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

2018

This Form is Open to Public Inspection

Part I Annual Report Identification Information

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

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.)
- [X] 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:
- [X] Form 5558
- [ ] automatic extension
- [ ] the DFVC program
- [ ] special extension (enter description)

Part II Basic Plan Information—enter all requested information

1a Name of plan
ABB INC. CASH BALANCE PENSION PLAN

1b Three-digit plan number (PN) ▶ 301

1c Effective date of plan 01/01/1992

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)

ABB INC.

305 GREGSON DRIVE
CARY, NC 27511

2b Employer Identification Number (EIN)
36-3100018

2c Plan Sponsor's telephone number
919-856-2360

2d Business code (see instructions)
335900

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.	10/10/2019	DANIEL HAGMANN
	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

3a	Plan administrator's name and address [X] 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**	13033
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)**	3766
a(2)	Total number of active participants at the end of the plan year	**6a(2)**	3335
b	Retired or separated participants receiving benefits	**6b**	3876
c	Other retired or separated participants entitled to future benefits	**6c**	4257
d	Subtotal. Add lines **6a(2)**, **6b**, and **6c**	**6d**	11468
e	Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.	**6e**	1044
f	Total. Add lines **6d** and **6e**.	**6f**	12512
g	Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)	**6g**	0
h	Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	**6h**	0
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

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)		**9b** Plan benefit arrangement (check all that apply)	
(1)	[ ] Insurance	**(1)**	[ ] Insurance
(2)	[ ] Code section 412(e)(3) insurance contracts	**(2)**	[ ] Code section 412(e)(3) insurance contracts
(3)	[X] Trust	**(3)**	[X] Trust
(4)	[ ] General assets of the sponsor	**(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)** [X] **R** (Retirement Plan Information)
- **(2)** [ ] **MB** (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary
- **(3)** [X] **SB** (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary

b General Schedules

- **(1)** [X] **H** (Financial Information)
- **(2)** [ ] **I** (Financial Information – Small Plan)
- **(3)** [ ] 0 **A** (Insurance Information)
- **(4)** [X] **C** (Service Provider Information)
- **(5)** [X] **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 2018 Form M-1 annual report. If the plan was not required to file the 2018 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

2018

This Form is Open to Public Inspection

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

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

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

A Name of plan
ABB INC. CASH BALANCE PENSION PLAN

B Three-digit plan number (PN) ▶ 301

C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF
ABB INC.

D Employer Identification Number (EIN)
36-3100018

E Type of plan: [X] Single [ ] Multiple-A [ ] Multiple-B

F Prior year plan size: [ ] 100 or fewer [ ] 101-500 [X] More than 500

Part I Basic Information

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

2 Assets:

a Market value	**2a**	773173217
b Actuarial value	**2b**	742732806

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	4705	200273461	200273461
b For terminated vested participants	4562	119849198	119849198
c For active participants	3766	346251706	346251706
d Total	13033	666374365	666374365

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**	5.49 %
6 Target normal cost	**6**	2900000

Statement by Enrolled Actuary

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

SIGN HERE

Signature of actuary — Date: 09/26/2019

JOHN D. STEELE — Type or print name of actuary

17-05326 — Most recent enrollment number

WILLIS TOWERS WATSON US LLC — Firm name

203-326-5400 — Telephone number (including area code)

3001 SUMMER STREET
FLOOR 5
STAMFORD, CT 06905

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 [ ]

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)	91815515	0
8	Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	2800000	0
9	Amount remaining (line 7 minus line 8)	89015515	0
10	Interest on line 9 using prior year's actual return of 12.15 %	10815385	0
11	Prior year's excess contributions to be added to prefunding balance:		
	a Present value of excess contributions (line 38a from prior year)		0
	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 5.70 %		0
	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		0
	d Portion of (c) to be added to prefunding balance		0
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)	99830900	0

Part III Funding Percentages

14	Funding target attainment percentage	14	96.47%
15	Adjusted funding target attainment percentage	15	111.45%
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	111.88%
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? [X] Yes [ ] No

b If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? [X] 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
0	0	0	0

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

21 Discount rate:

a Segment rates:

1st segment:	2nd segment:	3rd segment:	
3.92%	5.52%	6.29%	☐ N/A, full yield curve used

b Applicable month (enter code)	**21b**	4
22 Weighted average retirement age	**22**	63

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**	2900000
b Excess assets, if applicable, but not greater than line 31a	**31b**	0

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**	2900000

	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement	2900000	0	2900000

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 C (Form 5500)	Service Provider Information	OMB No. 1210-0110
Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	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.**	**2018** **This Form is Open to Public Inspection.**

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

A Name of plan
ABB INC. CASH BALANCE PENSION PLAN

B Three-digit plan number (PN) ▶ 301

C Plan sponsor's name as shown on line 2a of Form 5500
ABB INC.

D Employer Identification Number (EIN)
36-3100018

Part I Service Provider Information (see instructions)

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). . . . . [X] 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

TRILANTIC CAPITAL MANAGEMENT LLC

26-4600829

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

HARBOURVEST PARTNERS LP

74-3130888

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

WELLINGTON TRUST COMPANY, NA

04-2755549

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

OAKTREE CAPITAL MANAGEMENT, L.P.

26-0189082

(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)

ALIGHT

36-2235791

(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 64 50	NONE	602549	Yes [ ] No [X]	Yes [ ] No [ ]		Yes [ ] No [ ]

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

PIMCO

33-0629048

(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 51 52	NONE	596326	Yes [X] No [ ]	Yes [X] No [ ]	0	Yes [ ] No [X]

(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?
21 50	NONE	383393	Yes [X] No [ ]	Yes [X] No [ ]	0	Yes [ ] No [X]

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)

TOWERS WATSON

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	NONE	257346	Yes [ ] No [X]	Yes [ ] No [ ]		Yes [ ] No [ ]

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

DODGE & COX

94-1441976

(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 51 52	NONE	243892	Yes [X] No [ ]	Yes [X] No [ ]	0	Yes [ ] No [X]

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

GMO EDO FUND

27-2982895

(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 51 52	NONE	233637	Yes [X] No [ ]	Yes [X] No [ ]	0	Yes [X] 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)

ABB BUSINESS SERVICES

36-3100018

(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 50	PLAN SPONSOR	210425	Yes [ ] No [X]	Yes [ ] No [ ]		Yes [ ] No [ ]

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

BROWN ADVISORY

46-1017637

(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 51	NONE	183680	Yes [ ] No [X]	Yes [ ] No [ ]		Yes [ ] No [ ]

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

MACKAY SHEILDS HYAC FUND

26-4248749

(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 51	NONE	156535	Yes [ ] No [X]	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)

MARATHON ASSET MANAGEMENT LLC

95-4328983

(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 51 52	NONE	145677	Yes [X] No [ ]	Yes [X] No [ ]	0	Yes [ ] No [X]

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

DDJ CAPITAL MANAGEMENT LLC

04-3300754

(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 51	NONE	134326	Yes [ ] No [X]	Yes [ ] No [ ]		Yes [ ] No [ ]

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

PARETO INVESTMENT MANAGEMENT

98-0437330

(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 51	NONE	114062	Yes [ ] No [X]	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)

NEUBERGER BERMAN

61-1591182

(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 51 52	NONE	103847	Yes [X] No [ ]	Yes [X] No [ ]	0	Yes [ ] No [X]

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

GRANT THORNTON

36-6055558

(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 50	NONE	58075	Yes [ ] No [X]	Yes [ ] No [ ]		Yes [ ] No [ ]

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

FIDELITY MANAGEMENT

04-2647786

(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 64 50	NONE	27504	Yes [ ] No [X]	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)

ORTEC FINANCE

BOOMPJES 40
ROTTERDAM, ROTTERDAM 3011XB NL

(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?
50 70	NONE	20702	Yes [ ] No [X]	Yes [ ] No [ ]		Yes [ ] No [ ]

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

BLOOMBERG

13-3417984

(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?
49 50	NONE	11820	Yes [ ] No [X]	Yes [ ] No [ ]		Yes [ ] No [ ]

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

PARAMETRIC PORTFOLIO ASSOCIATES LLC

20-0292745

(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 51	NONE	10870	Yes [ ] No [X]	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)

PORTFOLIO TECH

36-4123495

(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 50	NONE	8277	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

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

(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?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

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

(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?
			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:	**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:

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

2018

This Form is Open to Public Inspection.

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

A Name of plan
ABB INC. CASH BALANCE PENSION PLAN

B Three-digit plan number (PN) ▶ 301

C Plan or DFE sponsor's name as shown on line 2a of Form 5500
ABB INC.

D Employer Identification Number (EIN)
36-3100018

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)

a Name of MTIA, CCT, PSA, or 103-12 IE: ABB INC. MASTER TRUST

b Name of sponsor of entity listed in (a): ABB INC.

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)
36-3100018-050	M	680477798

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)

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)

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)

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

2018

This Form is Open to Public Inspection

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

A Name of plan
ABB INC. CASH BALANCE PENSION PLAN

B Three-digit plan number (PN) ▶ 301

C Plan sponsor's name as shown on line 2a of Form 5500
ABB INC.

D Employer Identification Number (EIN)
36-3100018

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		
b Receivables (less allowance for doubtful accounts):			
(1) Employer contributions	1b(1)		
(2) Participant contributions	1b(2)		
(3) Other	1b(3)		
c General investments:			
(1) Interest-bearing cash (include money market accounts & certificates of deposit)	1c(1)		
(2) U.S. Government securities	1c(2)		
(3) Corporate debt instruments (other than employer securities):			
(A) Preferred	1c(3)(A)		
(B) All other	1c(3)(B)		
(4) Corporate stocks (other than employer securities):			
(A) Preferred	1c(4)(A)		
(B) Common	1c(4)(B)		
(5) Partnership/joint venture interests	1c(5)		
(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)		
(10) Value of interest in pooled separate accounts	1c(10)		
(11) Value of interest in master trust investment accounts	1c(11)	772904205	680477798
(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)		

			(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	772904205	680477798
	Liabilities			
g	Benefit claims payable	1g		
h	Operating payables	1h	473944	657325
i	Acquisition indebtedness	1i		
j	Other liabilities	1j		
k	Total liabilities (add all amounts in lines 1g through1j)	1k	473944	657325
	Net Assets			
l	Net assets (subtract line 1k from line 1f)	1l	772430261	679820473

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)		
	(B) Participants	2a(1)(B)		
	(C) Others (including rollovers)	2a(1)(C)		
	(2) Noncash contributions	2a(2)		
	(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)		
	(B) U.S. Government securities	2b(1)(B)		
	(C) Corporate debt instruments	2b(1)(C)		
	(D) Loans (other than to participants)	2b(1)(D)		
	(E) Participant loans	2b(1)(E)		
	(F) Other	2b(1)(F)		
	(G) Total interest. Add lines **2b(1)(A)** through **(F)**	2b(1)(G)		0
	(2) Dividends: **(A)** Preferred stock	2b(2)(A)		
	(B) Common stock	2b(2)(B)		
	(C) Registered investment company shares (e.g. mutual funds)	2b(2)(C)		
	(D) Total dividends. Add lines **2b(2)(A)**, **(B)**, and **(C)**	2b(2)(D)		0
	(3) Rents	2b(3)		
	(4) Net gain (loss) on sale of assets: **(A)** Aggregate proceeds	2b(4)(A)		
	(B) Aggregate carrying amount (see instructions)	2b(4)(B)		
	(C) Subtract line **2b(4)(B)** from line **2b(4)(A)** and enter result	2b(4)(C)		0
	(5) Unrealized appreciation (depreciation) of assets: **(A)** Real estate	2b(5)(A)		
	(B) Other	2b(5)(B)		
	(C) Total unrealized appreciation of assets. Add lines **2b(5)(A)** and **(B)**	2b(5)(C)		0

		(a) Amount	(b) Total
(6) Net investment gain (loss) from common/collective trusts	2b(6)		
(7) Net investment gain (loss) from pooled separate accounts	2b(7)		
(8) Net investment gain (loss) from master trust investment accounts	2b(8)		-32888812
(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)		
c Other income	2c		
d Total income. Add all **income** amounts in column (b) and enter total	2d		-32888812
Expenses			
e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	55888639	
(2) To insurance carriers for the provision of benefits	2e(2)		
(3) Other	2e(3)		
(4) Total benefit payments. Add lines **2e(1)** through **(3)**	2e(4)		55888639
f Corrective distributions (see instructions)	2f		
g Certain deemed distributions of participant loans (see instructions)	2g		
h Interest expense	2h		
i Administrative expenses: (1) Professional fees	2i(1)	319468	
(2) Contract administrator fees	2i(2)	630053	
(3) Investment advisory and management fees	2i(3)	1927451	
(4) Other	2i(4)	955365	
(5) Total administrative expenses. Add lines **2i(1)** through **(4)**	2i(5)		3832337
j Total expenses. Add all **expense** amounts in column (b) and enter total	2j		59720976
Net Income and Reconciliation			
k Net income (loss). Subtract line **2j** from line **2d**	2k		-92609788
l Transfers of assets:			
(1) To this plan	2l(1)		
(2) From this plan	2l(2)		

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) [ ] Unqualified **(2)** [ ] Qualified **(3)** [X] Disclaimer **(4)** [ ] Adverse

b Did the accountant perform a limited scope audit pursuant to 29 CFR 2520.103-8 and/or 103-12(d)? [X] Yes [ ] No

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

(1) Name: GRANT THORNTON LLP **(2)** EIN: 36-6055558

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:

		Yes	No	Amount
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.)	4a		X	
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	

			Yes	No	Amount
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?	4e	X		40000000
f	Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?	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.)	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.)	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?	4k		X	
l	Has the plan failed to provide any benefit when due under the plan?	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 If the plan is a defined benefit plan, is it covered under the PBGC insurance program (See ERISA section 4021.)? ☒ Yes ☐ No ☐ Not determined
If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year 4152912. (See instructions.)

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

2018

This Form is Open to Public Inspection.

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

A Name of plan
ABB INC. CASH BALANCE PENSION PLAN

B Three-digit plan number (PN) ▶ 301

C Plan sponsor's name as shown on line 2a of Form 5500
ABB INC.

D Employer Identification Number (EIN)
36-3100018

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): 04-3192613

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** 389

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**

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 participants on whose behalf no contributions were made by an employer as an employer of the participant for:

a The current year	**14a**	
b The plan year immediately preceding the current plan year	**14b**	
c The second preceding plan year	**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	**15a**	
b The corresponding number for the second preceding plan year	**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	**16a**	
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	**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: 1.0 % Investment-Grade Debt: 40.0 % High-Yield Debt: 12.0 % Real Estate: 0.0 % Other: 47.0 %

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):

Financial Statements and Report of
Independent Certified Public Accountants

ABB Inc. Cash Balance Pension Plan

December 31, 2018 and 2017

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REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

Trustees
ABB Inc. Cash Balance Pension Plan

Report on the financial statements

We were engaged to audit the accompanying financial statements of the **ABB Inc. Cash Balance Pension Plan** (the "Plan"), which comprise the statements of net assets available for benefits as of December 31, 2018 and 2017, the related statements of changes in net assets available for benefits for the years ended December 31, 2018 and 2017, the statements of accumulated plan benefits as of December 31, 2018 and 2017, the related statements of changes in accumulated plan benefits for the years ended December 31, 2018 and 2017, 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 these 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.

Auditor's responsibility
Our responsibility is to express an opinion on these 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.

Basis for disclaimer of opinion
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 certified information described in Note 5, except for comparing such information with the related information included in the financial statements. We have been informed by the Plan administrator that the certifying entity meets the requirements of 29 CFR 2520.103-8. The Plan administrator obtained certifications from this entity as of December 31, 2018 and 2017, and for the years ended December 31, 2018 and 2017, stating that the certified information provided to the Plan administrator is complete and accurate.

Disclaimer of opinion
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. Accordingly, we do not express an opinion on these financial statements.

Report on form and content in compliance with DOL rules and regulations

The form and content of the information included in the financial statements, other than that derived from the certified information described in Note 5, 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.

Grant Thornton LLP

Raleigh, North Carolina
October 4, 2019

Statements of net assets available for benefits

December 31	2018	2017
	$	$
Assets		
Interest in the ABB Inc. Master Trust, at fair value	680,477,798	772,904,205
Total assets	680,477,798	772,904,205
Liabilities		
Accrued expenses	657,325	473,944
Total liabilities	657,325	473,944
Net assets available for benefits	679,820,473	772,430,261

The accompanying notes are an integral part of these financial statements.

Statements of changes in net assets available for benefits

For the years ended December 31	2018	2017
	$	$
Additions to (deductions from) net assets attributed to:		
Plan interest in net investment gain (loss) of the ABB Inc. Master Trust	(32,888,812)	89,202,472
Benefits paid	(55,888,639)	(57,130,648)
Administrative and other expenses	(3,832,337)	(5,552,895)
Net increase (decrease)	(92,609,788)	26,518,929
Net assets available for benefits:		
Beginning of year	772,430,261	745,911,332
End of year	679,820,473	772,430,261

The accompanying notes are an integral part of these financial statements.

Statements of accumulated plan benefits

December 31	2018	2017
	$	$
Actuarial present value of accumulated plan benefits:		
Vested benefits:		
Participants currently receiving payments	274,272,574	252,280,041
Other participants	457,196,160	552,418,473
Total vested benefits	731,468,734	804,698,514
Total actuarial present value of accumulated plan benefits	731,468,734	804,698,514

The accompanying notes are an integral part of these financial statements.

Statements of changes in accumulated plan benefits

For the years ended December 31	2018	2017
	$	$
Actuarial present value of accumulated plan benefits, beginning of year	804,698,514	810,731,566
Increase (decrease) during the year attributable to:		
Benefits accumulated and plan experience	6,521,415	(3,525,299)
Changes in actuarial assumptions	(50,847,313)	24,360,441
Increase for interest due to decrease in discount period	26,984,757	30,262,454
Benefits paid	(55,888,639)	(57,130,648)
Net decrease	(73,229,780)	(6,033,052)
Actuarial present value of accumulated plan benefits, end of year	731,468,734	804,698,514

The accompanying notes are an integral part of these financial statements.

Notes to financial statements

1 Plan Description

The ABB Inc. Cash Balance Pension Plan (the Plan) is a defined benefit pension plan covering substantially all salaried employees of ABB Inc. (the Company or Employer), the Plan Sponsor. A description of the Plan, including vesting and benefit payment provisions, is included in the Plan document. The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974, as amended (ERISA). The latest amendment is Amendment Six dated May 17, 2018.

The Plan was frozen to new participants and for future service credits as of December 31, 2011. Active participants employed on December 31, 2011 were fully vested in their accrued account balance as of that date. Participants' accrued account balances will continue to grow at the Plan's stated interest rate until the participant terminates employment with the Company. As of December 31, 2011, participants will no longer accrue benefits based on compensation. It is the responsibility of the Plan administrator to maintain records of Plan participants, authorize benefit payments and determine employee eligibility and benefit amounts. The Plan offers multiple options for payment including, lump-sum and various annuity options for participants, which have satisfied the vesting requirements under the Plan. A participant who attains age 70½ will commence his or her benefit no later than the April 1 of the calendar year, following calendar year in which he or she retires or he or she turns 70½, whichever is later.

2 Summary of Significant Accounting Policies

Basis of Accounting

The accompanying financial statements have been prepared on the accrual basis of accounting in conformity with United States generally accepted accounting principles.

Recent Accounting Pronouncements

In February 2017, the Financial Accounting Standards Board issued Accounting Standards Update 2017-06, "*Plan Accounting: Employee Benefit Plan Master Trust Reporting.*" The amendments in the ASU clarify presentation requirements for a plan's interest in a master trust and require more detailed disclosures of the plan's interest in the master trust. The amendments also eliminate a redundancy relating to 401(h) account disclosures. The amendments in ASU 2017-06 are effective for plans for fiscal years beginning after December 15, 2018. Management does not expect the new accounting pronouncement to have a material impact on the financial statements.

Payment of Benefits

Benefit payments to participants are recorded upon distribution.

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 amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

Funding Policy

The Company shall make contributions to the Plan as shall be necessary under accepted actuarial principles to meet the requirements of ERISA. Employer contributions are based on an actuarial determination, which provides for funding (a) the annual normal cost for the current year and (b) an amount necessary to amortize the unfunded accrued liability.

It is the Company's intention to only make contributions that are tax deductible. For each of the years ended December 31, 2018 and 2017, the Plan has satisfied the minimum funding requirements of ERISA.

Valuation of Investments and Income Recognition

The assets of the Plan are held in the ABB Inc. Master Trust (Master Trust), along with the assets of certain other plans of the Company. BNY Mellon (the Trustee) is the Trustee of the Master Trust.

Income, including realized and unrealized gains and losses, of the Master Trust is allocated monthly among participating plans based on the relationship of the fair value of the assets of each plan to the total fair value of the assets of the Master Trust as of the end of the preceding month. Employer contributions and benefit payments are applied on a specific basis to each plan.

Assets of the Master Trust are stated at fair value which, as used for financial statement purposes, represents market or current value as reported by the Master Trust's Trustee (see Note 6). The fair value of the Plan's interest in the Master Trust is based on the beginning of the year value of the Plan's interest in the Master Trust plus actual contributions and allocated investment income or loss less actual distributions and allocated administrative expenses.

Investment transactions are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date. Net appreciation or depreciation includes gains and losses on investments bought and sold as well as held during the year.

Administrative Expenses

The Plan's expenses are paid either by the Plan, Master Trust, or the Company, as provided by the Plan document. Expenses that are paid directly by the Company are excluded from these financial statements. Certain expenses incurred in connection with the general administration of the Plan that are paid by the Plan are recorded as deductions in the accompanying statements of changes in net asset available for benefits. In addition, certain investment-related expenses are included in net investment gain or loss of the Master Trust presented in the accompanying statements of changes in net assets available for benefits.

Securities Lending

As of and for the years ended December 31, 2018 and 2017, the Master Trust participated in the BNY Mellon's securities lending program for securities held in custody at the trustee. These securities are lent to certain unrelated third-party brokers in exchange for collateral, usually in the form of cash. Collateralization levels are equal to a percentage of the market value of the borrowed securities. For U.S. securities, collateral shall not be less than 102% of the fair value of the loaned securities, and for non-U.S. securities, collateral shall not be less than 105% of the fair value of the loaned securities unless it is denominated in the same currency as the collateral, in which case it will be 102% of the fair value. Collateral received is invested in overnight cash deposits and US government securities managed by BNY Mellon. The value of loaned securities in the Master Trust amounted to approximately $35,064,000 and $19,886,000 at December 31, 2018 and 2017, respectively. The realized gain from securities lending activities of $30,000 and $21,000 for the years ended December 31, 2018 and 2017, respectively, is included as a component of the net appreciation (depreciation) in fair value of investments in Note 4.

Derivatives

The Plan (through the Master Trust) may enter into foreign currency forward exchange contracts primarily to hedge against foreign currency exchange rate risks on its non-U.S. dollar denominated investment securities. When entering into a forward currency contract, the Plan agrees to receive or deliver a fixed quantity of foreign currency for an agreed-upon price on an agreed future date. The Plan's net equity therein, representing unrealized gain or loss on the contracts, as measured by the difference between the forward foreign exchanges rates at the dates of entry in the contracts and the forward rates at the reporting date is included in the Master Trust's net assets. Realized and unrealized gains and losses are included in the Master Trust's net investment gain (loss). These instruments involve market risk, credit risk or both kinds of risks in excess of the amount recognized in the statement of net assets. Risks arise from the possible inability of counterparties to meet the terms of their contracts and movement in currency and securities values and interest rates.

At December 31, 2018 and 2017, the Master Trust had the following foreign currency forward exchange contracts:

FAIR VALUE OF OUTSTANDING FORWARD CONTRACTS

As of December 31, 2018

Counterparty Allocation of Unrealized Profit / (Loss)		Maturity Date	Total	CHF	EUR	GBP	JPY	HKD
			$	$	$	$	$	$
Australia and New Zealand Banking Group	ANZ	15-Feb-19	USD 515,915	USD 0	USD 0	USD 515,915	USD 0	USD 0
Citibank NA	CTL	15-Feb-19	USD 40,330	USD 0	USD 37,421	(USD 7,969)	USD 10,878	USD 0
Goldman Sachs International	GSL	15-Feb-19	USD 40,620	(USD 1,631)	USD 0	(USD 12,316)	USD 54,567	USD 0
HSBC Bank plc	MDL	15-Feb-19	(USD 20,815)	(USD 82,224)	USD 0	USD 0	USD 60,459	USD 950
JP Morgan Chase	CML	15-Feb-19	USD 56,356	USD 0	USD 0	USD 0	USD 56,356	USD 0
Royal Bank of Canada	RBL	15-Feb-19	(USD 99,644)	USD 0	(USD 105,291)	USD 5,647	USD 0	USD 0
Westpac Banking Corporation	WPL	15-Feb-19	(USD 795,886)	USD 0	(USD 30,451)	USD 0	(USD 765,435)	USD 0
Total fair value of forward contracts as of December 31, 2018			(USD 263,124)	(USD 83,855)	(USD 98,321)	USD 501,277	(USD 583,175)	USD 950

FAIR VALUE OF OUTSTANDING FORWARD CONTRACTS

As of December 31, 2017

Counterparty Allocation of Unrealized Profit / (Loss)		Maturity Date	Total	CHF	EUR	GBP	JPY	HKD
			$	$	$	$	$	$
Australia and New Zealand Banking Group	ANZ	20-Feb-18	(USD 41,773)	USD 0	USD 0	USD 0	(USD 41,773)	USD 0
Citibank NA	CTL	20-Feb-18	(USD 232,745)	USD 0	USD 0	(USD 232,745)	USD 0	USD 0
Goldman Sachs International	GSL	20-Feb-18	(USD 20,939)	USD 0	USD 6,945	(USD 4,661)	(USD 23,223)	USD 0
HSBC Bank plc	MDL	20-Feb-18	(USD 34,570)	USD 5,035	USD 0	USD 0	(USD 41,231)	USD 1,626
JP Morgan Chase	CML	20-Feb-18	(USD 129,510)	(USD 79,539)	(USD 49,971)	USD 0	USD 0	USD 0
Royal Bank of Canada	RBL	20-Feb-18	USD 16,943	USD 5,132	USD 11,811	USD 0	USD 0	USD 0
Westpac Banking Corporation	WPL	20-Feb-18	(USD 385,397)	USD 0	(USD 384,389)	USD 0	(USD 1,008)	USD 0
Total fair value of forward contracts as of December 31, 2017			(USD 827,991)	(USD 69,372)	(USD 415,604)	(USD 237,406)	(USD 107,235)	USD 1,626

The fair value of the foreign currency forward exchange contracts, none of which are accounted for as hedge instruments under FASB ASC 815, *"Derivatives and Hedging,"* are included in the Master Trust's net assets under state and foreign bonds. The realized gain/(loss) from foreign currency forward exchange contracts of $3,729,000 and $285,000 for the years ended December 30, 2018 and 2017, respectively, are included as a component of the net appreciation (depreciation) in fair value of investments in Note 4.

The Master Trust may be required to post collateral on derivatives if the Master Trust is in a net liability position with the counterparty exceeding certain amounts. Additionally, counterparties may immediately terminate derivatives contracts if the Master Trust fails to maintain sufficient asset coverage for its contracts or its net assets decline by stated percentages.

Master Netting Agreements

The Master Trust is subject to master netting agreements, or netting arrangements, with certain counterparties. These agreements govern the terms of certain transactions and reduce the counterparty risk associated with relevant transactions by specifying offsetting mechanisms and collateral posting arrangements at pre-arranged exposure levels. Since different types of transactions have different mechanics and are sometimes traded out of different legal entities of a particular counterparty organization, each type of transaction may be covered by a different master netting arrangement, possibly resulting in the need for multiple agreements with a single counterparty. Master netting agreements are specific to each different asset type; therefore, they allow the Company to close out and net its total exposure to a specified counterparty in the event of a default with respect to any and all the transactions governed under a single agreement with the counterparty.

The following is a summary by counterparty of the Master Trust's net exposure to derivative assets and liabilities, available for offset and net of collateral under a netting agreement at December 31, 2018 and 2017.

As of December 31, 2018:

Derivative Type	Fair Value of Derivative Assets	Fair Value of Derivative Liabilities	Net Exposure
Foreign Currency Contracts:	**$**	**$**	**$**
Australia & New Zealand Banking Group	515,915	-	515,915
Citibank NA	48,299	(7,969)	40,330
Goldman Sachs International	54,567	(13,947)	40,620
HSBC Bank plc	61,409	(82,224)	(20,815)
JP Morgan Chase	56,356	-	56,356
Royal Bank of Canada	5,647	(105,291)	(99,644)
Westpac Banking Corporation	-	(795,886)	(795,886)
Total	742,193	(1,005,317)	(263,124)

As of December 31, 2017:

Derivative Type	Fair Value of Derivative Assets	Fair Value of Derivative Liabilities	Net Exposure
Foreign Currency Contracts:	**$**	**$**	**$**
Australia & New Zealand Banking Group	-	(41,773)	(41,773)
Citibank NA	-	(232,745)	(232,745)
Goldman Sachs International	6,945	(27,884)	(20,939)
HSBC Bank plc	6,661	(41,231)	(34,570)
JP Morgan Chase	-	(129,510)	(129,510)
Royal Bank of Canada	16,943	-	16,943
Westpac Banking Corporation	-	(385,397)	(385,397)
Total	30,549	(858,540)	(827,991)

Investment Risk

The Master Trust provides for investments that are exposed to risks such as interest rate, credit and overall market volatility risk. Due to the level of risk associated with certain investment securities, it is possible that changes in the value of investment securities may occur in the near term and those changes could materially affect the amounts reported in the statements of net assets available for benefits.

Risks and Uncertainties

Plan contributions are made and the actuarial present value of accumulated plan benefits are reported based on certain assumptions pertaining to interest rates, inflation rates and employee demographics, all of which are subject to change. Due to uncertainties inherent in the estimations and assumptions process, it is at least reasonably possible that changes in these estimates and assumptions in the near term would be material to the financial statements.

Subsequent Events

Management evaluated subsequent events for the Plan through October 4, 2019, the date the financial statements were available to be issued, and has determined that there are no material subsequent events.

3 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 the service employees have rendered. Accumulated plan benefits include benefits expected to be paid to (a) retired or terminated employees or other beneficiaries, (b) beneficiaries of employees who have died and (c) present employees or their beneficiaries.

Benefits payable under all circumstances (retirement, death, disability and termination of employment) are included to the extent they are deemed attributable to employee service rendered to the valuation date.

The actuarial present value of accumulated plan benefits as of December 31, 2018 and 2017, was determined by the Plan's actuary, Willis Towers Watson & Company (formerly known as Towers Watson & Company), using employee data supplied by the Company as of January 1, 2018 and 2017, and projected to the respective valuation date, and is that 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 for events such as death, disability, withdrawal or retirement) between the valuation date and the expected date of payment.

The actuarial cost method used to determine the actuarial present value of accumulated plan benefits is the unit credit method. A summary of the significant actuarial assumptions underlying the actuarial valuations as of December 31, 2018 and 2017 are as follows:

Mortality – 2018: Based on the Retirement Plans – Collar specific RP2006 Mortality Table with Scale MP-2018 generational projection split between annuitants and non-annuitants and sex distinct.

Mortality – 2017: Based on the Retirement Plans – Collar specific RP2006 Mortality Table with Scale MP-2017 generational projection split between annuitants and non-annuitants and sex distinct.

Interest: The assumed interest rates utilized to calculate accumulated plan benefits at December 31, 2018 and 2017 were 4.29% and 3.45%, respectively.

Interest Crediting Rate: The assumed interest crediting rate for December 31, 2018 and 2017 was 4.46% and 4.36%, respectively.

Retirement Age – 2018 and 2017: Age 65 for terminated vested employees and the following chart of rates applies for active employees:

Age	Percentage of Employees Expected to Retire Within One Year
55	4
56	5
57-59	6
60	7
61	10
62	12
63	13
64	16
65-69	30
70 and later	100

The ($50,847,313) change in actuarial assumptions for the year ended December 31, 2018, was due to an increase in the interest rate to 4.29%, a change in the mortality table, and an increase in the interest crediting rate. The $24,360,441 change in actuarial assumptions for the year ended December 31, 2017, was due to a decrease in the interest rate to 3.45% and a change in the mortality table.

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.

4 ABB Inc. Master Trust

The Plan's investments are held in the Master Trust, which is a master trust established for the investment of the assets of the Plan and other Company-sponsored retirement plans. Each participating plan has an undivided interest in the Master Trust.

The Master Trust assets are allocated among the participating plans by assigning to each plan those transactions (primarily contributions, benefit payments and plan-specific expenses) that can be specifically identified and by allocating among all plans, in proportion to each plan's beneficial interest in the Master Trust, income and expenses resulting from the collective investment of the assets of the Master Trust.

At December 31, 2018 and 2017, the Plan had a 55.0% and 55.1% interest in the net assets of the Master Trust, respectively.

The following table presents the net assets for the Master Trust as of December 31, 2018 and 2017:

December 31	2018	2017
Assets:	**$**	**$**
Investments:		
Interest-bearing cash	1,991,004	1,535,000
U.S. government securities	189,249,255	217,752,002
Corporate bonds	501,822,698	485,670,748
Corporate stock - preferred	4,404,419	7,265,950
Corporate stock - common	866,002	1,752,294
Partnership / joint venture interests	139,231,397	197,967,423
State and foreign bonds	15,640,254	11,814,273
Collective trusts	330,738,567	342,014,858
103-12 investment entities	276,376	1,257,628
Registered investment companies	79,529,408	135,548,192
Short investments	206,460	(74,504)
Collateral held under securities lending agreement	35,966,691	20,307,894
Total investments	1,299,922,531	1,422,811,758
Receivables:		
Interest receivables	10,646,815	-
Receivables for investments sold	6,365,079	-
Total assets	1,316,934,425	1,422,811,758
Liabilities:		
Payable for investments purchased	43,457,343	-
Obligation to return securities lending collateral	35,966,691	20,307,894
Total liabilities	79,424,034	20,307,894
Net assets	1,237,510,391	1,402,503,864

The amounts reported for collateral held under securities lending agreement and obligation to return securities lending collateral as of December 31, 2017 have been reclassified in these financial statements to enhance consistency with reporting for 2018.

Investment income (loss) of the Master Trust is as follows:

For the years ended December 31	2018	2017
	$	**$**
Net appreciation (depreciation) in fair value of investments	(91,696,913)	131,758,558
Interest	22,754,366	20,257,805
Dividends	9,576,509	10,544,030
Miscellaneous income	27,792	20,805
Net investment (loss) income	(59,338,246)	162,581,198

5 Investments Certified by Trustee

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 Company has obtained a certification from the Trustee as to the completeness and accuracy of the investments and investment activity (except for investments classified as alternative investments and related investment activity, described below) recorded by the Master Trust as of and for the years ended December 31, 2018 and 2017. Additionally, the Company has obtained a certification from the Trustee related to the Plan's interest in the Master Trust and Master Trust investment activity as of and for the years ended December 31, 2018 and 2017. Investment information certified by the Trustee at the Master Trust and Plan levels has not been audited by independent auditors.

At the Master Trust level, the alternative investments and related investment activity as of December 31, 2018 and 2017 and for the years then ended are detailed below:

December 31	2018	2017
	$	$
Private equity investments	11,491,567	19,831,802
Distressed debt	637,579	1,314,616
Fund of funds	3,168,369	5,965,638
Total alternative investments	15,297,515	27,112,056

The private equity investments, distressed debt and fund of funds are included as a component of the balances for partnership/joint venture interests and 103-12 investment entities detailed in Note 4.

At the Master Trust level, net realized and unrealized appreciation (depreciation) for these alternative investments is as follows:

For the years ended December 31	2018	2017
	$	$
Net appreciation (depreciation) in fair value of alternative investments	(2,678,568)	6,709,215

At the Plan level, the Plan's "Interest in the ABB Inc. Master Trust" as reflected in the accompanying statements of net assets available for benefits and the Plan's "Interest in net investment gain of the ABB Inc. Master Trust" in the accompanying statements of changes in net assets available for benefits has also been certified by the Trustee. While the Plan holds an undivided interest in the Master Trust, the certified amounts for the Plans have been adjusted to reflect the Master Trust alternative investments' fair values and investment gain of alternative investments noted above. These amounts represent 1.2% and 4.5% of the Plan's "Interest in the ABB Inc. Master Trust" and "Interest in net investment gain (loss) of the ABB Inc. Master Trust" at December 31, 2018 and 1.9% and 4.1% of the Plan's "Interest in the ABB Inc. Master Trust" and "Interest in net investment gain of the ABB Inc. Master Trust" at December 31, 2017 and for the year then ended.

6 Fair Value Measurements

Investments held by the Master Trust are stated at fair value. Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) 820, *"Fair Value Measurements and Disclosures,"* requires enhanced disclosures about investments that are measured and reported at fair value. ASC 820 clarifies the definition of fair value for financial reporting, establishes a framework for measuring fair value and requires additional disclosures about the use of fair value measurements.

The hierarchy established under ASC 820 gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). As required by

ASC 820, the Master Trust investments are classified within the fair value hierarchy based on the lowest level of input that is significant to the fair value measurement. The three levels of the fair value hierarchy under ASC 820, and its applicability to the Master Trust investments, are described below:

Level 1 Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities.

Level 2 Quoted prices for similar assets or liabilities, or inputs that are observable, either directly or indirectly, for substantially the full term through corroboration with observable market data. Level 2 includes investments valued at quoted prices adjusted for legal and contractual restrictions specific to the security.

Level 3 Pricing inputs are unobservable for the asset or liability, that is, inputs that reflect the reporting entity's own assumptions about the assumptions market participants would use in pricing the asset or liability. Level 3 includes private investments that are supported by little or no market activity.

The determination of where an asset falls in the hierarchy requires significant judgment. The Plan evaluates its hierarchy disclosures each year and changes in economic conditions or valuation techniques may require the transfer of financial instruments from one fair value level to another. However, the Plan expects changes in classifications between levels will be rare. In such instances, the transfer is reported at the beginning of the reporting period.

The methods used to measure the fair value calculation may not be indicative of net realizable value or reflective of future fair values. Furthermore, while management believes the valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

Following is a description of the valuation methodologies used for assets and liabilities measured at fair value. There have been no changes in the methodologies used at December 31, 2018 and 2017:

- Corporate bonds are valued using pricing models maximizing the use of observable inputs for similar securities. This includes basing value on yields currently available on comparable section of issuers with similar credit ratings.
- State and foreign bonds valued at Level 1 are valued at the closing price reported on the active markets on which the individual securities are traded and securities valued at Level 2 are valued using pricing models maximizing the use of observable inputs for similar securities.
- U.S. government securities valued at Level 1 are valued at the closing price reported on the active markets on which the individual securities are traded and securities valued at Level 2 are valued using pricing models maximizing the use of observable inputs for similar securities.
- Corporate stocks valued at Level 1 are valued at the closing price reported on the active markets on which the individual securities are traded and securities valued at Level 2 are valued using closing price reported on the inactive market.
- Registered investment companies are valued at the net asset value (NAV), based on quoted market prices in active markets, of shares held by the Plan at year-end.
- Collective trusts, partnership/joint venture interests, and 103-12 investment entities are valued at net asset value as reported by the respective fund managers based upon the fair value of the underlying investments less liabilities.
- Short investments primarily consists of interest rate swaps which are valued using the income approach which takes into account contract terms as well as multiple inputs which may be observed in the marketplace.

The following table sets forth by level, within the fair value hierarchy, the Master Trust's financial instruments at fair value as of December 31, 2018:

	(Level 1)	(Level 2)	(Level 3)	Total
	$	$	$	$
Investments in the fair value hierarchy:				
Interest-bearing cash	10,000	1,981,004	-	1,991,004
U.S. government securities	170,424,988	18,824,267	-	189,249,255
Corporate bonds	-	501,822,698	-	501,822,698
Corporate stock - preferred	-	4,404,419	-	4,404,419
Corporate stock - common	866,002	-	-	866,002
State and foreign bonds	-	15,640,254	-	15,640,254
Registered investment companies	79,529,408	-	-	79,529,408
Short investments	-	206,460	-	206,460
Collateral held under securities lending agreement	35,966,691	-	-	35,966,691
Total investments in fair value hierarchy	286,797,089	542,879,102	-	829,676,191
Investments measured at NAV:				
Partnership / joint venture interests	-	-	-	139,231,397
Collective trusts	-	-	-	330,738,567
103-12 investment entities	-	-	-	276,376
Total investments measured at NAV	-	-	-	470,246,340
Total investments	-	-	-	1,299,922,531

The following table sets forth by level, within the fair value hierarchy, the Master Trust's financial instruments at fair value as of December 31, 2017:

	Instruments at Fair Value			
	(Level 1)	(Level 2)	(Level 3)	Total
	$	$	$	$
Investments in the fair value hierarchy:				
Interest-bearing cash	-	1,535,000	-	1,535,000
U.S. government securities	186,690,555	31,061,447	-	217,752,002
Corporate bonds	-	485,670,748	-	485,670,748
Corporate stock - preferred	-	7,265,950	-	7,265,950
Corporate stock - common	1,752,294	-	-	1,752,294
State and foreign bonds	1,320,210	10,494,063	-	11,814,273
Registered investment companies	135,548,192	-	-	135,548,192
Short investments	-	(74,504)	-	(74,504)
Collateral held under securities lending agreement	20,307,894	-	-	20,307,894
Total investments in fair value hierarchy	345,619,145	535,952,704	-	881,571,849
Investments measured at NAV:				
Partnership / joint venture interests	-	-	-	197,967,423
Collective trusts	-	-	-	342,014,858
103-12 investment entities	-	-	-	1,257,628
Total investments measured at NAV	-	-	-	541,239,909
Total investments	-	-	-	1,422,811,758

In accordance with ASC 820, certain investments that were measured at net asset value per share (or its equivalent) have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the line items presented in Note 4.

There were no significant transfers among investment levels during the years ended December 31, 2018 and 2017.

The following table summarizes investments measured at fair value based on the NAV per share practical expedient as of December 31, 2018:

	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
	$	$	$	$
Partnership / joint venture interests (a)	139,231,397	-	Monthly	30-60 Days
Collective trusts (b)	330,738,567	-	Monthly	30-60 Days
103-12 investment entities (c)	276,376	-	N/A	N/A
Total	470,246,340	-		

The following table summarizes investments measured at fair value based on the NAV per share practical expedient as of December 31, 2017:

	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
	$	$	$	$
Partnership / joint venture interests (a)	197,967,423	-	Monthly	30-60 Days
Collective trusts (b)	342,014,858	-	Monthly	30-60 Days
103-12 investment entities (c)	1,257,628	-	N/A	N/A
Total	541,239,909	-		

a) The partnership/joint venture interests investments are invested within alternative investments such as private equity and fund of funds. The investment objective of these investments is to achieve longer term growth of capital, which does so with limited liquidity. Within the limited partnerships, there is also a limited partnership that has an investment objective of seeking to outperform the S&P 500. This fund does require monthly notice to provide liquidity.

b) The collective trust investments include an international equity fund and emerging market fixed income bond fund. The investment objective of the international equity fund is to seek capital appreciation through investments in a portfolio of securities issued by companies predominantly in companies contained in the MSCI EAFE Index. The investment objective of the emerging market fixed income fund is to seek long-term total return through investment in a diversified portfolio of emerging markets debt securities and currency instruments.

c) The 103-12 investment entities are invested in alternative investments with specific requirements under ERISA. The investment objective of these investments is to achieve longer term growth of capital, which does so with limited liquidity.

7 Plan Termination

The Company expects to continue the Plan, but reserves the right to terminate the Plan or discontinue contributions subject to the provisions of ERISA.

In the event the Plan is terminated, the net assets of the Plan will be allocated as prescribed by ERISA and its related regulations, generally to provide the following benefits in the following order to the extent of the sufficiency of such assets, or portions thereof:

First, to that portion of a participant's accrued benefit which is derived from mandatory contributions to the Plan;

Second, equally among benefits of participants in the following two subcategories;

- In the case of benefits in any pay status three years prior to termination (at the lowest pay level in that period and at the lowest benefit level under the Plan during the five years prior to termination); and
- In the case of benefits which would have been in pay status three years prior to termination had the participants been retired (and their benefits commenced then), at the lowest benefit level under the Plan during the five years prior to termination.

Third, among all other benefits (if any) of participants under the Plan; guaranteed under the termination insurance provisions of ERISA;

Fourth, among all other nonforfeitable (i.e., uninsured and vested) benefits under the Plan; and

Fifth, among all other benefits under the Plan.

Certain benefits under the Plan are insured by the Pension Benefit Guaranty Corporation (PBGC) if the Plan terminates. 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. However, there is a statutory ceiling on the amount of an individual's monthly benefit that the PBGC guarantees. For Plan terminations occurring during 2018 and 2017, that ceiling, which is adjusted annually, was $5,608 and $5,420 per month, respectively. Whether a particular participant's accumulated plan benefit will be paid depends on both the priority of those benefits and the level of benefits guaranteed by the PBGC at that time. Some benefits may be fully or partially provided for by the existing assets and the PBGC guaranty.

8 Income Tax Status

The IRS has determined and informed the Company by a letter dated March 13, 2015, that the Plan and related trust are designed in accordance with applicable sections of the Internal Revenue Code (IRC). Although the Plan has been amended since receiving the determination letter, the Plan administrator believes that the Plan is designed, and is currently being operated, in compliance with the applicable requirements of the IRC and, therefore, believe that the Plan is qualified, and the related trust is tax exempt.

Accounting principles general accepted in the United States of America require plan management to evaluate tax positions taken by the plan and recognize a tax liability if the plan has taken an uncertain position that more-likely-than-not would not be sustained upon examination by the Internal Revenue Service. As of December 31, 2018 and 2017, there are 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.

9 Department of Labor Examination

Currently, the Department of Labor is conducting an examination on the Plan. The years under examination are 2014 through 2016. The Plan is complying with all Department of Labor requests, with the sole outstanding item being the submission of a Voluntary Compliance Program (VCP), which is being drafted by our legal counsel, Drinker Biddle & Reath LLC. This VCP will exempt the plan sponsor from paying excise tax on certain payments to participants.

10 Party-in Interest Transactions

Certain of the Master Trust's assets are invested in funds managed by the Trustee. These transactions qualify as party-in-interest transactions; however, they are exempt from the prohibited transactions rules under ERISA.

SCHEDULE SB ATTACHMENTS

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

	Attained Years of Credited Service[1]										
Attained Age	**Under 1**	**1-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 & Over**	**Total**
Under 25	1	0	0	0	0	0	0	0	0	0	1
25-29	35	7	1	0	0	0	0	0	0	0	43
30-34	49	112	40	0	0	0	0	0	0	0	201
35-39	49	116	95	24	0	0	0	0	0	0	284
40-44	58	114	83	97	16	0	0	0	0	0	368
45-49	54	101	103	113	62	28	0	0	0	0	461
50-54	76	138	102	191	83	128	27	0	0	0	745
55-59	57	93	111	200	71	126	80	15	2	0	755
60-64	44	83	91	161	42	118	53	53	19	1	665
65-69	9	27	18	41	18	38	11	17	11	4	194
70 & over	1	6	2	12	1	6	2	10	5	4	49
Total	433	797	646	839	293	444	173	95	37	9	3,766

[1] Age and service for purposes of determining category are based on exact (not rounded) values.

Plan Name: ABB Inc. Cash Balance Pension Plan
EIN / PN: 36-3100018 / 301
Plan Sponsor: ABB Inc.
Valuation Date: January 1, 2018

SCHEDULE SB ATTACHMENTS

Schedule SB, Line 26
Schedule of Active Participant Data for Cash Balance Plans 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		20 to 24		25 to 29		30 to 34		35 to 39		40 & Over	
	No.	Avg. Bal.	No.	Avg. Bal.	No.	Avg. Bal.	No.	Avg. Bal.	No.	Avg. Bal.	No.	Avg. Bal.	No.	Avg. Bal.	No.	Avg. Bal.	No.	Avg. Bal.	No.	Avg. Bal.
Under 25	1		0		0		0		0		0		0		0		0		0	
25 – 29	35	786	7		1		0		0		0		0		0		0		0	
30 – 34	49	1,233	112	7,318	40	9,015	0		0		0		0		0		0		0	
35 - 39	49	2,260	116	10,687	95	21,550	24	32,066	0		0		0		0		0		0	
40 - 44	58	2,219	114	14,943	83	30,839	97	53,954	16		0		0		0		0		0	
45 - 49	54	2,570	101	17,205	103	38,194	113	72,854	62	87,588	28	80,379	0		0		0		0	
50 - 54	76	5,730	138	24,188	102	47,959	191	100,308	83	124,047	128	140,043	27	198,788	0		0		0	
55 - 59	57	7,558	93	29,289	111	58,643	200	108,232	71	130,690	126	163,809	80	201,061	15		2		0	
60 - 64	44	3,720	83	27,133	91	52,242	161	106,919	42	161,129	118	187,811	53	197,248	53	229,277	19		1	
65 - 69	9		27	23,946	18		41	128,791	18		38	251,727	11		17		11		4	
70 & Over	1		6		2		12		1		6		2		10		5		4	

Plan Name: ABB Inc. Cash Balance Pension Plan
EIN / PN: 36-3100018 / 301
Plan Sponsor: ABB Inc.
Valuation Date: January 1, 2018

SCHEDULE SB ATTACHMENTS

Schedule SB, Part V
Statement of Actuarial Assumptions/Methods

Economic Assumptions

Interest rate basis:

■ Applicable month	September
■ Interest rate basis	3-Segment Rates

Interest rates:	**Reflecting Corridors**	**Not Reflecting Corridors**
■ First segment rate	3.92%	1.75%
■ Second segment rate	5.52%	3.76%
■ Third segment rate	6.29%	4.66%
■ Effective interest rate	5.49%	3.80%

Annual rates of increase

■ Inflation (CPI):	2.25%
■ Compensation:	N/A
■ Future Social Security wage bases:	N/A
■ Statutory limits on compensation and benefits:	N/A

Plan-related expenses	$2,900,000
Interest Crediting Rate	4.36% for 2018 and 5.25% per year thereafter.

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

Alternative disabled life mortality tables as defined under Revenue Ruling 96-7.

Termination

Representative Termination rates not due to Disability, Retirement, and Mortality

Percentage leaving during the year	
Attained Age	**Rate**
20	17.60%
30	11.10%
40	6.90%
50	4.10%
60	2.30%

Disability

One-half of the disability rates in the twelfth valuation of the Railroad Retirement Board (set forward 1 year for males and set back 4 years for females).

SCHEDULE SB ATTACHMENTS

Retirement

For purposes of determining the Funding Target and Target Normal Cost (both disregarding at-risk assumptions), the rates at which participants retire by age are shown below.

Percentage retiring during the year	
Age	**Rate**
55	4.00%
56	5.00%
57-59	6.00%
60	7.00%
61	10.00%
62	12.00%
63	13.00%
64	16.00%
65-69	30.00%
70	100.00%

Age 65 for terminated vested participants.

Benefit commencement date:

- Preretirement death benefit — For actives and solds, upon death. For terminated vested, the later of the death of the participant or the date the participant would have attained eligibility for early retirement benefits.
- Deferred vested benefit — Upon termination of employment, if assumed to elect a lump sum benefit, and at age 65 if assumed to elect an annuity benefit.
- Disability benefit — Upon disability.
- Retirement benefit — Upon termination of employment.

Form of payment

Sold participants are assumed to elect a lump sum benefit. Terminated vested participants are assumed to elect a 5-year certain annuity. For active participants, 50% of eligible participants are assumed to elect a lump sum benefit and 50% are assumed to elect a 5-year certain & life option.

Annuities were calculated from the cash balance accounts using the required methodology in IRS Regulation 1.430(d)-1(f)(5).

Percent married	For purposes of valuing the pre-retirement surviving spouse benefit, 70% of deferred vested participants are assumed to be married.
Spouse age	For purposes of valuing the pre-retirement surviving spouse benefit, wife three years younger than husband.
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 as required by regulations under IRC §430.
Target normal cost	Present value of benefits expected to accrue during the plan year plus plan-related expenses expected to be paid from plan assets during the plan year as required by regulations under IRC §430.
Actuarial value of assets	Average of the fair market value of assets on the valuation date and 12 and 24 months preceding the valuation date, adjusted for contributions, benefits, plan-related expenses and expected earnings (with such expected earnings limited as described in IRS Notice 2009-22). The average asset value must be within 10% of market value, including discounted contributions receivable (discounted using the effective interest rate for the prior plan year). The method of computing the actuarial value of assets complies with rules governing the calculation of such values under the Pension Protection Act of 2006 (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 significant bias to produce an actuarial value of assets that is below the market value of assets. For purposes of calculating the actuarial value of assets, expected earnings assumptions of 6.20% for 2017 and 6.20% for 2016 were used.
Benefits not valued	All benefits described in the Plan Provisions section of this report were valued. Willis Towers Watson has reviewed the plan provisions with ABB

Inc. and, based on that review, is not aware of any significant benefits required to be valued that were not.

Sources of Data and Other Information

The plan sponsor through its third party administrator (Alight), furnished participant data as of 1/1/2018. Information on assets, contributions and plan provisions was supplied by the plan sponsor. Data and other information 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.

Please refer to the 1/1/2018 Pension Valuation Census Data Report for documentation of assumptions made for missing or apparently inconsistent data elements.

We are not aware of any errors or omissions in the data that would have a significant effect on the results of our calculations.

Assumptions Rationale - Significant Economic Assumptions

Interest 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.
Plan-related expenses	Plan related expenses are estimated by considering the plan's actual administrative expenses paid from the trust during the prior year.
Inflation (CPI)	This assumption was chosen based on duration weighted swap data provided by Bloomberg as of December 31, 2017.
Interest crediting rate	The plan credits interest to cash balance accounts equal to the highest Consumer Price Index rate for the months of August, September, and October of the previous year plus 300 basis points, but not less than 4% or greater than 9%, however, the resulting rate is limited to the August 417(e) third segment rate from the previous year. The assumption selected by the plan sponsor is the actual interest crediting rate for 2018 and an assumed interest crediting rate assumption thereafter. Based on future expectations, the assumed interest crediting rate for 2019 and beyond is equal to CPI plus 300 basis points, or 5.25%.
Annuity conversion rate	As required by IRC 430, annuity benefits were calculated from the cash balance accounts using the current required IRC 430 conversion rates.

SCHEDULE SB ATTACHMENTS

Assumed return for asset smoothing	The assumed return of 6.20% used for asset smoothing is the expected return on asset assumption chosen by the plan sponsor in the prior plan year and we concur with this assumption.

Assumptions Rationale - Significant Demographic Assumptions

Healthy mortality	Assumptions used for funding purposes are as prescribed by IRC §430(h).
Disabled mortality	Assumptions used for funding purposes are as prescribed by IRC §430(h).
Termination	Termination rates were selected based on a published table for pension participants believed to have similar characteristics to the plan population
Disability	Disability rates were selected based on a published table for pension participants believed to have similar characteristics to the plan population.
Retirement	Retirement rates were selected based on plan sponsor expectations for the future with periodic monitoring of observed gains and losses caused by retirement patterns different than assumed. The retirement rates are based on an experience study covering the period 2010 to 2014.
Percent married	The assumed percentage married was selected based on general population statistics on the marital rates of individuals of retirement age.

SCHEDULE SB ATTACHMENTS

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.

Changes in Assumptions and Methods

Change in assumptions and methods since prior valuation

In addition to the prescribed change in the mortality table, the following changes in assumptions were made as part of this valuation:

- The plan's effective interest rate decreased 21 basis points compared to the prior year (5.49% vs. 5.70%).
- The assumed plan-related expenses added to the target normal cost were changed from $2,800,000 for 2017 to $2,900,000 for 2018.
- The interest crediting rate assumption changed from 4.18% in 2017 and 5.25% per year thereafter to 4.36% in 2018 and 5.25% thereafter.

SCHEDULE SB (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Single-Employer Defined Benefit Plan Actuarial Information

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

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

OMB No. 1210-0110

2018

This Form is Open to Public Inspection

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

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

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

A Name of plan
ABB INC. CASH BALANCE PENSION PLAN

B Three-digit plan number (PN) ▶ 301

C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF
ABB INC.

D Employer Identification Number (EIN)
36-3100018

E Type of plan: [X] Single [ ] Multiple-A [ ] Multiple-B

F Prior year plan size: [ ] 100 or fewer [ ] 101-500 [X] More than 500

Part I Basic Information

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

2 Assets:

a Market value	**2a**	773,173,217
b Actuarial value	**2b**	742,732,806

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	4,705	200,273,461	200,273,461
b For terminated vested participants	4,562	119,849,198	119,849,198
c For active participants	3,766	346,251,706	346,251,706
d Total	13,033	666,374,365	666,374,365

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**	5.49%
6 Target normal cost	**6**	2,900,000

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

John D. Steele
Signature of actuary

9/26/2019
Date

John D. Steele
Type or print name of actuary

1705326
Most recent enrollment number

Willis Towers Watson US LLC
Firm name

203-326-5400
Telephone number (including area code)

3001 Summer Street
Floor 5
Stamford CT 06905
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 [ ]

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)	91,815,515	0
8	Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	2,800,000	0
9	Amount remaining (line 7 minus line 8)	89,015,515	0
10	Interest on line 9 using prior year's actual return of 12.15%	10,815,385	0
11	Prior year's excess contributions to be added to prefunding balance:		
	a Present value of excess contributions (line 38a from prior year)		0
	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 5.70%		0
	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		0
	d Portion of (c) to be added to prefunding balance		0
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)	99,830,900	0

Part III Funding Percentages

14	Funding target attainment percentage	14	96.47%
15	Adjusted funding target attainment percentage	15	111.45%
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	111.88%
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? [X] Yes [ ] No

b If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? [X] 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
0	0	0	0

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

21 Discount rate:

a Segment rates:

1st segment:	2nd segment:	3rd segment:	
3.92 %	5.52 %	6.29%	☐ N/A, full yield curve used

b Applicable month (enter code)	21b	4
22 Weighted average retirement age	22	63

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	2,900,000
b Excess assets, if applicable, but not greater than line 31a	31b	0

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	2,900,000

	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement	2,900,000	0	2,900,000

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	ABB Inc.
EIN/PN	36-3100018/301
Plan Name	ABB Inc. Cash Balance Pension Plan
Valuation Date	January 1, 2018
Enrolled Actuary	John D. Steele
Enrollment Number	17-05326

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

The average retirement age for Line 22 was calculated by creating a hypothetical life table with retirement as the only decrement, and then computing the average retirement age for the table.

Age	Retirement Rates	Lives at each Age	Retirements at each Age	Weighted Avg Age
55	4.00%	1.000000	0.040000	2.20
56	5.00%	0.960000	0.048000	2.69
57	6.00%	0.912000	0.054720	3.12
58	6.00%	0.857280	0.051437	2.98
59	6.00%	0.805843	0.048351	2.85
60	7.00%	0.757493	0.053024	3.18
61	10.00%	0.704468	0.070447	4.30
62	12.00%	0.634021	0.076083	4.72
63	13.00%	0.557939	0.072532	4.57
64	16.00%	0.485407	0.077665	4.97
65	30.00%	0.407742	0.122322	7.95
66	30.00%	0.285419	0.085626	5.65
67	30.00%	0.199793	0.059938	4.02
68	30.00%	0.139855	0.041957	2.85
69	30.00%	0.097899	0.029370	2.03
70	100.00%	0.068529	0.068529	4.80
Average age at retirement				62.87
Nearest whole age				**63.00**

Plan Name:	ABB Inc. Cash Balance Pension Plan
EIN / PN:	36-3100018/301
Plan Sponsor:	ABB Inc.
Valuation Date	January 1, 2018

SCHEDULE SB ATTACHMENTS

Schedule SB, Part V
Summary of Plan Provisions

Plan Provisions

The Plan was adopted on December 1, 1950 and amendments through January 1, 2018 are reflected in the plan provisions.

Coverage and participation

First day of the month following employee commencement date. Accruals under the plan were frozen as of December 31, 2011. There will be no new participants in this plan after December 31, 2011.

Definitions

Vesting service

100% after 3 years of vesting service. All participants were vested as of December 31, 2011.

Normal retirement date (NRD)

First day of the month coinciding with or next following the attainment of age 65.

Retirement benefit formula

For each year of service, a member's account will be credited with the following percentage of salary:

Age	Percentage
Under 25	2.5%
25 - 29	3.0%
30 - 34	3.5%
35 - 39	4.0%
40 - 44	4.5%
45 - 49	5.0%
50 - 54	5.5%
55 - 59	6.0%
60 and over	6.5%

An additional 2.25% of salary in excess of one-half the Social Security Taxable Wage Base is credited each year.

Pay credits were frozen as of December 31, 2011.

Transitional credits

A member of the prior plan who as of the date of conversion had attained certain age and service conditions is credited with an additional percentage of his salary for each year of service.

SCHEDULE SB ATTACHMENTS

Interest credits	Interest credits on each member's account balance in any year are equal to the Cost of Living Escalator Percentage, which is the highest Consumer Price Index rate for the months of August, September, and October of the previous year plus 300 basis points, but not less than 4% or greater than 9%, however, the resulting rate is limited to the 417(e) third segment rate for August of the previous year. The Percentage was 8% for the plan years beginning January 1, 1992 through January 1, 2001. The Percentage was 6.7% for the plan year beginning January 1, 2002, 5.93% for the plan year beginning January 1, 2003, 6.00% for the plan year beginning January 1, 2004, 6.20% for the plan year beginning January 1, 2005, 7.70% for the plan year beginning January 1, 2006, 6.80% for the plan year beginning January 1, 2007, 6.50% for the plan year beginning January 1, 2008, 8.40% for the plan year beginning January 1, 2009, 4.00% for the plan year beginning January 1, 2010, 4.20% for the plan year beginning January 1, 2011, 6.90% for the plan year beginning January 1, 2012, 5.20% for the plan year beginning January 1, 2013, 4.50% for the plan year beginning January 1, 2014, 4.70% for the plan year beginning January 1, 2015 and 4.00% for the plan year beginning January 1, 2016 and 4.18% for the plan year beginning January 1, 2017 and 4.36% for the plan year beginning January 1, 2018.
Accrued benefit under prior plan	The accrued benefit under the prior plan, excluding the Retirement Income Plan for Applied Automation, Inc., as of the date of conversion was converted to a lump sum amount as a beginning account balance. Such conversion was based upon an 8% interest rate for the January 1, 1994, January 1, 1992 and December 1, 1988 conversions, and 7.25% for December 1, 1989 conversions, and an assumed retirement age of 65. The accrued benefit under the Applied Automation Plan will be indexed with increases in final average earnings and may be converted to a lump sum at termination.
Accrued monthly annuity benefit	Equal to a five-year certain and continuous annuity payable at age 65 that is actuarial equivalent to the account balance. In no event will the accrued benefit be less than the benefit accrued under the prior plan as of the date of conversion.

Eligibility for Benefits

Normal retirement	First of month coinciding with or next following the attainment of age 65

Early retirement	First day of the month following attainment of age 55 and completion of 5 years of service (age 55 for Combustion Engineering employees as of December 31, 1991).
Deferred vested termination	Termination for reasons other than death or retirement after completing three years of vesting service
Disability	Upon total and permanent disablement
Preretirement death benefit	Death while eligible for normal, early, postponed, or deferred vested retirement benefits

Benefits Paid Upon the Following Events

Normal retirement	A monthly annuity calculated in accordance with the Retirement Benefit Formula and payable as a Normal Form of Benefit.
Early retirement	A monthly annuity calculated in accordance with the Retirement Benefit Formula and payable as a Normal Form of Benefit at age 65, or payable earlier in an actuarially reduced amount.
Deferred vested termination	A monthly annuity calculated in accordance with the Retirement Benefit Formula and payable as a Normal Form of Benefit at age 65, or payable earlier in an actuarially reduced amount.
Disablement	A member shall be eligible for additional credits each year in accordance with the Retirement Benefit Formula, Transitional Credits, and Interest Credits based upon the member's salary in effect at the time of disability retirement. The additional credits shall cease upon the earlier of recovery or attainment of age 65. A member may elect to receive his accrued benefit at any time, at which time no further credits shall be granted.

Preretirement death	In the event of death of a vested employee prior to retirement, his beneficiary will be entitled to the actuarially equivalent lump sum value of the employee's accrued benefit. If the beneficiary is the employee's surviving spouse, an actuarially equivalent annuity may be received.

Other Plan Provisions

Forms of payment

Normal Forms of Payment

- For a member who does not have a spouse, the automatic form of benefit is a monthly life annuity with a five-year certain feature.
- For married members, the automatic form of benefit is an actuarially equivalent 50% joint and survivor annuity with a five year certain feature. Alternatively, a member may elect to receive an actuarially equivalent lump sum

Forms of Payment in Lieu of Normal Forms

- Joint & Survivor Options (50%, 67%, 75%, 100%)
- Certain & Life (5, 10, 15, 20 years)
- Lump Sum

Preserved early retirement provision

- Eligibility

1. Prior ABB or Power T&D Active members whose age plus vesting service equaled 65 or more on their date of conversion
2. Active members on their date of conversion who had attained age 55 or whose age plus years of benefit service equaled 60 or more as of that date

- Benefit

The benefit for service prior to the effective date shall be no less than the normal retirement or early retirement benefit accrued under the prior plan, as applicable.

Minimum Benefit for Certain Prior Flakt Plan Members

- Eligibility

Members of the prior Flakt Plan as of December 31, 1993 that were (i) 35-39 and vested, or (ii) at least age 40.

■ Benefit	The participant will receive their cash balance account, plus the difference in the value of a life annuity at their date of termination determined under the prior Flakt plan and the life annuity equivalent of the cash balance account at their date of termination. If applicable, this additional benefit will be paid as a life annuity under the terms of the prior Flakt Plan.

Changes in Benefits Valued Since Prior Year

There have been no changes in benefits valued since the prior year

SCHEDULE SB ATTACHMENTS

Schedule SB, Line 24
Change in Actuarial Assumptions

The following changes were made to non-prescribed actuarial assumptions for 2018:

- The assumed plan-related expenses added to the target normal cost were changed from $2,800,000 for 2017 to $2,900,000 for 2018.
- The interest crediting rate assumption changed from 4.18% in 2017 and 5.25% per year thereafter to 4.36% in 2018 and 5.25% thereafter.