD 01/13/17	1,367,150	1,345,125
AMERICAN EXPRESS CO 3.000% 10/30/2024 DD 10/30/17	4,152,382	3,976,086
AMERICAN EXPRESS CO 3.700% 08/03/2023 DD 08/03/18	212,861	215,621

AMERICAN EXPRESS CO 3.700% 11/05/2021 DD 11/06/18	839,815	847,543
AMERICAN EXPRESS CO 4.200% 11/06/2025 DD 11/06/18	2,454,539	2,507,699
AMERICAN EXPRESS CREDIT CORP 2.600% 09/14/2020 DD 09/14/15	382,829	381,061
AMERICAN FINANCIAL GROUP INC/O 4.500% 06/15/2047 DD 06/02/17	982,790	861,418
AMERICAN INTERNATIONAL GROUP I 3.875% 01/15/2035 DD 01/15/15	1,823,523	1,623,264
AMERICAN INTERNATIONAL GROUP I 3.900% 04/01/2026 DD 03/22/16	780,785	764,846
AMERICAN INTERNATIONAL GROUP I 4.500% 07/16/2044 DD 07/16/14	941,728	874,581
AMERICAN INTERNATIONAL GROUP I 4.750% 04/01/2048 DD 03/26/18	1,754,639	1,615,187
AMERICAN INTERNATIONAL GROUP I 4.800% 07/10/2045 DD 07/10/15	684,901	643,660
AMERICAN INTERNATIONAL GROUP I 6.250% 05/01/2036 DD 04/20/06	474,905	413,193
AMERICAN TOWER CORP 3.125% 01/15/2027 DD 09/30/16	739,504	669,878
AMERICAN TOWER CORP 3.375% 10/15/2026 DD 05/13/16	1,572,111	1,460,602
AMERICAN TOWER CORP 4.400% 02/15/2026 DD 01/12/16	174,498	174,864
AMERICAN WATER CAPITAL CORP 4.200% 09/01/2048 DD 08/09/18	266,946	262,645
AMERICREDIT AUTOMOBILE R 2 A2A	55,479	55,421
AMERICREDIT AUTOMOBILE R 4 A2A VAR RT 02/01/2021 DD 10/26/17	243,815	242,977
AMGEN INC 2.650% 05/11/2022 DD 05/11/17	503,535	488,770
AMGEN INC 3.875% 11/15/2021 DD 11/10/11	1,025,190	1,013,230
AMGEN INC 4.663% 06/15/2051 DD 12/15/16	5,721,005	5,194,293
AMGEN INC 5.150% 11/15/2041 DD 11/10/11	1,533,668	1,473,115
ANADARKO PETROLEUM CORP 6.200% 03/15/2040 DD 03/16/10	1,152,241	1,022,908
ANADARKO PETROLEUM CORP 6.450% 09/15/2036 DD 09/19/06	441,699	399,600
ANADARKO PETROLEUM CORP 6.600% 03/15/2046 DD 03/17/16	900,460	833,656
ANDEAVOR LOGISTICS LP / TESORO 5.200% 12/01/2047 DD 11/28/17	358,805	324,101
ANHEUSER-BUSCH COS LLC / 144A 3.650% 02/01/2026 DD 08/01/18	8,232,598	8,221,557
ANHEUSER-BUSCH COS LLC / 144A 4.700% 02/01/2036 DD 08/01/18	3,802,586	3,658,593
ANHEUSER-BUSCH COS LLC / 144A 4.900% 02/01/2046 DD 08/01/18	2,408,611	2,346,297
ANHEUSER-BUSCH INBEV WORLDWIDE 3.500% 01/12/2024 DD 04/04/18	1,174,183	1,154,217
ANHEUSER-BUSCH INBEV WORLDWIDE 4.375% 04/15/2038 DD 04/04/18	868,062	771,753
ANHEUSER-BUSCH INBEV WORLDWIDE 4.439% 10/06/2048 DD 04/06/17	3,884,507	3,352,340
ANHEUSER-BUSCH INBEV WORLDWIDE 4.600% 04/15/2048 DD 04/04/18	1,103,717	994,849
ANHEUSER-BUSCH INBEV WORLDWIDE 4.950% 01/15/2042 DD 07/15/16	440,571	377,991
ANHEUSER-BUSCH INBEV WORLDWIDE 8.200% 01/15/2039 DD 01/15/11	429,045	430,733
ANTHEM INC 3.125% 05/15/2022 DD 05/07/12	2,192,584	2,177,535
ANTHEM INC 3.300% 01/15/2023 DD 09/10/12	186,114	196,794
ANTHEM INC 3.650% 12/01/2027 DD 11/21/17	1,042,620	1,036,642
ANTHEM INC 4.101% 03/01/2028 DD 03/02/18	2,736,625	2,690,484
ANTHEM INC 4.375% 12/01/2047 DD 11/21/17	994,990	925,390
ANTHEM INC 4.550% 03/01/2048 DD 03/02/18	3,084,446	2,952,104
ANTHEM INC 4.650% 01/15/2043 DD 09/10/12	1,251,489	1,233,691
ANTHEM INC 4.650% 08/15/2044 DD 08/12/14	1,062,799	980,924

AON PLC 3.875% 12/15/2025 DD 03/01/16	674,811	666,097
AON PLC 4.600% 06/14/2044 DD 05/28/14	1,056,245	1,005,953
APACHE CORP 4.250% 01/15/2044 DD 12/03/12	1,163,307	982,283
APACHE CORP 4.750% 04/15/2043 DD 04/09/12	606,074	514,656
APACHE CORP 5.100% 09/01/2040 DD 08/20/10	1,122,924	1,028,015
APPLE INC	1,719,314	1,708,546
APPLE INC 2.850% 02/23/2023 DD 02/23/16	791,418	780,315
APPLE INC 3.450% 02/09/2045 DD 02/09/15	1,868,505	1,704,530
APPLE INC 3.750% 11/13/2047 DD 11/13/17	2,127,411	1,971,126
APPLE INC 3.850% 05/04/2043 DD 05/03/13	372,772	359,852
APPLE INC 4.375% 05/13/2045 DD 05/13/15	976,423	995,259
APPLE INC 4.450% 05/06/2044 DD 05/06/14	1,143,779	1,187,870
APPLE INC 4.500% 02/23/2036 DD 02/23/16	875,864	925,417
APPLE INC 4.650% 02/23/2046 DD 02/23/16	2,491,153	2,540,496
ASTRAZENECA PLC 3.500% 08/17/2023 DD 08/17/18	1,140,419	1,158,895
ASTRAZENECA PLC 4.375% 11/16/2045 DD 11/16/15	298,891	269,678
ASTRAZENECA PLC 6.450% 09/15/2037 DD 09/12/07	2,343,692	2,415,056
AT&T INC 144A 0.000% 11/27/2022 DD 11/27/07	5,398,750	6,067,320
AT&T INC 3.400% 05/15/2025 DD 05/04/15	1,379,953	1,304,185
AT&T INC 3.950% 01/15/2025 DD 01/15/16	294,280	273,801
AT&T INC 4.125% 02/17/2026 DD 02/09/16	153,214	146,580
AT&T INC 4.350% 06/15/2045 DD 06/15/13	2,525,727	2,281,689
AT&T INC 4.500% 03/09/2048 DD 09/07/16	5,075,598	4,581,471
AT&T INC 5.150% 02/15/2050 DD 08/14/18	2,299,906	2,135,375
AT&T INC 5.150% 03/15/2042 DD 03/15/16	1,174,324	1,060,215
AT&T INC 5.250% 03/01/2037 DD 02/09/17	1,503,587	1,458,612
AT&T INC 5.350% 09/01/2040 DD 03/01/11	578,941	534,309
AT&T INC 5.550% 08/15/2041 DD 08/18/11	7,664,817	7,132,992
AT&T INC 5.650% 02/15/2047 DD 02/09/16	643,564	629,143
ATMOS ENERGY CORP 4.125% 10/15/2044 DD 10/15/14	1,033,054	998,413
ATMOS ENERGY CORP 4.300% 10/01/2048 DD 10/04/18	139,299	140,666
AUSTRALIA & NEW ZEALAND B 144A 1.830% 05/18/2021 DD 11/15/17	1,040,000	1,035,726
AUTOZONE INC 3.750% 06/01/2027 DD 04/18/17	1,164,942	1,117,585
AVALONBAY COMMUNITIES INC 3.200% 01/15/2028 DD 11/15/17	804,951	777,713
AVALONBAY COMMUNITIES INC 4.350% 04/15/2048 DD 03/26/18	2,375,573	2,355,891
AXA EQUITABLE HOLDINGS IN 144A 5.000% 04/20/2048 DD 04/20/18	643,110	572,134
BAE SYSTEMS HOLDINGS INC 144A 3.800% 10/07/2024 DD 10/07/14	907,216	903,163
BAE SYSTEMS PLC 144A 5.800% 10/11/2041 DD 10/11/11	731,171	834,541
BAKER HUGHES A GE CO LLC / BAK 4.080% 12/15/2047 DD 12/11/17	598,889	498,550
BAKER HUGHES A GE CO LLC 5.125% 09/15/2040 DD 08/24/10	726,030	585,972
BALTIMORE GAS & ELECTRIC CO 6.350% 10/01/2036 DD 04/01/07	1,232,000	1,207,200

	BANCO SANTANDER SA 3.800% 02/23/2028 DD 10/23/17	356,160	355,788
	BANCO SANTANDER SA 3.848% 04/12/2023 DD 04/12/18	200,000	194,332
	BANCO SANTANDER SA 4.379% 04/12/2028 DD 04/12/18	193,772	186,746
	BANK OF AMERICA CORP 2.503% 10/21/2022 DD 10/21/16	2,348,201	2,262,651
	BANK OF AMERICA CORP 3.300% 01/11/2023 DD 01/11/13	1,564,052	1,595,473
	BANK OF AMERICA CORP 3.500% 04/19/2026 DD 04/19/16	319,466	307,949
	BANK OF AMERICA CORP 4.000% 01/22/2025 DD 01/22/15	228,613	224,055
	BANK OF AMERICA CORP 4.100% 07/24/2023 DD 07/23/13	1,137,520	1,150,402
	BANK OF AMERICA CORP 4.183% 11/25/2027 DD 11/25/16	1,950,779	1,845,446
	BANK OF AMERICA CORP 4.450% 03/03/2026 DD 03/03/16	965,000	953,999
	BANK OF AMERICA CORP 4.750% 04/21/2045 DD 04/21/15	1,810,757	1,898,782
	BANK OF AMERICA CORP 5.000% 01/21/2044 DD 01/21/14	401,423	377,728
	BANK OF AMERICA CORP 6.110% 01/29/2037 DD 01/29/07	1,348,686	1,340,829
	BANK OF AMERICA CORP VAR RT 01/20/2048 DD 01/20/17	505,023	480,515
	BANK OF AMERICA CORP VAR RT 01/23/2022 DD 01/23/18	1,290,000	1,270,431
	BANK OF AMERICA CORP VAR RT 03/05/2024 DD 03/05/18	1,483,649	1,491,744
	BANK OF AMERICA CORP VAR RT 04/24/2028 DD 04/24/17	760,000	729,045
	BANK OF AMERICA CORP VAR RT 04/24/2038 DD 04/24/17	1,575,000	1,498,298
	BANK OF AMERICA CORP VAR RT 07/21/2021 DD 07/21/17	1,095,000	1,075,410
	BANK OF AMERICA CORP VAR RT 07/21/2023 DD 07/21/17	442,787	444,944
	BANK OF AMERICA CORP VAR RT 07/23/2024 DD 07/23/18	5,586,871	5,582,682
	BANK OF AMERICA CORP VAR RT 12/20/2023 DD 12/20/17	3,527,363	3,335,938
	BANK OF AMERICA CORP VAR RT 12/20/2028 DD 12/20/17	4,310,597	4,106,523
	BANK OF AMERICA NA 6.000% 10/15/2036 DD 10/26/06	337,134	403,876
	BANK OF MONTREAL 1.800% 05/05/2020 DD 05/05/17	130,000	130,298
	BANK OF MONTREAL 2.350% 09/11/2022 DD 09/11/17	1,065,562	1,033,620
	BANK OF MONTREAL VAR RT 01/08/2019 DD 01/08/16	810,000	806,444
	BANK OF MONTREAL VAR RT 01/11/2019 DD 01/12/17	400,000	399,244
*	BANK OF NEW YORK MELLON CORP/T 3.000% 10/30/2028 DD 10/31/16	494,456	454,628
*	BANK OF NEW YORK MELLON CORP/T 3.400% 01/29/2028 DD 01/29/18	1,074,463	1,045,287
*	BANK OF NEW YORK MELLON CORP/T VAR RT 02/07/2028 DD 02/07/17	1,270,000	1,239,190
*	BANK OF NEW YORK MELLON CORP/T VAR RT 10/30/2023 DD 10/31/16	1,905,000	1,908,353
	BANK OF NOVA SCOTIA/THE 4.500% 10/01/2020 DD 10/01/18	830,000	827,319
	BANK OF NOVA SCOTIA/THE VAR RT 02/28/2019 DD 03/03/17	780,000	775,640
	BARCLAYS PLC 4.950% 01/10/2047 DD 01/10/17	531,803	437,432
	BARCLAYS PLC VAR RT 02/15/2023 DD 11/15/18	2,634,499	2,612,761
	BARCLAYS PLC VAR RT 05/16/2024 DD 05/16/18	1,787,557	1,755,884
	BAT CAPITAL CORP 2.297% 08/14/2020 DD 08/14/18	2,703,142	2,685,760
	BAT CAPITAL CORP 3.222% 08/15/2024 DD 08/15/18	400,000	368,436
	BAT CAPITAL CORP 3.557% 08/15/2027 DD 08/15/18	1,698,453	1,535,808
	BAT CAPITAL CORP 4.390% 08/15/2037 DD 08/15/18	735,000	601,575

BAXALTA INC 2.875% 06/23/2020 DD 12/23/15	84,771	83,250
BAXALTA INC 4.000% 06/23/2025 DD 12/23/15	162,589	159,359
BAXALTA INC 5.250% 06/23/2045 DD 12/23/15	623,766	589,927
BAYER US FINANCE II LLC 144A 4.250% 12/15/2025 DD 06/25/18	1,557,052	1,518,286
BAYER US FINANCE II LLC 144A 4.375% 12/15/2028 DD 06/25/18	2,704,188	2,616,015
BAYER US FINANCE II LLC 144A 4.875% 06/25/2048 DD 06/25/18	1,111,282	1,002,095
BB&T CORP	1,020,000	1,008,137
BECTON DICKINSON AND CO 2.894% 06/06/2022 DD 06/06/17	2,235,000	2,164,642
BECTON DICKINSON AND CO 4.669% 06/06/2047 DD 06/06/17	1,268,260	1,175,700
BECTON DICKINSON AND CO 4.685% 12/15/2044 DD 12/15/14	606,976	575,615
BERKSHIRE HATHAWAY ENERGY CO 2.375% 01/15/2021 DD 01/05/18	3,183,153	3,141,461
BERKSHIRE HATHAWAY ENERGY CO 2.400% 02/01/2020 DD 12/04/14	994,522	988,503
BERKSHIRE HATHAWAY ENERGY CO 3.800% 07/15/2048 DD 01/05/18	2,330,660	2,109,196
BERKSHIRE HATHAWAY ENERGY CO 5.950% 05/15/2037 DD 05/11/07	965,295	900,584
BERKSHIRE HATHAWAY ENERGY CO 6.125% 04/01/2036 DD 10/01/06	478,355	490,778
BERKSHIRE HATHAWAY FINANCE COR	295,000	295,003
BERKSHIRE HATHAWAY FINANCE COR 4.200% 08/15/2048 DD 08/15/18	1,134,220	1,130,356
BERKSHIRE HATHAWAY FINANCE COR 4.300% 05/15/2043 DD 05/15/13	137,253	142,187
BERKSHIRE HATHAWAY FINANCE COR 5.750% 01/15/2040 DD 01/13/10	1,257,464	1,482,197
BHP BILLITON FINANCE USA LTD 5.000% 09/30/2043 DD 09/30/13	1,113,870	1,083,750
BIOGEN INC 5.200% 09/15/2045 DD 09/15/15	2,452,562	2,550,324
BLACK HILLS CORP 4.350% 05/01/2033 DD 08/17/18	259,332	260,575
BMW VEHICLE LEASE TRUST 2 A2A VAR RT 03/20/2019 DD 03/20/17	289,351	288,667
BNP PARIBAS SA 144A 2.950% 05/23/2022 DD 05/23/17	459,425	443,311
BNP PARIBAS SA 144A 3.375% 01/09/2025 DD 01/09/18	1,691,966	1,595,131
BNP PARIBAS SA 144A 4.400% 08/14/2028 DD 08/14/18	442,615	434,338
BOSTON GAS CO 144A 3.150% 08/01/2027 DD 08/03/17	299,718	286,185
BOSTON SCIENTIFIC CORP 2.850% 05/15/2020 DD 05/12/15	765,426	765,981
BOSTON SCIENTIFIC CORP 4.000% 03/01/2028 DD 02/26/18	723,049	708,560
BP CAPITAL MARKETS AMERICA INC	636,638	639,913
BP CAPITAL MARKETS AMERICA INC 3.790% 02/06/2024 DD 11/06/18	2,110,000	2,132,767
BP CAPITAL MARKETS AMERICA INC 4.500% 10/01/2020 DD 10/01/18	2,112,618	2,123,486
BP CAPITAL MARKETS PLC 3.723% 11/28/2028 DD 11/28/16	1,265,000	1,245,468
BPCE SA 144A 2.750% 01/11/2023 DD 01/11/18	1,754,867	1,697,908
BPCE SA 144A 3.000% 05/22/2022 DD 05/22/17	397,520	386,376
BRITISH TELECOMMUNICATIONS PLC VAR RT 12/15/2030 DD 12/12/00	1,351,936	1,399,806
BROADCOM CORP / BROADCOM CAYMA 2.375% 01/15/2020 DD 01/15/18	927,443	928,259
BROADCOM CORP / BROADCOM CAYMA 3.125% 01/15/2025 DD 10/17/17	669,581	636,446
BROADCOM CORP / BROADCOM CAYMA 3.625% 01/15/2024 DD 01/15/18	3,182,903	3,074,825
BROADCOM CORP / BROADCOM CAYMA 3.875% 01/15/2027 DD 01/15/18	1,321,674	1,255,954
BURLINGTON NORTHERN SANTA FE L 4.050% 06/15/2048 DD 03/05/18	1,032,361	997,450

BURLINGTON NORTHERN SANTA FE L 4.150% 04/01/2045 DD 03/09/15	2,033,329	1,977,821
BURLINGTON NORTHERN SANTA FE L 4.375% 09/01/2042 DD 08/23/12	1,672,396	1,676,321
BURLINGTON NORTHERN SANTA FE L 5.050% 03/01/2041 DD 09/10/10	406,657	404,836
BURLINGTON NORTHERN SANTA FE L 5.150% 09/01/2043 DD 08/22/13	1,097,292	1,170,076
BURLINGTON NORTHERN SANTA FE L 5.400% 06/01/2041 DD 05/19/11	914,016	951,701
BURLINGTON NORTHERN SANTA FE L 6.700% 08/01/2028 DD 07/30/98	88,182	110,957
BURLINGTON NORTHERN SANTA FE L 7.950% 08/15/2030 DD 08/08/00	49,789	61,423
CANADIAN NATURAL RESOURCES LTD 3.850% 06/01/2027 DD 05/30/17	1,576,260	1,485,729
CANADIAN NATURAL RESOURCES LTD 4.950% 06/01/2047 DD 05/30/17	381,196	356,621
CANADIAN NATURAL RESOURCES LTD 6.450% 06/30/2033 DD 09/16/02	579,953	615,307
CANADIAN NATURAL RESOURCES LTD 6.750% 02/01/2039 DD 01/17/08	2,505,456	2,694,637
CANADIAN NATURAL RESOURCES LTD 7.200% 01/15/2032 DD 01/23/02	291,739	391,141
CANADIAN PACIFIC RR CO 4.800% 08/01/2045 DD 08/03/15	460,299	465,065
CANADIAN PACIFIC RR CO 5.750% 01/15/2042 DD 12/01/11	856,072	799,344
CAPITAL ONE FINANCIAL CORP 3.750% 03/09/2027 DD 03/09/17	964,897	886,994
CAPITAL ONE FINANCIAL CORP 3.800% 01/31/2028 DD 01/30/18	1,327,178	1,344,653
CARDINAL HEALTH INC 2.616% 06/15/2022 DD 06/12/17	1,470,000	1,416,110
CARDINAL HEALTH INC 3.200% 03/15/2023 DD 02/22/13	214,900	217,127
CARDINAL HEALTH INC 4.900% 09/15/2045 DD 06/23/15	140,422	130,767
CARMAX AUTO OWNER TRUST 3 A2A VAR RT 09/18/2019 DD 09/18/17	784,931	783,422
CATERPILLAR FINANCIAL SERVICES 1.850% 09/04/2020 DD 09/07/17	1,498,740	1,470,795
CBS CORP 2.900% 01/15/2027 DD 07/11/16	157,360	141,866
CBS CORP 2.900% 06/01/2023 DD 12/01/18	778,163	748,184
CELGENE CORP 4.350% 11/15/2047 DD 11/09/17	503,652	425,266
CELGENE CORP 4.550% 02/20/2048 DD 02/20/18	352,870	307,643
CELGENE CORP 5.000% 08/15/2045 DD 08/12/15	413,361	374,495
CENOVUS ENERGY INC 5.200% 09/15/2043 DD 08/15/13	215,301	194,517
CENOVUS ENERGY INC 5.250% 06/15/2037 DD 04/07/17	234,786	207,033
CENOVUS ENERGY INC 6.750% 11/15/2039 DD 05/15/10	1,391,161	1,194,514
CENTERPOINT ENERGY HOUSTON ELE 3.950% 03/01/2048 DD 02/28/18	383,321	374,062
CENTERPOINT ENERGY HOUSTON ELE 6.950% 03/15/2033 DD 09/15/03	149,480	222,318
CENTERPOINT ENERGY INC 2.500% 09/01/2022 DD 08/10/17	1,160,319	1,109,436
CENTERPOINT ENERGY INC 3.600% 11/01/2021 DD 10/05/18	1,549,551	1,553,240
CENTERPOINT ENERGY INC 4.250% 11/01/2028 DD 10/05/18	976,070	993,083
CHARTER COMMUNICATIONS OPERATI 4.464% 07/23/2022 DD 07/23/16	1,635,815	1,650,712
CHARTER COMMUNICATIONS OPERATI 4.500% 02/01/2024 DD 07/03/18	1,583,304	1,582,591
CHARTER COMMUNICATIONS OPERATI 4.908% 07/23/2025 DD 07/23/16	2,906,700	2,868,729
CHARTER COMMUNICATIONS OPERATI 5.375% 05/01/2047 DD 11/01/17	2,426,721	2,147,623
CHARTER COMMUNICATIONS OPERATI 5.750% 04/01/2048 DD 04/17/18	429,703	409,216
CHARTER COMMUNICATIONS OPERATI 6.484% 10/23/2045 DD 10/23/16	379,993	334,081
CHEVRON CORP	372,000	371,948

CHUBB CORP/THE 6.000% 05/11/2037 DD 05/11/07	474,702	526,802
CHURCH & DWIGHT CO INC 3.950% 08/01/2047 DD 07/25/17	1,218,234	1,127,954
CIGNA CORP 144A 3.750% 07/15/2023 DD 09/17/18	4,457,636	4,445,148
CIGNA CORP 144A 4.125% 11/15/2025 DD 09/17/18	1,004,166	1,003,583
CIGNA CORP 144A 4.375% 10/15/2028 DD 09/17/18	5,360,039	5,399,965
CIGNA CORP 144A 4.900% 12/15/2048 DD 09/17/18	458,675	450,064
CIGNA HOLDING CO 3.050% 10/15/2027 DD 09/14/17	2,099,174	1,971,243
CIGNA HOLDING CO 3.875% 10/15/2047 DD 09/14/17	312,623	263,016
CISCO SYSTEMS INC 5.500% 01/15/2040 DD 11/17/09	2,012,127	2,159,272
CISCO SYSTEMS INC 5.900% 02/15/2039 DD 02/17/09	405,750	400,137
CITIBANK NA	1,850,000	1,846,393
CITIBANK NA 3.400% 07/23/2021 DD 07/23/18	2,107,679	2,112,680
CITIGROUP INC 2.700% 10/27/2022 DD 10/27/17	1,001,643	968,770
CITIGROUP INC 3.200% 10/21/2026 DD 10/21/16	3,692,304	3,595,825
CITIGROUP INC 3.400% 05/01/2026 DD 05/02/16	2,099,072	2,003,521
CITIGROUP INC 4.400% 06/10/2025 DD 06/10/15	1,463,457	1,423,921
CITIGROUP INC 4.600% 03/09/2026 DD 03/09/16	967,769	937,593
CITIGROUP INC 4.750% 05/18/2046 DD 05/18/16	1,206,909	1,127,841
CITIGROUP INC 5.500% 09/13/2025 DD 09/13/13	226,627	225,619
CITIGROUP INC 5.875% 01/30/2042 DD 01/26/12	3,359,487	3,447,110
CITIGROUP INC 6.125% 08/25/2036 DD 08/25/06	259,598	279,427
CITIGROUP INC 6.625% 01/15/2028 DD 01/09/98	281,539	275,251
CITIGROUP INC VAR RT 01/10/2028 DD 01/10/17	829,545	815,349
CITIGROUP INC VAR RT 04/24/2048 DD 04/25/17	1,675,000	1,547,382
CITIGROUP INC VAR RT 05/17/2024 DD 05/17/17	395,000	385,366
CITIGROUP INC VAR RT 07/24/2023 DD 07/24/17	5,818,245	5,845,089
CITIGROUP INC VAR RT 07/24/2028 DD 07/24/17	2,618,389	2,607,317
CJ CORP	10,380	10,417
CLEVELAND ELECTRIC ILLUMI 144A 4.550% 11/15/2030 DD 11/02/18	99,925	102,459
CLEVELAND ELECTRIC ILLUMINATIN 5.950% 12/15/2036 DD 12/11/06	1,644,239	1,468,576
COLOMBIA GOVERNMENT INTERNATIO 5.000% 06/15/2045	219,038	214,200
COLOMBIA GOVERNMENT INTERNATIO 5.000% 06/15/2045 DD 01/28/15	2,553,117	2,399,040
COLUMBIA PIPELINE GROUP INC 5.800% 06/01/2045 DD 12/01/15	560,179	568,314
COMCAST CORP 2.350% 01/15/2027 DD 07/19/16	1,085,344	1,099,485
COMCAST CORP 3.150% 03/01/2026 DD 02/23/16	2,389,879	2,406,377
COMCAST CORP 3.200% 07/15/2036 DD 07/19/16	262,979	266,665
COMCAST CORP 3.375% 08/15/2025 DD 05/27/15	747,159	740,559
COMCAST CORP 3.450% 10/01/2021 DD 10/05/18	709,283	717,199
COMCAST CORP 3.900% 03/01/2038 DD 02/08/18	492,599	458,226
COMCAST CORP 3.950% 10/15/2025 DD 10/05/18	1,423,247	1,441,872
COMCAST CORP 3.969% 11/01/2047 DD 10/19/17	616,912	547,930

COMCAST CORP 3.999% 11/01/2049 DD 10/19/17	1,379,245	1,226,706
COMCAST CORP 4.000% 03/01/2048 DD 02/08/18	1,433,618	1,330,396
COMCAST CORP 4.049% 11/01/2052 DD 10/19/17	1,873,251	1,622,662
COMCAST CORP 4.150% 10/15/2028 DD 10/05/18	1,849,200	1,878,546
COMCAST CORP 4.200% 08/15/2034 DD 08/12/14	327,993	313,365
COMCAST CORP 4.500% 01/15/2043 DD 01/14/13	886,010	849,376
COMCAST CORP 4.600% 08/15/2045 DD 05/27/15	227,009	214,355
COMCAST CORP 4.600% 10/15/2038 DD 10/05/18	1,424,060	1,438,937
COMCAST CORP 4.650% 07/15/2042 DD 07/02/12	2,254,600	2,013,673
COMCAST CORP 4.700% 10/15/2048 DD 10/05/18	3,003,653	3,047,803
COMCAST CORP 7.050% 03/15/2033 DD 03/14/03	1,240,949	1,260,955
COMMONWEALTH EDISON CO 3.700% 08/15/2028 DD 08/14/18	982,636	987,925
CONAGRA BRANDS INC 3.800% 10/22/2021 DD 10/22/18	749,138	750,263
CONAGRA BRANDS INC 4.600% 11/01/2025 DD 10/22/18	164,528	165,523
CONAGRA BRANDS INC 4.850% 11/01/2028 DD 10/22/18	684,385	673,608
CONCHO RESOURCES INC 3.750% 10/01/2027 DD 09/26/17	1,528,450	1,492,056
CONCHO RESOURCES INC 4.850% 08/15/2048 DD 07/02/18	299,220	287,049
CONOCO FUNDING CO 7.250% 10/15/2031 DD 10/11/01	1,593,731	1,699,710
CONOCOPHILLIPS 5.900% 05/15/2038 DD 05/08/08	2,104,898	2,031,028
CONOCOPHILLIPS CO 4.300% 11/15/2044 DD 11/12/14	3,033,164	3,000,072
CONOCOPHILLIPS CO 5.950% 03/15/2046 DD 03/08/16	205,585	191,298
CONOCOPHILLIPS HOLDING CO 6.950% 04/15/2029 DD 04/20/99	1,293,201	1,205,597
CONSOLIDATED EDISON CO OF NEW 4.300% 12/01/2056 DD 11/16/16	89,216	83,741
CONSOLIDATED EDISON CO OF NEW 4.450% 03/15/2044 DD 03/06/14	3,596,976	3,593,376
CONSOLIDATED EDISON CO OF NEW 4.500% 05/15/2058 DD 05/10/18	691,796	669,639
CONSOLIDATED EDISON CO OF NEW 5.500% 12/01/2039 DD 12/04/09	1,767,887	1,685,205
CONSOLIDATED EDISON CO OF NEW 5.700% 06/15/2040 DD 06/07/10	669,632	654,024
CONSOLIDATED EDISON CO OF NEW 5.850% 03/15/2036 DD 03/09/06	598,172	748,106
CONSTELLATION BRANDS INC 2.650% 11/07/2022 DD 11/07/17	2,370,052	2,278,921
CONSTELLATION BRANDS INC 3.200% 02/15/2023 DD 02/07/18	684,363	664,251
CONSTELLATION BRANDS INC 3.500% 05/09/2027 DD 05/09/17	558,690	518,538
CONSTELLATION BRANDS INC 3.700% 12/06/2026 DD 12/06/16	283,020	282,435
CONSTELLATION BRANDS INC 4.750% 12/01/2025 DD 12/04/15	1,886,614	1,859,751
CONSUMERS ENERGY CO 4.050% 05/15/2048 DD 05/14/18	687,848	685,326
CONTINENTAL RESOURCES INC/OK 3.800% 06/01/2024 DD 05/19/14	826,774	804,670
COOPERATIEVE RABOBANK UA/NY 1.890% 03/16/2020 DD 11/15/17	610,000	610,433
COOPERATIEVE RABOBANK UA/NY VAR RT 06/05/2020 DD 06/05/17	435,000	432,821
CORNING INC 4.375% 11/15/2057 DD 11/13/17	694,736	583,314
CORNING INC 5.850% 11/15/2068 DD 11/06/18	1,682,523	1,704,950
COX COMMUNICATIONS INC 144A 2.950% 06/30/2023 DD 05/01/13	209,057	211,691
COX COMMUNICATIONS INC 144A 3.150% 08/15/2024 DD 08/07/17	646,292	636,844

CREDIT SUISSE GROUP AG 144A VAR RT 06/12/2024 DD 06/12/18	818,725	812,889
CREDIT SUISSE GROUP AG 144A VAR RT 12/14/2023 DD 09/14/17	339,916	342,572
CREDIT SUISSE GROUP FUNDING GU 3.125% 12/10/2020 DD 06/10/16	1,497,180	1,485,330
CREDIT SUISSE GROUP FUNDING GU 3.800% 09/15/2022 DD 09/15/15	703,668	694,897
CREDIT SUISSE GROUP FUNDING GU 4.875% 05/15/2045 DD 11/15/15	606,429	587,211
CROWN CASTLE INTERNATIONAL COR 3.150% 07/15/2023 DD 01/16/18	1,180,616	1,139,129
CROWN CASTLE INTERNATIONAL COR 3.200% 09/01/2024 DD 08/01/17	1,256,690	1,214,349
CSX CORP 3.250% 06/01/2027 DD 05/01/17	1,101,143	1,053,763
CSX CORP 4.300% 03/01/2048 DD 02/20/18	568,451	566,500
CSX CORP 4.750% 05/30/2042 DD 11/01/11	2,653,235	2,600,265
CSX CORP 4.750% 11/15/2048 DD 11/15/18	331,878	338,635
CVS HEALTH CORP 2.875% 06/01/2026 DD 05/25/16	409,513	382,544
CVS HEALTH CORP 3.125% 03/09/2020 DD 03/09/18	2,238,925	2,235,565
CVS HEALTH CORP 3.500% 07/20/2022 DD 07/20/15	1,445,576	1,410,259
CVS HEALTH CORP 3.700% 03/09/2023 DD 03/09/18	2,527,152	2,522,715
CVS HEALTH CORP 3.875% 07/20/2025 DD 07/20/15	1,761,783	1,651,778
CVS HEALTH CORP 4.000% 12/05/2023 DD 12/05/13	522,431	501,430
CVS HEALTH CORP 4.100% 03/25/2025 DD 03/09/18	1,668,504	1,668,184
CVS HEALTH CORP 4.300% 03/25/2028 DD 03/09/18	808,208	791,864
CVS HEALTH CORP 4.780% 03/25/2038 DD 03/09/18	1,190,335	1,125,956
CVS HEALTH CORP 5.050% 03/25/2048 DD 03/09/18	2,731,429	2,635,773
CVS HEALTH CORP 5.125% 07/20/2045 DD 07/20/15	1,107,192	973,410
DAIMLER FINANCE NORTH AME 144A 2.200% 05/05/2020 DD 05/05/17	2,496,675	2,459,025
DARDEN RESTAURANTS INC 4.550% 02/15/2048 DD 02/22/18	930,652	863,888
DEERE & CO 3.900% 06/09/2042 DD 06/08/12	462,635	484,715
DELL INTERNATIONAL LLC / 144A 8.350% 07/15/2046 DD 06/01/16	1,022,667	877,060
DELTA AIR LINES INC 3.800% 04/19/2023 DD 04/19/18	1,191,092	1,180,800
DEUTSCHE BANK AG/NEW YORK NY 4.250% 02/04/2021 DD 10/04/18	1,078,888	1,064,362
DEUTSCHE TELEKOM INTERNAT 144A 4.750% 06/21/2038 DD 06/21/18	669,612	653,477
DEUTSCHE TELEKOM INTERNATIONAL VAR RT 06/15/2030 DD 07/06/00	2,250,689	2,223,797
DEVON ENERGY CORP 3.250% 05/15/2022 DD 05/14/12	437,021	433,630
DEVON ENERGY CORP 4.750% 05/15/2042 DD 05/14/12	1,749,242	1,539,469
DIAGEO INVESTMENT CORP 2.875% 05/11/2022 DD 05/11/12	436,109	425,808
DIGITAL REALTY TRUST LP 3.700% 08/15/2027 DD 08/07/17	1,123,200	1,132,584
DIGITAL REALTY TRUST LP 4.450% 07/15/2028 DD 06/21/18	961,504	965,829
DISCOVERY COMMUNICATIONS 144A 2.800% 06/15/2020 DD 12/15/17	566,173	564,947
DISCOVERY COMMUNICATIONS 144A 3.950% 06/15/2025 DD 12/15/17	625,812	601,317
DISCOVERY COMMUNICATIONS LLC 2.200% 09/20/2019 DD 09/21/17	1,339,477	1,325,984
DISCOVERY COMMUNICATIONS LLC 2.950% 03/20/2023 DD 09/21/17	629,206	602,746
DISCOVERY COMMUNICATIONS LLC 3.800% 03/13/2024 DD 03/13/17	1,048,525	1,006,747
DISCOVERY COMMUNICATIONS LLC 3.950% 03/20/2028 DD 09/21/17	700,054	690,794

DISCOVERY COMMUNICATIONS LLC 4.900% 03/11/2026 DD 03/11/16	566,936	533,906
DISCOVERY COMMUNICATIONS LLC 5.200% 09/20/2047 DD 09/21/17	939,017	859,302
DOLLAR TREE INC 4.000% 05/15/2025 DD 04/19/18	1,461,876	1,427,605
DOMINION ENERGY GAS HOLDINGS L 3.600% 12/15/2024 DD 12/08/14	693,662	690,093
DOMINION ENERGY GAS HOLDINGS L 4.600% 12/15/2044 DD 12/08/14	621,462	591,546
DOMINION ENERGY GAS HOLDINGS L 4.800% 11/01/2043 DD 05/01/14	839,444	769,445
DOMINION ENERGY INC 1.600% 08/15/2019 DD 08/09/16	1,242,168	1,236,088
DOMINION ENERGY INC 2.000% 08/15/2021 DD 08/09/16	604,135	581,363
DOMINION ENERGY INC 2.850% 08/15/2026 DD 08/09/16	219,923	202,726
DOMINION ENERGY INC 4.050% 09/15/2042 DD 09/13/12	3,190,266	2,928,895
DOMINION ENERGY INC 4.250% 06/01/2028 DD 06/05/18	1,260,000	1,264,221
DOMINION ENERGY INC 4.700% 12/01/2044 DD 11/25/14	1,643,928	1,644,011
DOMINION ENERGY INC 5.950% 06/15/2035 DD 06/20/05	641,710	803,700
DOMINION ENERGY INC 6.300% 03/15/2033 DD 03/06/03	1,019,975	1,002,898
DOW CHEMICAL CO/THE 144A 4.550% 11/30/2025 DD 11/30/18	339,657	345,889
DOW CHEMICAL CO/THE 4.250% 10/01/2034 DD 09/16/14	3,217,106	3,019,505
DOW CHEMICAL CO/THE 7.375% 11/01/2029 DD 11/01/99	1,406,343	1,334,980
DOWDUPONT INC 4.205% 11/15/2023 DD 11/28/18	7,080,000	7,236,822
DOWDUPONT INC 5.319% 11/15/2038 DD 11/28/18	1,370,000	1,410,662
DOWDUPONT INC 5.419% 11/15/2048 DD 11/28/18	2,225,000	2,311,642
DTE ELECTRIC CO 4.300% 07/01/2044 DD 07/02/14	1,061,671	1,080,293
DTE ENERGY CO 1.500% 10/01/2019 DD 10/05/16	1,418,225	1,398,956
DTE ENERGY CO 3.700% 08/01/2023 DD 08/06/18	309,513	307,830
DUKE ENERGY CAROLINAS LLC 3.350% 05/15/2022 DD 11/08/18	853,042	862,977
DUKE ENERGY CAROLINAS LLC 3.700% 12/01/2047 DD 11/14/17	1,073,431	976,401
DUKE ENERGY CAROLINAS LLC 4.250% 12/15/2041 DD 12/08/11	1,363,366	1,383,547
DUKE ENERGY CAROLINAS LLC 6.000% 01/15/2038 DD 01/10/08	5,166,242	5,598,885
DUKE ENERGY CAROLINAS LLC 6.450% 10/15/2032 DD 10/08/02	1,593,143	1,820,255
DUKE ENERGY CORP 2.650% 09/01/2026 DD 08/12/16	261,061	263,651
DUKE ENERGY CORP 3.750% 04/15/2024 DD 04/04/14	1,595,711	1,572,481
DUKE ENERGY FLORIDA LLC 4.200% 07/15/2048 DD 06/21/18	499,305	497,840
DUKE ENERGY FLORIDA LLC 6.350% 09/15/2037 DD 09/18/07	762,552	750,306
DUKE ENERGY FLORIDA PROJECT FI 2.538% 09/01/2031 DD 06/22/16	2,479,901	2,310,591
DUKE ENERGY INDIANA LLC 3.750% 07/15/2020 DD 07/09/10	389,910	379,943
DUKE ENERGY INDIANA LLC 4.900% 07/15/2043 DD 07/11/13	686,874	746,849
DUKE ENERGY PROGRESS LLC 3.375% 09/01/2023 DD 08/09/18	484,966	487,158
DUKE ENERGY PROGRESS LLC 3.600% 09/15/2047 DD 09/08/17	1,527,751	1,357,982
DUKE ENERGY PROGRESS LLC 6.300% 04/01/2038 DD 03/13/08	246,256	291,696
EASTMAN CHEMICAL CO 3.500% 12/01/2021 DD 11/06/18	1,201,710	1,211,037
ECOPETROL SA 5.875% 05/28/2045 DD 05/28/14	988,248	986,710
ELECTRICITE DE FRANCE SA 144A 5.000% 09/21/2048 DD 09/21/18	2,008,976	1,834,268

ELI LILLY & CO 5.550% 03/15/2037 DD 03/14/07	666,176	636,314
EMERA US FINANCE LP 4.750% 06/15/2046 DD 12/15/16	1,431,103	1,346,100
ENBRIDGE INC 4.500% 06/10/2044 DD 06/04/14	1,459,672	1,419,036
ENCANA CORP 3.900% 11/15/2021 DD 11/14/11	1,532,844	1,541,309
ENCANA CORP 5.150% 11/15/2041 DD 11/14/11	539,938	529,003
ENCANA CORP 6.500% 02/01/2038 DD 12/04/07	1,496,752	1,425,710
ENCANA CORP 6.625% 08/15/2037 DD 08/13/07	756,970	698,708
ENEL FINANCE INTERNATIONAL 144A 4.750% 05/25/2047 DD 05/25/17	1,203,604	955,193
ENERGY TRANSFER OPERATING LP 4.200% 09/15/2023 DD 06/08/18	479,645	473,059
ENERGY TRANSFER OPERATING LP 5.300% 04/15/2047 DD 01/17/17	1,072,095	956,297
ENERGY TRANSFER OPERATING LP 7.500% 07/01/2038 DD 03/28/08	668,206	609,467
ENERGY TRANSFER PARTNERS LP / 5.000% 10/01/2022 DD 07/25/14	968,400	954,205
ENI SPA 144A 4.750% 09/12/2028 DD 09/12/18	1,115,989	1,099,733
ENI SPA 144A 5.700% 10/01/2040 DD 10/01/10	1,158,208	1,205,635
ENTERGY LOUISIANA LLC 3.050% 06/01/2031 DD 05/19/16	963,239	869,327
ENTERGY LOUISIANA LLC 4.000% 03/15/2033 DD 03/23/18	219,657	222,541
ENTERPRISE PRODUCTS OPERATING 4.150% 10/16/2028 DD 10/11/18	1,669,382	1,681,482
ENTERPRISE PRODUCTS OPERATING 4.250% 02/15/2048 DD 02/15/18	207,280	195,004
ENTERPRISE PRODUCTS OPERATING 4.450% 02/15/2043 DD 08/13/12	588,066	530,858
ENTERPRISE PRODUCTS OPERATING 4.800% 02/01/2049 DD 10/11/18	1,490,850	1,457,175
ENTERPRISE PRODUCTS OPERATING 4.850% 08/15/2042 DD 02/15/12	243,610	231,091
ENTERPRISE PRODUCTS OPERATING 4.900% 05/15/2046 DD 05/07/15	1,042,180	968,580
ENTERPRISE PRODUCTS OPERATING 5.100% 02/15/2045 DD 02/12/14	1,909,304	1,836,643
ENTERPRISE PRODUCTS OPERATING 7.550% 04/15/2038 DD 10/15/09	851,767	943,133
EQM MIDSTREAM PARTNERS LP 6.500% 07/15/2048 DD 06/25/18	669,792	644,906
EQUINOR ASA 3.150% 01/23/2022 DD 11/23/11	926,442	897,606
EQUINOR ASA 3.950% 05/15/2043 DD 05/15/13	1,340,637	1,283,560
ERP OPERATING LP 4.000% 08/01/2047 DD 08/03/17	317,610	302,257
EUCATEX SA INDUSTRIA E COMERCIO	48,053	59,666
EVERGY INC 4.850% 06/01/2021 DD 05/19/11	700,522	666,881
EXELON CORP 2.450% 04/15/2021 DD 04/07/16	94,977	92,914
EXELON CORP 2.850% 06/15/2020 DD 06/11/15	519,901	515,882
EXELON CORP 3.950% 06/15/2025 DD 12/15/15	2,083,701	1,988,845
EXELON CORP 4.950% 06/15/2035 DD 12/15/15	717,731	704,830
EXELON CORP 5.100% 06/15/2045 DD 12/15/15	1,754,086	1,811,726
EXELON GENERATION CO LLC 5.600% 06/15/2042 DD 12/15/12	514,373	467,294
EXELON GENERATION CO LLC 5.750% 10/01/2041 DD 09/30/10	2,262,662	2,179,116
EXELON GENERATION CO LLC 6.250% 10/01/2039 DD 09/23/09	2,531,031	2,341,198
EXPRESS SCRIPTS HOLDING CO 4.800% 07/15/2046 DD 07/05/16	188,290	177,354
EXPRESS SCRIPTS HOLDING CO 6.125% 11/15/2041 DD 11/15/12	269,184	264,603
FEDEX CORP 3.900% 02/01/2035 DD 01/09/15	522,596	475,314

FEDEX CORP 4.050% 02/15/2048 DD 01/31/18	2,250,598	1,893,089
FEDEX CORP 4.100% 02/01/2045 DD 01/09/15	554,100	500,895
FEDEX CORP 4.400% 01/15/2047 DD 01/06/17	79,522	71,868
FIDELITY NATIONAL INFORMATION 2.250% 08/15/2021 DD 08/16/16	584,918	564,923
FIDELITY NATIONAL INFORMATION 4.750% 05/15/2048 DD 05/16/18	1,324,362	1,264,202
FIFTH THIRD AUTO TRUST 2 1 A2A VAR RT 05/01/2020 DD 05/01/18	87,422	87,331
FIFTH THIRD BANCORP 8.250% 03/01/2038 DD 03/04/08	816,172	849,459
FIRSTENERGY CORP 7.375% 11/15/2031 DD 11/15/01	762,979	726,541
FISERV INC 3.800% 10/01/2023 DD 09/25/18	1,944,105	1,957,117
FLORIDA POWER & LIGHT CO 3.950% 03/01/2048 DD 02/28/18	770,815	756,896
FLORIDA POWER & LIGHT CO 5.960% 04/01/2039 DD 03/17/09	3,720,898	4,192,549
FLUOR CORP 4.250% 09/15/2028 DD 08/29/18	803,285	784,207
FORD CREDIT AUTO OWNER T B A2A VAR RT 10/09/2020 DD 10/12/18	110,121	109,869
FORD MOTOR CO 7.450% 07/16/2031 DD 07/16/99	800,864	690,783
FORD MOTOR CREDIT CO LLC 3.815% 11/02/2027 DD 11/02/17	921,351	847,929
FORTIS INC/CANADA 2.100% 10/04/2021 DD 04/04/17	768,037	740,255
FORTIS INC/CANADA 3.055% 10/04/2026 DD 04/04/17	915,244	839,859
FORTIVE CORP 2.350% 06/15/2021 DD 06/15/17	1,399,041	1,355,347
GE CAPITAL INTERNATIONAL FUNDI 3.373% 11/15/2025 DD 05/15/16	4,016,284	3,952,980
GE CAPITAL INTERNATIONAL FUNDI 4.418% 11/15/2035 DD 05/15/16	7,988,186	8,055,748
GENERAL DYNAMICS CORP 2.875% 05/11/2020 DD 05/11/18	2,212,141	2,221,532
GENERAL ELECTRIC CO 5.875% 01/14/2038 DD 01/14/08	1,636,710	1,522,095
GENERAL ELECTRIC CO 6.150% 08/07/2037 DD 08/07/07	693,439	558,927
GENERAL ELECTRIC CO 6.750% 03/15/2032 DD 03/20/02	1,585,430	1,525,883
GENERAL ELECTRIC CO 6.875% 01/10/2039 DD 01/09/09	2,049,009	1,956,131
GENERAL MILLS INC 5.400% 06/15/2040 DD 06/01/10	100,093	95,121
GENERAL MOTORS CO 5.000% 04/01/2035 DD 11/12/14	2,126,608	1,828,081
GENERAL MOTORS CO 5.000% 10/01/2028 DD 09/10/18	4,470,146	4,353,900
GENERAL MOTORS CO 5.150% 04/01/2038 DD 08/07/17	179,887	153,785
GENERAL MOTORS CO 5.950% 04/01/2049 DD 09/10/18	819,721	739,402
GENERAL MOTORS FINANCIAL CO IN 4.350% 01/17/2027 DD 01/17/17	1,881,336	1,689,007
GEORGE WASHINGTON UNIVERSITY/T 4.868% 09/15/2045 DD 07/01/15	427,469	383,098
GEORGIA POWER CO 2.000% 09/08/2020 DD 08/08/17	994,459	993,904
GEORGIA POWER CO 2.400% 04/01/2021 DD 03/08/16	1,042,858	1,024,382
GEORGIA POWER CO 4.300% 03/15/2042 DD 03/06/12	2,143,906	1,975,931
GEORGIA POWER CO 4.300% 03/15/2043 DD 03/15/13	1,152,421	1,107,238
GILEAD SCIENCES INC 4.000% 09/01/2036 DD 09/20/16	800,412	733,854
GILEAD SCIENCES INC 4.150% 03/01/2047 DD 09/20/16	4,614,190	4,264,878
GILEAD SCIENCES INC 4.500% 02/01/2045 DD 11/17/14	1,203,709	1,120,392
GILEAD SCIENCES INC 5.650% 12/01/2041 DD 12/13/11	559,724	568,967
GLAXOSMITHKLINE CAPITAL INC 3.375% 05/15/2023 DD 05/15/18	920,662	928,524

GLAXOSMITHKLINE CAPITAL INC 6.375% 05/15/2038 DD 05/13/08	2,562,479	2,557,893
GLAXOSMITHKLINE CAPITAL PLC 3.125% 05/14/2021 DD 05/15/18	997,310	1,001,260
GLENCORE FINANCE CANADA L 144A 6.900% 11/15/2037 DD 11/20/07	1,140,516	1,066,633
GLP CAPITAL LP / GLP FINANCING 5.300% 01/15/2029 DD 09/26/18	815,395	797,094
GM FINANCIAL AUTOMOBILE 3 A2A 2.750% 08/07/2020 DD 08/07/15	239,710	239,055
GM FINANCIAL AUTOMOBILE 3 A2A 3.200% 06/05/2020 DD 06/07/18	359,978	359,604
GOLDMAN SACHS BANK USA/NEW YOR	199,954	199,638
GOLDMAN SACHS GROUP INC/THE 3.500% 01/23/2025 DD 01/23/15	939,025	938,431
GOLDMAN SACHS GROUP INC/THE 3.500% 11/16/2026 DD 11/16/16	1,225,250	1,219,218
GOLDMAN SACHS GROUP INC/THE 3.750% 05/22/2025 DD 05/22/15	2,746,140	2,693,308
GOLDMAN SACHS GROUP INC/THE 4.750% 10/21/2045 DD 10/21/15	311,380	294,956
GOLDMAN SACHS GROUP INC/THE 4.800% 07/08/2044 DD 07/08/14	619,781	547,590
GOLDMAN SACHS GROUP INC/THE 5.150% 05/22/2045 DD 05/22/15	332,834	313,272
GOLDMAN SACHS GROUP INC/THE 5.750% 01/24/2022 DD 01/24/12	3,660,366	3,429,023
GOLDMAN SACHS GROUP INC/THE 6.250% 02/01/2041 DD 01/28/11	4,674,156	4,870,191
GOLDMAN SACHS GROUP INC/THE 6.750% 10/01/2037 DD 10/03/07	1,023,462	1,134,926
GOLDMAN SACHS GROUP INC/THE VAR RT 04/23/2029 DD 01/23/18	1,245,000	1,162,369
GOLDMAN SACHS GROUP INC/THE VAR RT 05/01/2029 DD 04/23/18	1,447,103	1,429,149
GOLDMAN SACHS GROUP INC/THE VAR RT 06/05/2028 DD 06/05/17	3,370,000	3,131,977
GOLDMAN SACHS GROUP INC/THE VAR RT 07/24/2023 DD 07/24/17	2,514,949	2,438,605
GOLDMAN SACHS GROUP INC/THE VAR RT 10/31/2022 DD 10/31/17	1,899,997	1,845,299
GOLDMAN SACHS GROUP INC/THE VAR RT 10/31/2038 DD 10/31/17	5,046,975	4,466,051
GOLDMAN SACHS GROUP INC/THE VAR RT 11/29/2023 DD 11/29/13	1,270,325	1,238,763
GOODMAN US FINANCE FOUR L 144A 4.500% 10/15/2037 DD 09/27/17	384,384	366,559
GREAT-WEST LIFECO FINANCE 144A 4.150% 06/03/2047 DD 05/26/17	1,026,906	964,185
GRUPO TELEVISA SAB 5.000% 05/13/2045 DD 05/13/14	241,335	218,315
HALLIBURTON CO 4.500% 11/15/2041 DD 11/14/11	1,032,980	912,670
HARRIS CORP 5.054% 04/27/2045 DD 04/27/15	519,064	519,478
HCP INC 6.750% 02/01/2041 DD 01/24/11	637,885	615,835
HESS CORP 4.300% 04/01/2027 DD 09/28/16	1,552,002	1,424,893
HESS CORP 5.600% 02/15/2041 DD 08/10/10	1,257,318	1,091,113
HOME DEPOT INC/THE	685,000	682,520
HOME DEPOT INC/THE 3.250% 03/01/2022 DD 12/06/18	732,986	742,629
HOME DEPOT INC/THE 4.200% 04/01/2043 DD 04/05/13	1,595,156	1,607,091
HOME DEPOT INC/THE 4.500% 12/06/2048 DD 12/06/18	683,199	717,511
HOME DEPOT INC/THE 5.875% 12/16/2036 DD 12/19/06	2,010,687	2,228,690
HOME DEPOT INC/THE 5.950% 04/01/2041 DD 03/31/11	693,355	736,266
HONDA AUTO RECEIVABLES 20 2 A2 VAR RT 01/22/2021 DD 01/22/18	27,107	27,092
HONEYWELL INTERNATIONAL INC	1,225,000	1,222,072
HSBC BANK USA NA/NEW YORK NY 5.625% 08/15/2035 DD 08/17/05	360,129	327,813
HSBC HOLDINGS PLC 3.900% 05/25/2026 DD 05/25/16	341,561	344,956

HSBC HOLDINGS PLC 4.300% 03/08/2026 DD 03/08/16	872,997	848,321
HSBC HOLDINGS PLC 6.500% 09/15/2037 DD 09/12/07	3,792,362	4,244,433
HSBC HOLDINGS PLC 6.800% 06/01/2038 DD 05/27/08	268,904	259,807
HSBC HOLDINGS PLC 7.625% 05/17/2032 DD 05/17/05	1,019,222	1,001,835
HSBC HOLDINGS PLC VAR RT 06/19/2029 DD 06/19/18	6,208,160	6,175,425
HSBC HOLDINGS PLC VAR RT 09/12/2026 DD 09/12/18	1,729,228	1,718,790
HSBC USA INC	1,160,564	1,122,651
HUMANA INC 2.500% 12/15/2020 DD 12/21/17	799,568	787,936
HUMANA INC 3.850% 10/01/2024 DD 09/19/14	2,624,967	2,532,947
HUNGARY GOVERNMENT INTERNATION 6.375% 03/29/2021	674,400	675,418
HUTCHISON WHAMPOA INTERNA 144A 7.450% 11/24/2033 DD 11/24/03	1,001,095	1,206,618
HYUNDAI AUTO LEASE C A2A 144A	508,507	506,818
HYUNDAI AUTO RECEIVABLES A A2A 1.550% 10/18/2019 DD 10/18/16	23,407	23,391
HYUNDAI MOTOR CO	150,706	172,522
IBM CREDIT LLC	1,320,000	1,317,532
INDONESIA GOVERNMENT INTERNATI 4.450% 02/11/2024 DD 12/11/18	1,163,276	1,171,046
ING GROEP NV 144A 4.625% 01/06/2026 DD 11/15/18	259,334	261,760
INGERSOLL-RAND LUXEMBOURG FINA 3.550% 11/01/2024 DD 10/28/14	1,012,197	1,010,514
INTEL CORP 3.734% 12/08/2047 DD 06/08/18	2,521,780	2,265,726
INTEL CORP 4.100% 05/11/2047 DD 05/11/17	208,780	201,564
INTEL CORP 4.100% 05/19/2046 DD 05/19/16	636,390	621,888
INTERNATIONAL FLAVORS & FRAGRA 3.400% 09/25/2020 DD 09/26/18	664,787	665,512
INTERNATIONAL PAPER CO 4.350% 08/15/2048 DD 08/09/17	148,719	141,169
INTERNATIONAL PAPER CO 4.800% 06/15/2044 DD 06/10/14	1,484,522	1,219,390
INTERSTATE POWER & LIGHT CO 3.250% 12/01/2024 DD 11/24/14	1,251,867	1,208,430
INTESA SANPAOLO SPA 144A 3.375% 01/12/2023 DD 01/12/18	817,868	759,607
INTESA SANPAOLO SPA 144A 3.875% 01/12/2028 DD 01/12/18	704,419	606,368
IRS R US0003M PUT DEC 2019 003.200 ED 120919	176,867	113,765
IRS_R US0003M INDEX 06/03/29 PUT MAY 19 003.200 ED 053019	282,546	62,518
ISRAEL GOVERNMENT INTERNATIONAL 4.125% 01/17/2048	782,874	771,340
ISRAEL GOVERNMENT INTERNATIONAL 4.125% 01/17/2048 DD 01/17/18	1,027,740	1,005,671
ITC HOLDINGS CORP 2.700% 11/15/2022 DD 05/15/18	369,689	357,635
ITC HOLDINGS CORP 5.300% 07/01/2043 DD 07/03/13	453,781	502,011
JM SMUCKER CO/THE 4.250% 03/15/2035 DD 09/15/15	1,135,748	1,041,937
JOHN DEERE CAPITAL CORP	760,000	756,360
JOHN DEERE CAPITAL CORP 1.950% 06/22/2020 DD 06/22/17	1,639,000	1,614,416
JOHN DEERE CAPITAL CORP 3.450% 06/07/2023 DD 06/07/18	574,684	577,174
JOHN DEERE OWNER TRUST 20 B A2 VAR RT 07/24/2020 DD 07/24/18	1,034,958	1,034,555
JOHNSON & JOHNSON 2.450% 03/01/2026 DD 03/01/16	659,069	619,885
JOHNSON & JOHNSON 4.375% 12/05/2033 DD 12/05/13	2,706,275	2,650,078
JPMORGAN CHASE & CO 2.950% 10/01/2026 DD 07/21/16	1,545,834	1,473,030

JPMORGAN CHASE & CO 3.125% 01/23/2025 DD 01/23/15	552,562	557,335
JPMORGAN CHASE & CO 4.250% 10/15/2020 DD 10/21/10	4,355,735	4,204,423
JPMORGAN CHASE & CO 5.400% 01/06/2042 DD 12/22/11	306,275	307,544
JPMORGAN CHASE & CO 5.600% 07/15/2041 DD 07/21/11	1,938,775	2,027,916
JPMORGAN CHASE & CO VAR RT 01/23/2029 DD 01/23/18	1,185,000	1,122,077
JPMORGAN CHASE & CO VAR RT 01/23/2049 DD 01/23/18	227,890	219,268
JPMORGAN CHASE & CO VAR RT 04/23/2024 DD 04/23/18	2,005,094	2,009,691
JPMORGAN CHASE & CO VAR RT 04/23/2029 DD 04/23/18	1,818,233	1,794,059
JPMORGAN CHASE & CO VAR RT 05/01/2028 DD 04/25/17	2,205,564	2,111,759
JPMORGAN CHASE & CO VAR RT 07/23/2024 DD 07/23/18	6,885,407	6,902,471
JPMORGAN CHASE & CO VAR RT 07/24/2048 DD 07/24/17	2,639,642	2,380,594
JPMORGAN CHASE & CO VAR RT 10/24/2023 DD 10/24/16	710,000	709,823
KANSAS CITY POWER & LIGHT CO 4.200% 03/15/2048 DD 03/01/18	384,665	373,400
KEURIG DR PEPPER INC 144A 4.417% 05/25/2025 DD 05/25/18	2,215,000	2,204,745
KEURIG DR PEPPER INC 144A 5.085% 05/25/2048 DD 05/25/18	821,411	784,534
KEURIG DR PEPPER INC 3.400% 11/15/2025 DD 11/09/15	774,116	780,897
KEURIG DR PEPPER INC 4.500% 11/15/2045 DD 11/09/15	181,766	148,053
KIMCO REALTY CORP 3.300% 02/01/2025 DD 08/10/17	144,772	138,202
KIMCO REALTY CORP 4.450% 09/01/2047 DD 08/10/17	332,518	303,574
KINDER MORGAN ENERGY PARTNERS 4.150% 02/01/2024 DD 08/05/13	1,254,275	1,233,882
KINDER MORGAN ENERGY PARTNERS 4.300% 05/01/2024 DD 05/02/14	293,228	289,568
KINDER MORGAN ENERGY PARTNERS 5.400% 09/01/2044 DD 09/11/14	1,204,587	1,123,183
KINDER MORGAN ENERGY PARTNERS 5.500% 03/01/2044 DD 02/24/14	2,474,709	2,322,469
KINDER MORGAN ENERGY PARTNERS 6.500% 02/01/2037 DD 01/30/07	264,302	247,779
KINDER MORGAN ENERGY PARTNERS 7.300% 08/15/2033 DD 08/19/02	248,274	323,641
KINDER MORGAN INC/DE 5.200% 03/01/2048 DD 03/01/18	172,271	162,284
KINDER MORGAN INC/DE 5.300% 12/01/2034 DD 11/26/14	674,278	637,104
KINDER MORGAN INC/DE 5.550% 06/01/2045 DD 11/26/14	2,322,148	2,307,562
KONINKLIJKE AHOLD DELHAIZE NV 5.700% 10/01/2040 DD 10/08/10	293,267	283,479
KOREA INTERNATIONAL BOND 3.500% 09/20/2028 DD 09/20/18	2,652,780	2,682,109
KRAFT HEINZ FOODS CO 3.000% 06/01/2026 DD 05/24/16	2,779,438	2,555,809
KRAFT HEINZ FOODS CO 4.375% 06/01/2046 DD 05/24/16	589,325	510,775
KRAFT HEINZ FOODS CO 4.625% 01/30/2029 DD 06/15/18	1,055,859	1,062,874
KRAFT HEINZ FOODS CO 5.000% 06/04/2042 DD 12/04/12	1,941,015	1,614,157
KRAFT HEINZ FOODS CO 5.000% 07/15/2035 DD 07/15/16	2,181,132	2,027,117
KRAFT HEINZ FOODS CO 5.200% 07/15/2045 DD 07/15/16	557,031	479,735
KRAFT HEINZ FOODS CO 6.500% 02/09/2040 DD 08/09/12	951,988	808,578
KRAFT HEINZ FOODS CO 6.875% 01/26/2039 DD 07/26/12	1,446,480	1,255,196
KREDITANSTALT FUER WIEDERAUFBA 1.625% 05/29/2020 DD 05/31/17	5,192,148	5,127,772
KROGER CO/THE 1.500% 09/30/2019 DD 10/03/16	1,542,622	1,538,363
KROGER CO/THE 3.850% 08/01/2023 DD 07/25/13	193,701	196,601

KROGER CO/THE 3.875% 10/15/2046 DD 10/03/16	449,283	410,762
KROGER CO/THE 4.650% 01/15/2048 DD 07/24/17	431,851	399,099
KROGER CO/THE 5.150% 08/01/2043 DD 07/25/13	578,057	554,677
KROGER CO/THE 5.400% 07/15/2040 DD 07/13/10	181,949	177,811
LG CORP	299,699	291,656
LINCOLN NATIONAL CORP 3.625% 12/12/2026 DD 12/12/16	751,144	760,068
LINCOLN NATIONAL CORP 4.350% 03/01/2048 DD 02/12/18	536,927	498,215
LLOYDS BANKING GROUP PLC 3.750% 01/11/2027 DD 01/11/17	905,948	914,107
LLOYDS BANKING GROUP PLC 4.344% 01/09/2048 DD 01/09/18	315,000	248,570
LLOYDS BANKING GROUP PLC VAR RT 11/07/2028 DD 11/07/17	1,302,237	1,187,509
LOCKHEED MARTIN CORP 3.600% 03/01/2035 DD 02/20/15	1,150,345	1,056,867
LOCKHEED MARTIN CORP 3.800% 03/01/2045 DD 02/20/15	637,708	646,917
LOCKHEED MARTIN CORP 4.070% 12/15/2042 DD 12/14/12	4,228,524	4,017,140
LOCKHEED MARTIN CORP 4.700% 05/15/2046 DD 11/23/15	1,428,526	1,510,944
LOWE'S COS INC 4.050% 05/03/2047 DD 05/03/17	1,420,905	1,233,075
LOWE'S COS INC 4.375% 09/15/2045 DD 09/16/15	830,861	736,335
LOWE'S COS INC 4.650% 04/15/2042 DD 04/23/12	477,785	429,606
MARATHON OIL CORP 2.800% 11/01/2022 DD 10/29/12	642,010	671,549
MARATHON OIL CORP 3.850% 06/01/2025 DD 06/10/15	260,213	257,980
MARATHON OIL CORP 4.400% 07/15/2027 DD 07/24/17	1,147,307	1,083,228
MARATHON OIL CORP 6.600% 10/01/2037 DD 09/27/07	2,483,525	2,420,928
MARATHON PETROLEUM CORP 144A 4.500% 04/01/2048 DD 10/01/18	387,355	344,146
MARATHON PETROLEUM CORP 3.625% 09/15/2024 DD 09/05/14	1,310,279	1,279,548
MARATHON PETROLEUM CORP 4.750% 09/15/2044 DD 09/05/14	872,461	828,948
MARATHON PETROLEUM CORP 6.500% 03/01/2041 DD 09/01/11	355,011	318,228
MARCOPOLO SA	523,567	529,403
MARKEL CORP 4.300% 11/01/2047 DD 11/02/17	410,329	355,950
MARKEL CORP 5.000% 04/05/2046 DD 04/05/16	826,291	828,370
MARSH & MCLENNAN COS INC 2.350% 09/10/2019 DD 09/10/14	2,862,956	2,839,954
MARSH & MCLENNAN COS INC 2.750% 01/30/2022 DD 01/12/17	1,151,680	1,122,260
MARSH & MCLENNAN COS INC 3.500% 06/03/2024 DD 05/30/14	860,831	847,126
MARSH & MCLENNAN COS INC 4.800% 07/15/2021 DD 07/15/11	586,234	566,814
MARTIN MARIETTA MATERIALS INC 4.250% 12/15/2047 DD 12/20/17	2,078,349	1,706,593
MASCO CORP 4.500% 05/15/2047 DD 06/21/17	845,918	725,951
MASSACHUSETTS ELECTRIC CO 144A 4.004% 08/15/2046 DD 08/05/16	495,000	465,770
MASSACHUSETTS MUTUAL LIFE 144A 8.875% 06/01/2039 DD 06/01/09	762,649	933,840
MCDONALD'S CORP 3.350% 04/01/2023 DD 03/16/18	729,723	726,306
MCDONALD'S CORP 3.625% 05/01/2043 DD 05/06/13	204,225	174,461
MCDONALD'S CORP 4.450% 03/01/2047 DD 03/09/17	843,614	807,905
MCDONALD'S CORP 4.600% 05/26/2045 DD 05/26/15	1,375,266	1,288,867
MCDONALD'S CORP 4.700% 12/09/2035 DD 12/09/15	717,689	723,175

MCDONALD'S CORP 4.875% 12/09/2045 DD 12/09/15	916,908	820,420
MCKESSON CORP 3.650% 11/30/2020 DD 11/30/18	2,533,834	2,547,117
MEAD JOHNSON NUTRITION CO 4.600% 06/01/2044 DD 05/13/14	522,605	492,571
MEDTRONIC INC 4.375% 03/15/2035 DD 03/15/15	1,920,499	1,947,344
MEDTRONIC INC 4.625% 03/15/2045 DD 03/15/15	2,597,136	2,511,014
MEDTRONIC INC 6.500% 03/15/2039 DD 03/12/09	543,775	634,510
MERCK & CO INC 3.700% 02/10/2045 DD 02/10/15	1,441,663	1,392,624
METHANEX CORP 3.250% 12/15/2019 DD 12/17/12	1,987,868	1,955,205
METLIFE INC 4.875% 11/13/2043 DD 11/13/13	1,604,922	1,685,156
METLIFE INC 5.875% 02/06/2041 DD 08/06/10	1,473,570	1,471,950
METLIFE INC 6.500% 12/15/2032 DD 12/10/02	1,211,584	1,365,362
METLIFE INC VAR RT 12/15/2044 DD 09/15/14	1,209,824	1,142,030
METROPOLITAN LIFE GLOBAL 144A 2.400% 01/08/2021 DD 01/10/18	2,207,591	2,176,342
MEXICO GOVERNMENT INTERNATIONAL 3.625% 03/15/2022 DD 01/06/12	395,500	395,568
MEXICO GOVERNMENT INTERNATIONAL 4.350% 01/15/2047 DD 08/11/16	701,175	642,750
MEXICO GOVERNMENT INTERNATIONAL 4.600% 01/23/2046 DD 01/23/15	4,812,575	4,423,073
MEXICO GOVERNMENT INTERNATIONAL 4.750% 03/08/2044 DD 03/08/12	1,457,138	1,336,230
MICROCHIP TECHNOLOGY INC 144A 3.922% 06/01/2021 DD 05/29/18	1,135,000	1,125,909
MICROSOFT CORP	682,065	683,135
MICROSOFT CORP 3.450% 08/08/2036 DD 08/08/16	2,311,022	2,185,115
MICROSOFT CORP 3.500% 11/15/2042 DD 11/07/12	2,834,779	2,697,638
MICROSOFT CORP 3.750% 02/12/2045 DD 02/12/15	1,930,078	2,002,601
MICROSOFT CORP 4.000% 02/12/2055 DD 02/12/15	1,254,728	1,252,101
MICROSOFT CORP 4.100% 02/06/2037 DD 02/06/17	3,277,872	3,370,936
MICROSOFT CORP 4.250% 02/06/2047 DD 02/06/17	1,702,629	1,779,360
MICROSOFT CORP 5.300% 02/08/2041 DD 02/08/11	107,323	119,118
MIDAMERICAN ENERGY CO 4.400% 10/15/2044 DD 04/03/14	1,779,242	1,844,165
MIDAMERICAN ENERGY CO 5.750% 11/01/2035 DD 11/01/05	1,561,001	1,546,792
MITSUBISHI UFJ FINANCIAL GROUP 3.455% 03/02/2023 DD 03/02/18	1,255,000	1,247,294
MITSUBISHI UFJ FINANCIAL GROUP 4.286% 07/26/2038 DD 07/26/18	572,000	571,840
MONDELEZ INTERNATIONAL HO 144A 1.625% 10/28/2019 DD 10/28/16	1,321,428	1,321,347
MONDELEZ INTERNATIONAL INC 4.625% 05/07/2048 DD 05/07/18	1,209,988	1,182,350
MOODY'S CORP 3.250% 06/07/2021 DD 06/07/18	319,520	318,765
MORGAN STANLEY 2.500% 04/21/2021 DD 04/21/16	1,051,442	1,032,634
MORGAN STANLEY 2.625% 11/17/2021 DD 11/17/16	2,309,656	2,269,270
MORGAN STANLEY 2.650% 01/27/2020 DD 01/27/15	1,608,583	1,597,909
MORGAN STANLEY 2.750% 05/19/2022 DD 05/19/17	404,154	394,016
MORGAN STANLEY 3.125% 07/27/2026 DD 07/25/16	1,367,147	1,289,859
MORGAN STANLEY 3.750% 02/25/2023 DD 02/25/13	1,378,977	1,387,554
MORGAN STANLEY 4.000% 07/23/2025 DD 07/23/15	5,591,694	5,465,487
MORGAN STANLEY 4.300% 01/27/2045 DD 01/27/15	2,285,391	2,170,012

MORGAN STANLEY 4.875% 11/01/2022 DD 10/23/12	644,675	644,056
MORGAN STANLEY 6.250% 08/09/2026 DD 08/09/06	232,792	293,440
MORGAN STANLEY 6.375% 07/24/2042 DD 07/24/12	2,585,891	2,747,431
MORGAN STANLEY 7.250% 04/01/2032 DD 04/03/02	1,615,968	1,762,838
MORGAN STANLEY VAR RT 01/24/2029 DD 01/23/18	900,000	861,102
MORGAN STANLEY VAR RT 07/22/2038 DD 07/24/17	1,880,000	1,713,169
MORGAN STANLEY VAR RT 10/24/2023 DD 10/24/16	710,000	706,549
MOSAIC CO/THE 5.450% 11/15/2033 DD 11/13/13	1,298,313	1,264,256
MOTIVA ENTERPRISES LLC 144A 6.850% 01/15/2040 DD 01/11/10	4,944,629	4,290,840
MPLX LP 4.000% 03/15/2028 DD 02/08/18	132,461	131,215
MPLX LP 4.125% 03/01/2027 DD 02/10/17	2,575,643	2,489,768
MPLX LP 4.500% 04/15/2038 DD 02/08/18	518,758	458,509
MPLX LP 5.200% 03/01/2047 DD 02/10/17	434,082	391,213
MPLX LP 5.500% 02/15/2049 DD 11/15/18	661,709	656,579
MYLAN INC 144A 4.550% 04/15/2028 DD 04/09/18	418,958	391,453
MYLAN NV 3.150% 06/15/2021 DD 12/15/16	494,426	484,090
MYLAN NV 3.750% 12/15/2020 DD 12/15/16	339,891	339,844
MYLAN NV 3.950% 06/15/2026 DD 12/15/16	98,839	95,698
NARRAGANSETT ELECTRIC CO/ 144A 5.638% 03/15/2040 DD 03/22/10	600,000	694,944
NATIONAL AUSTRALIA BANK LTD/NE VAR RT 10/09/2019 DD 10/20/17	2,069,199	2,008,624
NATIONAL RURAL UTILITIES COOPE 2.300% 11/01/2020 DD 10/27/15	928,121	916,562
NATIONAL RURAL UTILITIES COOPE 3.400% 02/07/2028 DD 02/07/18	842,516	832,638
NATIONAL RURAL UTILITIES COOPE 4.400% 11/01/2048 DD 10/31/18	432,847	453,035
NATIONWIDE FINANCIAL SERV 144A 5.300% 11/18/2044 DD 11/20/14	444,272	422,336
NATIONWIDE MUTUAL INSURAN 144A 4.950% 04/22/2044 DD 04/22/14	533,495	488,870
NBCUNIVERSAL MEDIA LLC 4.450% 01/15/2043 DD 10/05/12	1,219,120	1,180,814
NBCUNIVERSAL MEDIA LLC 5.950% 04/01/2041 DD 04/01/11	872,559	1,004,290
NESTLE HOLDINGS INC 144A 3.350% 09/24/2023 DD 09/24/18	1,949,649	1,969,305
NESTLE HOLDINGS INC 144A 3.900% 09/24/2038 DD 09/24/18	1,266,317	1,241,485
NESTLE HOLDINGS INC 144A 4.000% 09/24/2048 DD 09/24/18	1,913,946	1,902,597
NEW YORK AND PRESBYTERIAN HOSP 4.024% 08/01/2045 DD 02/05/15	688,185	675,762
NEW YORK LIFE INSURANCE C 144A 6.750% 11/15/2039 DD 10/08/09	2,494,385	2,538,159
NEWELL BRANDS INC 5.375% 04/01/2036 DD 03/30/16	241,739	201,705
NEXEN INC 5.875% 03/10/2035 DD 03/10/05	458,329	430,001
NEXEN INC 6.400% 05/15/2037 DD 05/04/07	248,165	231,247
NEXTERA ENERGY CAPITAL HOLDING 3.342% 09/01/2020 DD 08/09/18	589,941	591,168
NIAGARA MOHAWK POWER CORP 144A 4.278% 10/01/2034 DD 09/25/14	454,995	457,198
NISOURCE INC 144A 3.650% 06/15/2023 DD 06/11/18	1,620,539	1,637,763
NISOURCE INC 3.950% 03/30/2048 DD 09/14/17	1,233,666	1,098,187
NISOURCE INC 4.375% 05/15/2047 DD 05/22/17	444,508	423,282
NISSAN AUTO LEASE TRUST B A2A VAR RT 04/26/2019 DD 04/26/16	622,925	620,783

NISSAN MASTER OWNER TRUST A A1 VAR RT 01/09/2019 DD 01/09/17	750,000	750,630
NOBLE ENERGY INC 5.050% 11/15/2044 DD 11/07/14	1,140,614	951,814
NOBLE ENERGY INC 5.250% 11/15/2043 DD 11/08/13	595,400	489,084
NORDEA BANK ABP 144A 1.800% 02/20/2020 DD 10/25/17	520,000	521,050
NORFOLK SOUTHERN CORP 4.150% 02/28/2048 DD 02/28/18	1,814,889	1,721,533
NORTHERN NATURAL GAS CO 144A 4.100% 09/15/2042 DD 08/27/12	954,015	1,008,232
NORTHROP GRUMMAN CORP 4.030% 10/15/2047 DD 10/13/17	1,742,388	1,618,928
NORTHROP GRUMMAN CORP 4.750% 06/01/2043 DD 05/31/13	4,216,138	3,841,534
NORTHWELL HEALTHCARE INC 6.150% 11/01/2043 DD 09/17/13	977,631	946,561
NORTHWESTERN MUTUAL LIFE 144A 3.850% 09/30/2047 DD 09/26/17	957,955	869,338
NORTHWESTERN MUTUAL LIFE 144A 6.063% 03/30/2040 DD 03/26/10	1,732,487	1,817,651
NSTAR ELECTRIC CO 4.400% 03/01/2044 DD 03/07/14	859,023	894,912
NUCOR CORP 6.400% 12/01/2037 DD 12/03/07	854,429	805,943
NUTRIEN LTD 4.125% 03/15/2035 DD 03/15/18	1,710,940	1,625,028
NXP BV / NXP FUNDING LLC 144A 4.875% 03/01/2024 DD 12/06/18	1,976,078	1,983,670
OCCIDENTAL PETROLEUM CORP 4.200% 03/15/2048 DD 03/02/18	625,414	602,116
ONCOR ELECTRIC DELIVERY C 144A 5.750% 03/15/2029 DD 11/30/18	284,075	285,558
ONCOR ELECTRIC DELIVERY CO LLC 4.550% 12/01/2041 DD 06/01/12	380,764	380,571
ONCOR ELECTRIC DELIVERY CO LLC 7.000% 05/01/2032 DD 11/01/02	326,915	329,078
ONE GAS INC 4.658% 02/01/2044 DD 08/01/14	819,992	870,118
ONEOK PARTNERS LP 6.125% 02/01/2041 DD 01/26/11	860,858	772,725
ONEOK PARTNERS LP 6.200% 09/15/2043 DD 09/12/13	353,394	353,717
ORACLE CORP 3.850% 07/15/2036 DD 07/07/16	1,804,324	1,695,342
ORACLE CORP 3.900% 05/15/2035 DD 05/05/15	662,000	598,263
ORACLE CORP 4.000% 11/15/2047 DD 11/09/17	910,709	852,506
ORACLE CORP 4.125% 05/15/2045 DD 05/05/15	6,012,846	5,681,943
ORACLE CORP 4.300% 07/08/2034 DD 07/08/14	1,789,359	1,781,727
ORACLE CORP 6.500% 04/15/2038 DD 04/09/08	1,993,474	2,091,684
OWENS CORNING 4.300% 07/15/2047 DD 06/26/17	1,347,270	1,024,162
OWENS CORNING 4.400% 01/30/2048 DD 01/25/18	1,256,008	963,773
PACIFIC GAS & ELECTRIC CO 2.950% 03/01/2026 DD 03/01/16	1,985,223	1,743,043
PACIFIC GAS & ELECTRIC CO 3.300% 12/01/2027 DD 11/29/17	449,704	412,105
PACIFIC GAS & ELECTRIC CO 3.400% 08/15/2024 DD 08/18/14	160,529	147,429
PACIFIC GAS & ELECTRIC CO 3.750% 02/15/2024 DD 02/21/14	641,609	549,990
PACIFIC GAS & ELECTRIC CO 4.450% 04/15/2042 DD 04/16/12	524,426	437,014
PACIFIC GAS & ELECTRIC CO 6.050% 03/01/2034 DD 03/23/04	430,203	401,200
PACIFIC LIFE INSURANCE CO 144A VAR RT 10/24/2067 DD 10/24/17	1,064,105	935,656
PANAMA GOVERNMENT INTERNATIONA 4.300% 04/29/2053 DD 04/29/13	1,002,414	942,438
PANAMA GOVERNMENT INTERNATIONA 7.125% 01/29/2026 DD 11/29/05	841,895	844,994
PARKER-HANNIFIN CORP 4.200% 11/21/2034 DD 11/21/14	1,603,283	1,587,666
PENSKE TRUCK LEASING CO L 144A 4.250% 01/17/2023 DD 01/17/13	899,976	903,403

PENSKE TRUCK LEASING CO L 144A 4.875% 07/11/2022 DD 07/13/12	879,043	848,995
PEPSICO INC 4.250% 10/22/2044 DD 10/22/14	1,790,129	1,651,497
PERUVIAN GOVERNMENT INTERNATIO 5.625% 11/18/2050 DD 11/18/10	871,864	833,540
PETRO-CANADA 5.350% 07/15/2033 DD 06/20/03	100,114	158,130
PETROLEO BRASILEIRO SA	511,277	568,617
PETROLEOS MEXICANOS 5.350% 02/12/2028	1,150,000	1,003,375
PETROLEOS MEXICANOS 5.350% 02/12/2028 DD 08/12/18	598,776	567,125
PETROLEOS MEXICANOS 5.500% 06/27/2044 DD 06/26/12	2,273,231	1,944,732
PETROLEOS MEXICANOS 5.625% 01/23/2046 DD 01/23/16	3,509,927	2,959,440
PETROLEOS MEXICANOS 6.350% 02/12/2048 DD 08/12/18	249,810	220,000
PETROLEOS MEXICANOS 6.500% 01/23/2029 DD 10/23/18	79,963	74,600
PFIZER INC 3.200% 09/15/2023 DD 09/07/18	359,269	361,422
PFIZER INC 3.600% 09/15/2028 DD 09/07/18	259,587	260,985
PFIZER INC 4.200% 09/15/2048 DD 09/07/18	2,688,586	2,734,401
PFIZER INC 4.400% 05/15/2044 DD 05/15/14	424,871	400,920
PHILIP MORRIS INTERNATIONAL IN 2.375% 08/17/2022 DD 08/17/17	1,094,907	1,057,144
PHILIP MORRIS INTERNATIONAL IN 3.250% 11/10/2024 DD 11/10/14	1,748,986	1,698,118
PHILIP MORRIS INTERNATIONAL IN 3.875% 08/21/2042 DD 08/21/12	673,357	593,579
PHILIP MORRIS INTERNATIONAL IN 4.250% 11/10/2044 DD 11/10/14	1,979,465	1,855,900
PHILIP MORRIS INTERNATIONAL IN 4.875% 11/15/2043 DD 11/12/13	1,018,638	961,716
PHILIP MORRIS INTERNATIONAL IN 6.375% 05/16/2038 DD 05/16/08	1,913,881	1,911,839
PHILLIPS 66 4.650% 11/15/2034 DD 11/17/14	1,427,178	1,407,444
PHILLIPS 66 4.875% 11/15/2044 DD 11/17/14	329,767	307,383
PHILLIPS 66 5.875% 05/01/2042 DD 11/01/12	749,385	717,253
PHILLIPS 66 PARTNERS LP 4.900% 10/01/2046 DD 10/14/16	635,840	577,546
PLAINS ALL AMERICAN PIPELINE L 4.500% 12/15/2026 DD 11/22/16	482,045	481,600
PNC BANK NA	540,000	533,466
PNC BANK NA 4.050% 07/26/2028 DD 07/26/18	475,646	482,179
PNC BANK NA 4.200% 11/01/2025 DD 10/24/13	448,070	450,397
PORSCHE AUTOMOBIL HOLDING SE	337,991	289,258
PPL CAPITAL FUNDING INC 3.100% 05/15/2026 DD 05/17/16	562,477	538,953
PPL ELECTRIC UTILITIES CORP 3.950% 06/01/2047 DD 05/11/17	786,971	770,450
PPL ELECTRIC UTILITIES CORP 4.125% 06/15/2044 DD 06/05/14	2,164,783	2,148,373
PPL ELECTRIC UTILITIES CORP 4.150% 06/15/2048 DD 06/14/18	507,139	508,649
PRAXAIR INC 3.550% 11/07/2042 DD 11/07/12	566,607	530,569
PRECISION CASTPARTS CORP 4.375% 06/15/2045 DD 06/10/15	732,560	743,078
PRINCIPAL FINANCIAL GROUP INC 4.625% 09/15/2042 DD 09/10/12	304,318	299,609
PROVIDENCE ST JOSEPH HEALTH OB 3.930% 10/01/2048 DD 02/06/18	530,000	504,846
PROVINCE OF ONTARIO CANADA 2.550% 02/12/2021 DD 02/12/18	3,030,994	3,023,528
PRUDENTIAL FINANCIAL INC 3.905% 12/07/2047 DD 12/07/17	614,427	534,361
PRUDENTIAL FINANCIAL INC 4.600% 05/15/2044 DD 05/15/14	1,366,530	1,321,624

PRUDENTIAL FINANCIAL INC VAR RT 09/15/2048 DD 09/18/18	385,000	358,050
PUBLIC SERVICE CO OF COLORADO 3.950% 03/15/2043 DD 03/26/13	551,243	531,723
PUBLIC SERVICE CO OF COLORADO 4.300% 03/15/2044 DD 03/10/14	1,350,000	1,381,463
PUBLIC SERVICE ELECTRIC & GAS 4.050% 05/01/2048 DD 05/04/18	1,436,055	1,409,973
PUBLIC SERVICE ENTERPRISE GROU 2.650% 11/15/2022 DD 11/06/17	2,706,558	2,620,516
QUALCOMM INC 4.800% 05/20/2045 DD 05/20/15	513,322	528,638
REALTY INCOME CORP 4.650% 03/15/2047 DD 03/15/17	506,083	484,147
REGIONS FINANCIAL CORP 2.750% 08/14/2022 DD 08/14/17	259,867	250,843
REGIONS FINANCIAL CORP 3.800% 08/14/2023 DD 08/13/18	1,179,304	1,182,112
REGIONS FINANCIAL CORP 7.375% 12/10/2037 DD 12/10/07	492,687	511,187
REYNOLDS AMERICAN INC 4.000% 06/12/2022 DD 06/12/15	1,547,293	1,444,261
REYNOLDS AMERICAN INC 4.450% 06/12/2025 DD 06/12/15	1,839,452	1,721,168
REYNOLDS AMERICAN INC 5.700% 08/15/2035 DD 06/12/15	1,160,720	1,074,073
REYNOLDS AMERICAN INC 5.850% 08/15/2045 DD 06/12/15	1,488,133	1,221,674
RIO TINTO FINANCE USA PLC 4.750% 03/22/2042 DD 03/22/12	766,479	773,981
ROCKWELL COLLINS INC 2.800% 03/15/2022 DD 04/10/17	697,532	699,833
ROCKWELL COLLINS INC 4.800% 12/15/2043 DD 12/16/13	642,948	566,421
ROGERS COMMUNICATIONS INC 4.300% 02/15/2048 DD 02/08/18	695,786	665,945
ROYAL BANK OF CANADA 1.800% 11/13/2019 DD 11/13/17	1,005,000	999,382
ROYAL BANK OF CANADA 2.150% 10/26/2020 DD 10/26/17	1,584,081	1,560,654
ROYAL BANK OF CANADA VAR RT 02/08/2019 DD 02/09/17	685,000	685,692
ROYAL BANK OF SCOTLAND GROUP P VAR RT 01/27/2030 DD 09/27/18	662,448	665,346
SABIC CAPITAL II BV 144A 4.000% 10/10/2023 DD 10/10/18	871,430	870,625
SABINE PASS LIQUEFACTION LLC 5.750% 05/15/2024 DD 11/15/14	1,032,447	975,542
SABINE PASS LIQUEFACTION LLC VAR RT 04/15/2023 DD 10/15/13	986,497	964,026
SALESFORCE.COM INC 3.250% 04/11/2023 DD 04/11/18	769,538	773,958
SALESFORCE.COM INC 3.700% 04/11/2028 DD 04/11/18	519,870	522,751
SANTANDER HOLDINGS USA INC 3.700% 03/28/2022 DD 09/28/17	2,085,313	2,037,858
SANTANDER UK GROUP HOLDINGS PL VAR RT 01/05/2024 DD 01/05/18	990,000	939,342
SANTANDER UK GROUP HOLDINGS PL VAR RT 11/15/2024 DD 11/15/18	1,045,000	1,037,622
SEMPRA ENERGY 2.400% 02/01/2020 DD 01/12/18	2,536,546	2,505,837
SEMPRA ENERGY 3.550% 06/15/2024 DD 06/13/14	1,639,209	1,617,479
SEMPRA ENERGY 3.800% 02/01/2038 DD 01/12/18	855,344	751,501
SEMPRA ENERGY 4.000% 02/01/2048 DD 01/12/18	902,684	785,372
SEMPRA ENERGY 6.000% 10/15/2039 DD 10/08/09	632,198	544,762
SES GLOBAL AMERICAS HOLDI 144A 5.300% 03/25/2044 DD 03/25/14	693,459	639,583
SHELL INTERNATIONAL FINANCE BV 4.375% 05/11/2045 DD 05/11/15	4,530,657	4,660,443
SHELL INTERNATIONAL FINANCE BV 4.550% 08/12/2043 DD 08/12/13	583,268	540,504
SHELL INTERNATIONAL FINANCE BV 6.375% 12/15/2038 DD 12/11/08	4,761,496	4,958,727
SHERWIN-WILLIAMS CO/THE 2.750% 06/01/2022 DD 05/16/17	510,685	493,685
SHERWIN-WILLIAMS CO/THE 3.450% 06/01/2027 DD 05/16/17	959,316	932,170

SHIRE ACQUISITIONS INVESTMENTS 2.400% 09/23/2021 DD 09/23/16	905,908	889,622
SIEMENS FINANCIERINGSMAAT 144A 2.350% 10/15/2026 DD 09/15/16	1,495,695	1,366,605
SIEMENS FINANCIERINGSMAAT 144A 3.300% 09/15/2046 DD 09/15/16	1,688,915	1,433,224
SIEMENS FINANCIERINGSMAAT 144A 4.400% 05/27/2045 DD 05/27/15	650,140	667,995
SKY LTD 144A 3.125% 11/26/2022 DD 11/26/12	652,743	641,323
SOUTH CAROLINA ELECTRIC & GAS 3.500% 08/15/2021 DD 08/17/18	1,239,963	1,243,484
SOUTHERN CALIFORNIA EDISON CO 2.400% 02/01/2022 DD 01/16/15	999,930	964,560
SOUTHERN CALIFORNIA EDISON CO 2.900% 03/01/2021 DD 03/05/18	2,473,961	2,444,409
SOUTHERN CALIFORNIA EDISON CO 3.400% 06/01/2023 DD 06/04/18	993,965	989,289
SOUTHERN CALIFORNIA EDISON CO 4.500% 09/01/2040 DD 08/30/10	1,721,828	1,674,160
SOUTHERN CALIFORNIA EDISON CO 5.350% 07/15/2035 DD 06/27/05	236,405	267,181
SOUTHERN CALIFORNIA EDISON CO 5.625% 02/01/2036 DD 01/31/06	418,977	468,347
SOUTHERN CALIFORNIA EDISON CO 6.050% 03/15/2039 DD 03/20/09	3,736,833	3,810,557
SOUTHERN CALIFORNIA GAS CO 2.600% 06/15/2026 DD 06/03/16	768,506	722,368
SOUTHERN CALIFORNIA GAS CO 4.125% 06/01/2048 DD 05/15/18	259,727	258,227
SOUTHERN CALIFORNIA GAS CO 4.300% 01/15/2049 DD 09/24/18	594,732	608,667
SOUTHERN CO GAS CAPITAL CORP 2.450% 10/01/2023 DD 09/13/16	274,786	262,125
SOUTHERN CO GAS CAPITAL CORP 3.950% 10/01/2046 DD 09/13/16	194,655	170,697
SOUTHERN CO/THE 2.950% 07/01/2023 DD 05/24/16	3,430,746	3,331,665
SOUTHERN CO/THE 3.250% 07/01/2026 DD 05/24/16	631,731	627,623
SOUTHERN CO/THE 4.250% 07/01/2036 DD 05/24/16	215,091	203,872
SOUTHERN COPPER CORP 5.250% 11/08/2042 DD 11/08/12	795,825	769,840
SOUTHERN COPPER CORP 5.875% 04/23/2045	336,032	347,363
SOUTHERN COPPER CORP 5.875% 04/23/2045 DD 04/23/15	20,619	20,433
SOUTHERN COPPER CORP 6.750% 04/16/2040 DD 04/16/10	376,275	320,221
SOUTHERN NATURAL GAS CO L 144A 4.800% 03/15/2047 DD 03/14/17	633,197	603,841
SOUTHWESTERN PUBLIC SERVICE CO 4.400% 11/15/2048 DD 11/05/18	1,108,805	1,124,455
STARBUCKS CORP 3.800% 08/15/2025 DD 08/10/18	3,010,697	2,996,428
STARBUCKS CORP 4.000% 11/15/2028 DD 08/10/18	489,451	486,031
STATE STREET CORP VAR RT 12/03/2024 DD 12/03/18	600,000	601,428
STRYKER CORP 4.100% 04/01/2043 DD 03/25/13	709,781	665,165
STRYKER CORP 4.375% 05/15/2044 DD 05/01/14	1,801,873	1,726,867
SUMITOMO MITSUI FINANCIAL GROU 2.846% 01/11/2022 DD 01/12/17	1,413,252	1,423,349
SUMITOMO MITSUI FINANCIAL GROU 3.102% 01/17/2023 DD 01/17/18	639,368	647,427
SUNCOR ENERGY INC 3.600% 12/01/2024 DD 11/25/14	877,255	860,728
SUNCOR ENERGY INC 5.950% 12/01/2034 DD 12/01/03	1,373,390	1,307,857
SUNCOR ENERGY INC 6.500% 06/15/2038 DD 06/28/07	1,505,945	1,364,788
SUNCOR ENERGY INC 7.150% 02/01/2032 DD 01/29/02	409,834	457,965
SUNOCO LOGISTICS PARTNERS OPER 3.900% 07/15/2026 DD 07/12/16	1,067,388	1,048,195
SUNOCO LOGISTICS PARTNERS OPER 5.300% 04/01/2044 DD 04/03/14	678,885	600,454
SUNOCO LOGISTICS PARTNERS OPER 5.400% 10/01/2047 DD 09/21/17	553,923	502,947

SUNTRUST BANK/ATLANTA GA VAR RT 08/02/2024 DD 07/26/18	1,122,823	1,120,466
SUNTRUST BANKS INC 2.700% 01/27/2022 DD 12/01/16	1,611,162	1,560,464
SUNTRUST BANKS INC 4.000% 05/01/2025 DD 04/26/18	803,970	807,584
SUZANO AUSTRIA GMBH 144A 6.000% 01/15/2029 DD 09/20/18	761,124	780,683
SVENSKA HANDELSBANKEN AB VAR RT 10/30/2019 DD 10/30/17	755,000	754,472
SWISS RE TREASURY US CORP 144A 4.250% 12/06/2042 DD 12/06/12	580,849	574,908
SYNCHRONY FINANCIAL 3.700% 08/04/2026 DD 08/04/16	490,462	445,326
SYNCHRONY FINANCIAL 3.950% 12/01/2027 DD 12/01/17	398,856	336,912
SYNGENTA FINANCE NV 144A 4.892% 04/24/2025 DD 04/24/18	1,190,000	1,125,205
SYNGENTA FINANCE NV 144A 5.182% 04/24/2028 DD 04/24/18	1,510,938	1,451,303
SYSCO CORP 3.300% 07/15/2026 DD 04/01/16	468,228	447,280
SYSCO CORP 3.550% 03/15/2025 DD 03/19/18	343,206	339,739
SYSCO CORP 4.450% 03/15/2048 DD 03/19/18	1,828,555	1,746,491
SYSCO CORP 4.850% 10/01/2045 DD 09/28/15	690,331	622,401
TCI COMMUNICATIONS INC 7.125% 02/15/2028 DD 02/24/98	480,123	661,014
TEACHERS INSURANCE & ANNU 144A 4.270% 05/15/2047 DD 05/08/17	1,116,416	1,071,986
TEACHERS INSURANCE & ANNU 144A 6.850% 12/16/2039 DD 12/16/09	357,810	418,668
TELEFONICA EMISIONES SA 4.103% 03/08/2027 DD 03/08/17	2,160,279	2,113,320
TELEFONICA EMISIONES SA 4.895% 03/06/2048 DD 03/06/18	810,000	714,922
TELEFONICA EMISIONES SA 5.213% 03/08/2047 DD 03/08/17	1,231,813	1,104,888
TELEFONICA EMISIONES SA 7.045% 06/20/2036 DD 06/20/06	799,141	769,163
TENCENT HOLDINGS LTD 144A 2.985% 01/19/2023 DD 01/19/18	1,254,824	1,219,659
TENCENT HOLDINGS LTD 144A 3.595% 01/19/2028 DD 01/19/18	594,851	559,038
TENNESSEE GAS PIPELINE CO LLC 7.000% 03/15/2027 DD 03/13/97	397,699	389,978
TEXAS EASTERN TRANSMISSIO 144A 3.500% 01/15/2028 DD 01/09/18	1,437,500	1,364,268
TEXAS HEALTH RESOURCES 4.330% 11/15/2055 DD 05/05/15	605,220	608,304
TEXAS INSTRUMENTS INC	541,112	531,544
TEXAS INSTRUMENTS INC 4.150% 05/15/2048 DD 05/07/18	1,309,161	1,312,146
THERMO FISHER SCIENTIFIC INC 2.950% 09/19/2026 DD 09/19/16	266,725	249,170
THERMO FISHER SCIENTIFIC INC 3.000% 04/15/2023 DD 04/13/16	218,926	214,036
THERMO FISHER SCIENTIFIC INC 4.100% 08/15/2047 DD 08/14/17	904,249	846,814
TIME WARNER CABLE LLC 4.500% 09/15/2042 DD 08/10/12	600,535	522,535
TIME WARNER CABLE LLC 5.500% 09/01/2041 DD 09/12/11	454,186	400,963
TIME WARNER CABLE LLC 5.875% 11/15/2040 DD 11/15/10	2,435,807	2,129,784
TIME WARNER ENTERTAINMENT CO L 8.375% 03/15/2023 DD 09/15/93	187,346	188,237
TIME WARNER ENTERTAINMENT CO L 8.375% 07/15/2033 DD 01/15/94	1,117,145	1,334,936
TORCHMARK CORP 4.550% 09/15/2028 DD 09/27/18	1,305,245	1,331,026
TORONTO-DOMINION BANK/THE 1.100% 08/08/2019 DD 08/08/16	445,000	443,456
TORONTO-DOMINION BANK/THE 1.800% 07/13/2021 DD 07/13/16	997,755	982,205
TORONTO-DOMINION BANK/THE 3.250% 06/11/2021 DD 06/12/18	1,054,525	1,059,326
TORONTO-DOMINION BANK/THE VAR RT 09/06/2019 DD 09/08/17	870,000	867,564

TOYOTA AUTO RECEIVABLES B A2A VAR RT 10/23/2020 DD 10/24/17	39,680	39,638
TOYOTA MOTOR CREDIT CORP	1,373,939	1,362,846
TRANSALTA CORP 4.500% 11/15/2022 DD 11/07/12	424,970	408,471
TRANSCANADA PIPELINES LTD 4.250% 05/15/2028 DD 05/07/18	1,240,555	1,237,925
TRANSCANADA PIPELINES LTD 4.875% 01/15/2026 DD 01/27/16	230,568	232,882
TRANSCANADA PIPELINES LTD 4.875% 05/15/2048 DD 05/07/18	1,423,710	1,380,322
TRANSCANADA PIPELINES LTD 5.100% 03/15/2049 DD 10/12/18	252,312	252,170
TRANSCANADA PIPELINES LTD 6.100% 06/01/2040 DD 06/01/10	744,533	691,994
TRANSCANADA PIPELINES LTD 6.200% 10/15/2037 DD 10/05/07	1,949,887	1,751,857
TRANSCANADA PIPELINES LTD 7.250% 08/15/2038 DD 08/11/08	1,554,983	1,605,123
TRANSCANADA PIPELINES LTD 7.625% 01/15/2039 DD 01/09/09	260,088	230,434
TRANSCONTINENTAL GAS PIPE LINE 4.000% 03/15/2028 DD 09/15/18	275,084	273,795
TRANSCONTINENTAL GAS PIPE LINE 7.850% 02/01/2026 DD 08/01/16	1,683,113	1,825,424
TRAVELERS COS INC/THE 6.750% 06/20/2036 DD 06/20/06	573,583	610,248
TRAVELERS PROPERTY CASUALTY CO 6.375% 03/15/2033 DD 03/11/03	297,590	353,010
TWDC ENTERPRISES 18 CORP 4.125% 06/01/2044 DD 06/02/14	709,357	668,588
UBS AG/LONDON 144A 2.450% 12/01/2020 DD 11/30/17	489,435	490,655
UBS GROUP FUNDING SWITZER 144A 2.950% 09/24/2020 DD 09/24/15	1,901,742	1,884,864
UBS GROUP FUNDING SWITZER 144A VAR RT 08/15/2023 DD 08/15/17	599,876	581,883
UNILEVER CAPITAL CORP	1,444,335	1,423,498
UNION ELECTRIC CO 4.000% 04/01/2048 DD 04/06/18	1,503,462	1,470,619
UNION PACIFIC CORP 3.500% 06/08/2023 DD 06/08/18	2,103,084	2,109,000
UNION PACIFIC CORP 3.750% 07/15/2025 DD 06/08/18	2,049,918	2,069,455
UNION PACIFIC CORP 3.875% 02/01/2055 DD 01/29/15	708,254	704,418
UNION PACIFIC CORP 4.150% 01/15/2045 DD 08/12/14	1,984,211	1,885,677
UNION PACIFIC CORP 4.500% 09/10/2048 DD 06/08/18	29,970	29,582
UNITED AIRLINES 2018-1 CLASS A 3.500% 09/01/2031 DD 02/14/18	1,385,000	1,359,585
UNITED PARCEL SERVICE INC 3.750% 11/15/2047 DD 11/14/17	1,032,402	934,584
UNITED TECHNOLOGIES CORP 2.800% 05/04/2024 DD 05/04/17	2,468,967	2,380,065
UNITED TECHNOLOGIES CORP 3.125% 05/04/2027 DD 05/04/17	365,146	355,601
UNITED TECHNOLOGIES CORP 3.650% 08/16/2023 DD 08/16/18	1,919,827	1,912,474
UNITED TECHNOLOGIES CORP 3.750% 11/01/2046 DD 11/01/16	240,494	240,380
UNITED TECHNOLOGIES CORP 4.500% 06/01/2042 DD 06/01/12	4,065,912	3,778,960
UNITED TECHNOLOGIES CORP 4.625% 11/16/2048 DD 08/16/18	3,133,294	3,027,438
UNITED TECHNOLOGIES CORP 6.050% 06/01/2036 DD 05/26/06	737,994	683,022
UNITEDHEALTH GROUP INC 3.100% 03/15/2026 DD 02/25/16	285,023	275,048
UNITEDHEALTH GROUP INC 3.150% 06/15/2021 DD 06/19/18	659,644	660,878
UNITEDHEALTH GROUP INC 3.500% 02/15/2024 DD 12/17/18	1,615,966	1,630,368
UNITEDHEALTH GROUP INC 3.500% 06/15/2023 DD 06/19/18	1,954,071	1,971,852
UNITEDHEALTH GROUP INC 3.700% 12/15/2025 DD 12/17/18	543,905	550,439
UNITEDHEALTH GROUP INC 4.200% 01/15/2047 DD 12/20/16	1,200,961	1,202,292

UNITEDHEALTH GROUP INC 4.250% 04/15/2047 DD 03/13/17	414,212	411,385
UNITEDHEALTH GROUP INC 4.375% 03/15/2042 DD 03/08/12	234,608	235,362
UNITEDHEALTH GROUP INC 4.450% 12/15/2048 DD 12/17/18	607,499	627,891
UNITEDHEALTH GROUP INC 4.625% 07/15/2035 DD 07/23/15	1,179,858	1,250,788
UNITEDHEALTH GROUP INC 4.625% 11/15/2041 DD 11/10/11	763,191	746,832
UNITEDHEALTH GROUP INC 4.750% 07/15/2045 DD 07/23/15	754,437	772,340
UNITEDHEALTH GROUP INC 5.800% 03/15/2036 DD 03/02/06	869,800	1,003,332
UNITEDHEALTH GROUP INC 6.500% 06/15/2037 DD 12/15/07	626,900	638,440
UNITEDHEALTH GROUP INC 6.875% 02/15/2038 DD 02/07/08	1,679,596	2,051,079
URUGUAY GOVERNMENT INTERNATION 5.100% 06/18/2050	1,078,761	1,064,928
US BANK NA/CINCINNATI OH	3,275,000	3,263,238
US BANK NA/CINCINNATI OH 2.050% 10/23/2020 DD 10/24/17	323,420	324,278
US BANK NA/CINCINNATI OH 2.850% 01/23/2023 DD 01/23/18	678,475	688,051
US BANK NA/CINCINNATI OH 3.450% 11/16/2021 DD 11/16/18	3,220,550	3,249,220
VALE OVERSEAS LTD 6.250% 08/10/2026	1,504,028	1,485,000
VALE OVERSEAS LTD 6.875% 11/10/2039 DD 11/10/09	464,349	537,075
VALE OVERSEAS LTD 6.875% 11/21/2036 DD 11/21/06	358,875	377,355
VALERO ENERGY CORP 3.400% 09/15/2026 DD 09/12/16	866,839	811,846
VALERO ENERGY CORP 4.350% 06/01/2028 DD 06/01/18	693,791	698,415
VALERO ENERGY PARTNERS LP 4.375% 12/15/2026 DD 12/09/16	597,861	599,850
VALERO ENERGY PARTNERS LP 4.500% 03/15/2028 DD 03/29/18	1,445,070	1,419,782
VENTAS REALTY LP 5.700% 09/30/2043 DD 09/26/13	184,312	201,300
VERIZON COMMUNICATIONS INC 3.500% 11/01/2024 DD 10/29/14	583,872	567,111
VERIZON COMMUNICATIONS INC 3.850% 11/01/2042 DD 11/07/12	3,791,940	3,823,325
VERIZON COMMUNICATIONS INC 4.125% 03/16/2027 DD 03/16/17	2,286,214	2,271,748
VERIZON COMMUNICATIONS INC 4.272% 01/15/2036 DD 07/15/15	2,016,052	1,998,482
VERIZON COMMUNICATIONS INC 4.329% 09/21/2028 DD 06/21/18	804,516	813,329
VERIZON COMMUNICATIONS INC 4.500% 08/10/2033 DD 08/10/17	1,186,644	1,174,637
VERIZON COMMUNICATIONS INC 4.522% 09/15/2048 DD 03/13/15	5,709,029	5,915,922
VERIZON COMMUNICATIONS INC 4.750% 11/01/2041 DD 11/03/11	3,167,831	2,971,671
VERIZON COMMUNICATIONS INC 4.862% 08/21/2046 DD 02/21/15	1,735,128	1,597,001
VERIZON COMMUNICATIONS INC 5.012% 04/15/2049 DD 02/03/17	930,596	953,555
VERIZON COMMUNICATIONS INC 5.250% 03/16/2037 DD 03/16/17	2,599,826	2,729,175
VIACOM INC 4.250% 09/01/2023 DD 08/19/13	2,752,480	2,664,568
VIACOM INC 5.850% 09/01/2043 DD 08/19/13	871,187	843,505
VIRGINIA ELECTRIC & POWER CO 2.950% 11/15/2026 DD 11/16/16	443,979	427,203
VIRGINIA ELECTRIC & POWER CO 8.875% 11/15/2038 DD 11/06/08	1,233,802	1,335,279
VISA INC 2.800% 12/14/2022 DD 12/14/15	479,333	473,976
VISA INC 4.150% 12/14/2035 DD 12/14/15	659,109	682,579
VISA INC 4.300% 12/14/2045 DD 12/14/15	5,085,882	5,244,911
VODAFONE GROUP PLC 3.750% 01/16/2024 DD 05/30/18	1,561,660	1,552,367

VODAFONE GROUP PLC 4.375% 02/19/2043 DD 02/19/13	1,633,380	1,489,180
VODAFONE GROUP PLC 5.250% 05/30/2048 DD 05/30/18	2,678,616	2,534,868
VODAFONE GROUP PLC 7.875% 02/15/2030 DD 08/15/00	892,608	878,303
VOLKSWAGEN AG	361,748	333,335
VOLKSWAGEN GROUP OF AMERI 144A 3.875% 11/13/2020 DD 11/13/18	1,214,077	1,220,929
WABTEC CORP VAR RT 09/15/2028 DD 09/14/18	1,367,054	1,303,625
WACHOVIA CORP 5.500% 08/01/2035 DD 08/01/05	1,203,158	1,184,139
WALGREENS BOOTS ALLIANCE INC 4.500% 11/18/2034 DD 11/18/14	2,941,212	2,819,636
WALGREENS BOOTS ALLIANCE INC 4.800% 11/18/2044 DD 11/18/14	401,582	334,142
WALMART INC	420,000	419,416
WALMART INC 2.550% 04/11/2023 DD 04/11/13	466,013	467,966
WALMART INC 3.400% 06/26/2023 DD 06/27/18	1,379,627	1,394,228
WALMART INC 3.950% 06/28/2038 DD 06/27/18	1,108,386	1,109,629
WALMART INC 4.000% 04/11/2043 DD 04/11/13	1,977,478	1,999,568
WALMART INC 4.050% 06/29/2048 DD 06/27/18	3,326,156	3,353,217
WALMART INC 5.250% 09/01/2035 DD 08/31/05	965,993	950,367
WALT DISNEY CO/THE	365,000	365,011
WARNER MEDIA LLC 3.600% 07/15/2025 DD 06/04/15	409,691	378,848
WARNER MEDIA LLC 3.800% 02/15/2027 DD 12/08/16	717,228	675,576
WARNER MEDIA LLC 3.875% 01/15/2026 DD 11/20/15	849,934	797,509
WARNER MEDIA LLC 4.850% 07/15/2045 DD 06/04/15	1,119,181	1,018,401
WARNER MEDIA LLC 5.350% 12/15/2043 DD 12/16/13	2,551,127	2,375,964
WASTE MANAGEMENT INC 4.100% 03/01/2045 DD 02/26/15	2,147,874	2,070,590
WEC ENERGY GROUP INC 3.375% 06/15/2021 DD 06/07/18	1,364,440	1,364,140
WELLS FARGO & CO 2.100% 07/26/2021 DD 07/25/16	1,763,341	1,709,897
WELLS FARGO & CO 2.625% 07/22/2022 DD 07/24/17	724,362	699,089
WELLS FARGO & CO 3.000% 04/22/2026 DD 04/22/16	1,390,215	1,299,917
WELLS FARGO & CO 3.069% 01/24/2023 DD 01/24/17	980,000	954,442
WELLS FARGO & CO 3.300% 09/09/2024 DD 09/09/14	1,251,818	1,170,481
WELLS FARGO & CO 3.450% 02/13/2023 DD 02/13/13	658,844	680,419
WELLS FARGO & CO 3.500% 03/08/2022 DD 03/08/12	4,435,163	4,467,075
WELLS FARGO & CO 3.550% 09/29/2025 DD 09/28/15	740,903	721,816
WELLS FARGO & CO 3.900% 05/01/2045 DD 04/30/15	1,242,521	1,243,321
WELLS FARGO & CO 4.400% 06/14/2046 DD 06/14/16	907,594	876,031
WELLS FARGO & CO 4.900% 11/17/2045 DD 11/17/15	1,086,331	1,053,086
WELLS FARGO & CO 5.606% 01/15/2044 DD 11/26/13	526,166	498,875
WELLS FARGO & CO VAR RT 05/22/2028 DD 05/22/17	1,475,000	1,416,118
WELLS FARGO & CO VAR RT 10/31/2023 DD 10/31/16	780,000	777,590
WELLS FARGO BANK NA	415,000	413,875
WELLS FARGO BANK NA 2.600% 01/15/2021 DD 01/23/18	2,198,812	2,172,676
WELLS FARGO BANK NA 3.625% 10/22/2021 DD 10/23/18	889,902	895,269

WELLS FARGO BANK NA 5.850% 02/01/2037 DD 01/29/07	2,332,964	2,529,565
WELLS FARGO BANK NA 6.600% 01/15/2038 DD 12/07/07	2,590,069	2,937,210
WELLTOWER INC 4.950% 09/01/2048 DD 08/16/18	219,074	217,815
WELLTOWER INC 6.500% 03/15/2041 DD 03/14/11	393,176	362,034
WESTERN MIDSTREAM OPERATING LP 4.500% 03/01/2028 DD 03/02/18	1,085,442	1,042,213
WESTERN MIDSTREAM OPERATING LP 4.750% 08/15/2028 DD 08/09/18	1,053,833	1,032,833
WESTERN MIDSTREAM OPERATING LP 5.300% 03/01/2048 DD 03/02/18	466,094	405,572
WESTERN MIDSTREAM OPERATING LP 5.450% 04/01/2044 DD 03/20/14	607,908	528,746
WESTPAC BANKING CORP 1.750% 05/01/2020 DD 05/06/15	363,000	360,376
WILLIAMS COS INC/THE 3.900% 01/15/2025 DD 06/27/14	677,180	675,234
WILLIAMS COS INC/THE 4.300% 03/04/2024 DD 03/04/14	436,828	423,517
WILLIAMS COS INC/THE 4.900% 01/15/2045 DD 06/27/14	741,544	680,003
WILLIS NORTH AMERICA INC 3.600% 05/15/2024 DD 05/16/17	620,841	605,343
WILLIS NORTH AMERICA INC 4.500% 09/15/2028 DD 09/10/18	1,219,597	1,210,435
WR BERKLEY CORP 6.250% 02/15/2037 DD 02/14/07	248,727	321,463
WRKCO INC 144A 4.650% 03/15/2026 DD 12/03/18	1,942,160	1,974,720
WW GRAINGER INC 4.600% 06/15/2045 DD 06/11/15	429,652	441,778
WYETH LLC 5.950% 04/01/2037 DD 03/27/07	6,637,996	6,934,179
XCEL ENERGY INC 4.800% 09/15/2041 DD 09/12/11	410,320	407,080
XYLEM INC/NY 4.375% 11/01/2046 DD 10/11/16	494,295	482,095
ZOETIS INC 3.900% 08/20/2028 DD 08/20/18	274,480	269,420
Corporate Obligations Total	1,346,008,513	1,312,839,328

State and Local Government Obligations

ALAMEDA CNTY CA JT PWRS AUTH L 7.046% 12/01/2044 DD 11/04/10	1,310,327	1,317,348
AMERICAN MUNI PWR-OHIO INC OH 5.939% 02/15/2047 DD 09/29/10	1,474,660	1,424,096
BAY AREA CA TOLL AUTH TOLL BRI 7.043% 04/01/2050 DD 07/01/10	1,672,284	1,633,909
CALIFORNIA ST 7.300% 10/01/2039 DD 10/15/09	875,052	1,056,994
CALIFORNIA ST 7.350% 11/01/2039 DD 11/10/09	4,844,275	4,728,178
CALIFORNIA ST 7.500% 04/01/2034 DD 04/28/09	1,297,032	1,240,084
CALIFORNIA ST 7.550% 04/01/2039 DD 04/28/09	1,092,510	1,038,599
CALIFORNIA ST 7.600% 11/01/2040 DD 12/01/10	2,387,496	2,315,374
CHICAGO IL 4.864% 12/01/2022 DD 08/26/10	591,640	591,397
CHICAGO IL TRANSIT AUTH SALES 6.300% 12/01/2021 DD 08/06/08	1,113,144	1,094,099
ILLINOIS ST 5.100% 06/01/2033 DD 06/12/03	1,195,258	1,268,062
LOS ANGELES CA UNIF SCH DIST 5.750% 07/01/2034 DD 10/15/09	1,987,352	1,934,712
MET TRANSPRTN AUTH NY DEDICATE 6.089% 11/15/2040 DD 03/25/10	586,791	584,587
N TX TOLLWAY AUTH REVENUE 6.718% 01/01/2049 DD 08/12/09	1,515,759	1,444,863
NEW YORK ST URBAN DEV CORP REV 5.770% 03/15/2039 DD 12/01/09	845,398	798,360
PORT AUTH OF NEW YORK & NEW JE 4.229% 10/15/2057 DD 05/09/17	795,000	798,490
PORT AUTH OF NEW YORK & NEW JE 4.458% 10/01/2062 DD 10/10/12	580,000	590,098

PORT AUTH OF NEW YORK & NEW JE 4.926% 10/01/2051 DD 10/06/11	866,770	938,572
TEXAS ST TRANSPRTN COMMISSION 5.178% 04/01/2030 DD 08/05/10	509,701	488,441
UNIV OF CALIFORNIA CA REVENUES 5.946% 05/15/2045 DD 09/30/10	503,126	627,119
UNIV OF CALIFORNIA CA RGTS MED 6.583% 05/15/2049 DD 12/17/09	2,328,215	2,281,675
State and Local Government Obligations Total	28,371,790	28,195,057
Other Investments		
EQUITABLE LIFE ASSURANCE CONTR	4	4
JOHN HANCOCK MUT LIFE CONT #11 CAC	1	1
METROPOLITAN GAC #294	1	1
METROPOLITAN LIFE INS GAC #304	1	1
Other Investments Total	7	7
Common/Collective Trusts and Commingled Funds		
* BNYM-M DB SL ACWI FUND	285,297,163	355,112,519
* EB TEMP INV FD 2.880% 10/15/2021 DD 07/25/18	9,550,021	9,550,023
VONTOBEL INDIA-CL 1 SC A RED	10,429,517	15,245,431
Common/Collective Trusts and Commingled Funds Total	305,276,701	379,907,973
Alternative Investments		
AMERICAN SECURITIES PARTNERS VI	3,644,707	7,986,631
AMERICAN SECURITIES PTNRS VII	4,688,902	4,830,421
APOLLO EUROPEAN PRINCIPAL FUND II	2,629,254	2,740,783
APOLLO INVESTMENT FUND VIII LP	14,408,273	18,628,576
ASCRIBE OPP FUND III LP	7,077,948	5,268,019
BLACKSTONE CAPITAL PARTNERS VII LP	3,291,601	3,827,931
BLACKSTONE ENERGY PARTNERS II LP	6,802,472	8,017,819
BLACKSTONE ENERGY PARTNERS L.P.	11,003,937	14,396,529
BOWMARK CAPITAL PARTNERS V	2,996,663	2,863,504
BRIGADE CREDIT OFFSHORE FUND II LTD A1 RU17	45,618,011	48,671,617
CVC CAPITAL PARTNERS VII LP	886,881	974,392
CVC CAPITAL PRTNRS VI (C) LP	13,808,760	16,012,700
GRIDIRON CAPITAL FUND II LP	11,165,274	7,634,769
GRIDIRON CAPITAL FUND III LP	5,199,939	6,131,447
GS PEP 2005 - DIRECT FUND	2,888,137	3,305,433
GS PEP 2005-MANAGERS FUND	19,100,759	9,825,898
H.I.G. CAPITAL PARTNERS V LP	6,756,160	9,500,223
HARBOURVEST INTL PVT EQ PARTNERS III PARTNERSHIP	9,723,619	41,337
HIG EUROPE CAPITAL PARTNERS II LP	5,777,843	5,510,055
HIGH ROAD CAPITAL PARTNERS FD II - WFC	9,146,423	12,929,815
HVEST PART V PARTNERS FUND	12,502,714	87,837

HVEST PART VI BUYOUT PART FUND	5,891,079	72,005
HVEST PART VI DIRECT FUND	5,557,305	583,293
HVEST PART VI PARTNERSHIP FD	4,616,613	107,169
KPS SPECIAL SITUATIONS FUND IV LP	6,242,756	6,131,808
LAZARD EMERGING MKTS	46,297,251	46,297,251
OHA EUROPEAN STRATEGIC CREDIT FUND (OFFSHORE) LP	2,452,479	1,607,841
OHA STRATEGIC CREDIT FUND II	562,500	666,552
PATRIA - BRAZILIAN PRIVATE EQUITY FUND IV LP	8,216,837	10,942,289
PATRIA-BRAZILIAN PE FUND V LP	1,690,397	1,878,385
PEG POOLED VENT CAP INST INVEST III LLC	19,948,811	21,468,212
PEG US DIR CORP FIN INST INVEST III LLC	1,237,550	419,640
PEG US POOLED CORP FIN INST INVEST III LLC	12,101,547	7,105,025
PLATINUM EQ CAP PARTNERS III	4,963,775	6,786,885
PLATINUM EQUITY CAP PARTNERS IV LP	4,142,356	4,314,494
PROVIDENCE DEBT FUND III LP	11,939,809	13,467,038
RIDGEMONT EQUITY PARTNERS FUND I LP	6,921,125	5,842,511
SECONDARY INVESTMENT SPV-3 LP	—	2,694,625
SECONDARY INVESTMENTS SPV-4 LP	460,756	2,585,081
STONE HARBOR LEVERAGED LOAN FUND B	15,096,824	17,441,335
STONE HARBOR-EM MK DBT-MUSDA EMERGING MARKET DEBT FUND CL	16,308,396	18,881,323
STONE HARBOR-HI YLD BD-MUSDA PLC - HIGH YIELD BOND FUND	10,440,710	11,973,674
TPG GROWTH II LP	8,521,828	18,341,090
TPG GROWTH III LP	3,479,556	4,149,193
TPG OPPORTUNITIES FUND II	4,459,860	1,526,299
TPG OPPORTUNITIES PARTNERS III	4,944,097	6,379,741
TZP CAPITAL PARTNERS II LP	8,970,157	11,867,888
WARBURG PINCUS PRIVATE EQUITY X LP	8,897,173	22,411,084
WATERLAND PE FUND VI C.V.	3,642,349	364,482
WATERLAND PRIVATE EQUITY FUND V	2,676,910	9,405,530
Alternative Investments Total	429,799,083	444,897,479

Real Estate

ALMANAC REALTY SEC VIII LP	25,157	25,157
ALMANAC REALTY SECURITIES VII	4,539,215	4,912,375
ASANA PARTNERS FUND I LP	3,599,807	4,282,599
BRAZIL REAL ESTATE OPPORTUNITIES FUND II - BAHIA	6,677,928	4,061,106
BROOKFIELD PREMIER RE PRTNS	10,000,000	11,791,366
BROOKFIELD STRATEGIC RE ESTATE PARTNERS B LP	293,976	5,557,638
EXETER INDUSTRIAL VALUE FUND II LP	559,340	105,533
FORTRESS JPN OPP FD IV DOL B LP	78,071	78,071
GREENFIELD ACQUI RTNRS VII LP	3,496,343	4,764,017

	GREENFIELD MULTI-STATE PARTNERS LP	1,570,237	1,838,854
	HEITMAN ASIA-PACIFIC PRO INVST FEED	1,114,131	1,114,131
	IRON POINT REAL ESTATE II-TE	3,409,855	4,283,616
	JAMESTOWN PREMIER PROPERTY FUND LP	3,497,639	28,391,020
	JPMCB SPECIAL SITUATION PROPERTY FUND	20,000,000	18,400,599
	JPMCB STRATEGIC PROPERTY FUND	22,500,000	33,486,673
	LION INDUSTRIAL TRUST PROPERTIES	10,000,000	22,121,355
	PRISA	20,221,680	38,634,645
	RREEF AMERICA REIT III	18,713,895	—
	SAROFIM REALTY FD I LP NEW UNITS	1,202,779	272,162
	SAROFIM REALTY FD II LP NEW UNITS	153,355	33,842
	SAROFIM REALTY FD III LP NEW UNITS	5,932,710	509,362
	SAROFIM REALTY FUND I LP	5,261,478	348,366
	SAROFIM REALTY FUND II LP	1,966,219	879,899
	SAROFIM REALTY FUND III LP	—	1,018,725
	STANDARD LIFE INVEST EURO RE CLUB II OFFSHORE FEEDER LTD	5,061,019	2,624,353
	UNICO PARTNERS I LP	3,782,162	5,099,000
	USAA EAGLE REAL ESTATE FEEDER I LP	15,000,000	25,057,607
	WOLFF CREDIT PARTNERS II LP	877,312	837,037
	Real Estate Total	169,534,308	220,529,108
	Infrastructure		
	ALTERNA CORE CAPITAL ASSETS II LP	7,785,884	6,782,887
	AXIUM INFRA NA IV LP	50,000	50,000
	BASALT INFRA PARTNERS LP	11,690,014	14,937,834
	BROOKFIELD INFRA FUND III LP	8,347,940	9,054,299
	FIR TREE OPP FD VI CAYMAN LP	—	81,602
	FREIF II WAREHOUSE CO-INVEST ALTERNATIVE B LP	224,745	2,671
	GLOBAL ENERGY & POWER INFRA II	10,469,953	9,691,688
	IFM GLOBAL INFRA OFFSHORE LP	20,000,000	31,571,553
	MERIDIAM INFRA NORTH AMERICA FD III (DOMESTIC)	408,604	103,460
	Infrastructure Total	58,977,140	72,275,994
	TOTAL	4,559,759,557	4,690,807,488
	401(h)		
	Short-term Investments		
*	BNY Cash	—	197
	CAD (CANADIAN DOLLARS)	3,111	2,860

*	EB TEMP INV FD VAR RT 12/31/49 FEE CL 20	4,675,845	4,675,846
	EUR (EURO)	4,487	4,628
	GBP (GREAT BRITISH POUNDS)	565	546
	JPY (JAPANESE YEN)	22,877	23,709
	NZD (NEW ZEALAND DOLLAR)	49	44
	ZAR (SOUTH AFRICAN RAND)	1	1
Short-term Investments Total		4,706,935	4,707,831
U.S. Government Obligations			
	U S TREASURY BD CPN STRIP 0.000% 02/15/2037 DD 02/15/07	3,996,805	4,026,744
	U S TREASURY BD PRIN STRIP 0.000% 02/15/2047 DD 02/15/17	1,857,038	1,871,905
	U S TREASURY BOND 2.250% 08/15/2046 DD 08/15/16	631,310	679,447
	U S TREASURY BOND 2.875% 11/15/2046 DD 11/15/16	1,390,481	1,370,957
	U S TREASURY BOND 3.000% 02/15/2047 DD 02/15/17	1,965,481	1,966,459
	U S TREASURY BOND 3.000% 05/15/2047 DD 05/15/17	22,627,099	22,178,222
	U S TREASURY BOND 3.125% 05/15/2048 DD 05/15/18	2,375,438	2,506,691
	U S TREASURY BOND 3.750% 11/15/2043 DD 11/15/13	2,675,960	2,692,513
	U S TREASURY BOND 4.375% 05/15/2040 DD 05/15/10	14,674,669	14,092,618
	U S TREASURY BOND 4.375% 11/15/2039 DD 11/15/09	9,669,863	9,274,841
	U S TREASURY BOND 5.375% 02/15/2031 DD 02/15/01	220,701	209,628
	US TREAS-CPI INFLAT 0.375% 07/15/2027 DD 07/15/17	2,373,595	2,274,823
	US TREAS-CPI INFLAT 1.000% 02/15/2048 DD 02/15/18	230	218
U.S. Government Obligations Total		64,458,670	63,145,066
Corporate Obligations			
	21ST CENTURY FOX AMERICA INC 4.750% 11/15/2046 DD 11/18/16	192,218	196,271
	21ST CENTURY FOX AMERICA INC 5.400% 10/01/2043 DD 09/30/13	21,924	20,773
	21ST CENTURY FOX AMERICA INC 6.150% 03/01/2037 DD 03/02/07	501,864	490,636
	21ST CENTURY FOX AMERICA INC 6.400% 12/15/2035 DD 12/23/05	27,803	26,199
	21ST CENTURY FOX AMERICA INC 6.650% 11/15/2037 DD 11/15/07	13,620	13,167
	3M CO 3.625% 10/15/2047 DD 10/02/17	64,388	60,968
	ABBOTT LABORATORIES 4.750% 11/30/2036 DD 11/22/16	330,558	339,281
	ABBVIE INC 4.300% 05/14/2036 DD 05/12/16	234,890	231,964
	ABBVIE INC 4.500% 05/14/2035 DD 05/14/15	268,404	249,780
	ABBVIE INC 4.875% 11/14/2048 DD 09/18/18	183,045	172,605
	ABU DHABI GOVERNMENT INTE 144A 4.125% 10/11/2047 DD 10/11/17	220,297	215,438
	ACE CAPITAL TRUST II 9.700% 04/01/2030 DD 03/31/00	76,125	66,500
	AETNA INC 3.875% 08/15/2047 DD 08/10/17	57,604	55,032
	AETNA INC 4.125% 11/15/2042 DD 11/07/12	120,111	99,554
	ALABAMA POWER CO 4.300% 01/02/2046 DD 01/13/16	399,452	373,574
	ALABAMA POWER CO 4.300% 07/15/2048 DD 06/28/18	29,774	30,048

ALIBABA GROUP HOLDING LTD 4.000% 12/06/2037 DD 12/06/17	204,640	179,418
ALIBABA GROUP HOLDING LTD 4.200% 12/06/2047 DD 12/06/17	409,020	354,660
ALLERGAN FUNDING SCS 4.750% 03/15/2045 DD 03/12/15	77,232	66,450
ALTRIA GROUP INC 3.875% 09/16/2046 DD 09/16/16	531,016	418,946
ALTRIA GROUP INC 5.375% 01/31/2044 DD 10/31/13	14,997	13,987
AMAZON.COM INC 3.875% 08/22/2037 DD 02/22/18	493,767	478,051
AMAZON.COM INC 4.050% 08/22/2047 DD 02/22/18	148,481	141,680
AMAZON.COM INC 4.250% 08/22/2057 DD 02/22/18	84,305	82,589
AMERICAN WATER CAPITAL CORP 4.200% 09/01/2048 DD 08/09/18	104,438	102,140
AMGEN INC 4.563% 06/15/2048 DD 12/15/16	537,800	478,830
ANADARKO PETROLEUM CORP 4.500% 07/15/2044 DD 07/07/14	389,391	343,197
ANDEAVOR LOGISTICS LP / TESORO 5.200% 12/01/2047 DD 11/28/17	216,952	198,062
ANGLO AMERICAN CAPITAL PL 144A 4.750% 04/10/2027 DD 04/10/17	405,316	383,092
ANHEUSER-BUSCH COS LLC / 144A 4.700% 02/01/2036 DD 08/01/18	867,510	834,660
ANHEUSER-BUSCH COS LLC / 144A 4.900% 02/01/2046 DD 08/01/18	464,197	452,566
ANHEUSER-BUSCH INBEV FINANCE I 4.000% 01/17/2043 DD 01/17/13	106,173	95,596
ANHEUSER-BUSCH INBEV WORLDWIDE 3.750% 07/15/2042 DD 07/16/12	19,125	18,814
ANHEUSER-BUSCH INBEV WORLDWIDE 4.375% 04/15/2038 DD 04/04/18	174,122	156,135
ANHEUSER-BUSCH INBEV WORLDWIDE 4.600% 04/15/2048 DD 04/04/18	540,230	488,462
ANHEUSER-BUSCH INBEV WORLDWIDE 4.750% 04/15/2058 DD 04/04/18	17,403	17,405
ANTHEM INC 4.375% 12/01/2047 DD 11/21/17	286,711	283,662
ANTHEM INC 4.550% 03/01/2048 DD 03/02/18	24,073	23,846
ANTHEM INC 4.625% 05/15/2042 DD 05/07/12	510,533	453,033
AON PLC 4.600% 06/14/2044 DD 05/28/14	196,633	176,399
APACHE CORP 4.250% 01/15/2044 DD 12/03/12	62,026	52,335
APPLE INC 3.750% 11/13/2047 DD 11/13/17	185,409	183,788
APPLE INC 3.850% 08/04/2046 DD 08/04/16	470,662	437,091
APPLIED MATERIALS INC 4.350% 04/01/2047 DD 03/31/17	42,841	39,108
ASTRAZENECA PLC 4.375% 08/17/2048 DD 08/17/18	114,464	118,649
ASTRAZENECA PLC 4.375% 11/16/2045 DD 11/16/15	97,949	85,162
AT&T INC 4.500% 03/09/2048 DD 09/07/16	389,583	359,398
AT&T INC 4.550% 03/09/2049 DD 09/07/16	93,563	90,384
AT&T INC 5.250% 03/01/2037 DD 02/09/17	1,306,593	1,213,054
AT&T INC 5.450% 03/01/2047 DD 02/09/17	136,392	131,855
AXA EQUITABLE HOLDINGS IN 144A 4.350% 04/20/2028 DD 04/20/18	199,630	189,002
BAE SYSTEMS HOLDINGS INC 144A 4.750% 10/07/2044 DD 10/07/14	77,326	70,286
BANCO SANTANDER SA 3.800% 02/23/2028 DD 10/23/17	199,078	177,894
BANK OF AMERICA CORP 4.183% 11/25/2027 DD 11/25/16	675,901	629,566
BANK OF AMERICA CORP VAR RT 01/20/2028 DD 01/20/17	685,156	649,967
BANK OF AMERICA CORP VAR RT 01/20/2048 DD 01/20/17	202,405	182,596
BANK OF AMERICA CORP VAR RT 01/23/2049 DD 01/23/18	175,206	169,235

	BANK OF AMERICA CORP VAR RT 04/24/2038 DD 04/24/17	63,212	61,835
	BANK OF AMERICA CORP VAR RT 07/23/2029 DD 07/23/18	130,000	129,390
*	BANK OF NEW YORK MELLON CORP/T 3.300% 08/23/2029 DD 08/23/17	164,092	163,709
	BAT CAPITAL CORP 4.390% 08/15/2037 DD 08/15/18	430,918	351,942
	BAYER US FINANCE II LLC 144A 3.950% 04/15/2045 DD 04/15/18	96,108	84,292
	BAYER US FINANCE II LLC 144A 4.700% 07/15/2064 DD 07/15/18	225,557	186,136
	BECTON DICKINSON AND CO 4.669% 06/06/2047 DD 06/06/17	207,706	202,220
	BERKSHIRE HATHAWAY ENERGY CO 5.150% 11/15/2043 DD 11/08/13	369,250	330,835
	BERKSHIRE HATHAWAY ENERGY CO 6.125% 04/01/2036 DD 10/01/06	933,663	854,672
	BERKSHIRE HATHAWAY FINANCE COR 4.200% 08/15/2048 DD 08/15/18	139,290	138,816
	BERKSHIRE HATHAWAY INC 4.500% 02/11/2043 DD 02/11/13	194,506	182,718
	BHP BILLITON FINANCE USA LTD 5.000% 09/30/2043 DD 09/30/13	165,351	152,949
	BOEING CO/THE 5.875% 02/15/2040 DD 07/28/09	63,284	62,195
	BOEING CO/THE 6.875% 03/15/2039 DD 03/13/09	51,060	47,637
	BROADCOM CORP / BROADCOM CAYMA 3.875% 01/15/2027 DD 01/15/18	720,190	641,434
	BURLINGTON NORTHERN SANTA FE L 4.150% 04/01/2045 DD 03/09/15	791,453	727,140
	CANADIAN NATIONAL RAILWAY CO 3.650% 02/03/2048 DD 02/06/18	145,666	138,731
	CARDINAL HEALTH INC 4.368% 06/15/2047 DD 06/12/17	67,751	55,353
	CATERPILLAR INC 4.750% 05/15/2064 DD 05/08/14	88,305	78,088
	CBS CORP 4.600% 01/15/2045 DD 01/12/15	135,086	133,247
	CELGENE CORP 4.350% 11/15/2047 DD 11/09/17	114,693	96,843
	CELGENE CORP 4.625% 05/15/2044 DD 05/15/14	70,313	57,099
	CENTERPOINT ENERGY RESOURCES C 4.100% 09/01/2047 DD 08/23/17	84,504	78,679
	CHARTER COMMUNICATIONS OPERATI 4.200% 03/15/2028 DD 09/18/17	24,939	23,550
	CHARTER COMMUNICATIONS OPERATI 5.375% 05/01/2047 DD 11/01/17	636,098	561,825
	CHARTER COMMUNICATIONS OPERATI 5.750% 04/01/2048 DD 04/17/18	158,828	149,827
	CIGNA CORP 144A 4.800% 08/15/2038 DD 09/17/18	349,962	348,653
	CIGNA CORP 144A 4.900% 12/15/2048 DD 09/17/18	159,640	156,544
	CIGNA HOLDING CO 3.875% 10/15/2047 DD 09/14/17	451,775	388,261
	CISCO SYSTEMS INC 5.500% 01/15/2040 DD 11/17/09	150,523	141,592
	CITIGROUP INC 3.200% 10/21/2026 DD 10/21/16	146,846	138,479
	CITIGROUP INC 3.700% 01/12/2026 DD 01/12/16	67,295	67,302
	CITIGROUP INC 4.125% 07/25/2028 DD 07/25/16	154,017	140,768
	CITIGROUP INC 4.650% 07/30/2045 DD 07/30/15	299,516	267,858
	CITIGROUP INC 4.750% 05/18/2046 DD 05/18/16	30,080	27,734
	CITIGROUP INC VAR RT 01/24/2039 DD 01/24/18	99,955	89,327
	CITIGROUP INC VAR RT 04/24/2048 DD 04/25/17	333,330	314,095
	CITIGROUP INC VAR RT 10/27/2028 DD 10/27/17	215,000	200,507
	CLECO CORPORATE HOLDINGS LLC VAR RT 05/01/2046 DD 11/01/16	265,158	239,595
	COMCAST CORP 3.200% 07/15/2036 DD 07/19/16	38,173	38,709
	COMCAST CORP 3.400% 07/15/2046 DD 07/19/16	999,609	915,581

COMCAST CORP 3.900% 03/01/2038 DD 02/08/18	99,515	92,571
COMCAST CORP 4.250% 10/15/2030 DD 10/05/18	224,739	227,545
COMCAST CORP 4.600% 10/15/2038 DD 10/05/18	103,889	106,027
COMCAST CORP 4.700% 10/15/2048 DD 10/05/18	119,902	121,306
COMCAST CORP 4.950% 10/15/2058 DD 10/05/18	274,897	279,579
COMMONWEALTH EDISON CO 4.350% 11/15/2045 DD 11/19/15	86,299	79,357
COMMONWEALTH EDISON CO 6.450% 01/15/2038 DD 01/16/08	302,136	278,193
CONAGRA BRANDS INC 5.300% 11/01/2038 DD 10/22/18	205,346	198,437
CONAGRA BRANDS INC 5.400% 11/01/2048 DD 10/22/18	108,298	101,307
CONOCOPHILLIPS 6.500% 02/01/2039 DD 02/03/09	311,356	290,834
CONSOLIDATED EDISON CO OF NEW 4.300% 12/01/2056 DD 11/16/16	106,626	93,046
CONSOLIDATED EDISON CO OF NEW 4.500% 05/15/2058 DD 05/10/18	109,493	105,986
CONSOLIDATED EDISON CO OF NEW 6.750% 04/01/2038 DD 04/04/08	322,666	293,459
CONSTELLATION BRANDS INC 4.100% 02/15/2048 DD 02/07/18	74,742	63,215
CONSTELLATION BRANDS INC 4.500% 05/09/2047 DD 05/09/17	162,863	141,472
CONSTELLATION BRANDS INC 4.650% 11/15/2028 DD 10/29/18	104,706	104,568
COX COMMUNICATIONS INC 144A 8.375% 03/01/2039 DD 02/20/09	741,625	673,018
CREDIT AGRICOLE SA 144A VAR RT 01/10/2033 DD 01/10/18	248,453	228,938
CREDIT SUISSE GROUP AG 144A 4.282% 01/09/2028 DD 01/09/17	261,460	241,178
CROWN CASTLE INTERNATIONAL COR 3.800% 02/15/2028 DD 01/16/18	119,538	113,555
CSX CORP 4.250% 11/01/2066 DD 10/18/16	8,820	8,645
CSX CORP 4.300% 03/01/2048 DD 02/20/18	63,646	61,887
CSX CORP 4.500% 08/01/2054 DD 07/21/14	399,713	356,626
CSX CORP 4.650% 03/01/2068 DD 02/20/18	81,209	76,803
CVS HEALTH CORP 4.780% 03/25/2038 DD 03/09/18	111,290	110,200
CVS HEALTH CORP 5.050% 03/25/2048 DD 03/09/18	925,389	885,075
CVS HEALTH CORP 5.125% 07/20/2045 DD 07/20/15	443,259	374,763
DEUTSCHE TELEKOM INTERNATIONAL VAR RT 06/15/2030 DD 07/06/00	126,643	110,864
DEVON ENERGY CORP 5.600% 07/15/2041 DD 07/12/11	544,951	478,841
DIGNITY HEALTH 5.267% 11/01/2064 DD 10/15/14	200,939	190,509
DISCOVERY COMMUNICATIONS LLC 4.875% 04/01/2043 DD 03/19/13	85,703	79,630
DISCOVERY COMMUNICATIONS LLC 4.950% 05/15/2042 DD 05/17/12	14,427	13,284
DISCOVERY COMMUNICATIONS LLC 5.200% 09/20/2047 DD 09/21/17	224,185	206,784
DOMINION ENERGY INC 4.050% 09/15/2042 DD 09/13/12	53,259	54,239
DOMINION ENERGY INC 7.000% 06/15/2038 DD 06/17/08	297,537	273,724
DOW CHEMICAL CO/THE 144A 5.550% 11/30/2048 DD 11/30/18	174,872	177,441
DOW CHEMICAL CO/THE 4.375% 11/15/2042 DD 11/14/12	196,840	166,735
DOWDUPONT INC 5.319% 11/15/2038 DD 11/28/18	255,762	262,568
DOWDUPONT INC 5.419% 11/15/2048 DD 11/28/18	165,000	171,425
DUKE ENERGY CAROLINAS LLC 3.875% 03/15/2046 DD 03/11/16	635,667	581,399
DUKE ENERGY INDIANA LLC 4.200% 03/15/2042 DD 03/15/12	295,916	281,894

DUKE ENERGY PROGRESS LLC 3.700% 10/15/2046 DD 09/16/16	9,994	9,033
DUKE ENERGY PROGRESS LLC 4.100% 05/15/2042 DD 05/18/12	377,014	349,222
ELI LILLY & CO 3.700% 03/01/2045 DD 03/05/15	60,040	56,350
EMERA US FINANCE LP 4.750% 06/15/2046 DD 12/15/16	32,081	28,845
ENEL FINANCE INTERNATIONAL 144A 3.500% 04/06/2028	194,772	171,456
ENERGY TRANSFER OPERATING LP 4.950% 06/15/2028 DD 06/08/18	164,701	161,438
ENERGY TRANSFER OPERATING LP 5.150% 02/01/2043 DD 01/22/13	74,747	69,326
ENERGY TRANSFER OPERATING LP 6.050% 06/01/2041 DD 05/12/11	535,240	477,770
ENTERPRISE PRODUCTS OPERATING 4.800% 02/01/2049 DD 10/11/18	79,512	77,716
ENTERPRISE PRODUCTS OPERATING 5.100% 02/15/2045 DD 02/12/14	450,186	406,470
EQM MIDSTREAM PARTNERS LP 5.500% 07/15/2028 DD 06/25/18	159,261	156,704
EQUINOR ASA 4.250% 11/23/2041 DD 11/23/11	170,975	163,685
ERAC USA FINANCE LLC 144A 7.000% 10/15/2037 DD 10/17/07	124,737	118,111
FEDEX CORP 4.100% 02/01/2045 DD 01/09/15	662,825	569,393
FIDELITY NATIONAL INFORMATION 4.500% 08/15/2046 DD 08/16/16	175,755	154,605
FIDELITY NATIONAL INFORMATION 4.750% 05/15/2048 DD 05/16/18	151,843	144,082
FIRSTENERGY CORP 4.850% 07/15/2047 DD 06/21/17	147,225	144,769
FIRSTENERGY CORP 7.375% 11/15/2031 DD 11/15/01	60,068	56,860
FIRSTENERGY TRANSMISSION 144A 5.450% 07/15/2044 DD 05/19/14	267,363	255,292
FORD MOTOR CO 4.750% 01/15/2043 DD 01/08/13	69,408	65,551
FORD MOTOR CO 5.291% 12/08/2046 DD 12/08/16	225,266	176,511
GE CAPITAL INTERNATIONAL FUNDI 4.418% 11/15/2035 DD 05/15/16	924,462	753,813
GENERAL MOTORS CO 5.150% 04/01/2038 DD 08/07/17	49,969	42,718
GENERAL MOTORS CO 5.200% 04/01/2045 DD 11/12/14	253,743	207,190
GENERAL MOTORS CO 5.400% 04/01/2048 DD 08/07/17	49,964	42,583
GENERAL MOTORS CO 5.950% 04/01/2049 DD 09/10/18	144,951	130,748
GEORGIA POWER CO 4.300% 03/15/2042 DD 03/06/12	168,203	151,995
GEORGIA POWER CO 4.750% 09/01/2040 DD 08/31/10	45,510	44,494
GEORGIA POWER CO 5.650% 03/01/2037 DD 03/13/07	26,392	26,848
GILEAD SCIENCES INC 4.150% 03/01/2047 DD 09/20/16	378,823	340,822
GLENCORE FINANCE CANADA L 144A VAR RT 10/25/2042 DD 10/25/12	113,365	103,514
GLP CAPITAL LP / GLP FINANCING 5.300% 01/15/2029 DD 09/26/18	140,059	136,924
GOLDMAN SACHS GROUP INC/THE 4.750% 10/21/2045 DD 10/21/15	482,167	413,889
GOLDMAN SACHS GROUP INC/THE 5.150% 05/22/2045 DD 05/22/15	447,259	369,380
GOLDMAN SACHS GROUP INC/THE VAR RT 04/23/2029 DD 01/23/18	55,000	51,350
GOLDMAN SACHS GROUP INC/THE VAR RT 05/01/2029 DD 04/23/18	199,850	192,478
GOLDMAN SACHS GROUP INC/THE VAR RT 06/05/2028 DD 06/05/17	903,316	831,786
GOLDMAN SACHS GROUP INC/THE VAR RT 10/31/2038 DD 10/31/17	190,000	167,202
GRUPO TELEVISA SAB 6.625% 01/15/2040	77,813	80,357
HARTFORD FINANCIAL SERVICES GR 5.950% 10/15/2036 DD 10/03/06	129,858	118,998
HESS CORP 5.600% 02/15/2041 DD 08/10/10	459,957	413,567

HESS CORP 5.800% 04/01/2047 DD 09/28/16	18,637	17,951
HEWLETT PACKARD ENTERPRISE CO VAR RT 10/15/2045 DD 10/15/16	331,018	290,297
HOME DEPOT INC/THE 4.400% 03/15/2045 DD 06/12/14	690,839	634,517
HOME DEPOT INC/THE 4.500% 12/06/2048 DD 12/06/18	19,660	20,648
HOME DEPOT INC/THE 5.950% 04/01/2041 DD 03/31/11	19,184	18,407
HSBC HOLDINGS PLC VAR RT 03/13/2028 DD 03/13/17	942,516	861,075
HUMANA INC 4.950% 10/01/2044 DD 09/19/14	97,461	87,311
IHS MARKIT LTD 4.750% 08/01/2028 DD 07/23/18	104,609	102,815
INFRASTRUCTURA ENERGETIC 144A 4.875% 01/14/2048 DD 12/14/17	192,360	156,778
INGERSOLL-RAND GLOBAL HOLDING 4.300% 02/21/2048 DD 02/21/18	109,614	102,652
INTEL CORP 4.100% 05/19/2046 DD 05/19/16	342,113	320,661
INTERNATIONAL PAPER CO 4.400% 08/15/2047 DD 08/11/16	131,657	109,339
INTERNATIONAL PAPER CO 7.300% 11/15/2039 DD 12/07/09	199,739	170,916
INTESA SANPAOLO SPA 144A 3.875% 01/12/2028 DD 01/12/18	198,428	170,808
ITC HOLDINGS CORP 5.300% 07/01/2043 DD 07/03/13	266,320	248,247
JOHNSON & JOHNSON 3.700% 03/01/2046 DD 03/01/16	475,198	436,913
JPMORGAN CHASE & CO VAR RT 01/23/2049 DD 01/23/18	85,000	74,551
JPMORGAN CHASE & CO VAR RT 02/22/2048 DD 02/22/17	881,673	785,918
JPMORGAN CHASE & CO VAR RT 05/01/2028 DD 04/25/17	262,384	247,881
JPMORGAN CHASE & CO VAR RT 07/23/2029 DD 07/23/18	210,000	209,362
JPMORGAN CHASE & CO VAR RT 07/24/2038 DD 07/24/17	295,242	267,916
JPMORGAN CHASE & CO VAR RT 11/15/2048 DD 11/10/17	376,761	331,935
KAISER FOUNDATION HOSPITALS 4.150% 05/01/2047 DD 05/03/17	266,561	246,918
KANSAS CITY POWER & LIGHT CO 4.200% 03/15/2048 DD 03/01/18	34,240	33,945
KANSAS CITY POWER & LIGHT CO 4.200% 06/15/2047 DD 06/15/17	182,939	180,182
KINDER MORGAN ENERGY PARTNERS 5.000% 08/15/2042 DD 08/13/12	482,313	443,828
KRAFT HEINZ FOODS CO 4.375% 06/01/2046 DD 05/24/16	633,642	538,785
KRAFT HEINZ FOODS CO 4.625% 01/30/2029 DD 06/15/18	178,940	177,970
KRAFT HEINZ FOODS CO 5.000% 06/04/2042 DD 12/04/12	79,244	78,696
KRAFT HEINZ FOODS CO 5.200% 07/15/2045 DD 07/15/16	59,774	55,741
LINCOLN NATIONAL CORP 7.000% 06/15/2040 DD 06/18/10	73,866	69,158
LOCKHEED MARTIN CORP 3.600% 03/01/2035 DD 02/20/15	858,409	805,453
LOCKHEED MARTIN CORP 4.090% 09/15/2052 DD 09/07/17	110,386	102,675
LOWE'S COS INC 4.050% 05/03/2047 DD 05/03/17	136,232	112,098
LYONDELLBASELL INDUSTRIES NV 4.625% 02/26/2055 DD 03/05/15	87,978	75,800
MARATHON PETROLEUM CORP 144A 4.500% 04/01/2048 DD 10/01/18	84,595	75,544
MASSACHUSETTS MUTUAL LIFE 144A 4.900% 04/01/2077 DD 03/23/17	43,597	39,888
MCDONALD'S CORP 4.450% 03/01/2047 DD 03/09/17	94,844	90,830
MCDONALD'S CORP 4.450% 09/01/2048 DD 08/15/18	122,271	118,910
MCDONALD'S CORP 4.875% 12/09/2045 DD 12/09/15	451,121	402,660
MEDTRONIC INC 4.375% 03/15/2035 DD 03/15/15	345,049	317,390

MEDTRONIC INC 4.625% 03/15/2045 DD 03/15/15	193,885	178,235
MERCK & CO INC 3.700% 02/10/2045 DD 02/10/15	322,327	307,338
METHANEX CORP 5.650% 12/01/2044 DD 11/18/14	120,653	112,133
METLIFE INC 4.050% 03/01/2045 DD 03/05/15	122,837	111,856
METLIFE INC 4.600% 05/13/2046 DD 11/13/15	162,460	154,839
MEXICO CITY AIRPORT TRUST 144A 5.500% 07/31/2047 DD 09/20/17	198,796	175,752
MEXICO GOVERNMENT INTERNATIONA 4.350% 01/15/2047	504,083	454,210
MICROSOFT CORP 3.700% 08/08/2046 DD 08/08/16	118,754	114,958
MICROSOFT CORP 4.100% 02/06/2037 DD 02/06/17	1,964,440	1,867,590
MOLSON COORS BREWING CO 4.200% 07/15/2046 DD 07/07/16	36,641	36,555
MOLSON COORS BREWING CO 5.000% 05/01/2042 DD 05/03/12	24,465	24,473
MORGAN STANLEY 4.375% 01/22/2047 DD 01/20/17	508,799	459,023
MORGAN STANLEY VAR RT 01/24/2029 DD 01/23/18	300,000	287,034
MORGAN STANLEY VAR RT 07/22/2038 DD 07/24/17	288,913	259,709
MPLX LP 4.500% 04/15/2038 DD 02/08/18	138,335	122,269
MPLX LP 4.700% 04/15/2048 DD 02/08/18	129,214	121,591
MPLX LP 4.900% 04/15/2058 DD 02/08/18	74,467	62,648
MPLX LP 5.200% 03/01/2047 DD 02/10/17	108,977	96,653
MYLAN INC 144A 4.550% 04/15/2028 DD 04/09/18	160,316	153,785
MYLAN INC 144A 5.200% 04/15/2048 DD 04/09/18	134,817	115,437
MYLAN INC 5.400% 11/29/2043 DD 11/29/13	39,955	38,931
MYLAN NV 3.950% 06/15/2026 DD 12/15/16	93,453	89,318
MYLAN NV 5.250% 06/15/2046 DD 12/15/16	154,254	126,398
NATIONWIDE MUTUAL INSURAN 144A 9.375% 08/15/2039 DD 08/10/09	505,596	454,491
NESTLE HOLDINGS INC 144A 3.900% 09/24/2038 DD 09/24/18	173,129	169,734
NESTLE HOLDINGS INC 144A 4.000% 09/24/2048 DD 09/24/18	172,650	171,626
NIKE INC 3.375% 11/01/2046 DD 10/21/16	54,561	57,981
NIKE INC 3.875% 11/01/2045 DD 10/29/15	97,025	90,854
NOBLE ENERGY INC 4.950% 08/15/2047 DD 08/15/17	66,023	64,890
NOBLE ENERGY INC 5.250% 11/15/2043 DD 11/08/13	338,791	301,794
NORFOLK SOUTHERN CORP 3.942% 11/01/2047 DD 05/01/18	166,752	150,501
NORFOLK SOUTHERN CORP 4.150% 02/28/2048 DD 02/28/18	124,426	116,635
NORFOLK SOUTHERN CORP 4.800% 08/15/2043 DD 08/13/13	111,338	97,656
NORTHERN STATES POWER CO/MN 3.600% 09/15/2047 DD 09/13/17	172,300	178,501
NORTHROP GRUMMAN CORP 4.030% 10/15/2047 DD 10/13/17	140,924	136,427
NUTRIEN LTD 4.900% 06/01/2043 DD 12/01/17	72,577	66,886
NXP BV / NXP FUNDING LLC 144A 5.550% 12/01/2028 DD 12/06/18	266,027	271,050
OGLETHORPE POWER CORP 144A 5.050% 10/01/2048 DD 10/30/18	257,186	261,763
OHIO EDISON CO 6.875% 07/15/2036 DD 06/26/06	128,121	118,009
ONCOR ELECTRIC DELIVERY CO LLC 4.550% 12/01/2041 DD 06/01/12	347,707	324,267
ORACLE CORP 3.800% 11/15/2037 DD 11/09/17	94,643	88,840

ORACLE CORP 4.000% 11/15/2047 DD 11/09/17	129,390	121,121
ORACLE CORP 5.375% 07/15/2040 DD 07/15/11	885,705	801,096
PACIFIC GAS & ELECTRIC CO 3.750% 08/15/2042 DD 08/16/12	7,479	6,676
PACIFIC GAS & ELECTRIC CO 4.250% 03/15/2046 DD 11/05/15	89,014	75,365
PACIFIC GAS & ELECTRIC CO 4.300% 03/15/2045 DD 11/06/14	699,445	551,211
PACIFIC GAS & ELECTRIC CO 4.750% 02/15/2044 DD 02/21/14	114,727	102,633
PACIFIC GAS & ELECTRIC CO 6.050% 03/01/2034 DD 03/23/04	302,721	217,742
PACIFIC LIFE INSURANCE CO 144A VAR RT 10/24/2067 DD 10/24/17	69,941	61,499
PACIFICORP 4.125% 01/15/2049 DD 07/13/18	374,160	369,034
PANAMA GOVERNMENT INTERNATIONA 4.500% 04/16/2050 DD 04/16/18	219,052	210,650
PEPSICO INC 3.450% 10/06/2046 DD 10/06/16	122,702	115,378
PETRO-CANADA 6.800% 05/15/2038 DD 05/15/08	60,249	52,350
PETROLEOS MEXICANOS 6.500% 01/23/2029 DD 10/23/18	166,816	163,188
PETROLEOS MEXICANOS 6.750% 09/21/2047	702,124	554,016
PFIZER INC 4.125% 12/15/2046 DD 11/21/16	332,019	311,200
PHILIP MORRIS INTERNATIONAL IN 4.250% 11/10/2044 DD 11/10/14	395,409	346,556
PHILLIPS 66 PARTNERS LP 4.900% 10/01/2046 DD 10/14/16	15,218	13,751
POTOMAC ELECTRIC POWER CO 4.150% 03/15/2043 DD 03/18/13	335,749	311,422
RAYTHEON CO 4.200% 12/15/2044 DD 12/02/14	231,933	218,367
REYNOLDS AMERICAN INC 5.700% 08/15/2035 DD 06/12/15	41,925	34,175
REYNOLDS AMERICAN INC 5.850% 08/15/2045 DD 06/12/15	438,464	329,806
RIO TINTO FINANCE USA LTD 5.200% 11/02/2040 DD 11/02/10	119,350	110,215
RIO TINTO FINANCE USA PLC 4.125% 08/21/2042 DD 08/21/12	99,061	91,571
SEMPRA ENERGY 3.800% 02/01/2038 DD 01/12/18	187,352	170,990
SEMPRA ENERGY 6.000% 10/15/2039 DD 10/08/09	57,764	50,029
SHELL INTERNATIONAL FINANCE BV 4.000% 05/10/2046 DD 05/10/16	401,733	386,264
SOUTH CAROLINA ELECTRIC & GAS 5.100% 06/01/2065 DD 05/22/15	509,243	457,518
SOUTH CAROLINA ELECTRIC & GAS 6.625% 02/01/2032 DD 01/31/02	24,637	25,461
SOUTHERN CALIFORNIA EDISON CO 3.600% 02/01/2045 DD 01/16/15	148,989	128,955
SOUTHERN CALIFORNIA EDISON CO 3.900% 03/15/2043 DD 03/07/13	6,512	6,361
SOUTHERN CALIFORNIA EDISON CO 4.000% 04/01/2047 DD 03/24/17	4,688	4,584
SOUTHERN CALIFORNIA EDISON CO 4.125% 03/01/2048 DD 03/05/18	130,605	127,810
SOUTHERN CALIFORNIA EDISON CO 5.550% 01/15/2036 DD 01/19/05	245,850	211,702
SOUTHERN CALIFORNIA GAS CO 4.125% 06/01/2048 DD 05/15/18	89,906	89,386
SOUTHERN CO/THE 4.400% 07/01/2046 DD 05/24/16	281,702	248,254
SOUTHERN COPPER CORP 5.875% 04/23/2045 DD 04/23/15	225,824	214,549
SPECTRA ENERGY PARTNERS LP 4.500% 03/15/2045 DD 03/12/15	29,862	27,127
STANLEY BLACK & DECKER INC 4.850% 11/15/2048 DD 11/06/18	79,910	82,465
STARBUCKS CORP 4.000% 11/15/2028 DD 08/10/18	59,933	59,514
STARBUCKS CORP 4.500% 11/15/2048 DD 08/10/18	181,883	172,213
SUNCOR ENERGY INC 4.000% 11/15/2047 DD 11/15/17	135,707	133,881

SUNCOR ENERGY INC 6.500% 06/15/2038 DD 06/28/07	344,124	305,206
SUNOCO LOGISTICS PARTNERS OPER 5.400% 10/01/2047 DD 09/21/17	22,131	22,655
SYNGENTA FINANCE NV 144A 5.182% 04/24/2028 DD 04/24/18	386,994	370,940
SYSCO CORP 4.500% 04/01/2046 DD 04/01/16	95,774	85,025
TELEFONICA EMISIONES SA 4.665% 03/06/2038 DD 03/06/18	150,000	135,689
TELEFONICA EMISIONES SA 4.895% 03/06/2048 DD 03/06/18	355,485	313,330
TELEFONICA EMISIONES SA 5.213% 03/08/2047 DD 03/08/17	293,684	242,581
TELEFONICA EMISIONES SA 7.045% 06/20/2036 DD 06/20/06	112,687	96,858
TENCENT HOLDINGS LTD 144A 3.595% 01/19/2028 DD 01/19/18	200,117	187,912
TENCENT HOLDINGS LTD 144A 3.925% 01/19/2038	178,688	178,231
TEXAS EASTERN TRANSMISSIO 144A 4.150% 01/15/2048 DD 01/09/18	113,985	102,353
TIME WARNER CABLE LLC 5.500% 09/01/2041 DD 09/12/11	910,648	774,588
TRANSCANADA PIPELINES LTD 4.875% 05/15/2048 DD 05/07/18	109,073	106,179
TRANSCANADA PIPELINES LTD 5.100% 03/15/2049 DD 10/12/18	154,578	154,492
TRANSCANADA PIPELINES LTD 6.100% 06/01/2040 DD 06/01/10	64,604	61,387
TRANSCANADA PIPELINES LTD 7.625% 01/15/2039 DD 01/09/09	200,408	168,155
TRANSCONTINENTAL GAS PIPE LINE 4.600% 03/15/2048 DD 09/15/18	38,341	37,401
TRINITY ACQUISITION PLC 6.125% 08/15/2043 DD 08/15/13	126,761	116,453
UNION ELECTRIC CO 4.000% 04/01/2048 DD 04/06/18	54,762	53,566
UNION PACIFIC CORP 3.799% 10/01/2051 DD 10/04/16	350,960	301,097
UNION PACIFIC CORP 4.100% 09/15/2067 DD 09/19/17	221,420	195,463
UNION PACIFIC CORP 4.375% 11/15/2065 DD 10/29/15	104,631	95,569
UNION PACIFIC CORP 4.800% 09/10/2058 DD 06/08/18	29,967	29,853
UNITED TECHNOLOGIES CORP 3.750% 11/01/2046 DD 11/01/16	647,443	565,105
UNITED TECHNOLOGIES CORP 4.050% 05/04/2047 DD 05/04/17	31,698	30,846
UNITED TECHNOLOGIES CORP 4.125% 11/16/2028 DD 08/16/18	239,914	237,768
UNITED TECHNOLOGIES CORP 4.150% 05/15/2045 DD 05/04/15	46,311	44,717
UNITED TECHNOLOGIES CORP 4.450% 11/16/2038 DD 08/16/18	34,794	34,088
UNITED TECHNOLOGIES CORP 4.500% 06/01/2042 DD 06/01/12	48,749	47,237
UNITED TECHNOLOGIES CORP 4.625% 11/16/2048 DD 08/16/18	130,585	125,540
UNITEDHEALTH GROUP INC 3.750% 10/15/2047 DD 10/25/17	158,522	146,427
UNITEDHEALTH GROUP INC 4.250% 04/15/2047 DD 03/13/17	296,750	272,605
UNITEDHEALTH GROUP INC 4.250% 06/15/2048 DD 06/19/18	203,590	204,885
UNITEDHEALTH GROUP INC 4.625% 07/15/2035 DD 07/23/15	262,057	243,798
VALE OVERSEAS LTD 6.875% 11/10/2039	348,681	363,825
VALERO ENERGY CORP 4.900% 03/15/2045 DD 03/13/15	20,224	18,798
VALERO ENERGY CORP 6.625% 06/15/2037 DD 06/08/07	168,884	147,911
VERIZON COMMUNICATIONS INC 4.125% 08/15/2046 DD 08/01/16	326,236	326,444
VERIZON COMMUNICATIONS INC 4.500% 08/10/2033 DD 08/10/17	375,689	370,159
VERIZON COMMUNICATIONS INC 4.812% 03/15/2039 DD 02/03/17	1,832,733	1,792,101
VERIZON COMMUNICATIONS INC 4.862% 08/21/2046 DD 02/21/15	55,862	54,052

VERIZON COMMUNICATIONS INC 5.012% 08/21/2054 DD 02/21/15	160,689	159,436
VIACOM INC 4.375% 03/15/2043 DD 03/15/13	494,541	461,103
VIRGINIA ELECTRIC & POWER CO 4.650% 08/15/2043 DD 08/15/13	311,033	285,546
VISA INC 4.300% 12/14/2045 DD 12/14/15	421,332	397,890
VODAFONE GROUP PLC 4.375% 02/19/2043 DD 02/19/13	36,140	34,038
VODAFONE GROUP PLC 5.000% 05/30/2038 DD 05/30/18	129,346	121,811
VODAFONE GROUP PLC 5.250% 05/30/2048 DD 05/30/18	552,533	525,750
WALMART INC 3.625% 12/15/2047 DD 10/20/17	69,894	64,443
WALMART INC 3.950% 06/28/2038 DD 06/27/18	274,802	272,454
WALMART INC 4.050% 06/29/2048 DD 06/27/18	202,333	203,979
WARNER MEDIA LLC 4.850% 07/15/2045 DD 06/04/15	221,941	197,399
WELLS FARGO & CO 4.650% 11/04/2044 DD 11/04/14	1,244,678	1,106,145
WELLS FARGO BANK NA 3.550% 08/14/2023 DD 08/14/18	249,593	248,943
WESTERN MIDSTREAM OPERATING LP 5.300% 03/01/2048 DD 03/02/18	211,113	187,254
WESTERN MIDSTREAM OPERATING LP 5.500% 08/15/2048 DD 08/09/18	85,708	80,123
WILLIAMS COS INC/THE 5.100% 09/15/2045 DD 03/03/15	349,586	309,513
WRKCO INC 144A 4.900% 03/15/2029 DD 12/03/18	184,909	190,149
Corporate Obligations Total	87,110,777	80,019,138
State and local government obligations		
CALIFORNIA ST 4.600% 04/01/2038 DD 04/25/18	335,852	330,032
CALIFORNIA ST 7.550% 04/01/2039 DD 04/28/09	261,452	243,534
CALIFORNIA ST 7.600% 11/01/2040 DD 12/01/10	559,748	516,955
CHICAGO IL TRANSIT AUTH SALES 6.200% 12/01/2040 DD 04/06/10	328,665	327,885
CHICAGO IL TRANSIT AUTH SALES 6.899% 12/01/2040 DD 08/06/08	62,542	63,875
CMWLTH FING AUTH PA 4.144% 06/01/2038 DD 10/31/16	9,709	10,105
ILLINOIS ST 5.100% 06/01/2033 DD 06/12/03	158,493	152,549
KANSAS ST DEV FIN AUTH REVENUE 4.927% 04/15/2045 DD 08/20/15	157,696	159,259
LOS ANGELES CA DEPT WTR & PWR 6.574% 07/01/2045 DD 12/02/10	160,461	152,529
MET TRANSPRTN AUTH NY DEDICATE 7.336% 11/15/2039 DD 04/30/09	152,639	141,953
MUNI ELEC AUTH OF GEORGIA 6.637% 04/01/2057 DD 03/11/10	251,670	214,620
N TX TOLLWAY AUTH REVENUE 6.718% 01/01/2049 DD 08/12/09	201,878	185,768
NEW JERSEY ST TURNPIKE AUTH 7.102% 01/01/2041 DD 12/15/10	73,291	68,304
NEW YORK CITY NY MUNI WTR FIN 5.440% 06/15/2043 DD 09/23/10	295,755	278,744
NEW YORK ST URBAN DEV CORP REV 3.370% 03/15/2030 DD 12/21/17	145,030	141,659
PORT AUTH OF NEW YORK & NEW JE 4.926% 10/01/2051 DD 10/06/11	865,706	824,112
SALES TAX SECURITIZATION CORP 3.587% 01/01/2043 DD 12/14/17	145,819	144,542
UNIV OF CALIFORNIA CA REVENUES 4.767% 05/15/2115 DD 04/08/15	246,163	246,763
UNIV OF CALIFORNIA CA RGTS MED 6.548% 05/15/2048 DD 11/18/10	204,428	204,375
UNIV OF CALIFORNIA CA RGTS MED 6.583% 05/15/2049 DD 12/17/09	12,825	13,227
State and local government obligations Total	4,629,822	4,420,790

Common/Collective Trusts

*	BNYM-M DB SL ACWI FUND	104,640,892	103,068,746
	JPMCB LONG DURATION INVESTMENT GRADE FUND	120,293,897	154,609,375
Common/Collective Trusts Total		224,934,789	257,678,121
TOTAL 401(h) INVESTMENTS		385,840,993	409,970,946
TOTAL INVESTMENTS		4,945,600,550	5,100,778,434

* Party-in-interest to the Plan.

Note: The information in this schedule has been certified as complete and accurate by Bank of New York Mellon/BNY Mellon, N.A., excluding information related to alternative investments, real estate and infrastructure.

AMERICAN ELECTRIC POWER SYSTEM RETIREMENT PLAN
Schedule 2
SCHEDULE H, PART IV, LINE 4j - SCHEDULE OF REPORTABLE TRANSACTIONS
for the year ended December 31, 2018

Identity of Party Involved	Transaction Count	Purchases**	Sales		
			Proceeds**	Costs	Gain (Loss)
<u>Series of Reportable Transactions</u>					
* EB TEMP INV FD	124	\$785,370,501	—	—	—
* EB TEMP INV FD	127	—	\$796,641,059	\$796,641,059	—

* Party-in-interest to the Plan.

** Purchase price and proceeds represent current value of the transaction(s).

Note: The information in this schedule has been certified as complete and accurate by Bank of New York Mellon/BNY Mellon, N.A.

There were no Category (i), (ii) or (iv) reportable transactions during the year.

AMERICAN ELECTRIC POWER SYSTEM RETIREMENT PLAN

Schedule 3

**SCHEDULE H, PART IV, LINE 4i - SCHEDULE OF ASSETS (ACQUIRED AND DISPOSED OF WITHIN YEAR)
for the year ended December 31, 2018**

(a) Identity of issue, borrower, lessor, or similar party	(b) Description of investment including maturity date, rate of interest, collateral, par, or maturity value	(c) Cost of acquisitions	(d) Proceeds of dispositions
	90DAY EURO\$ FUTURE (CME) EXP JUN 18	—	37,375
	90DAY EURO\$ FUTURE (CME) EXP JUN 19	—	216,375
	ADVANTECH CO LTD	818,364	865,360
	AMAZON.COM INC 1.900% 08/21/2020 DD 02/21/18	959,472	942,134
	AMERICAN EXPRESS CO 3.375% 05/17/2021 DD 05/17/18	2,099,643	2,102,730
	AMOREPACIFIC CORP	2,660,620	1,405,110
	ANALOG DEVICES INC 2.500% 12/05/2021 DD 12/05/16	1,061,471	1,059,040
	ANALOG DEVICES INC 2.850% 03/12/2020 DD 03/12/18	2,140,860	2,133,374
	ANGLO AMERICAN PLATINUM LTD	351,171	353,872
	AP MOLLER - MAERSK A/S	2,699,463	2,387,219
	APPLE INC 2.850% 05/11/2024 DD 05/11/17	732,188	724,260
	ASE TECHNOLOGY HOLDING CO LTD	311,906	287,401
	ASSURANT INC VAR RT 03/26/2021 DD 03/27/18	3,215,000	3,219,919
	ASTM SPA	569,282	588,799
	AT&T INC 144A 4.100% 02/15/2028 DD 12/01/17	1,453,316	1,411,820
	AXA EQUITABLE HOLDINGS IN 144A 3.900% 04/20/2023 DD 04/20/18	179,734	179,726
	B2W CIA DIGITAL	921,615	1,056,008
	BANCO BPM SPA	1,302,871	1,070,873
	BANK OF AMERICA CORP VAR RT 01/20/2023 DD 01/20/17	1,115,353	1,109,735
	BANK OF AMERICA CORP VAR RT 01/20/2028 DD 01/20/17	1,846,101	1,836,070
	BANK OF AMERICA CORP VAR RT 04/24/2023 DD 04/24/17	4,398,840	4,359,718
	BANK OF AMERICA CORP VAR RT 07/21/2028 DD 07/21/17	592,254	583,586
	BANK OF AMERICA CORP VAR RT 01/23/2049 DD 01/23/18	258,636	248,996
	BANK OF AMERICA CORP VAR RT 03/05/2029 DD 03/05/18	1,386,747	1,372,518
	BANK OF AMERICA CORP VAR RT 05/17/2022 DD 05/17/18	765,237	759,614
	BANK OF MONTREAL 3.100% 04/13/2021 DD 04/13/18	754,117	752,252
	BANK OF NOVA SCOTIA/THE 2.500% 01/08/2021 DD 01/09/18	2,372,696	2,330,920
	BAYER AG RTS	—	86,972
	BAYER US FINANCE II LLC 144A 3.875% 12/15/2023 DD 06/25/18	4,674,711	4,673,210
	BAYER US FINANCE II LLC 144A 4.400% 07/15/2044 DD 07/15/18	532,786	478,381
	BERJAYA FOOD BHD	929,285	869,361
	BHP BILLITON PLC	1,108,254	1,120,606
	BHP GROUP PLC	947,378	880,202
	BOLSAS Y MERCADOS ESPANOL SH	758,532	709,491
	BRIGHTHOUSE FINANCIAL INC 3.700% 06/22/2027 DD 12/22/17	1,098,169	1,099,350
	BROADCOM CORP / BROADCOM 144A 3.875% 01/15/2027 DD 01/19/17	761,895	753,974
	BROADCOM CORP / BROADCOM CAYMA 3.000% 01/15/2022 DD 01/15/18	2,195,378	2,152,779
	BROADCOM CORP / BROADCOM CAYMA 3.500% 01/15/2028 DD 10/17/17	679,869	677,273

CAIRN ENERGY PLC	760,315	709,494
CELGENE CORP 3.250% 02/20/2023 DD 02/20/18	827,991	823,269
CELGENE CORP 3.900% 02/20/2028 DD 02/20/18	1,361,386	1,302,386
CHILE GOVERNMENT INTERNATIONAL 3.125% 01/21/2026 DD 01/21/16	192,700	188,700
CITIGROUP INC VAR RT 10/27/2028 DD 10/27/17	692,763	690,665
CITIGROUP INC VAR RT 01/24/2023 DD 01/24/18	8,266,118	8,137,377
CITIGROUP INC VAR RT 04/23/2029 DD 04/23/18	425,722	422,634
CITIGROUP INC VAR RT 06/01/2024 DD 05/22/18	5,667,573	5,710,978
COLOMBIA GOVERNMENT INTERNATIO 4.500% 03/15/2029 DD 10/12/18	864,449	859,560
COMCAST CORP 3.150% 02/15/2028 DD 08/07/17	331,975	329,749
COMCAST CORP 3.550% 05/01/2028 DD 02/08/18	4,030,247	3,872,314
CONCHO RESOURCES INC 4.300% 08/15/2028 DD 07/02/18	433,521	434,327
CONSTELLATION BRANDS INC 3.600% 02/15/2028 DD 02/07/18	558,919	541,055
COOPERATIEVE RABOBANK UA 4.375% 08/04/2025 DD 08/04/15	2,464,383	2,485,383
COOPERATIEVE RABOBANK UA 3.750% 07/21/2026 DD 07/21/16	172,699	172,685
COOPERATIEVE RABOBANK UA 3.950% 11/09/2022 DD 11/09/12	845,183	837,346
COOPERATIEVE RABOBANK UA/NY 2.250% 01/14/2020 DD 01/14/15	3,925,424	3,916,896
COOPERATIEVE RABOBANK UA/NY 2.500% 01/19/2021 DD 01/19/16	2,578,510	2,570,863
CREDIT SUISSE GROUP AG 144A VAR RT 01/12/2029 DD 01/12/18	1,076,050	1,055,392
CREDITO EMILIANO SPA	1,066,024	952,241
DAIMLER FINANCE NORTH AME 144A 3.000% 02/22/2021 DD 02/22/18	1,662,536	1,650,531
DAIRY FARM INTERNATIONAL HOLDI	1,027,763	1,010,472
DEUTSCHE BANK AG/NEW YORK NY 3.150% 01/22/2021 DD 01/22/18	1,124,933	1,109,554
DEUTSCHE TELEKOM INTERNAT 144A 4.375% 06/21/2028 DD 06/21/18	831,259	840,698
DIALOG SEMICONDUCTOR PLC	93,583	119,815
DOLLAR GENERAL CORP 4.125% 05/01/2028 DD 04/10/18	573,853	566,557
DOLLAR TREE INC 3.700% 05/15/2023 DD 04/19/18	1,666,894	1,657,275
DOLLAR TREE INC 4.200% 05/15/2028 DD 04/19/18	510,589	510,038
E.ON SE	3,137,044	3,164,280
ENERGY TRANSFER PARTNERS LP 4.950% 06/15/2028 DD 06/08/18	933,308	938,469
FAROE PETROLEUM PLC	1,678,798	1,679,587
FIRST PACIFIC CO LTD HK/00142	256,526	253,902
FREENET AG	5,831,998	5,354,964
GENERAL MOTORS FINANCIAL CO IN 3.550% 04/09/2021 DD 04/10/18	354,862	354,187
GLOBAL DOMINION ACCESS SA	561,547	548,985
GOLDCORP INC	2,238,347	2,192,600
HALFMOON PARENT INC 144A 3.400% 09/17/2021 DD 09/17/18	1,450,000	1,440,242
HARRIS CORP 4.400% 06/15/2028 DD 06/04/18	1,139,886	1,158,160
HENGAN INTERNATIONAL GROUP CO HK/01044	1,011,209	1,009,665
HUNGARY GOVERNMENT INTERNATIONAL 6.250% 01/29/2020	1,068,500	1,046,000
HYDRO ONE LIMITED	36,905	36,658
INTESA SANPAOLO SPA 144A 4.375% 01/12/2048 DD 01/12/18	318,180	321,550
IRR R US0003M P 3.25% USD PUT MAY 19 003.250 ED 051319	—	37,656
IRS R US0003M LIBOR 03/04/29 PUT FEB 19 003.200 ED 022819	—	(29,391)
IRS R US0003M LIBOR 03/04/29 PUT FEB 19 003.200 ED 022819	—	(14,576)

IRS R US0003M LIBOR 03/04/29 PUT FEB 19 003.200 ED 022819	—	(19,073)
IRS R US0003M P 3.25% 05/15/29 PUT MAY 19 003.250 ED 051319	—	(16,235)
IRS R US0003M P 3.25% USD PUT MAY 19 003.250 ED 051319	—	62,025
ISRAEL GOVERNMENT INTERNATIONAL 3.250% 01/17/2028 DD 01/17/18	1,280,854	1,257,750
JAPAN DISPLAY INC	580,027	565,767
JPMORGAN CHASE & CO VAR RT 06/18/2022 DD 06/18/18	3,277,784	3,272,592
JPMORGAN CHASE BANK NA VAR RT 02/01/2021 DD 02/01/18	3,660,000	3,627,060
KELLOGG CO 4.300% 05/15/2028 DD 05/14/18	428,478	432,197
KEURIG DR PEPPER INC 144A 4.985% 05/25/2038 DD 05/25/18	955,000	971,371
KINGDEE INTERNATIONAL SOFTWARE	758,749	858,809
KOH YOUNG TECHNOLOGY INC	600,262	549,114
KRAFT HEINZ FOODS CO 4.000% 06/15/2023 DD 06/15/18	1,427,183	1,423,393
LAURENT-PERRIER	427,439	443,126
LINDE AG	2,860,276	2,857,848
MEDTRONIC INC 2.500% 03/15/2020 DD 03/15/15	2,810,141	2,807,794
MEXICO GOVERNMENT INTERNATIONAL 4.000% 10/02/2023 DD 10/02/13	274,680	278,880
MEXICO GOVERNMENT INTERNATIONAL 3.750% 01/11/2028 DD 01/11/18	2,628,674	2,544,225
MITSUBISHI UFJ FINANCIAL GROUP 3.961% 03/02/2028 DD 03/02/18	1,051,815	1,054,840
MIZUHO FINANCIAL GROUP INC VAR RT 09/11/2024 DD 09/11/18	1,290,000	1,283,692
MIZUHO FINANCIAL GROUP INC VAR RT 09/11/2029 DD 09/11/18	556,937	555,100
MONDELEZ INTERNATIONAL INC 3.000% 05/07/2020 DD 05/07/18	4,173,563	4,173,842
MOODY'S CORP 2.625% 01/15/2023 DD 01/15/18	289,321	277,855
MORGAN STANLEY VAR RT 04/24/2024 DD 04/24/18	6,596,599	6,564,478
MPLX LP 3.375% 03/15/2023 DD 02/08/18	1,024,293	1,006,786
NATIONWIDE BUILD SOCIE 144A 0.875% 02/15/2048 DD 02/15/18	(3,823,633)	(3,952,932)
NEVADA POWER CO 2.750% 04/15/2020 DD 04/12/18	2,904,361	2,896,517
NEWELL BRANDS INC 3.900% 11/01/2025 DD 10/19/15	320,754	317,856
NEWELL BRANDS INC 4.200% 04/01/2026 DD 03/30/16	1,081,789	1,105,844
NICE SPA	32,273	30,712
NOVO NORDISK A/S	564,004	548,028
NUCOR CORP 3.950% 05/01/2028 DD 04/26/18	818,786	817,376
OMAN GOVERNMENT INTERNATIONAL 144A 5.625% 01/17/2028 DD 01/17/18	1,358,389	1,360,000
OSSTEM IMPLANT CO LTD	81,648	70,167
PANAMA GOVERNMENT INTERNATIONAL 4.000% 09/22/2024 DD 09/22/14	694,659	695,258
PANAMA GOVERNMENT INTERNATIONAL 3.750% 03/16/2025 DD 03/16/15	517,400	507,520
PETROLEOS MEXICANOS 3.500% 01/30/2023 DD 07/30/13	1,574,708	1,553,250
PETROLEOS MEXICANOS 6.875% 08/04/2026 DD 08/04/16	1,039,278	1,034,800
PETROLEOS MEXICANOS 6.750% 09/21/2047 DD 09/21/16	351,855	292,200
PETROLEOS MEXICANOS 6.500% 03/13/2027 DD 03/13/18	6,517,880	6,475,695
PETROLEOS MEXICANOS 144A 5.350% 02/12/2028 DD 02/12/18	543,173	551,070
PETROLEOS MEXICANOS 144A 6.350% 02/12/2048 DD 02/12/18	1,943,167	1,841,459
PETROLEOS MEXICANOS 144A 5.350% 02/12/2028	1,355,000	1,313,105
PRINCIPAL LIFE GLOBAL FUN 144A 2.200% 04/08/2020 DD 04/08/15	512,860	512,106
QATAR GOVERNMENT INTERNATIONAL 144A 3.875% 04/23/2023 DD 04/23/18	1,407,430	1,418,538
QATAR GOVERNMENT INTERNATIONAL 144A 4.500% 04/23/2028 DD 04/23/18	2,411,617	2,457,833

QUALCOMM INC 3.250% 05/20/2027 DD 05/26/17	425,302	423,573
REPUBLIC OF POLAND GOVERNMENT 3.000% 03/17/2023	951,710	933,850
ROLLS ROYCE HLDGS C SHS ENTITLEMENT (JULY 2018)	32,992	31,315
SANOFI 3.375% 06/19/2023 DD 06/19/18	1,647,146	1,647,063
SAUDI GOVERNMENT INTERNAT 144A 4.000% 04/17/2025 DD 04/17/18	1,411,790	1,426,050
SAUDI GOVERNMENT INTERNAT 144A 5.000% 04/17/2049 DD 04/17/18	1,980,977	2,019,973
SPIGEN KOREA CO LTD	88,675	78,396
SQUARE ENIX HOLDINGS CO LTD	1,161,015	1,048,763
STATE STREET CORP VAR RT 12/03/2029 DD 12/03/18	570,000	574,691
SUMITOMO MITSUI BANKING CORP 2.514% 01/17/2020 DD 01/17/18	1,310,000	1,295,433
SUMITOMO MITSUI FINANCIAL GROU 3.748% 07/19/2023 DD 07/19/18	2,480,000	2,480,908
SUNTRUST BANK/ATLANTA GA VAR RT 01/29/2021 DD 02/02/18	1,385,000	1,369,868
SYNGENTA FINANCE NV 144A 4.441% 04/24/2023 DD 04/24/18	1,357,004	1,355,718
TAHOE RESOURCES INC	207,354	207,787
TENCENT HOLDINGS LTD 144A 3.925% 01/19/2038 DD 01/19/18	524,785	482,711
TIKEHAU CAPITAL SCA	199,010	182,968
TOYOTA MOTOR CREDIT CORP 2.950% 04/13/2021 DD 04/13/18	3,408,636	3,395,581
TP ICAP PLC	600,768	619,243
TUNE PROTECT GROUP BHD	685,685	685,129
U S TREASURY BOND FWD 3.625% 02/15/2044 DD 02/18/14	1,331,554	1,332,303
U S TREASURY BOND FWD 2.750% 11/15/2042 DD 11/15/12	1,803,817	1,839,503
U S TREASURY BOND FWD 3.125% 02/15/2043 DD 02/15/13	3,418,417	3,472,628
U S TREASURY BOND FWD 3.625% 08/15/2043 DD 08/15/13	2,573,602	2,624,775
U S TREASURY BOND FWD 3.625% 08/15/2043 DD 08/15/13	2,493,603	2,574,413
U S TREASURY NOTE FWD 2.250% 08/15/2027 DD 08/15/17	(14,426,067)	(14,396,016)
U S TREASURY NOTE FWD 2.000% 08/15/2025 DD 08/15/15	(2,049,789)	(2,053,720)
U S TREASURY NOTE FWD 2.875% 07/31/2025 DD 07/31/18	3,368,401	3,368,822
U S TREASURY NOTE FWD 2.875% 07/31/2025 DD 07/31/18	3,367,487	3,384,288
U S TREASURY NOTE FWD 2.250% 08/15/2027 DD 08/15/17	(14,664,004)	(14,485,163)
U S TREASURY NOTE FWD 2.000% 08/15/2025 DD 08/15/15	1,268,602	1,248,931
U S TREASURY NOTE FWD 1.500% 02/28/2023 DD 02/29/16	4,852,832	4,864,531
U S TREASURY NOTE FWD 1.500% 02/28/2023 DD 02/29/16	4,817,556	4,850,599
U S TREASURY NOTE 2.250% 08/15/2027 DD 08/15/17	(14,572,379)	(14,673,094)
U S TREASURY NOTE 2.000% 08/15/2025 DD 08/15/15	(11,962,961)	(12,011,109)
UBS AG/LONDON 144A 4.500% 06/26/2048 DD 06/26/18	268,855	270,813
UNIONE DI BANCHE ITALIANE SPA	1,026,277	988,978
UNI-PRESIDENT CHINA HOLDINGS L HK/00220	1,153,560	1,077,189
UNITED STATES T NOTE BND FWD 2.000% 08/15/2025 DD 08/15/15	(11,882,403)	(11,910,555)
UNITED STATES T NOTE BND FWD 2.250% 08/15/2027 DD 08/15/17	(14,476,634)	(14,504,438)
UNITED STATES T NOTE BND FWD 2.000% 08/15/2025 DD 08/15/15	(12,006,663)	(11,886,241)
UNITED STATES TREASURY BND FWD 2.000% 08/15/2025 DD 08/15/15	(2,068,273)	(2,063,306)
UNITED STATES TREASURY NOTE FW 2.250% 08/15/2027 DD 08/15/17	(14,616,740)	(14,571,900)
US 10Y NOTE 2ND W FUT DEC 18 PUT NOV 18 118.000 ED 11/09/18	(13,394)	(5,277)
US 10Y NOTE 3RD W FUT DEC 18 PUT NOV 18 117.000 ED 11/16/18	12,286	3,871
US 10YR NOTE FUTURE (CBT) EXP JUN 18	—	(307,676)

US 10YR NOTE FUTURE (CBT) EXP SEP 18	—	137,458
US 10YR NOTE FUTURE (CBT) EXP DEC 18	—	193,056
US 10YR ULTRA FUTURE (CBT) EXP JUN 18	—	(3,396)
US 10YR ULTRA FUTURE (CBT) EXP SEP 18	—	(262,141)
US 10YR ULTRA FUTURE (CBT) EXP DEC 18	—	(63,397)
US 2YR NOTE FUTURE (CBT) EXP DEC 18	—	(141,455)
US 2YR TREAS NTS FUT (CBT) EXP JUN 18	—	1,826
US 2YR TREAS NTS FUT (CBT) EXP SEP 18	—	(78,507)
US 5YR NOTE FUTURE (CBT) EXP DEC 18	—	(20,072)
US 5YR TREAS NTS FUTURE (CBT) EXP JUN 18	—	(108,127)
US 5YR TREAS NTS FUTURE (CBT) EXP SEP 18	—	97,068
US LONG BOND FUTURE (CBT) EXP JUN 18	—	681,594
US LONG BOND FUTURE (CBT) EXP SEP 18	—	(1,908,742)
US LONG BOND FUTURE (CBT) EXP DEC 18	—	2,633,915
US T INF INDEXED NOTES BND FWD 0.375% 07/15/2025 DD 07/15/15	2,793,406	2,826,496
US T INF INDEXED NOTES BND FWD 0.375% 07/15/2027 DD 07/15/17	13,934,439	14,125,123
US T INFL INDEXED NTS BND FWD 0.375% 07/15/2025 DD 07/15/15	11,860,058	11,858,511
US T INFL INDEXED NTS BND FWD 0.375% 07/15/2027 DD 07/15/17	13,957,509	13,915,320
US T INFLATION INDEXED BND FWD 0.875% 02/15/2047 DD 02/15/17	3,877,510	4,010,423
US T INFLATION INDX NOTE BND F 0.375% 07/15/2027 DD 07/15/17	14,022,853	13,940,577
US T INFLATION INDX NOTE BND F 0.375% 07/15/2025 DD 07/15/15	11,873,479	11,844,795
US TREAS INFLAT INDEX NOTE BND 0.750% 07/15/2028 DD 07/15/18	5,128,635	5,134,219
US TREAS INFLAT INDEX NOTE FWD 0.375% 07/15/2025 DD 07/15/15	2,846,138	2,809,411
US TREAS INFLAT INDEX NOTE FWD 0.375% 07/15/2027 DD 07/15/17	14,417,767	14,175,865
US TREAS INFLAT INDEXED NOTES 0.375% 07/15/2025 DD 07/15/15	2,612,102	2,597,509
US TREAS INFLAT INDEXED NOTES 0.375% 07/15/2027 DD 07/15/17	14,200,782	14,024,817
US TREAS INFLAT INDX NOTES BND 0.375% 07/15/2025 DD 07/15/15	2,820,066	2,842,475
US TREAS INFLAT INDX NOTES BND 0.375% 07/15/2027 DD 07/25/17	14,106,837	14,246,204
US TREAS NOTE FWD 2.250% 08/15/2027 DD 08/15/17	(14,729,298)	(14,427,338)
US TREAS NOTE FWD 2.000% 08/15/2025 DD 08/15/15	(2,083,398)	(2,049,612)
US TREAS NOTE FWD 2.250% 08/15/2027 DD 08/15/17	(14,926,952)	(14,583,951)
US TREAS-CPI INFLAT 0.375% 07/15/2025 DD 07/15/15	11,903,943	11,759,502
US TREAS-CPI INFLAT FWB 0.375% 07/15/2027 DD 07/15/17	2,011,392	2,001,029
US TREAS-CPI INFLAT FWD 0.375% 07/15/2027 DD 07/15/17	2,004,218	1,995,367
US TREAS-CPI INFLAT FWD 0.375% 07/15/2027 DD 07/15/17	14,047,522	13,935,302
US TREAS-CPI INFLAT NOTES FWD 0.375% 07/15/2027 DD 07/15/17	15,958,677	16,112,674
US TREAS-CPI INFLAT 0.375% 07/15/2025 DD 07/15/15	11,770,540	11,858,555
US TREASURY BOND FWD 3.625% 02/15/2044 DD 02/15/14	7,930,825	7,798,322
US TREASURY BOND FWD 3.625% 02/15/2044 DD 02/15/14	7,440,024	7,542,362
US TREASURY BOND FWD 3.625% 02/15/2044 DD 02/15/14	7,791,608	7,443,127
US TREASURY BOND FWD 2.750% 11/15/2042 DD 11/15/12	1,745,612	1,804,161
US TREASURY BOND FWD 3.625% 02/15/2044 DD 02/15/14	7,535,867	7,540,145
US TREASURY BOND FWD 3.125% 02/15/2043 DD 02/15/13	3,308,395	3,419,269
US TREASURY INF INDX BND FWD 0.375% 07/15/2027 DD 07/31/17	14,145,395	14,087,329
US TREASURY INFL INDX BND FWD 0.375% 07/15/2025 DD 07/15/15	2,830,690	2,816,010

US TREASURY INFLATION INDEXED 0.875% 02/15/2047 DD 02/15/17	4,014,352	4,145,621
US TREASURY INFLATION INDEXED 1.000% 02/15/2048 DD 02/15/18	(3,956,117)	(4,084,245)
US TREASURY NOTE 2.000% 08/15/2025 DD 08/15/15	(12,059,979)	(11,969,487)
US TREASURY NOTE BND FWD 2.250% 08/15/2027 DD 08/15/17	(14,567,024)	(14,733,328)
US TREASURY NOTE BND FWD 2.000% 08/15/2025 DD 08/15/15	(2,062,975)	(2,083,504)
US TREASURY NOTE BOND FWD 2.625% 02/25/2023 DD 02/28/18	4,844,976	4,862,598
US TREASURY NOTE BOND FWD 2.625% 02/28/2023 DD 02/28/18	4,880,242	4,845,651
US TREASURY NOTE FWD 2.625% 02/28/2023 DD 02/28/18	4,901,500	4,881,855
US TREASURY NOTE FWD 2.875% 07/31/2025 DD 07/31/18	3,413,564	3,369,886
US TREASURY NOTE FWD 2.250% 08/15/2027 DD 08/15/17	(14,489,904)	(14,800,188)
US TREASURY NOTE FWD 2.000% 08/15/2025 DD 08/15/15	3,287,290	3,330,080
US TREASURY NOTE FWD 2.625% 02/28/2023 DD 02/28/18	4,861,314	4,883,014
US TREASURY NOTE FWD 2.250% 08/15/2027 DD 08/15/17	(14,394,860)	(14,489,981)
US TREASURY NOTE FWD 2.000% 08/15/2025 DD 08/15/15	(2,054,102)	(2,061,936)
US TREASURY NOTE BND FWD 2.000% 08/15/2025 DD 08/15/15	(2,057,353)	(2,068,441)
US TREASURY NOTE BND FWD 2.250% 08/15/2027 DD 08/15/17	(14,497,232)	(14,622,497)
US TREASURY NOTES FWD 0.375% 07/15/2027 DD 07/15/17	14,156,619	13,867,596
US TREASURY NOTES FWD 0.375% 07/15/2027 DD 07/15/17	13,878,880	14,006,527
US ULTRA BOND (CBT) EXP JUN 18	—	27,054
US ULTRA BOND (CBT) EXP SEP 18	—	1,564,243
US ULTRA BOND (CBT) EXP DEC 18	—	(3,588,840)
USD IRS 10YR PRIM FUTURE (CBT) EXP JUN 18	—	124,344
USD IRS 10YR PRIM FUTURE (CBT) EXP SEP 18	—	(116,953)
VALE SA	1,445,325	1,458,674
VERIZON COMMUNICATIONS IN 144A 4.329% 09/21/2028 DD 06/21/18	682,040	673,771
VESTAS WIND SYSTEMS A/S	3,261,385	3,001,703
VIVENDI SA	481,059	485,228
WEICHAI POWER CO LTD HK/02338	582,730	586,442
WELLS FARGO BANK NA 2.400% 01/15/2020 DD 01/23/18	1,283,921	1,275,915
WELLS FARGO BANK NA VAR RT 07/23/2021 DD 07/23/18	4,045,000	4,024,006
WELLTOWER INC 4.250% 04/15/2028 DD 04/10/18	1,156,894	1,159,376
WIENERBERGER AG	371,255	367,912
WORLEYPARSONS LTD	2,832,440	3,002,079
WPP FINANCE 2010 5.125% 09/07/2042 DD 09/07/12	317,961	315,097
ZHUZHOU CRRC TIMES ELECTRIC CO HK/03898	849,367	897,453
Total Assets Acquired and Disposed of Within Year	313,853,759	308,939,205

Note: The information in this schedule has been certified as complete and accurate by Bank of New York Mellon/BNY Mellon, N.A., excluding information related to alternative investments, real estate and infrastructure.

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
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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 AMERICAN ELECTRIC POWER SYSTEM RETIREMENT PLAN	B Three-digit plan number (PN) ►	001
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF AMERICAN ELECTRIC POWER SERVICE CORPORATION	D Employer Identification Number (EIN) 13-4922641	
E Type of plan: ☒ Single ☐ Multiple-A ☐ Multiple-B		
F Prior year plan size: ☐ 100 or fewer ☐ 101-500 ☒ More than 500		

Part I Basic Information			
1 Enter the valuation date: Month <u>01</u> Day <u>01</u> Year <u>2018</u>			
2 Assets:			
a Market value.....	2a	5,183,145,851	
b Actuarial value	2b	5,129,602,801	
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	15,255	2,221,473,200	2,221,473,200
b For terminated vested participants	3,596	225,854,745	225,854,745
c For active participants	16,796	1,663,602,223	1,681,343,034
d Total	35,647	4,110,930,168	4,128,670,979
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	5.59%	
6 Target normal cost	6	92,185,812	

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	Joseph A. Perko Signature of actuary	7/1/19 Date 1706491
JOSEPH A. PERKO Type or print name of actuary WILLIS TOWERS WATSON US LLC Firm name		Most recent enrollment number 216-937-4000 Telephone number (including area code)
1001 LAKESIDE AVENUE SUITE 1500 CLEVELAND OH 44114-1172 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 II Beginning of Year Carryover and Prefunding Balances

	(a) Carryover balance	(b) Prefunding balance
7 Balance at beginning of prior year after applicable adjustments (line 13 from prior year).....	152,206,815	611,820,254
8 Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	0
9 Amount remaining (line 7 minus line 8).....	152,206,815	611,820,254
10 Interest on line 9 using prior year's actual return of <u>12.98%</u>	19,756,445	79,414,269
11 Prior year's excess contributions to be added to prefunding balance:		
a Present value of excess contributions (line 38a from prior year).....		91,834,387
b(1) Interest on the excess, if any, of line 38a over line 38b from prior year Schedule SB, using prior year's effective interest rate of <u>5.80%</u>		5,326,394
b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return.....		0
c Total available at beginning of current plan year to add to prefunding balance.....		97,160,781
d Portion of (c) to be added to prefunding balance.....		45,548,227
12 Other reductions in balances due to elections or deemed elections.....	0	0
13 Balance at beginning of current year (line 9 + line 10 + line 11d – line 12).....	171,963,260	736,782,750

Part III Funding Percentages

14 Funding target attainment percentage	14	102.23%
15 Adjusted funding target attainment percentage.....	15	124.24%
16 Prior year's funding percentage for purposes of determining whether carryover/prefunding balances may be used to reduce current year's funding requirement	16	105.86%
17 If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage.	17	%

Part IV Contributions and Liquidity Shortfalls**18** Contributions made to the plan for the plan year by employer(s) and employees:

(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees	(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees
Totals ▶			18(b)	0	18(c) 0

19 Discounted employer contributions – see instructions for small plan with a valuation date after the beginning of the year:

a Contributions allocated toward unpaid minimum required contributions from prior years.....	19a	0
b Contributions made to avoid restrictions adjusted to valuation date	19b	0
c Contributions allocated toward minimum required contribution for current year adjusted to valuation date.....	19c	0

20 Quarterly contributions and liquidity shortfalls:**a** Did the plan have a "funding shortfall" for the prior year? ☐ Yes ☒ No**b** If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? ☐ Yes ☐ No**c** If line 20a is "Yes," see instructions and complete the following table as applicable:

Liquidity shortfall as of end of quarter of this plan year

(1) 1st	(2) 2nd	(3) 3rd	(4) 4th

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 %
			☐ N/A, full yield curve used
b Applicable month (enter code).....			21b 3
22 Weighted average retirement age			22 64
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	92,185,812
b Excess assets, if applicable, but not greater than line 31a		31b	92,185,812
32 Amortization installments:		Outstanding Balance	Installment
a Net shortfall amortization installment.....		0	0
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	0
	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement.....	0	0	0
36 Additional cash requirement (line 34 minus line 35).....		36	0
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c).....		37	0
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

SCHEDULE SB ATTACHMENTS

Schedule SB – Statement by Enrolled Actuary

Plan Sponsor	American Electric Power Service Corporation
EIN/PN	13-4922641 / 001
Plan Name	American Electric Power System Retirement Plan
Valuation Date	January 1, 2018
Enrolled Actuary	Joseph A. Perko
Enrollment Number	17-06491

The actuarial assumptions that are not mandated by IRC § 430 and regulations, represent the enrolled actuary's best estimate of anticipated experience under the plan, subject to the following conditions:

The actuarial valuation, on which the information in this Schedule SB is based, has been prepared in reliance upon the employee and financial data furnished by the plan administrator and the trustee. The enrolled actuary has not made a rigorous check of the accuracy of this information but has accepted it after reviewing it and concluding it is reasonable in relation to similar information furnished in previous years. The amounts of contributions and dates paid shown in Item 18 of Schedule SB were listed in reliance on information provided by the plan administrator and/or trustee.

SCHEDULE SB ATTACHMENTS

Schedule SB, Line 22 Description of Weighted Average Retirement Age as of January 1, 2018

See Appendix A for retirement rates. The average retirement age for Line 22 was calculated by determining the average age at retirement for those current active participants expected to reach retirement, based on all current decrements assumed.

Retirement Age	Assumed Rate	Participants at Beginning	Participants Retiring: (2)x(3)	Weighted Value (1)x(4)
(1)	(2)	(3)	(4)	(5)
55	0.01	1000	10.00	550.00
56	0.01	990	9.90	554.40
57	0.01	980	9.80	558.66
58	0.06	970	58.22	3,376.64
59	0.06	912	54.72	3,228.77
60	0.06	857	51.44	3,086.48
61	0.16	806	128.95	7,865.73
62	0.16	677	108.31	6,715.53
63	0.16	569	90.98	5,732.03
64	0.13	478	62.10	3,974.21
65	0.13	416	54.02	3,511.58
66	0.13	362	47.00	3,102.08
67	0.13	315	40.89	2,739.70
68	0.13	274	35.58	2,419.11
69	0.13	238	30.95	2,135.58
70	1.00	207	<u>207.13</u>	<u>14,499.08</u>
			1,000.00	64,049.57

$$64,049.57 / 1,000 = 64$$

Plan Name: American Electric Power System Retirement Plan
EIN / PN: 13-4922641 / 001
Plan Sponsor: American Electric Power Service Corporation
Valuation Date: January 1, 2018

SCHEDULE SB ATTACHMENTS

Schedule SB, Line 26 Schedule of Active Participant Data as of January 1, 2018

Attained Age	Years Of Credited Service														
	Under 1			1 to 4			5 to 9			10 to 14			15 to 19		
	No.	Average		No.	Average		No.	Average		No.	Average		No.	Average	
		Comp.	Cash Bal.		Comp.	Cash Bal.		Comp.	Cash Bal.		Comp.	Cash Bal.		Comp.	Cash Bal.
Under 25				285	65,314	4,002	2								
25 to 29				851	71,853	5,917	221	85,898	16,936	10					
30 to 34				765	77,925	7,433	498	91,230	23,155	359	97,774	36,737	9		
35 to 39				559	79,819	8,265	455	93,013	28,836	621	98,659	43,561	203	103,920	61,129
40 to 44				373	83,489	10,260	356	94,505	32,932	552	100,420	51,718	395	108,679	75,295
45 to 49				332	89,887	12,432	266	97,953	39,014	435	100,066	59,360	364	118,532	93,624
50 to 54				194	89,768	14,237	192	95,452	44,153	311	104,744	70,099	342	112,001	100,330
55 to 59				175	86,262	14,150	131	95,405	48,414	260	99,592	76,022	211	116,514	121,408
60 to 64				98	88,571	18,323	84	90,492	52,262	112	100,748	84,821	137	115,999	134,975
65 to 69				19			25	93,386	61,263	33	86,893	78,435	23	100,082	129,740
70 & Over				3			5			9			12		

Plan Name: American Electric Power System Retirement Plan
 EIN / PN: 13-4922641 / 001
 Plan Sponsor: American Electric Power Service Corporation
 Valuation Date: January 1, 2018

SCHEDULE SB ATTACHMENTS

Schedule SB, Line 26 Schedule of Active Participant Data as of January 1, 2018

Attained Age	Years Of Credited Service														
	20 to 24			25 to 29			30 to 34			35 to 39			40 & up		
	Average			Average			Average			Average			Average		
	No.	Comp.	Cash Bal.	No.	Comp.	Cash Bal.	No.	Comp.	Cash Bal.	No.	Comp.	Cash Bal.	No.	Comp.	Cash Bal.
Under 25															
25 to 29															
30 to 34															
35 to 39	4														
40 to 44	99	107,299	90,482	1											
45 to 49	264	114,475	106,453	193	118,189	126,966	10								
50 to 54	263	107,392	121,793	553	118,160	141,307	483	115,609	152,536	57	105,487	156,568			
55 to 59	211	101,726	123,159	420	108,766	147,843	874	115,888	167,727	962	115,013	172,963	62	108,102	166,702
60 to 64	99	97,669	137,629	211	103,136	152,315	367	110,682	174,340	682	116,511	192,517	392	114,221	184,254
65 to 69	25	91,467	135,957	33	99,624	152,128	45	107,258	176,513	73	112,770	185,940	98	117,325	193,046
70 & Over	2			8			3			5			10		

Plan Name: American Electric Power System Retirement Plan
 EIN / PN: 13-4922641 / 001
 Plan Sponsor: American Electric Power Service Corporation
 Valuation Date: January 1, 2018

SCHEDULE SB ATTACHMENTS

Schedule SB, Part V Statement of Actuarial Assumptions/Methods

Economic Assumptions

Interest rate basis:

- Applicable month (published) October 2017
- Yield curve basis Segment rates

Funding interest rates:

	Reflecting Corridors	Not Reflecting Corridors
■ First segment rate	3.92%	1.76%
■ Second segment rate	5.52%	3.74%
■ Third segment rate	6.29%	4.63%
■ Effective interest rate	5.59%	3.90%

Annual rates of increase

- Compensation:

	Age	Rate
— Representative rates	< 26	12.00%
	26 – 30	8.50%
	31 – 35	7.00%
	36 – 40	6.00%
	41 – 45	5.00%
	46 – 50	4.00%
	> 50	3.50%
— Weighted average		4.85%
- Cash balance crediting rate 4.00%
- Lump sum/annuity conversion rate October 2017 segment rates
- Future Social Security wage bases 4.00%
- Statutory limits on compensation N/A
- Expected rate of return on assets for prior year 6.00% but not greater than the third segment rate

Plan Name: American Electric Power System Retirement Plan
 EIN / PN: 13-4922641 / 001
 Plan Sponsor: American Electric Power Service Corporation
 Valuation Date: January 1, 2018

SCHEDULE SB ATTACHMENTS

Demographic Assumptions

Inclusion Date The valuation date coincident with or next following the date on which the employee becomes a participant.

New or rehired employees It was assumed there will be no new or rehired employees.

Mortality

- **Healthy** Separate rates for non-annuitants (based on RP-2000 "Employees" table without collar or amount adjustments, projected to 2033 using Scale AA and annuitants (based on RP-2000 "Healthy Annuitants" table without collar or amount adjustments), projected to 2025 using Scale AA.
- **Disabled** Post-1994 current liability disabled
- **Lump sum/annuity conversion** Applicable 417(e) IRS Mortality Table

Termination Rates varying by age and service:

Percentage leaving during the year		
Attained Age	Less than five years of service	Five or more years of service
< 25	8.00%	7.30%
25 – 29	8.00%	5.00%
30 – 34	8.00%	4.20%
35 – 39	8.00%	3.40%
40 – 44	8.00%	2.50%
45 – 49	8.00%	1.90%
50 +	8.00%	1.70%

Disability Rates apply to employees not eligible to retire and vary by age and sex as indicated by the following sample values:

Percentage becoming disabled during the year		
Age	Male	Female
20	0.060%	0.090%
30	0.060%	0.090%
40	0.074%	0.110%
50	0.178%	0.267%
60	0.690%	1.035%

Plan Name: American Electric Power System Retirement Plan
EIN / PN: 13-4922641 / 001
Plan Sponsor: American Electric Power Service Corporation
Valuation Date: January 1, 2018

SCHEDULE SB ATTACHMENTS

Retirement

Rates varying by age; average retirement age 64:

Percentage retiring during the year	
Age	Rate
55 – 57	1.00%
58 – 60	6.00%
61 – 63	16.00%
64 – 69	13.00%
70 +	100.00%

Benefit commencement date:

- Preretirement death benefit The later of the death of the active participant or the date the participant would have attained age 55.
- Deferred vested benefit (active participants) The later of age 55 or termination of employment.
- Deferred vested benefit (current deferred vested) The later of age 65 or current age
- Disability benefit Upon disablement.
- Retirement benefit Upon termination of employment.

Form of payment

40% lump sum; 60% annuity for retirement eligible East grandfathered participants and 75% lump sum; 25% annuity for all other participants. Married participants are assumed to elect the 50% joint and survivor annuity and unmarried participants are assumed to elect the single life annuity. No other optional form of payment election is assumed.

For current deferred vested participants with a cash balance type benefit, 100% lump sum is assumed. For all other current deferred vested participants 100% annuity is assumed.

Percent married

80% of male participants; 70% of female participants.

Spouse ages

Wives are assumed to be three years younger than husbands.

Valuation pay

2018 base salary pay (Grandfathered) – not estimated due to freeze of final average pay accruals at December 31, 2010.

2018 expanded pay (Cash Balance) – sum of the following updated one year according to the salary increase assumption:

- (i) 2018 base salary
- (ii) a 15% increase for overtime eligible employees and a target bonus percent increase for incentive-eligible employees

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At-risk assumptions If at-risk calculations are required, all participants eligible to elect benefits during the current and subsequent ten plan years are assumed to commence benefits at the earliest possible date under the plan, but not before the end of the current plan year, except in accordance with the regular valuation assumptions. In addition, all participants (not just those eligible to begin benefits within the next 11 years) are assumed to elect the most valuable form of benefit under the plan, which is usually a joint and survivor form of payment.

Timing of benefit payments Annuity payments are payable monthly at the beginning of the month and lump sum payments are payable on date of decrement.

Methods

Valuation date First day of plan year.

Funding target Present value of accrued benefits.

Target normal cost Present value of benefits expected to accrue during plan year plus plan-related expenses expected to be paid from the trust (based on actual trust expenses paid in previous year, adjusted by the difference between the prior and expected current year PBGC premiums).

Actuarial value of assets Average of the fair market value of assets on the valuation date and the six immediately preceding months, adjusted for contributions, benefit/expense payments and expected investment returns. The average asset value must be within 10% of fair value, including contributing receivable. The method of computing the actuarial value of assets complies with rules governing the calculation of such values under PPA.

These rules produce smoothed values that reflect the underlying market value of plan assets but fluctuate less than the market value. As a result, the actuarial value of assets will be lower than the market value in some years and greater in other years. However, over the long term under PPA's smoothing rules, the method has a bias to produce an actuarial value of assets that is below the market value of assets.

Benefits Not Valued All benefits were valued except:

- Any liabilities that may be reinstated in the event of reemployment
- The alternate benefit formula for members who did not elect to withdraw their employee contributions
- Any liabilities relating to members' unwithdrawn employee contributions
- Liabilities related to special benefits as a result of termination due to downsizing and restructuring

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Data Sources

Willis Towers Watson used participant and asset data as of January 1, 2018, supplied by Mercer, the third party administrator for AEP. Data were reviewed for reasonableness and consistency, but no audit was performed. Based on discussions with the plan sponsor, assumptions or estimates were made when data were not available, and the data was adjusted to reflect any significant events that occurred between the date the data was collected and the measurement date. To the extent that data were not provided, estimates were made based on prior year information.

The Company also provided the amounts recognized in accumulated other comprehensive income as of the end of the December 31, 2017 fiscal year and amounts recognized in other comprehensive income in the December 31, 2017 fiscal year.

Assumptions Rationale - Significant Economic Assumptions for Contributions

Discount rate	The basis chosen was selected by the plan sponsor from among choices prescribed by law, all of which are based on observed market data over certain periods of time.
Cash Balance Interest crediting rate	The plan credits interest to cash balance accounts using the 30-year Treasury rate for the September of the preceding year with a minimum rate of 4.00%. The assumption is based on the plan sponsor's long-term expectations of yields on U.S. Treasuries. We believe that the selected assumption does not significantly conflict with what would be reasonable based on market conditions at the measurement date.
Lump sum conversion rate	As required by IRC 430, lump sum benefits are valued using "annuity substitution", so that the interest rates assumed are effectively the same as described above for the discount rate.
Rates of increase in:	
■ Compensation	Rates of increase in compensation were based on an experience study conducted in 2014, with annual consideration of whether any conditions have changed that would be expected to produce different results in the future.
■ National average wages (NAW) (e.g., Social Security wage bases)	The assumed NAW is based on assumed CPI as shown below, plus assumed increases in real wages (the portion of GDP increases that becomes part of wages). Such assumed future increases in real wages are based on a combination of historical averages and an expectation that the future rates will be lower (higher) than historical averages.
■ Increases in statutory limits (CPI)	The assumed CPI is based on a combination of historical average CPI, current conditions and an assumed progression from recently experienced CPI to the long-term expected level. The final assumption represents a composite of current rates and long term expected rates.

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Assumptions Rationale - Significant Demographic Assumptions

Mortality	Assumptions used for accounting purposes were selected by the plan sponsor and, as required by U.S. GAAP, represent a best estimate of future experience. Assumptions used for contribution purposes are as prescribed by IRC §430(h). Note that the plan sponsor has decided, as allowed by regulation §1.430(h)(3)-1, to delay until the 2019 plan year updating the required mortality table to reflect the RP-2014 study and subsequent Society of Actuaries studies.
Termination	Termination rates are based on an experience study conducted in 2014, with annual consideration of whether any conditions have changed that would be expected to produce different results in the future Assumed termination rates differ by service because of observed differences in termination rates between employees who have attained at least five years of service and those with less than five years of service.
Retirement	Retirement rates are based on an experience study conducted in 2014, with annual consideration of whether any conditions have changed that would be expected to produce different results in the future.
Form of payment	Rates at which retirees elect lump sums versus annuities are based on an experience study conducted in 2014, with annual consideration of whether any conditions have changed that would be expected to produce different results in the future.

Source of Prescribed Methods

Funding methods	The methods used for funding purposes as described in Appendix A, including the method of determining plan assets, are "prescribed methods set by law", as defined in the actuarial standards of practice (ASOPs). These methods are required by IRC §430, or were selected by the plan sponsor from a range of methods permitted by IRC §430.
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Schedule SB, Part V Summary of Plan Provisions

Summary of plan provisions covered by the former East Retirement Plan

Plan Provisions

Effective Date	May 1, 1955. Restated effective January 1, 2017.
Recent Amendments	Plan was amended and restated effective January 1, 2017.
Covered Employees	Employees become Members of the Plan on the first day of the month following completion of one year of service.
Participation Date	Date of becoming a covered employee.

Definitions

Grandfathered employee	If, on December 31, 2000, either: – Participating in AEP System Retirement Plan, or – In one-year waiting period for AEP System Retirement Plan participation.
Vesting service	A period of time from employment date to termination date and, in general, includes periods of severance that are not in the excess of 12 months.
Accredited service	Elapsed time from date of hire (from benefit service start date).
Cash balance pay	Pay received during the year, including base pay, overtime, shift differential/Sunday premium pay and incentive pay, subject to IRS limits.
Covered compensation amount	The average of the Social Security taxable wage based during the 35-year period including the year in which the participant retires, dies, becomes disabled or otherwise terminates employment. This monthly average is calculated to the next lower or equal whole dollar amount and is then rounded to nearest \$50.
Final average pay	Average of the highest 36-consecutive months of base pay out of the last 120 months of employment, subject to IRS limits.
Normal retirement date (NRD)	The first day of the calendar month whose first day is nearest the later of the member's 65 th birthday or the completion of five years of Vesting Service.

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Cash balance account Recordkeeping account to which annual Interest Credits and annual Company Credits are credited. The cash balance account is updated at the end of each plan year and is equal to:

$$\begin{array}{r} \text{Cash Balance Account as of the} \\ \text{end of the prior plan year} \\ + \\ \text{Interest Credits} \\ + \\ \text{Company Credits} \end{array}$$

Cash balance benefit Cash Balance Account converted to a monthly annuity

Opening balance For those participating in or eligible for the AEP System Retirement Plan on December 31, 2000, opening balance is calculated as follows:

- Present value of monthly normal retirement benefit determined as of December 31, 2000, and payable at age 65 (or current age if older)
 - Present value determined based on 5.78% interest and IRS regulated mortality (GAM83 Unisex) data for lump sums (postretirement only)

Plus

- Credit for early retirement subsidy for monthly payments beginning at age 62 (or current age if older)

Plus

- Transition credit based on age, service and pay received in 2000 (see "Company Credits" for credit percentages)
 - Age and service based on completed whole years as of December 31, 2000.

For employees hired on or after January 1, 2001, opening balance is \$0.

Interest credits Interest credits are applied to beginning of year account balance on December 31 each year.

Based on the average 30-year Treasury Bond rate for November of the previous year.

Minimum of 4%.

Company credits Applied to account balance on December 31 or termination date if earlier.

Amount is a percentage of eligible pay received during the year, based on age plus years of Vesting Service (age and service in completed whole years as of December 31).

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<i>Age Plus Years of Service</i>	<i>Annual Company Credit</i>
Less than 30	3.0%
30 – 39	3.5%
40 – 49	4.5%
50 – 59	5.5%
60 – 69	7.0%
70+	8.5%

Monthly Grandfathered Benefit

Sum of (1), (2) and (3):

- (1) 1.10% of Final Average Pay x Accredited Service up to 35 years
- (2) 0.50% of Final Average Pay Less Covered Compensation x Accredited Service up to 35 years
- (3) 1.33% of Final Average Pay x Accredited Service between 35 and 45 years

Accruals for the grandfathered benefit ceased on December 31, 2010.

Long-term disability and paid leaves

Participants do not receive company credits while on long-term disability. Vesting service continues.

Unpaid leave

No compensation for annual Company Credit. Vesting service continues.

Eligibility for Benefits

Normal retirement

All members at or after their Normal Retirement Date.

Early retirement

Any time after attainment of age 55 and completion of five years of vesting. Applicable only to grandfathered benefits.

Postponed retirement

Retirement after Normal Retirement Date.

Vested termination

All members who terminate employment after completion of three years of Vesting Service, or upon death.

Disability

All members who are unable to work at own occupation solely because of sickness or injury for the first 24 months of disability. After 24 months of disability, the participant is eligible if unable to work at any gainful occupation for which the participant may be able, or may reasonably become qualified by education, training or experience, to perform.

Surviving spouse

The surviving spouse of a Grandfathered Member who retired or is eligible to retire on Normal or Early Retirement and who was married to that spouse for the year preceding commencement and whose grandfathered benefit exceeds his or her Cash Balance Benefit.

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Preretirement death Beneficiary of deceased member.

Benefits Paid Upon the Following Events

Normal retirement For Grandfathered Employees, the better of the monthly grandfathered benefit or the Cash Balance Benefit determined as of Normal Retirement Date. For all other employees, the Cash Balance Benefit determined as of Normal Retirement Date.

Early retirement For Grandfathered Employees, the better of:

- (1) The monthly grandfathered retirement benefit reduced by 3% per year for each year commencement precedes age 62, and
- (2) The Cash Balance Benefit determined as of the Early Retirement Date.

For all other employees, the Cash Balance Benefit determined as of the Early Retirement Date.

Deferred vested retirement The accrued Normal Retirement Benefit (better of Cash Balance and Grandfathered Benefits, if eligible), payable at Normal Retirement Date or actuarially reduced and payable at any age.

Disability The greater of (1) or (2):

- (1) Accrued Grandfathered Retirement Benefit reduced as in the Early Retirement Benefit. If retirement occurs prior to age 55, the benefit is further reduced actuarially from age 55. The Disability Retirement Benefit will reflect Accredited Service that accrued (at most recent rate of base earnings) to a member while receiving benefits under the Company's LTD plan.
- (2) The Cash Balance Benefit with continued Company Credits while disabled.

Benefit (1) applies for Grandfathered Employees only.

Preretirement death Better of (1) or (2):

- (1) The grandfathered monthly benefit as if the employee commenced a 60% qualified joint and survivor benefit at his earliest retirement date
- (2) Annuity equivalent of Cash Balance account or the cash balance account.

Benefit (1) applies for a Grandfathered Employee whose beneficiary is his or her spouse.

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Surviving spouse benefits

A benefit payable for life equal to 30% of the single life annuity payable to the grandfathered member. The spouse's benefit is actuarially reduced for each year by which the spouse is more than ten years younger than the member. Payable to Grandfathered Employees only.

Other Plan Provisions

Forms of payment

- Grandfathered employees The following are available for Grandfathered Employees for both the Grandfathered Benefit and the Cash Balance Benefit:
 - Full lump sum payment.
 - Combination of partial lump sum (25%, 50% or 75% of full lump sum) with remainder paid as a monthly benefit (see below).
 - Monthly payment:
 - Single life annuity.
 - Optional joint annuities (spouse or other beneficiary).
 - Available in 40%, 50%, 60%, 75%, 100%.
 - Can elect pop-up and/or level income options.
 - Automatic company-paid 30% surviving spouse annuity included in Grandfathered Benefit annuity if terminate on or after age 55 and married at least one year. Cash Balance Benefit is actuarially reduced for this feature.

A one-time option to elect a lump sum of the accrued benefit for terminated vested participants whose benefit was determined in no way by reference to either the AEP or CSW cash balance formulas was offered during the period from May 1, 2012 through June 30, 2012. Participants eligible for the window were also permitted to elect any of the other optional forms of payment generally applicable to such a participant under the normal terms of the plan document. Any participant who elected to commence benefits under this window, regardless of lump sum or annuity election, had a benefit commencement date of August 1, 2012.

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- Employees hired on or after January 1, 2001
 - The following are available for those hired on or after January 1, 2001:
 - Full lump sum payment.
 - Combination of partial lump sum (25%, 50% or 75% of full lump sum) with remainder paid as a monthly benefit (see below).
 - Monthly payment:
 - Single life annuity.
 - Joint annuities (spouse or other beneficiary).
 - Available in 50%, 75%, 100%.

Form of payment conversion for non-417(e) covered conversions

- Cash balance 7.50% interest and the applicable 417(e) Mortality Table.
- Grandfathered benefit 7.50% interest and the 1974 George B. Buck Mortality Table.

Pension Increases

None.

Plan Participants' Contributions

Prior to January 1, 1978, employee contributions were required as a condition of Membership. In May and June of 1981, Members were permitted an election to withdraw those contributions. Those who did not elect to withdraw have retirement benefits based on a formula that differs from the formulas previously described in this section. However, the number of nonelecting Members is so small that special plan provisions for that group have not been included in this summary.

Maximum on benefits and pay

All benefits and pay for any calendar year may not exceed the maximum limitations for that year as defined in the Internal Revenue Code. The plan provides for increasing the dollar limits automatically as such changes become effective. Increases in the dollar limits are assumed for determining pension cost but not for determining contributions.

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Benefits not valued

A small portion of the population made employee contributions to the plan. Because the amount of these contributions is not material to the plan, they are not part of the valuation.

Participants who were employees of Columbus Southern Power (CSP) at the time AEP acquired that company have a frozen benefit under the CSP benefit formula at December 31, 1986. Benefits for these participants are the greater of an all-service AEP benefit and a two-part benefit consisting of the frozen CSP benefit plus an AEP benefit accrued from January 1, 1987. Because this applies to a small portion of the population and the CSP frozen benefit is not often the greater benefit for these participants, this benefit is not valued.

Plan status

Ongoing.

Future Plan Changes

Willis Towers Watson is not aware of any future plan changes that are required to be reflected.

Changes in Benefits Valued Since Prior Year

None.

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Summary of plan provisions covered by the former West Retirement Plan

Plan Provisions

Effective Date	January 1940. Restated effective January 1, 1997.
Recent Amendments	Plan was merged with and into the American Electric Power System Retirement Plan, which was most recently amended and restated effective January 1, 2017.
Covered Employees	All full-time employees of a Participating Company employed by CSW before January 1, 2001, and not covered by a union (that has not bargained for coverage) or another pension plan provided by AEP. Part-time employees of the Company had to work more than 1,000 hours in the first anniversary year or subsequent calendar years.
Participation Date	Date of becoming a covered employee

Definitions

Grandfathered employee	Employees who were at least age 50 with ten years of vesting service of July 1, 1997.
Vesting service	All service from date of hire in completed years.
Credited service	The aggregate of: For the period prior to January 1, 1976: (1) The number of full years in the last continuous period that employee was a participant after June 30, 1970, plus (2) Credited service under any prior plan if service extended to July 1, 1970. For the period beginning on or after January 1, 1976, the number of full years of service.
Cash balance pay	Pay received during the year, including base pay, overtime, shift differential/Sunday premium pay and incentive pay, subject to IRS limits
Final average pay	Highest average annual earnings (base pay only) during any 36 consecutive months in the 120 months before retirement. Any changes in earnings within the last three months before retirement will not be taken into account.
Normal retirement date (NRD)	The first day of the calendar month on or following the member's 65 th birthday.

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Cash balance account Recordkeeping account to which annual interest credits and annual company credits are credited. The cash balance account is updated at the end of each plan year and is equal to:

$$\begin{array}{r} \text{Cash Balance Account as of the} \\ \text{end of the prior plan year} \\ + \\ \text{Interest Credits} \\ + \\ \text{Company Credits} \end{array}$$

Cash balance benefit Cash Balance Account converted to a monthly annuity

Interest credits Interest credits are applied to beginning of year account balance on December 31 each year.

Based on the average 30-year Treasury Bond rate for November of the previous year.

Minimum of 4%.

Company credits Applied to account balance on December 31 or termination date if earlier.

Amount is a percentage of eligible pay received during the year, based on age plus years of Vesting Service (age and service in completed whole years as of December 31).

<i>Age Plus Years of Service</i>	<i>Annual Company Credit</i>
Less than 30	3.0%
30 – 39	3.5%
40 – 49	4.5%
50 – 59	5.5%
60 – 69	7.0%
70+	8.5%

Monthly Grandfathered Benefit Greater of (1) or (2) below with automatic cost of living adjustments upon retirement:

(1) Basic benefit — An annual amount equal to:

The aggregate of a participant's (a) earned benefit (if any) under any prior plan or acquired Company pension plan under which no election was made to receive a paid-up annuity; and (b) participant contributions without interest for the period commencing on or after July 1, 1970. For the period after September 1, 1980, participants will be deemed to have made contributions at the rate of 2% annually of the participant's annual rate of earnings as of January 1.

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- (2) Minimum benefit:
1-2/3% of final average annual earnings less 50% of participant's annual primary Social Security benefit times years of credited service up to 30 years.

Minimum benefits

The benefit payable will never be less than the frozen accrued benefit as of July 1, 1997, under the prior plan.

Primary Social Security benefit

The annual amount payable under the Social Security Act as amended in effect at the employee's date of retirement. The date as of which the amount is to be determined is:

- (1) In the case of an employee (including deferred vested employees) retiring on or after normal retirement date, normal retirement date.
- (2) In the case of an employee retiring prior to normal retirement date, the later of employee's 62nd birthday or actual retirement date.

Early retirees and deferred vested employees are assumed to have no earnings after termination in determining the amount of this benefit.

Long-term disability and paid leaves

Participants do not receive company credits while on long-term disability. For the grandfathered formula, the final average pay will be determined as of the date on which the participant became disabled. Vesting service continues.

Unpaid leave

No compensation for annual compensation credit. Vesting service continues.

Eligibility for Benefits

Normal retirement

All members at or after their Normal Retirement Date

Early retirement

Any time after attainment of age 55 and completion of five years of vesting

Postponed retirement

Retirement after NRD.

Vested

The participant's cash balance account is 100% vested when any one of the following applies:

- (1) Three years of vesting service
- (2) Attainment of age 55 while an employee
- (3) Death prior to termination
- (4) Upon disability.

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Disability	All participants who become permanently and totally disabled. Permanent and total disability is determined by reference to the LTD plan covering that participant.
Surviving spouse	The surviving spouse of a participant who retired or is eligible to retire on normal or early retirement.
Preretirement death	Beneficiary of participant who dies after becoming vested.

Benefits Paid Upon the Following Events

Normal retirement Grandfathered employees must elect either the cash balance or the grandfathered formula. For purposes of this valuation, the employee is assumed to elect the formula with the higher present value. Employees with a prior plan frozen benefit get the better of the cash balance benefit and the prior plan frozen benefit. For all other employees, the Cash Balance Benefit is determined as of Normal Retirement Date.

Early retirement

Greater of (1) if applicable or (2):

- (1) The grandfathered accrued benefit and the prior plan frozen are payable subject to reduction according to the following schedule if payments commence prior to the normal retirement date.

<i>Age at Retirement</i>	<i>Percent of Benefit Payable</i>
64	100%
63	100%
62	100%
61	95%
60	90%
59	84%
58	78%
57	72%
56	66%
55	60%

- (2) The Cash Balance Benefit determined as of the Early Retirement Date.

Deferred vested retirement

Greater of (1) if applicable or (2):

- (1) Grandfathered accrued benefit payable at age 65, or if earlier reduced 5% per year from age 65, 6% per year from age 60 and 7.5% per year compounded from age 55.
- (2) Vested cash balance account.

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Disability retirement

The greatest of grandfathered accrued benefit, if eligible, based on projected service and frozen pay deferred to age 65, prior plan frozen benefit if eligible and cash balance account with continued pay credits.

Preretirement death

If the beneficiary is the spouse and the participant is a grandfathered/protected plan participant, then:

- (1) For an active participant who dies on or after 55th birthday but before retirement, a monthly benefit equal to 50% of the benefit accrued to the date of death without reduction for early retirement is payable immediately as a life annuity to a qualifying spouse.
- (2) For an active participant who dies after completing five or more years of vesting service but before age 55, a deferred monthly benefit equal to 50% of the benefit accrued to the date of death reduced as for early retirement is payable as a life annuity to a qualifying spouse. Benefit commencement is deferred to when the deceased participant would have attained age 55.
- (3) For a deferred vested participant who dies before benefits commence, a monthly benefit equal to 50% of the deferred vested benefit reduced for early commencement (as for deferred vesteds) is payable as a life annuity to a qualifying spouse. If death occurs before age 55, the benefit to the spouse is deferred to when the deceased participant would have attained age 55.

The spouse's benefit is actuarially reduced for each year by which the spouse is more than five years younger than the participant.

For all employees, the minimum benefit is the cash balance account immediate annuity, which is also payable if the beneficiary is not the participant's spouse.

Other Plan Provisions

Form of payment

The following are available for those participants who did not work an hour of service on or after January 1, 2003:

- Full lump sum payment.
- Monthly payment:
 - Single life annuity.
 - 50% joint annuity (spouse or other beneficiary).

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A one-time option to elect a lump sum of the accrued benefit for terminated vested participants whose benefit was determined in no way by reference to either the AEP or CSW cash balance formulas was offered during the period from May 1, 2012 through June 30, 2012. Participants eligible for the window were also permitted to elect any of the other optional forms of payment generally applicable to such a participant under the normal terms of the plan document. Any participant who elected to commence benefits under this window, regardless of lump sum or annuity election, had a benefit commencement date of August 1, 2012.

The following are available for those participants who work an hour of service on or after January 1, 2003:

- Full lump sum payment.
- Combination of partial lump sum (25%, 50% or 75% of full lump sum) with remainder paid as a monthly benefit (see below).
- Monthly payment:
 - Single life annuity.
 - Joint annuities (spouse or other beneficiary).
 - Available in 50%, 75%, 100%.

Form of payment conversion for non-417(e) covered conversions

- Cash balance
7.50% interest and the applicable 417(e) Mortality Table
- Grandfathered benefit
Factors as specified in Tables I, II, III and IV of Exhibit A to the American Electric Power System Retirement Plan document. 7.50% interest and the 1951 Group Annuity male mortality table to the extent not covered by Tables I, II, III and IV.

Pension Increases None.

Member Contributions None.

Maximum on benefits and pay All benefits and pay for any calendar year may not exceed the maximum limitations for that year as defined in the Internal Revenue Code. The plan provides for increasing the dollar limits automatically as such changes become effective. Increases in the dollar limits are assumed for determining pension cost but not for determining contributions.

Plan status Continuing accruals. All new entrants to plan are covered under former East plan provision.

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Future Plan Changes

Willis Towers Watson is not aware of any future plan changes that are required to be reflected.

Changes in Benefits Valued Since Prior Year

None.

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Schedule SB, Line 22 Description of Weighted Average Retirement Age as of January 1, 2018

See Appendix A for retirement rates. The average retirement age for Line 22 was calculated by determining the average age at retirement for those current active participants expected to reach retirement, based on all current decrements assumed.

Retirement Age	Assumed Rate	Participants at Beginning	Participants Retiring: (2)x(3)	Weighted Value (1)x(4)
(1)	(2)	(3)	(4)	(5)
55	0.01	1000	10.00	550.00
56	0.01	990	9.90	554.40
57	0.01	980	9.80	558.66
58	0.06	970	58.22	3,376.64
59	0.06	912	54.72	3,228.77
60	0.06	857	51.44	3,086.48
61	0.16	806	128.95	7,865.73
62	0.16	677	108.31	6,715.53
63	0.16	569	90.98	5,732.03
64	0.13	478	62.10	3,974.21
65	0.13	416	54.02	3,511.58
66	0.13	362	47.00	3,102.08
67	0.13	315	40.89	2,739.70
68	0.13	274	35.58	2,419.11
69	0.13	238	30.95	2,135.58
70	1.00	207	<u>207.13</u>	<u>14,499.08</u>
			1,000.00	64,049.57

$$64,049.57 / 1,000 = 64$$

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Schedule SB, Part V Statement of Actuarial Assumptions/Methods

Economic Assumptions

Interest rate basis:

- Applicable month (published) October 2017
- Yield curve basis Segment rates

Funding interest rates:

	Reflecting Corridors	Not Reflecting Corridors
■ First segment rate	3.92%	1.76%
■ Second segment rate	5.52%	3.74%
■ Third segment rate	6.29%	4.63%
■ Effective interest rate	5.59%	3.90%

Annual rates of increase

■ Compensation:

	Age	Rate
— Representative rates		
	< 26	12.00%
	26 – 30	8.50%
	31 – 35	7.00%
	36 – 40	6.00%
	41 – 45	5.00%
	46 – 50	4.00%
	> 50	3.50%
— Weighted average		4.85%

- Cash balance crediting rate 4.00%
- Lump sum/annuity conversion rate October 2017 segment rates
- Future Social Security wage bases 4.00%
- Statutory limits on compensation N/A
- Expected rate of return on assets for prior year 6.00% but not greater than the third segment rate

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Demographic Assumptions

Inclusion Date The valuation date coincident with or next following the date on which the employee becomes a participant.

New or rehired employees It was assumed there will be no new or rehired employees.

Mortality

- **Healthy** Separate rates for non-annuitants (based on RP-2000 "Employees" table without collar or amount adjustments, projected to 2033 using Scale AA and annuitants (based on RP-2000 "Healthy Annuitants" table without collar or amount adjustments), projected to 2025 using Scale AA.
- **Disabled** Post-1994 current liability disabled
- **Lump sum/annuity conversion** Applicable 417(e) IRS Mortality Table

Termination Rates varying by age and service:

Percentage leaving during the year		
Attained Age	Less than five years of service	Five or more years of service
< 25	8.00%	7.30%
25 – 29	8.00%	5.00%
30 – 34	8.00%	4.20%
35 – 39	8.00%	3.40%
40 – 44	8.00%	2.50%
45 – 49	8.00%	1.90%
50 +	8.00%	1.70%

Disability Rates apply to employees not eligible to retire and vary by age and sex as indicated by the following sample values:

Percentage becoming disabled during the year		
Age	Male	Female
20	0.060%	0.090%
30	0.060%	0.090%
40	0.074%	0.110%
50	0.178%	0.267%
60	0.690%	1.035%

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Retirement

Rates varying by age; average retirement age 64:

Percentage retiring during the year	
Age	Rate
55 – 57	1.00%
58 – 60	6.00%
61 – 63	16.00%
64 – 69	13.00%
70 +	100.00%

Benefit commencement date:

- Preretirement death benefit The later of the death of the active participant or the date the participant would have attained age 55.
- Deferred vested benefit (active participants) The later of age 55 or termination of employment.
- Deferred vested benefit (current deferred vested) The later of age 65 or current age
- Disability benefit Upon disablement.
- Retirement benefit Upon termination of employment.

Form of payment

40% lump sum; 60% annuity for retirement eligible East grandfathered participants and 75% lump sum; 25% annuity for all other participants. Married participants are assumed to elect the 50% joint and survivor annuity and unmarried participants are assumed to elect the single life annuity. No other optional form of payment election is assumed.

For current deferred vested participants with a cash balance type benefit, 100% lump sum is assumed. For all other current deferred vested participants 100% annuity is assumed.

Percent married

80% of male participants; 70% of female participants.

Spouse ages

Wives are assumed to be three years younger than husbands.

Valuation pay

2018 base salary pay (Grandfathered) – not estimated due to freeze of final average pay accruals at December 31, 2010.

2018 expanded pay (Cash Balance) – sum of the following updated one year according to the salary increase assumption:

- (i) 2018 base salary
- (ii) a 15% increase for overtime eligible employees and a target bonus percent increase for incentive-eligible employees

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At-risk assumptions If at-risk calculations are required, all participants eligible to elect benefits during the current and subsequent ten plan years are assumed to commence benefits at the earliest possible date under the plan, but not before the end of the current plan year, except in accordance with the regular valuation assumptions. In addition, all participants (not just those eligible to begin benefits within the next 11 years) are assumed to elect the most valuable form of benefit under the plan, which is usually a joint and survivor form of payment.

Timing of benefit payments Annuity payments are payable monthly at the beginning of the month and lump sum payments are payable on date of decrement.

Methods

Valuation date First day of plan year.

Funding target Present value of accrued benefits.

Target normal cost Present value of benefits expected to accrue during plan year plus plan-related expenses expected to be paid from the trust (based on actual trust expenses paid in previous year, adjusted by the difference between the prior and expected current year PBGC premiums).

Actuarial value of assets Average of the fair market value of assets on the valuation date and the six immediately preceding months, adjusted for contributions, benefit/expense payments and expected investment returns. The average asset value must be within 10% of fair value, including contributing receivable. The method of computing the actuarial value of assets complies with rules governing the calculation of such values under PPA.

These rules produce smoothed values that reflect the underlying market value of plan assets but fluctuate less than the market value. As a result, the actuarial value of assets will be lower than the market value in some years and greater in other years. However, over the long term under PPA's smoothing rules, the method has a bias to produce an actuarial value of assets that is below the market value of assets.

Benefits Not Valued All benefits were valued except:

- Any liabilities that may be reinstated in the event of reemployment
- The alternate benefit formula for members who did not elect to withdraw their employee contributions
- Any liabilities relating to members' unwithdrawn employee contributions
- Liabilities related to special benefits as a result of termination due to downsizing and restructuring

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Data Sources

Willis Towers Watson used participant and asset data as of January 1, 2018, supplied by Mercer, the third party administrator for AEP. Data were reviewed for reasonableness and consistency, but no audit was performed. Based on discussions with the plan sponsor, assumptions or estimates were made when data were not available, and the data was adjusted to reflect any significant events that occurred between the date the data was collected and the measurement date. To the extent that data were not provided, estimates were made based on prior year information.

The Company also provided the amounts recognized in accumulated other comprehensive income as of the end of the December 31, 2017 fiscal year and amounts recognized in other comprehensive income in the December 31, 2017 fiscal year.

Assumptions Rationale - Significant Economic Assumptions for Contributions

Discount rate	The basis chosen was selected by the plan sponsor from among choices prescribed by law, all of which are based on observed market data over certain periods of time.
Cash Balance Interest crediting rate	The plan credits interest to cash balance accounts using the 30-year Treasury rate for the September of the preceding year with a minimum rate of 4.00%. The assumption is based on the plan sponsor's long-term expectations of yields on U.S. Treasuries. We believe that the selected assumption does not significantly conflict with what would be reasonable based on market conditions at the measurement date.
Lump sum conversion rate	As required by IRC 430, lump sum benefits are valued using "annuity substitution", so that the interest rates assumed are effectively the same as described above for the discount rate.
Rates of increase in:	
■ Compensation	Rates of increase in compensation were based on an experience study conducted in 2014, with annual consideration of whether any conditions have changed that would be expected to produce different results in the future.
■ National average wages (NAW) (e.g., Social Security wage bases)	The assumed NAW is based on assumed CPI as shown below, plus assumed increases in real wages (the portion of GDP increases that becomes part of wages). Such assumed future increases in real wages are based on a combination of historical averages and an expectation that the future rates will be lower (higher) than historical averages.
■ Increases in statutory limits (CPI)	The assumed CPI is based on a combination of historical average CPI, current conditions and an assumed progression from recently experienced CPI to the long-term expected level. The final assumption represents a composite of current rates and long term expected rates.

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Assumptions Rationale - Significant Demographic Assumptions

Mortality	Assumptions used for accounting purposes were selected by the plan sponsor and, as required by U.S. GAAP, represent a best estimate of future experience. Assumptions used for contribution purposes are as prescribed by IRC §430(h). Note that the plan sponsor has decided, as allowed by regulation §1.430(h)(3)-1, to delay until the 2019 plan year updating the required mortality table to reflect the RP-2014 study and subsequent Society of Actuaries studies.
Termination	Termination rates are based on an experience study conducted in 2014, with annual consideration of whether any conditions have changed that would be expected to produce different results in the future Assumed termination rates differ by service because of observed differences in termination rates between employees who have attained at least five years of service and those with less than five years of service.
Retirement	Retirement rates are based on an experience study conducted in 2014, with annual consideration of whether any conditions have changed that would be expected to produce different results in the future.
Form of payment	Rates at which retirees elect lump sums versus annuities are based on an experience study conducted in 2014, with annual consideration of whether any conditions have changed that would be expected to produce different results in the future.

Source of Prescribed Methods

Funding methods	The methods used for funding purposes as described in Appendix A, including the method of determining plan assets, are "prescribed methods set by law", as defined in the actuarial standards of practice (ASOPs). These methods are required by IRC §430, or were selected by the plan sponsor from a range of methods permitted by IRC §430.
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Schedule SB, Part V Summary of Plan Provisions

Summary of plan provisions covered by the former East Retirement Plan

Plan Provisions

Effective Date	May 1, 1955. Restated effective January 1, 2017.
Recent Amendments	Plan was amended and restated effective January 1, 2017.
Covered Employees	Employees become Members of the Plan on the first day of the month following completion of one year of service.
Participation Date	Date of becoming a covered employee.

Definitions

Grandfathered employee	If, on December 31, 2000, either: – Participating in AEP System Retirement Plan, or – In one-year waiting period for AEP System Retirement Plan participation.
Vesting service	A period of time from employment date to termination date and, in general, includes periods of severance that are not in the excess of 12 months.
Accredited service	Elapsed time from date of hire (from benefit service start date).
Cash balance pay	Pay received during the year, including base pay, overtime, shift differential/Sunday premium pay and incentive pay, subject to IRS limits.
Covered compensation amount	The average of the Social Security taxable wage based during the 35-year period including the year in which the participant retires, dies, becomes disabled or otherwise terminates employment. This monthly average is calculated to the next lower or equal whole dollar amount and is then rounded to nearest \$50.
Final average pay	Average of the highest 36-consecutive months of base pay out of the last 120 months of employment, subject to IRS limits.
Normal retirement date (NRD)	The first day of the calendar month whose first day is nearest the later of the member's 65 th birthday or the completion of five years of Vesting Service.

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Cash balance account Recordkeeping account to which annual Interest Credits and annual Company Credits are credited. The cash balance account is updated at the end of each plan year and is equal to:

$$\begin{array}{r} \text{Cash Balance Account as of the} \\ \text{end of the prior plan year} \\ + \\ \text{Interest Credits} \\ + \\ \text{Company Credits} \end{array}$$

Cash balance benefit Cash Balance Account converted to a monthly annuity

Opening balance For those participating in or eligible for the AEP System Retirement Plan on December 31, 2000, opening balance is calculated as follows:

- Present value of monthly normal retirement benefit determined as of December 31, 2000, and payable at age 65 (or current age if older)
 - Present value determined based on 5.78% interest and IRS regulated mortality (GAM83 Unisex) data for lump sums (postretirement only)

Plus

- Credit for early retirement subsidy for monthly payments beginning at age 62 (or current age if older)

Plus

- Transition credit based on age, service and pay received in 2000 (see "Company Credits" for credit percentages)
 - Age and service based on completed whole years as of December 31, 2000.

For employees hired on or after January 1, 2001, opening balance is \$0.

Interest credits Interest credits are applied to beginning of year account balance on December 31 each year.

Based on the average 30-year Treasury Bond rate for November of the previous year.

Minimum of 4%.

Company credits Applied to account balance on December 31 or termination date if earlier.

Amount is a percentage of eligible pay received during the year, based on age plus years of Vesting Service (age and service in completed whole years as of December 31).

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<i>Age Plus Years of Service</i>	<i>Annual Company Credit</i>
Less than 30	3.0%
30 – 39	3.5%
40 – 49	4.5%
50 – 59	5.5%
60 – 69	7.0%
70+	8.5%

Monthly Grandfathered Benefit

Sum of (1), (2) and (3):

- (1) 1.10% of Final Average Pay x Accredited Service up to 35 years
- (2) 0.50% of Final Average Pay Less Covered Compensation x Accredited Service up to 35 years
- (3) 1.33% of Final Average Pay x Accredited Service between 35 and 45 years

Accruals for the grandfathered benefit ceased on December 31, 2010.

Long-term disability and paid leaves

Participants do not receive company credits while on long-term disability. Vesting service continues.

Unpaid leave

No compensation for annual Company Credit. Vesting service continues.

Eligibility for Benefits

Normal retirement

All members at or after their Normal Retirement Date.

Early retirement

Any time after attainment of age 55 and completion of five years of vesting. Applicable only to grandfathered benefits.

Postponed retirement

Retirement after Normal Retirement Date.

Vested termination

All members who terminate employment after completion of three years of Vesting Service, or upon death.

Disability

All members who are unable to work at own occupation solely because of sickness or injury for the first 24 months of disability. After 24 months of disability, the participant is eligible if unable to work at any gainful occupation for which the participant may be able, or may reasonably become qualified by education, training or experience, to perform.

Surviving spouse

The surviving spouse of a Grandfathered Member who retired or is eligible to retire on Normal or Early Retirement and who was married to that spouse for the year preceding commencement and whose grandfathered benefit exceeds his or her Cash Balance Benefit.

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Preretirement death Beneficiary of deceased member.

Benefits Paid Upon the Following Events

Normal retirement For Grandfathered Employees, the better of the monthly grandfathered benefit or the Cash Balance Benefit determined as of Normal Retirement Date. For all other employees, the Cash Balance Benefit determined as of Normal Retirement Date.

Early retirement For Grandfathered Employees, the better of:

- (1) The monthly grandfathered retirement benefit reduced by 3% per year for each year commencement precedes age 62, and
- (2) The Cash Balance Benefit determined as of the Early Retirement Date.

For all other employees, the Cash Balance Benefit determined as of the Early Retirement Date.

Deferred vested retirement The accrued Normal Retirement Benefit (better of Cash Balance and Grandfathered Benefits, if eligible), payable at Normal Retirement Date or actuarially reduced and payable at any age.

Disability The greater of (1) or (2):

- (1) Accrued Grandfathered Retirement Benefit reduced as in the Early Retirement Benefit. If retirement occurs prior to age 55, the benefit is further reduced actuarially from age 55. The Disability Retirement Benefit will reflect Accredited Service that accrued (at most recent rate of base earnings) to a member while receiving benefits under the Company's LTD plan.
- (2) The Cash Balance Benefit with continued Company Credits while disabled.

Benefit (1) applies for Grandfathered Employees only.

Preretirement death Better of (1) or (2):

- (1) The grandfathered monthly benefit as if the employee commenced a 60% qualified joint and survivor benefit at his earliest retirement date
- (2) Annuity equivalent of Cash Balance account or the cash balance account.

Benefit (1) applies for a Grandfathered Employee whose beneficiary is his or her spouse.

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Surviving spouse benefits

A benefit payable for life equal to 30% of the single life annuity payable to the grandfathered member. The spouse's benefit is actuarially reduced for each year by which the spouse is more than ten years younger than the member. Payable to Grandfathered Employees only.

Other Plan Provisions

Forms of payment

- Grandfathered employees The following are available for Grandfathered Employees for both the Grandfathered Benefit and the Cash Balance Benefit:

- Full lump sum payment.
- Combination of partial lump sum (25%, 50% or 75% of full lump sum) with remainder paid as a monthly benefit (see below).
- Monthly payment:
 - Single life annuity.
 - Optional joint annuities (spouse or other beneficiary).
 - Available in 40%, 50%, 60%, 75%, 100%.
 - Can elect pop-up and/or level income options.
 - Automatic company-paid 30% surviving spouse annuity included in Grandfathered Benefit annuity if terminate on or after age 55 and married at least one year. Cash Balance Benefit is actuarially reduced for this feature.

A one-time option to elect a lump sum of the accrued benefit for terminated vested participants whose benefit was determined in no way by reference to either the AEP or CSW cash balance formulas was offered during the period from May 1, 2012 through June 30, 2012. Participants eligible for the window were also permitted to elect any of the other optional forms of payment generally applicable to such a participant under the normal terms of the plan document. Any participant who elected to commence benefits under this window, regardless of lump sum or annuity election, had a benefit commencement date of August 1, 2012.

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- Employees hired on or after January 1, 2001
- The following are available for those hired on or after January 1, 2001:
- Full lump sum payment.
 - Combination of partial lump sum (25%, 50% or 75% of full lump sum) with remainder paid as a monthly benefit (see below).
 - Monthly payment:
 - Single life annuity.
 - Joint annuities (spouse or other beneficiary).
 - Available in 50%, 75%, 100%.

Form of payment conversion for non-417(e) covered conversions

- Cash balance 7.50% interest and the applicable 417(e) Mortality Table.
- Grandfathered benefit 7.50% interest and the 1974 George B. Buck Mortality Table.

Pension Increases

None.

Plan Participants' Contributions

Prior to January 1, 1978, employee contributions were required as a condition of Membership. In May and June of 1981, Members were permitted an election to withdraw those contributions. Those who did not elect to withdraw have retirement benefits based on a formula that differs from the formulas previously described in this section. However, the number of nonelecting Members is so small that special plan provisions for that group have not been included in this summary.

Maximum on benefits and pay

All benefits and pay for any calendar year may not exceed the maximum limitations for that year as defined in the Internal Revenue Code. The plan provides for increasing the dollar limits automatically as such changes become effective. Increases in the dollar limits are assumed for determining pension cost but not for determining contributions.

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Benefits not valued

A small portion of the population made employee contributions to the plan. Because the amount of these contributions is not material to the plan, they are not part of the valuation.

Participants who were employees of Columbus Southern Power (CSP) at the time AEP acquired that company have a frozen benefit under the CSP benefit formula at December 31, 1986. Benefits for these participants are the greater of an all-service AEP benefit and a two-part benefit consisting of the frozen CSP benefit plus an AEP benefit accrued from January 1, 1987. Because this applies to a small portion of the population and the CSP frozen benefit is not often the greater benefit for these participants, this benefit is not valued.

Plan status

Ongoing.

Future Plan Changes

Willis Towers Watson is not aware of any future plan changes that are required to be reflected.

Changes in Benefits Valued Since Prior Year

None.

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Summary of plan provisions covered by the former West Retirement Plan

Plan Provisions

Effective Date	January 1940. Restated effective January 1, 1997.
Recent Amendments	Plan was merged with and into the American Electric Power System Retirement Plan, which was most recently amended and restated effective January 1, 2017.
Covered Employees	All full-time employees of a Participating Company employed by CSW before January 1, 2001, and not covered by a union (that has not bargained for coverage) or another pension plan provided by AEP. Part-time employees of the Company had to work more than 1,000 hours in the first anniversary year or subsequent calendar years.
Participation Date	Date of becoming a covered employee

Definitions

Grandfathered employee	Employees who were at least age 50 with ten years of vesting service of July 1, 1997.
Vesting service	All service from date of hire in completed years.
Credited service	The aggregate of: For the period prior to January 1, 1976: (1) The number of full years in the last continuous period that employee was a participant after June 30, 1970, plus (2) Credited service under any prior plan if service extended to July 1, 1970. For the period beginning on or after January 1, 1976, the number of full years of service.
Cash balance pay	Pay received during the year, including base pay, overtime, shift differential/Sunday premium pay and incentive pay, subject to IRS limits
Final average pay	Highest average annual earnings (base pay only) during any 36 consecutive months in the 120 months before retirement. Any changes in earnings within the last three months before retirement will not be taken into account.
Normal retirement date (NRD)	The first day of the calendar month on or following the member's 65 th birthday.

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Cash balance account Recordkeeping account to which annual interest credits and annual company credits are credited. The cash balance account is updated at the end of each plan year and is equal to:

$$\begin{array}{r} \text{Cash Balance Account as of the} \\ \text{end of the prior plan year} \\ + \\ \text{Interest Credits} \\ + \\ \text{Company Credits} \end{array}$$

Cash balance benefit Cash Balance Account converted to a monthly annuity

Interest credits Interest credits are applied to beginning of year account balance on December 31 each year.

Based on the average 30-year Treasury Bond rate for November of the previous year.

Minimum of 4%.

Company credits Applied to account balance on December 31 or termination date if earlier.

Amount is a percentage of eligible pay received during the year, based on age plus years of Vesting Service (age and service in completed whole years as of December 31).

<i>Age Plus Years of Service</i>	<i>Annual Company Credit</i>
Less than 30	3.0%
30 – 39	3.5%
40 – 49	4.5%
50 – 59	5.5%
60 – 69	7.0%
70+	8.5%

Monthly Grandfathered Benefit Greater of (1) or (2) below with automatic cost of living adjustments upon retirement:

(1) Basic benefit — An annual amount equal to:

The aggregate of a participant's (a) earned benefit (if any) under any prior plan or acquired Company pension plan under which no election was made to receive a paid-up annuity; and (b) participant contributions without interest for the period commencing on or after July 1, 1970. For the period after September 1, 1980, participants will be deemed to have made contributions at the rate of 2% annually of the participant's annual rate of earnings as of January 1.

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- (2) Minimum benefit:
1-2/3% of final average annual earnings less 50% of participant's annual primary Social Security benefit times years of credited service up to 30 years.

Minimum benefits

The benefit payable will never be less than the frozen accrued benefit as of July 1, 1997, under the prior plan.

Primary Social Security benefit

The annual amount payable under the Social Security Act as amended in effect at the employee's date of retirement. The date as of which the amount is to be determined is:

- (1) In the case of an employee (including deferred vested employees) retiring on or after normal retirement date, normal retirement date.
- (2) In the case of an employee retiring prior to normal retirement date, the later of employee's 62nd birthday or actual retirement date.

Early retirees and deferred vested employees are assumed to have no earnings after termination in determining the amount of this benefit.

Long-term disability and paid leaves

Participants do not receive company credits while on long-term disability. For the grandfathered formula, the final average pay will be determined as of the date on which the participant became disabled. Vesting service continues.

Unpaid leave

No compensation for annual compensation credit. Vesting service continues.

Eligibility for Benefits

Normal retirement

All members at or after their Normal Retirement Date

Early retirement

Any time after attainment of age 55 and completion of five years of vesting

Postponed retirement

Retirement after NRD.

Vested

The participant's cash balance account is 100% vested when any one of the following applies:

- (1) Three years of vesting service
- (2) Attainment of age 55 while an employee
- (3) Death prior to termination
- (4) Upon disability.

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Disability	All participants who become permanently and totally disabled. Permanent and total disability is determined by reference to the LTD plan covering that participant.
Surviving spouse	The surviving spouse of a participant who retired or is eligible to retire on normal or early retirement.
Preretirement death	Beneficiary of participant who dies after becoming vested.

Benefits Paid Upon the Following Events

Normal retirement Grandfathered employees must elect either the cash balance or the grandfathered formula. For purposes of this valuation, the employee is assumed to elect the formula with the higher present value. Employees with a prior plan frozen benefit get the better of the cash balance benefit and the prior plan frozen benefit. For all other employees, the Cash Balance Benefit is determined as of Normal Retirement Date.

Early retirement

Greater of (1) if applicable or (2):

- (1) The grandfathered accrued benefit and the prior plan frozen are payable subject to reduction according to the following schedule if payments commence prior to the normal retirement date.

<i>Age at Retirement</i>	<i>Percent of Benefit Payable</i>
64	100%
63	100%
62	100%
61	95%
60	90%
59	84%
58	78%
57	72%
56	66%
55	60%

- (2) The Cash Balance Benefit determined as of the Early Retirement Date.

Deferred vested retirement

Greater of (1) if applicable or (2):

- (1) Grandfathered accrued benefit payable at age 65, or if earlier reduced 5% per year from age 65, 6% per year from age 60 and 7.5% per year compounded from age 55.
- (2) Vested cash balance account.

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Disability retirement

The greatest of grandfathered accrued benefit, if eligible, based on projected service and frozen pay deferred to age 65, prior plan frozen benefit if eligible and cash balance account with continued pay credits.

Preretirement death

If the beneficiary is the spouse and the participant is a grandfathered/protected plan participant, then:

- (1) For an active participant who dies on or after 55th birthday but before retirement, a monthly benefit equal to 50% of the benefit accrued to the date of death without reduction for early retirement is payable immediately as a life annuity to a qualifying spouse.
- (2) For an active participant who dies after completing five or more years of vesting service but before age 55, a deferred monthly benefit equal to 50% of the benefit accrued to the date of death reduced as for early retirement is payable as a life annuity to a qualifying spouse. Benefit commencement is deferred to when the deceased participant would have attained age 55.
- (3) For a deferred vested participant who dies before benefits commence, a monthly benefit equal to 50% of the deferred vested benefit reduced for early commencement (as for deferred vesteds) is payable as a life annuity to a qualifying spouse. If death occurs before age 55, the benefit to the spouse is deferred to when the deceased participant would have attained age 55.

The spouse's benefit is actuarially reduced for each year by which the spouse is more than five years younger than the participant.

For all employees, the minimum benefit is the cash balance account immediate annuity, which is also payable if the beneficiary is not the participant's spouse.

Other Plan Provisions

Form of payment

The following are available for those participants who did not work an hour of service on or after January 1, 2003:

- Full lump sum payment.
- Monthly payment:
 - Single life annuity.
 - 50% joint annuity (spouse or other beneficiary).

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Valuation Date	January 1, 2018

SCHEDULE SB ATTACHMENTS

A one-time option to elect a lump sum of the accrued benefit for terminated vested participants whose benefit was determined in no way by reference to either the AEP or CSW cash balance formulas was offered during the period from May 1, 2012 through June 30, 2012. Participants eligible for the window were also permitted to elect any of the other optional forms of payment generally applicable to such a participant under the normal terms of the plan document. Any participant who elected to commence benefits under this window, regardless of lump sum or annuity election, had a benefit commencement date of August 1, 2012.

The following are available for those participants who work an hour of service on or after January 1, 2003:

- Full lump sum payment.
- Combination of partial lump sum (25%, 50% or 75% of full lump sum) with remainder paid as a monthly benefit (see below).
- Monthly payment:
 - Single life annuity.
 - Joint annuities (spouse or other beneficiary).
 - Available in 50%, 75%, 100%.

Form of payment conversion for non-417(e) covered conversions

- Cash balance
7.50% interest and the applicable 417(e) Mortality Table
- Grandfathered benefit
Factors as specified in Tables I, II, III and IV of Exhibit A to the American Electric Power System Retirement Plan document. 7.50% interest and the 1951 Group Annuity male mortality table to the extent not covered by Tables I, II, III and IV.

Pension Increases None.

Member Contributions None.

Maximum on benefits and pay All benefits and pay for any calendar year may not exceed the maximum limitations for that year as defined in the Internal Revenue Code. The plan provides for increasing the dollar limits automatically as such changes become effective. Increases in the dollar limits are assumed for determining pension cost but not for determining contributions.

Plan status Continuing accruals. All new entrants to plan are covered under former East plan provision.

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Future Plan Changes

Willis Towers Watson is not aware of any future plan changes that are required to be reflected.

Changes in Benefits Valued Since Prior Year

None.

Plan Name:	American Electric Power System Retirement Plan
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Plan Sponsor:	American Electric Power Service Corporation
Valuation Date	January 1, 2018

The Schedule of Assets (Held at End of Year) in 2018 for the American Electric Power System Retirement Plan is included in the Accountant's Audit report. Please see attachment AEP Retirement Plan 2018 FS.pdf.

The Schedule of Reportable Transactions (5% schedule) for the American Electric Power System Retirement Plan is included in the Accountant's Audit report. Please see attachment 2018 Retirement Plan 2018 FS.pdf.

Please see the Statement by Enrolled Actuary attachment for a signed copy of the 2018 Schedule SB.

SCHEDULE SB ATTACHMENTS

Schedule SB, Line 26 Schedule of Active Participant Data as of January 1, 2018

Attained Age	Years Of Credited Service														
	Under 1			1 to 4			5 to 9			10 to 14			15 to 19		
	No.	Average		No.	Average		No.	Average		No.	Average		No.	Average	
		Comp.	Cash Bal.		Comp.	Cash Bal.		Comp.	Cash Bal.		Comp.	Cash Bal.		Comp.	Cash Bal.
Under 25				285	65,314	4,002	2								
25 to 29				851	71,853	5,917	221	85,898	16,936	10					
30 to 34				765	77,925	7,433	498	91,230	23,155	359	97,774	36,737	9		
35 to 39				559	79,819	8,265	455	93,013	28,836	621	98,659	43,561	203	103,920	61,129
40 to 44				373	83,489	10,260	356	94,505	32,932	552	100,420	51,718	395	108,679	75,295
45 to 49				332	89,887	12,432	266	97,953	39,014	435	100,066	59,360	364	118,532	93,624
50 to 54				194	89,768	14,237	192	95,452	44,153	311	104,744	70,099	342	112,001	100,330
55 to 59				175	86,262	14,150	131	95,405	48,414	260	99,592	76,022	211	116,514	121,408
60 to 64				98	88,571	18,323	84	90,492	52,262	112	100,748	84,821	137	115,999	134,975
65 to 69				19			25	93,386	61,263	33	86,893	78,435	23	100,082	129,740
70 & Over				3			5			9			12		

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 Valuation Date: January 1, 2018

SCHEDULE SB ATTACHMENTS

Schedule SB, Line 26 Schedule of Active Participant Data as of January 1, 2018

Attained Age	Years Of Credited Service														
	20 to 24			25 to 29			30 to 34			35 to 39			40 & up		
	Average			Average			Average			Average			Average		
	No.	Comp.	Cash Bal.	No.	Comp.	Cash Bal.	No.	Comp.	Cash Bal.	No.	Comp.	Cash Bal.	No.	Comp.	Cash Bal.
Under 25															
25 to 29															
30 to 34															
35 to 39	4														
40 to 44	99	107,299	90,482	1											
45 to 49	264	114,475	106,453	193	118,189	126,966	10								
50 to 54	263	107,392	121,793	553	118,160	141,307	483	115,609	152,536	57	105,487	156,568			
55 to 59	211	101,726	123,159	420	108,766	147,843	874	115,888	167,727	962	115,013	172,963	62	108,102	166,702
60 to 64	99	97,669	137,629	211	103,136	152,315	367	110,682	174,340	682	116,511	192,517	392	114,221	184,254
65 to 69	25	91,467	135,957	33	99,624	152,128	45	107,258	176,513	73	112,770	185,940	98	117,325	193,046
70 & Over	2			8			3			5			10		

Plan Name: American Electric Power System Retirement Plan
 EIN / PN: 13-4922641 / 001
 Plan Sponsor: American Electric Power Service Corporation
 Valuation Date: January 1, 2018

SCHEDULE R (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Retirement Plan Information This schedule is required to be filed under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6058(a) of the Internal Revenue Code (the Code). ▶ File as an attachment to Form 5500.	OMB No. 1210-0110 2020 This Form is Open to Public Inspection.
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For calendar plan year 2020 or fiscal plan year beginning and ending

A Name of plan	B Three-digit plan number (PN) ▶	
C Plan sponsor's name as shown on line 2a of Form 5500	D Employer Identification Number (EIN)	

Part I	Distributions
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All references to distributions relate only to payments of benefits during the plan year.

1	Total value of distributions paid in property other than in cash or the forms of property specified in the instructions.....	1	
2	Enter the EIN(s) of payor(s) who paid benefits on behalf of the plan to participants or beneficiaries during the year (if more than two, enter EINs of the two payors who paid the greatest dollar amounts of benefits): EIN(s): _____		
Profit-sharing plans, ESOPs, and stock bonus plans, skip line 3.			
3	Number of participants (living or deceased) whose benefits were distributed in a single sum, during the plan year	3	

Part II	Funding Information (If the plan is not subject to the minimum funding requirements of section 412 of the Internal Revenue Code or ERISA section 302, skip this Part.)
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4	Is the plan administrator making an election under Code section 412(d)(2) or ERISA section 302(d)(2)?	☐ Yes	☐ No	☐ N/A
If the plan is a defined benefit plan, go to line 8.				
5	If a waiver of the minimum funding standard for a prior year is being amortized in this plan year, see instructions and enter the date of the ruling letter granting the waiver. Date: Month _____ Day _____ Year _____			
If you completed line 5, complete lines 3, 9, and 10 of Schedule MB and do not complete the remainder of this schedule.				
6	a Enter the minimum required contribution for this plan year (include any prior year accumulated funding deficiency not waived)	6a		
	b Enter the amount contributed by the employer to the plan for this plan year	6b		
	c Subtract the amount in line 6b from the amount in line 6a. Enter the result (enter a minus sign to the left of a negative amount).....	6c		
If you completed line 6c, skip lines 8 and 9.				
7	Will the minimum funding amount reported on line 6c be met by the funding deadline?	☐ Yes	☐ No	☐ N/A
8	If a change in actuarial cost method was made for this plan year pursuant to a revenue procedure or other authority providing automatic approval for the change or a class ruling letter, does the plan sponsor or plan administrator agree with the change?	☐ Yes	☐ No	☐ N/A

Part III	Amendments
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9	If this is a defined benefit pension plan, were any amendments adopted during this plan year that increased or decreased the value of benefits? If yes, check the appropriate box. If no, check the "No" box.....	☐ Increase	☐ Decrease	☐ Both	☐ No
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Part IV	ESOPs (see instructions). If this is not a plan described under section 409(a) or 4975(e)(7) of the Internal Revenue Code, skip this Part.
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10	Were unallocated employer securities or proceeds from the sale of unallocated securities used to repay any exempt loan?	☐ Yes	☐ No
11	a Does the ESOP hold any preferred stock?	☐ Yes	☐ No
	b If the ESOP has an outstanding exempt loan with the employer as lender, is such loan part of a "back-to-back" loan? (See instructions for definition of "back-to-back" loan.)	☐ Yes	☐ No
12	Does the ESOP hold any stock that is not readily tradable on an established securities market?	☐ Yes	☐ No

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

Schedule R (Form 5500) 2020
v. 200204

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that contributed more than 5% of total contributions to the plan during the plan year (measured in dollars). See instructions. *Complete as many entries as needed to report all applicable employers.*

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month Day Year

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents)

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify):

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month Day Year

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents)

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify):

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month Day Year

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents)

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify):

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month Day Year

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents)

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify):

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month Day Year

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents)

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify):

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month Day Year

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents)

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify):

- 14** Enter the number of deferred vested and retired participants (inactive participants), as of the beginning of the plan year, whose contributing employer is no longer making contributions to the plan for:

a The current plan year. Check the box to indicate the counting method used to determine the number of inactive participants: ☐ last contributing employer ☐ alternative ☐ reasonable approximation (see instructions for required attachment).....

b The plan year immediately preceding the current plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment).....

c The second preceding plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment).....

14a	
14b	
14c	

- 15** Enter the ratio of the number of participants under the plan on whose behalf no employer had an obligation to make an employer contribution during the current plan year to:

a The corresponding number for the plan year immediately preceding the current plan year

b The corresponding number for the second preceding plan year

15a	
15b	

- 16** Information with respect to any employers who withdrew from the plan during the preceding plan year:

a Enter the number of employers who withdrew during the preceding plan year

b If line 16a is greater than 0, enter the aggregate amount of withdrawal liability assessed or estimated to be assessed against such withdrawn employers

16a	
16b	

- 17** If assets and liabilities from another plan have been transferred to or merged with this plan during the plan year, check box and see instructions regarding supplemental information to be included as an attachment. ☐

Part VI Additional Information for Single-Employer and Multiemployer Defined Benefit Pension Plans

- 18** If any liabilities to participants or their beneficiaries under the plan as of the end of the plan year consist (in whole or in part) of liabilities to such participants and beneficiaries under two or more pension plans as of immediately before such plan year, check box and see instructions regarding supplemental information to be included as an attachment..... ☐

- 19** If the total number of participants is 1,000 or more, complete lines (a) through (c)

a Enter the percentage of plan assets held as:
 Stock: 22% Investment-Grade Debt: 61% High-Yield Debt: 3% Real Estate: 5% Other: 9%

b Provide the average duration of the combined investment-grade and high-yield debt:
☐ 0-3 years ☐ 3-6 years ☐ 6-9 years ☒ 9-12 years ☐ 12-15 years ☐ 15-18 years ☐ 18-21 years ☐ 21 years or more

c What duration measure was used to calculate line 19(b)?
☐ Effective duration ☐ Macaulay duration ☒ Modified duration ☐ Other (specify):

- 20 PBGC missed contribution reporting requirements.** If this is a multiemployer plan or a single-employer plan that is not covered by PBGC, skip line 20.

a Is the amount of unpaid minimum required contributions for all years from Schedule SB (Form 5500) line 40 greater than zero? ☐ Yes ☐ No

b If line 20a is "Yes," has PBGC been notified as required by ERISA sections 4043(c)(5) and/or 303(k)(4)? Check the applicable box:
☐ Yes.
☐ No. Reporting was waived under 29 CFR 4043.25(c)(2) because contributions equal to or exceeding the unpaid minimum required contribution were made by the 30th day after the due date.
☐ No. The 30-day period referenced in 29 CFR 4043.25(c)(2) has not yet ended, and the sponsor intends to make a contribution equal to or exceeding the unpaid minimum required contribution by the 30th day after the due date.
☐ No. Other. Provide explanation _____