# 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

**2021**

**This Form is Open to Public Inspection**

## Part I Annual Report Identification Information

For calendar plan year 2021 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
- [X] 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)

**E** If this is a retroactively adopted plan permitted by SECURE Act section 201, check here. . . . . ▶ [ ]

## Part II Basic Plan Information—enter all requested information

**1a** Name of plan
HOWMET CORPORATION PENSION PLAN

**1b** Three-digit plan number (PN) ▶ 016

**1c** Effective date of plan 12/12/1995

**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)
HOWMET CORPORATION

C/O ARCONIC INC.

201 ISABELLA STREET
PITTSBURGH, PA 15212-5858

**2b** Employer Identification Number (EIN) 13-2838093

**2c** Plan Sponsor's telephone number 412-553-4545

**2d** Business code (see instructions) 332900

**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. | 05/23/2022 | DAVID ADAMS |
| | **Signature of plan administrator** | Date | Enter name of individual signing as plan administrator |
| **SIGN HERE** | Filed with authorized/valid electronic signature. | | |
| | **Signature of employer/plan sponsor** | Date | Enter name of individual signing as employer or plan sponsor |
| **SIGN HERE** | Filed with authorized/valid electronic signature. | | |
| | **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** | 5384 |
| **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)** | 3397 |
| **a(2)** | Total number of active participants at the end of the plan year | **6a(2)** | 3299 |
| **b** | Retired or separated participants receiving benefits | **6b** | 454 |
| **c** | Other retired or separated participants entitled to future benefits | **6c** | 1460 |
| **d** | Subtotal. Add lines **6a(2)**, **6b**, and **6c** | **6d** | 5213 |
| **e** | Deceased participants whose beneficiaries are receiving or are entitled to receive benefits. | **6e** | 53 |
| **f** | Total. Add lines **6d** and **6e** | **6f** | 5266 |
| **g** | Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item) | **6g** | |
| **h** | Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested | **6h** | 165 |
| **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:

1B 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)

- **(1)** [ ] Insurance
- **(2)** [ ] Code section 412(e)(3) insurance contracts
- **(3)** [X] Trust
- **(4)** [ ] General assets of the sponsor

**9b** Plan benefit arrangement (check all that apply)

- **(1)** [ ] Insurance
- **(2)** [ ] Code section 412(e)(3) insurance contracts
- **(3)** [X] Trust
- **(4)** [ ] General assets of the sponsor

**10** Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)

**a Pension Schedules**

- **(1)** [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)** [ ] ___ **A** (Insurance Information)
- **(4)** [ ] **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 2021 Form M-1 annual report. If the plan was not required to file the 2021 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

**2021**

**This Form is Open to Public Inspection**

For calendar plan year 2021 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
HOWMET CORPORATION PENSION PLAN

**B** Three-digit plan number (PN) ▶ 016

**C** Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF
HOWMET CORPORATION

**D** Employer Identification Number (EIN)
13-2838093

**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** | 100038912 |
| **b** Actuarial value | **2b** | 105725884 |

**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 | 447 | 23055869 | 23055869 |
| **b** For terminated vested participants | 1540 | 29489899 | 29489899 |
| **c** For active participants | 3562 | 73303552 | 75379143 |
| **d** Total | 5549 | 125849320 | 127924911 |

**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** | 5.79 % |
| **6** Target normal cost | | |
| **a** Present value of current plan year accruals | **6a** | 4053798 |
| **b** Expected plan-related expenses | **6b** | |
| **c** Total (line 6a + line 6b) | **6c** | 4053798 |

**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

09/30/2019
Date

PATRICK A. GRAHAM
Type or print name of actuary

17-08256
Most recent enrollment number

BUCK GLOBAL, LLC
Firm name

412-281-2506
Telephone number (including area code)

11 STANWIX STREET, SUITE 700
PITTSBURGH, PA 15222-1312
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) | 0 | 0 |
| 8 | Portion elected for use to offset prior year's funding requirement (line 35 from prior year) | 0 | 0 |
| 9 | Amount remaining (line 7 minus line 8) | 0 | 0 |
| 10 | Interest on line 9 using prior year's actual return of _____% | 0 | 0 |
| 11 | Prior year's excess contributions to be added to prefunding balance: | | |
| | **a** Present value of excess contributions (line 38a from prior year) | | 637 |
| | **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 5.96 % | | 38 |
| | **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 | | 675 |
| | **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) | 0 | 0 |

## Part III Funding Percentages

| | | | |
|---|---|---|---|
| 14 | Funding target attainment percentage | 14 | 82.64 % |
| 15 | Adjusted funding target attainment percentage | 15 | 82.64 % |
| 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 | 92.05 % |
| 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 |
|---|---|---|---|---|---|
| 04/13/2018 | 1774600 | 0 | | | |
| 07/13/2018 | 1774600 | 0 | | | |
| 10/15/2018 | 1774600 | 0 | | | |
| 01/15/2019 | 1774600 | 0 | | | |
| 03/27/2019 | 9000000 | 0 | | | |
| | | | | | |
| | | | Totals ► 18(b) | 16098400 | 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 | 15237964 |

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:

| | 1st segment: | 2nd segment: | 3rd segment: | |
|---|---|---|---|---|
| **a** Segment rates: | 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** | 64 |

**23** Mortality table(s) (see instructions) ☐ 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 6c) | **31a** | 4053798 |
| **b** Excess assets, if applicable, but not greater than line 31a | **31b** | 0 |

| **32** Amortization installments: | Outstanding Balance | Installment |
|---|---|---|
| **a** Net shortfall amortization installment | 22199027 | 3900843 |
| **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** | 7954641 |

| | Carryover balance | Prefunding balance | Total balance |
|---|---|---|---|
| **35** Balances elected for use to offset funding requirement | 0 | 0 | 0 |

| | | |
|---|---|---|
| **36** Additional cash requirement (line 34 minus line 35) | **36** | 7954641 |
| **37** Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c) | **37** | 15237964 |
| **38** Present value of excess contributions for current year (see instructions) | | |
| **a** Total (excess, if any, of line 37 over line 36) | **38a** | 7283323 |
| **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 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

**2021**

**This Form is Open to Public Inspection.**

For calendar plan year 2021 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

**A** Name of plan
HOWMET CORPORATION PENSION PLAN

**B** Three-digit plan number (PN) ▶ 016

**C** Plan or DFE sponsor's name as shown on line 2a of Form 5500
HOWMET CORPORATION

**D** Employer Identification Number (EIN)
13-2838093

## 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: ARCONIC RETIREMENT PLANS MASTER TRU

**b** Name of sponsor of entity listed in (a): HOWMET AEROSPACE 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) |
|---|---|---|
| 25-0317820-038 | M | 86782298 |

**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 |
| **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

**2021**

**This Form is Open to Public Inspection**

For calendar plan year 2021 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

**A** Name of plan
HOWMET CORPORATION PENSION PLAN

**B** Three-digit plan number (PN) ▶ 016

**C** Plan sponsor's name as shown on line 2a of Form 5500
HOWMET CORPORATION

**D** Employer Identification Number (EIN)
13-2838093

## 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) | 3512655 | 10774660 |
| **(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) | 96650339 | 86782298 |
| **(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** | 100162994 | 97556958 |
| | **Liabilities** | | | |
| **g** | Benefit claims payable | **1g** | | |
| **h** | Operating payables | **1h** | 34902 | 29912 |
| **i** | Acquisition indebtedness | **1i** | | |
| **j** | Other liabilities | **1j** | | |
| **k** | Total liabilities (add all amounts in lines 1g through1j) | **1k** | 34902 | 29912 |
| | **Net Assets** | | | |
| **l** | Net assets (subtract line 1k from line 1f) | **1l** | 100128092 | 97527046 |

## 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)** | 16098640 | |
| | **(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)** | | 16098640 |
| **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)** | | |
| | **(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)** | | |
| | **(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)** | | |
| | **(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)** | | |

| | | (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) | | -4013477 |
| **(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 | | 12085163 |
| **Expenses** | | | |
| **e** Benefit payment and payments to provide benefits: | | | |
| **(1)** Directly to participants or beneficiaries, including direct rollovers | 2e(1) | 11844473 | |
| **(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) | | 11844473 |
| **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) | 324048 | |
| **(2)** Contract administrator fees | 2i(2) | | |
| **(3)** Investment advisory and management fees | 2i(3) | | |
| **(4)** Other | 2i(4) | 2517688 | |
| **(5)** Total administrative expenses. Add lines **2i(1)** through **(4)** | 2i(5) | | 2841736 |
| **j** Total expenses. Add all **expense** amounts in column (b) and enter total | 2j | | 14686209 |
| **Net Income and Reconciliation** | | | |
| **k** Net income (loss). Subtract line **2j** from line **2d** | 2k | | -2601046 |
| **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)** ☐ Unmodified **(2)** ☐ Qualified **(3)** ☒ Disclaimer **(4)** ☐ Adverse

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

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

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

**(1)** Name: PRICEWATERHOUSECOOPERS **(2)** EIN: 13-4008324

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

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

## Part IV Compliance Questions

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

During the plan year:

| | | 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 | |

| | | | Yes | No | Amount |
|---|---|---|---|---|---|
| **b** | Were any loans by the plan or fixed income obligations due the plan in default as of the close of the plan year or classified during the year as uncollectible? Disregard participant loans secured by participant's account balance. (Attach Schedule G (Form 5500) Part I if "Yes" is checked.) | **4b** | | X | |
| **c** | Were any leases to which the plan was a party in default or classified during the year as uncollectible? (Attach Schedule G (Form 5500) Part II if "Yes" is checked.) | **4c** | | X | |
| **d** | Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a. Attach Schedule G (Form 5500) Part III if "Yes" is checked.) | **4d** | | X | |
| **e** | Was this plan covered by a fidelity bond? | **4e** | X | | 25000000 |
| **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** | | X | |
| **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** | | X | |

**5a** Has a resolution to terminate the plan been adopted during the plan year or any prior plan year? ☐ Yes ☒ No

If "Yes," enter the amount of any plan assets that reverted to the employer this year _____.

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

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

**5c** Was the plan a defined benefit plan covered under the PBGC insurance program at any time during this plan year? (See ERISA section 4021 and instructions.) ☒ Yes ☐ No ☐ Not determined

If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year 4180917.

# 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

**2021**

**This Form is Open to Public Inspection.**

For calendar plan year 2021 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

**A** Name of plan
HOWMET CORPORATION PENSION PLAN

**B** Three-digit plan number (PN) ▶ 016

**C** Plan sponsor's name as shown on line 2a of Form 5500
HOWMET CORPORATION

**D** Employer Identification Number (EIN)
13-2838093

## 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** |

**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): 25-1926855

**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** | 154

## 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)? ..... [X] **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** [X] **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** [X] **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 deferred vested and retired participants (inactive participants), as of the beginning of the plan year, whose contributing employer is no longer making contributions to the plan for:

| | | |
|---|---|---|
| **a** The current plan year. Check the box to indicate the counting method used to determine the number of inactive participants: ☐ last contributing employer ☐ alternative ☐ reasonable approximation (see instructions for required attachment) | **14a** | |
| **b** The plan year immediately preceding the current plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment) | **14b** | |
| **c** The second preceding plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment) | **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: 32.0 % Investment-Grade Debt: 35.0 % High-Yield Debt: 5.0 % Real Estate: 4.0 % Other: 24.0 %

**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):

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

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

**b** If line 20a is "Yes," has PBGC been notified as required by ERISA sections 4043(c)(5) and/or 303(k)(4)? Check the applicable box:

☐ Yes.

☐ No. Reporting was waived under 29 CFR 4043.25(c)(2) because contributions equal to or exceeding the unpaid minimum required contribution were made by the 30th day after the due date.

☐ No. The 30-day period referenced in 29 CFR 4043.25(c)(2) has not yet ended, and the sponsor intends to make a contribution equal to or exceeding the unpaid minimum required contribution by the 30th day after the due date.

☐ No. Other. Provide explanation _____

# Employees' Retirement Plans of Arconic Inc. and Subsidiary Companies

**Financial Statements**
**December 31, 2018 and 2017**

# Employees' Retirement Plans of Arconic Inc. and Subsidiary Companies
## Index


**Page(s)**

**Report of Independent Auditors** ..... 1–2

**Employees' Retirement Plans of Arconic Inc. and Subsidiary Companies**
Arconic Retirement Plan I (Arconic Salary Plan)
Arconic Retirement Plan II (Arconic Hourly Plan)
Howmet Corporation Muskegon County Operations Hourly Employees' Pension Plan (Muskegon Plan)
Howmet Corporation Pension Plan (Howmet Plan)
Huck International Inc., Retirement Plan (Huck Plan)
Pension Plan for Eligible Salaried Employees of RMI Titanium Company (RMI Salaried Plan)
Pension Plan of RMI Titanium Company (RMI Hourly Plan)

**Financial Statements**

Statements of Individual Plan Net Assets Available for Benefits
December 31, 2018 ..... 3

Statements of Individual Plan Net Assets Available for Benefits
December 31, 2017 ..... 4

Statements of Changes in Individual Plan Net Assets Available for Benefits
Year Ended December 31, 2018 ..... 5

Notes to Financial Statements
December 31, 2018 and 2017 ..... 6–32


Note: Other schedules required by Section 2520.103-10 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA have been omitted as they are not applicable.

**Report of Independent Auditors**

To the Administrator of
Arconic Retirement Plan I,
Arconic Retirement Plan II,
Howmet Corporation Muskegon County Operations Hourly Employees' Pension Plan,
Howmet Corporation Pension Plan,
Huck International Inc., Retirement Plan,
Pension Plan of RMI Titanium Company, and
Pension Plan for Eligible Salaried Employees of RMI Titanium Company

## Report on the Financial Statements

We were engaged to audit the accompanying financial statements of the Arconic Retirement Plan I, Arconic Retirement Plan II, Howmet Corporation Muskegon County Operations Hourly Employees' Pension Plan, Howmet Corporation Pension Plan, Huck International Inc., Retirement Plan, Pension Plan of RMI Titanium Company, and Pension Plan for Eligible Salaried Employees of RMI Titanium Company (collectively referred to as the "Plans"), which comprise the statements of individual plan net assets available for benefits as of December 31, 2018 and 2017, and the related statements of changes in individual plan net assets available for benefits for the year ended December 31, 2018, and the related notes to the financial statements.

### *Management's Responsibility for the Financial Statements*

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

### *Auditors' Responsibility*

Our responsibility is to express an opinion on the 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 information summarized in Note 8, which was certified by Bank of New York Mellon, the trustee of the Plans, except for comparing such information with the related information included in the financial

statements. We have been informed by the plan administrator that the trustee holds the Plans' investment assets and executes investment transactions. The plan administrator has obtained a certification from the trustee as of December 31, 2018 and 2017 and for the year ended December 31, 2018, that the information provided to the plan administrator by the trustee 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 the 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 information certified by the trustee, have been audited by us in accordance with auditing standards generally accepted in the United States of America and, in our opinion, are presented in compliance with the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974.

PricewaterhouseCoopers LLP

Pittsburgh, Pennsylvania
September 12, 2019

# Employees' Retirement Plans of Arconic Inc. and Subsidiary Companies
## Statements of Individual Plan Net Assets Available for Benefits
## December 31, 2018

| | Arconic Salary Plan | Arconic Hourly Plan | Huck Plan | Muskegon Plan | Howmet Plan | RMI Salaried Plan | RMI Hourly Plan |
|---|---|---|---|---|---|---|---|
| **Assets** | | | | | | | |
| **Investments:** | | | | | | | |
| Plans' interest in Arconic Retirement Plans Master Trust at fair value (Note 3) | $ 1,597,707,887 | $ 1,212,813,077 | $ 14,076,477 | $ 68,721,255 | $ 86,782,298 | $ 69,138,017 | $ 64,193,369 |
| Plans' interest in RMI Retirement Plans Master Trust at fair value (Note 3) | - | - | - | - | - | 6,448,716 | 5,987,420 |
| Total investments | 1,597,707,887 | 1,212,813,077 | 14,076,477 | 68,721,255 | 86,782,298 | 75,586,733 | 70,180,789 |
| **Receivables:** | | | | | | | |
| Employer contributions receivable | 54,704,868 | 28,694,296 | - | 8,038,326 | 10,774,660 | - | - |
| Total assets | 1,652,412,755 | 1,241,507,373 | 14,076,477 | 76,759,581 | 97,556,958 | 75,586,733 | 70,180,789 |
| **Liabilities** | | | | | | | |
| Administrative expenses payable | 176,138 | 206,115 | 3,360 | 11,347 | 29,912 | 19,583 | 13,331 |
| Total liabilities | 176,138 | 206,115 | 3,360 | 11,347 | 29,912 | 19,583 | 13,331 |
| Net assets available for benefits | $ 1,652,236,617 | $ 1,241,301,258 | $ 14,073,117 | $ 76,748,234 | $ 97,527,046 | $ 75,567,150 | $ 70,167,458 |

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

# Employees' Retirement Plans of Arconic Inc. and Subsidiary Companies
## Statements of Individual Plan Net Assets Available for Benefits
## December 31, 2017

| | Arconic Salary Plan | Arconic Hourly Plan | Huck Plan | Muskegon Plan | Howmet Plan | RMI Salaried Plan | RMI Hourly Plan |
|---|---|---|---|---|---|---|---|
| **Assets** | | | | | | | |
| **Investments:** | | | | | | | |
| Plans' interest in Arconic Retirement Plans Master Trust at fair value (Note 3) | $ 1,845,403,365 | $ 1,356,340,225 | $ 15,722,028 | $ 73,356,994 | $ 96,650,339 | $ 78,616,995 | $ 71,877,295 |
| Plans' interest in RMI Retirement Plans Master Trust at fair value (Note 3) | - | - | - | - | - | 6,184,270 | 5,572,206 |
| Total investments | 1,845,403,365 | 1,356,340,225 | 15,722,028 | 73,356,994 | 96,650,339 | 84,801,265 | 77,449,501 |
| **Receivables:** | | | | | | | |
| Employer contributions receivable | 103,367,792 | 21,578,566 | - | 6,326,000 | 3,512,655 | - | - |
| Total assets | 1,948,771,157 | 1,377,918,791 | 15,722,028 | 79,682,994 | 100,162,994 | 84,801,265 | 77,449,501 |
| **Liabilities** | | | | | | | |
| Administrative expenses payable | 127,465 | 158,659 | 13,368 | 19,461 | 34,902 | 11,185 | 11,368 |
| Total liabilities | 127,465 | 158,659 | 13,368 | 19,461 | 34,902 | 11,185 | 11,368 |
| Net assets available for benefits | $ 1,948,643,692 | $ 1,377,760,132 | $ 15,708,660 | $ 79,663,533 | $ 100,128,092 | $ 84,790,080 | $ 77,438,133 |

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

# Employees' Retirement Plans of Arconic Inc. and Subsidiary Companies
## Statements of Changes in Individual Plan Net Assets Available for Benefits
## Year Ended December 31, 2018

| | Arconic Salary Plan | Arconic Hourly Plan | Huck Plan | Muskegon Plan | Howmet Plan | RMI Salaried Plan | RMI Hourly Plan |
|---|---|---|---|---|---|---|---|
| **Additions** | | | | | | | |
| Employer contributions | $ 132,583,304 | $ 76,866,184 | $ - | $ 11,154,392 | $ 16,098,640 | $ - | $ - |
| Plans' interest in RMI Retirement Plans | | | | | | | |
| Master Trust investment gain | - | - | - | - | - | 264,446 | 415,214 |
| Total additions | 132,583,304 | 76,866,184 | - | 11,154,392 | 16,098,640 | 264,446 | 415,214 |
| **Deductions** | | | | | | | |
| Plans' interest in Arconic Retirement Plans | | | | | | | |
| Master Trust investment loss | 76,826,212 | 56,051,968 | 646,709 | 3,016,873 | 4,013,477 | 2,887,987 | 2,833,093 |
| Benefit payments | 339,561,269 | 141,931,597 | 876,435 | 10,181,418 | 11,844,473 | 6,104,221 | 4,560,519 |
| PBGC premiums | 11,245,092 | 13,899,354 | 52,688 | 704,460 | 2,517,688 | 364,702 | 188,740 |
| Administrative expenses | 1,357,806 | 1,442,139 | 59,711 | 166,940 | 324,048 | 130,466 | 103,537 |
| Total deductions | 428,990,379 | 213,325,058 | 1,635,543 | 14,069,691 | 18,699,686 | 9,487,376 | 7,685,889 |
| Net decrease | 296,407,075 | 136,458,874 | 1,635,543 | 2,915,299 | 2,601,046 | 9,222,930 | 7,270,675 |
| **Net assets available for benefits** | | | | | | | |
| Beginning of the year | 1,948,643,692 | 1,377,760,132 | 15,708,660 | 79,663,533 | 100,128,092 | 84,790,080 | 77,438,133 |
| End of year | $ 1,652,236,617 | $ 1,241,301,258 | $ 14,073,117 | $ 76,748,234 | $ 97,527,046 | $ 75,567,150 | $ 70,167,458 |

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

## 1. Description of Plans

The following description of each Plan's provisions provides only general information. Participants should refer to each Plan document for a more complete description of each Plan's provisions.

### General

The Arconic Inc. (formerly Alcoa Inc.) and Subsidiary Companies ("Arconic" or the "Company") Arconic Retirement Plan I (Arconic Salary Plan), Arconic Retirement Plan II (Arconic Hourly Plan), Huck International, Inc. Retirement Plan (Huck Plan), Howmet Corporation Muskegon County Operations Hourly Employees' Pension Plan (Muskegon Plan), Howmet Corporation Pension Plan (Howmet Plan), Pension Plan of RMI Titanium Company (RTI Hourly Plan) and the Pension Plan for Eligible Salaried Employees of the RMI Titanium Company (RTI Salaried Plan) (each referred to as the "Plan") are non-contributory defined benefit plans that cover eligible United States employees and participate in the Arconic Retirement Plans Master Trust ("Arconic Master Trust") at December 31, 2018 and 2017. Additionally, the RTI Hourly Plan and the RTI Salaried Plan participate in the RMI Retirement Plans Master Trust.

The investments of the Plans are maintained under a trust pursuant to the "Arconic Master Trust Agreement" and "RMI Retirement Plans Master Trust Agreement" with the trustee, The Bank of New York Mellon ("trustee").

All fiduciary responsibility for the Plans is maintained by the Arconic Benefits Management Committee and Arconic Benefits Investment Committee. The Plans are subject to the provisions of the Employee Retirement Income Security Act of 1974 ("ERISA").

The Plans provide, in general, for monthly pensions upon retirement at or after age 65, or earlier upon disability, incapacity, special circumstances or with certain minimum age and service requirements. Pension benefits generally depend upon length of service, job grade or remuneration, and certain social security and other benefits.

### Eligibility and Vesting

Employees hired before March 1, 2006 are eligible to participate in the Arconic Salary Plan after they have attained age 21 with one year of service. Effective March 1, 2006, certain new hires are not eligible to participate in the Arconic Salary Plan. Certain hourly employees are eligible to participate in the Arconic Hourly Plan after they have attained age 21 with one year of service.

Effective January 1, 2002, participants are no longer accruing benefits in the Huck Plan. Benefits are being provided to retired participants and will be provided to deferred vested participants in accordance with the Plan provisions applicable at the time of their termination.

Employees hired or rehired prior to January 1, 1999 are eligible to participate immediately in the Muskegon Plan.

Nonunion hourly-paid employees are eligible to participate immediately in the Howmet Plan.

All eligible participants currently accruing benefits in the Plans fully vest after a five-year period except the eligible participants in the Muskegon Plan, RTI Hourly Plan, and RTI Salaried Plan which fully vest after five years of continuous service and the eligible salaried participants in the Howmet Plan which fully vest after three years of service.

**Benefit Provisions**
The benefit provisions for the Arconic Salary Plan determine the retirement benefit on a compensation-based formula.

The Arconic Hourly Plan, the Howmet Plan and the Muskegon Plan determine the retirement benefits on a factor times years of service.

The benefit provisions for the Huck plan determine benefits for service through December 31, 2001 based on a percentage of monthly earnings. This percentage was based on age at month end.

Normal retirement for the Arconic Salary Plan, the Arconic Hourly Plan and the Huck Plan is age 65 with five years of service.

Normal retirement for the Muskegon Plan and the Howmet Plan is age 62 with five years of service.

Normal retirement for the RTI Hourly Plan and RTI Salaried Plan is 65 with five or more years of continuous service. Benefits are determined based upon the participants' compensation and/or number of years of continuous service.

Effective April 1, 2018, benefit accruals for future service and compensation for Arconic salaried and non-bargaining hourly employees ceased. This action impacted the Arconic Salary Plan, Arconic Hourly Plan, Howmet Plan and the RMI Salaried Plan. These plan amendments do not impact each of the plan's actuarial present value of accumulated plan benefits.

**Risks and Uncertainties**
The Plans invest in investment securities. Investment securities are exposed to various risks such as interest rate, market and credit risks. Due to the Level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and such changes could materially affect the amounts reported in the Statements of Individual Plan Net Assets Available for Benefits and Statements of Changes in Individual Plan Net Assets Available for Benefits.

Plans' contributions 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 individual Plans' financial statements.

**Termination of Plans**
Benefits under the Plans are insured by the Pension Benefit Guaranty Corporation (PBGC). Should the Plans terminate at some future time, the net assets of the Plans generally will not be available on a pro rata basis to provide participants' benefits. Whether a particular participant's accumulated plan benefits 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 then existing assets and the PBGC guaranty, while other benefits may not be provided for at all.

A full description of each Plan's termination priorities is available in each Plan document.

**Reclassifications**
Certain amounts in previously issued financial statements were reclassified to conform to the current year presentation.

**Recently Issued Accounting Standards**
In February 2017, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2017-06, Plan Accounting: Defined Benefit Pension Plans (Topic 960) Defined Contribution Pension Plans (Topic 962) Health and Welfare Benefit Plans (Topic 965) Employee Benefit Plan Master Trust Reporting.

Under Topic 960, investments in master trusts are presented in a single line item in the statement of net assets available for benefits. Similar guidance is not provided in Topic 962 or 965, which has resulted in diversity in practice. For each master trust in which a plan holds an interest, the amendments in this ASU require a plan's interest in that master trust and any change in that interest to be presented in separate line items in the statement of net assets available for benefits and in the statement of changes in net assets available for benefits, respectively. Topics 960 and 962 require plans to disclose their percentage interest in the master trust and a list of the investments held by the master trust, presented by general type, within the plan's financial statements. The amendments in this ASU remove the requirement to disclose the percentage interest in the master trust for plans with divided interests and require that all plans disclose the dollar amount of their interest in each of those general types of investments, which supplements the existing requirement to disclose the master trust's balances in each general type of investments. Current GAAP does not require disclosure by plans of the master trust's other assets and liabilities. The amendments in this ASU require all plans to disclose (1) their master trust's other asset and liability balances and (2) the dollar amount of the plan's interest in each of those balances.

The ASU is effective for fiscal years beginning after December 15, 2018. Early adoption is permitted. An entity should apply the amendments in this ASU retrospectively to each period for which financial statements are presented. The Plans are currently evaluating the impact of ASU 2017-06 on the financial statements and related disclosures.

## 2. Summary of Accounting Policies

**Basis of Accounting**
The financial statements of the Plans are prepared under the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America (US GAAP).

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

**Investment Valuation and Income Recognition**
Investments are stated at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. See Note 4 for a discussion of fair value measurements.

Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date. Plans' interest in Arconic Retirement Plans Master Trust and RMI Retirement Plans Master Trust investment income and loss includes the Plans' unrealized and realized gains and losses on investments, dividends, interest income, and investment management/trustee fees.

The fair value of the Plans' interest in the Arconic Retirement Plans Master Trust and RMI Retirement Plans Master Trust investment income is based on the beginning-of-year (period) value plus actual contributions and allocated investment income less actual distributions, allocated investment loss and administrative expenses.

The individual Plans participate in the operations of the Arconic Master Trust through the purchase and sale of units. Cash inflows and outflows between the Plans and the Arconic Master Trust are accounted for at the beginning-of-the-month unit value. Units are revalued monthly to reflect changes in the investment values. Net investment income and losses are allocated to the Plans that participate in the Arconic Master Trust based on each Plan's units held.

Additionally, the RTI Hourly Plan and RTI Salaried Plan participate in the operations of the RMI Retirement Plans Master Trust through the purchase and sale of units. Cash inflows and outflows between the Plans and the RMI Retirement Plans Master Trust are accounted for at the beginning-of-the-month (period) unit value. Units are revalued monthly to reflect changes in the investment values. Net investment income and losses are allocated to the Plans that participate in the RMI Retirement Plans Master Trust based on each Plan's units held.

**Benefit Payments**
Benefit payments to participants are recorded when paid.

**Administrative Expenses**
Audit, legal, actuarial, recordkeeping, and other administrative expenses are paid by the Plans. Expenses for services provided for the Arconic Master Trust and RMI Retirement Plans Master Trust are allocated to the Plans ratably, if applicable. Expenses for services provided directly to a specific plan are attributed to only that plan.

**Investment Management/Trustee Fees**
Investment management and trustee fees are paid by the Plans and are included in Plans' interest in Investment income and loss.

**Employer Contributions Receivable**
Employer contributions receivable represent the remaining funding amounts Arconic is required to contribute to meet the minimum contribution levels established by law or as a result of a formal commitment by Arconic to make a contribution into the respective Plans.

**Funding Policy**
The Plans are defined benefit pension plans. No employee contributions to the Plans are required or permitted. Arconic contributes such amounts as are necessary on an actuarial basis to provide the individual Plans with assets sufficient to meet the benefits to be paid to current and future retirees or their beneficiaries. The minimum contributions required, if any, for the Plans are designed to fund the Target Normal cost and an amortization installment towards any funding shortfalls. A funding shortfall occurs when there is an excess of Funding Target liability over the Actuarial Value of Plan Assets. The amortization installment is designed to fully fund the funding

shortfall in a given year over a 7-year period. Arconic may also voluntarily contribute amounts in excess of those minimum required amounts to meet certain funding thresholds or company objectives.

The actuarial determined pension contribution is calculated using the Unit Credit Cost Method. The Funding Target liability is the present value of accrued benefits and based on compensation and service to date. The Target Normal Cost is the present value of benefits expected to be accrued during the current plan year, reflecting the effect of expected compensation increases during the year and including expected expenses to be paid from plan assets during the year.

The Plans have met the minimum funding requirements under the provisions of ERISA in 2018.

**Investment Policy and Strategy**
Arconic's investment policy at December 31, 2018 is as follows:

| Asset Category | Policy Range |
|---|---|
| Equity securities | 20-55% |
| Debt securities | 25-55 |
| Other | 15-35 |

The principal objectives underlying the investment of the pension plans' assets are to ensure that Arconic can properly fund benefit obligations as they become due under a broad range of potential economic and financial scenarios, maximize the long-term investment return with an acceptable Level of risk based on such obligations, and broadly diversify investments across and within various asset classes to protect asset values against adverse movements. Specific objectives for long-term investment strategy include reducing the volatility of pension assets relative to pension liabilities and achieving risk factor diversification across the balance of the asset portfolio. The use of derivative instruments is permitted where appropriate and necessary for achieving overall investment policy objectives. The investment strategy has used long duration cash bonds and derivative instruments to offset a portion of the interest rate sensitivity of pension liabilities. Exposure to broad equity risk has been decreased and diversified through investments in discretionary and systematic macro hedge funds, long/short equity hedge funds, and global and emerging market equities. Investments are further diversified by strategy, asset class, geography, and sector to enhance returns and mitigate downside risk. A large number of external investment managers are used to gain broad exposure to the financial markets and to mitigate manager-concentration risk.

Investment practices comply with the requirements of the Employee Retirement Income Security Act of 1974 (ERISA) and other applicable laws and regulations.

## 3. Plans' Interest in Arconic Master Trust and RMI Retirement Plans Master Trust

At December 31, net assets were comprised of the following:

| | 2018 | 2017 |
|---|---|---|
| **Assets** | | |
| Investments at fair value | | |
| Cash and cash equivalents | $ 101,510,907 | $ 296,147,639 |
| Fixed income securities | 1,134,987,094 | 1,181,106,153 |
| Equity securities - common stocks | 240,600,742 | 111,368,604 |
| Equity securities - registered investment companies | 104,148,228 | 352,112,732 |
| Equity securities - commingled trust funds | 445,686,640 | 388,957,961 |
| Equity securities - put and call option contracts | 54,578,126 | 10,653,404 |
| Futures contracts | 5,863,473 | (374,033) |
| Interest rate swaps and collars | 59,648,321 | 75,972,144 |
| Gold trust-exchange traded fund | 55,976,527 | 72,879,162 |
| Alternative investments | 904,217,384 | 1,035,305,627 |
| Total investments at fair value | 3,107,217,442 | 3,524,129,393 |
| Receivable for sales pending settlement and interest earned (net of payable for investments purchased) | 6,214,938 | 13,837,848 |
| Total value of interest in Arconic. Inc Retirement Plans Master Trust at fair value | 3,113,432,380 | 3,537,967,241 |
| Value of interest in RMI Retirement Plans Master Trust at fair value | | |
| Cash and cash equivalents | 3,432,152 | 1,760,417 |
| Equity securities - common stocks | 5,308 | 8,657 |
| Alternative investments | 8,998,676 | 9,987,403 |
| Total value of interest in RMI Retirement Plans Master Trust at fair value | $ 12,436,136 | $ 11,756,477 |

The following table lists the ownership percentage of the Plans in the Arconic Master Trust net assets as of December 31:

| | 2018 | 2017 |
|---|---|---|
| Arconic Salary Plan | 51.32 % | 52.16 % |
| Arconic Hourly Plan | 38.95 | 38.34 |
| Huck Plan | 0.45 | 0.45 |
| Muskegon Plan | 2.21 | 2.07 |
| Howmet Plan | 2.79 | 2.73 |
| RMI Salaried Plan | 2.22 | 2.22 |
| RMI Hourly Plan | 2.06 | 2.03 |
| Total | 100.00 % | 100.00 % |

The following table lists the ownership percentage of the Plans in the RMI Retirement Plans Master Trust net assets as of December 31:

| | 2018 | 2017 |
|---|---|---|
| RMI Salaried Plan | 51.85 % | 52.60 % |
| RMI Hourly Plan | 48.15 | 47.40 |
| Total | 100.00 % | 100.00 % |

For the year ended December 31, 2018 Arconic Master Trust investment loss was comprised of the following:

| | 2018 |
|---|---|
| **Investment loss** | |
| Interest | $ 50,208,763 |
| Dividends | 4,607,508 |
| Net appreciation (depreciation) in fair value of investments | |
| Fixed income securities | (110,418,732) |
| Equity securities - common and preferred stocks | (24,437,629) |
| Equity securities - registered investment companies | (8,979,727) |
| Equity securities - commingled trust funds | (24,971,381) |
| Equity securities - put and call option contracts | 11,641,820 |
| Futures | 11,707,058 |
| Interest rate swaps | (401,090) |
| Interest rate collars | (43,217,720) |
| Gold trust - exchange traded fund | (1,913,196) |
| Alternative investments | 1,190,353 |
| Investment management/trustee fees | (11,292,347) |
| Total Arconic Retirement Plans Master Trust investment loss | $ (146,276,319) |

For the year ended December 31, 2018 RMI Retirement Plans Master Trust investment income was comprised of the following:

| | 2018 |
|---|---|
| **Investment income** | |
| Interest | $ 50,696 |
| Dividends | 85 |
| Net appreciation in fair value of investments | |
| Alternative investments | 723,123 |
| Investment management fees | (94,244) |
| Total RMI Retirement Plans Master Trust investment income | $ 679,660 |

The following table lists the ownership percentage of the Plans in the Arconic Master Trust investment loss for the year ended December 31, 2018:

| | 2018 |
|---|---|
| Arconic Salary Plan | 52.54 % |
| Arconic Hourly Plan | 38.32 |
| Huck Plan | 0.44 |
| Muskegon Plan | 2.06 |
| Howmet Plan | 2.74 |
| RMI Salaried Plan | 1.97 |
| RMI Hourly Plan | 1.93 |
| Total | 100.00 % |

The following table lists the ownership percentage of the Plans in the RMI Retirement Plans Master Trust investment income for the year ended December 31, 2018:

| | 2018 |
|---|---|
| RMI Salaried Plan | 38.91 % |
| RMI Hourly Plan | 61.09 |
| Total | 100.00 % |

## 4. Fair Value Measurements

FASB Accounting Standards Codification No. 820, *Fair Value Measurements and Disclosures*, (ASC 820) provides the framework for measuring fair value. That framework provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy under ASC 820 are described below:

Level 1 Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that the Plan has the ability to access.

Level 2 Inputs to the valuation methodology include:

- Quoted prices for similar assets or liabilities in active markets;
- Quoted prices for identical or similar assets or liabilities in inactive markets;
- Inputs other than quoted prices that are observable for the asset or liability;
- Inputs that are derived principally from or corroborated by observable market data correlation or other means.

Level 3 Inputs to the valuation methodology are unobservable and significant to the fair value measurement.

The asset's or liability's fair value measurement Level within the fair value hierarchy is based on the lowest Level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs.

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

**Cash and Cash Equivalents**
Cash and cash equivalents held within commingled funds (institutional short-term investment funds) are fully liquid within 30 days and are valued at the closing Net Asset Value (NAV) of shares held at year end as a practical expedient. Cash and cash equivalents held within commingled funds (short-term investment funds) that are publicly traded are valued at the closing Net Asset Value (NAV) and are included in Level 1.

**Fixed Income Securities**
U.S. government debt is valued at the closing price reported on an active market on the last business day of each period presented (included in Level 1).

U.S. and non-U.S. fixed interest obligations (principally corporate bonds and debentures) are valued through consultation and evaluation with brokers in the institutional market using quoted prices and other observable market data (included in Level 2).

**Equity Securities – Common Stocks, Gold Trust-Exchange Traded Fund, and Futures Contracts**
Valued at the closing price reported on an active market on the last business day of each period presented (included in Level 1).

**Equity Securities – Commingled Trust Funds**
Valued at the closing NAV of shares held at year end as a practical expedient.

**Equity Securities – Registered Investment Companies**
Valued at the closing NAV of shares held at year end. These funds are open-end mutual funds that are registered with the U.S. Securities and Exchange Commission. They are required to publish their daily NAV and to transact at that price and, therefore, are deemed to be actively traded with readily determinable fair values (included in Level 1).

**Equity Hedging – Put and Call Option Contracts**
Valued at the closing price reported on an active market on the last business day of each period presented (included in Level 1).

**Interest Rate Collars and Swaps**
Valued using industry standard models with market-based observable inputs (included in Level 2).

**Alternative Investments**
Valued primarily at the closing NAV of shares held at year end as a practical expedient as reported in audited financial statements. In the event that audited financial statements for these investments are not available in time to prepare the financial statements or management believes the value reported by the investment advisor does not accurately reflect fair value due to an event in the market place, management will adjust the reported value to fair value based upon information provided by the investment manager and independent valuation experts.

The following table sets forth by level, within the fair value hierarchy, the assets at fair value as of December 31, 2018.

| | Assets at Fair Value as of December 31, 2018 | | | | |
|---|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Assets Measured at Net Asset value (a) | Total |
| Assets in Arconic Retirement Plans Master Trust at fair value | | | | | |
| Cash and cash equivalents | $ 8,176,420 | $ - | $ - | $ 93,334,487 | $ 101,510,907 |
| Equity securities - common stocks | | | | | |
| Real estate investment trusts | 80,441,107 | - | - | - | 80,441,107 |
| Other | 160,159,635 | - | - | - | 160,159,635 |
| Equity securities - registered investment companies | 104,148,228 | - | - | - | 104,148,228 |
| Equity securities - commingled trust funds | - | - | - | 445,686,640 | 445,686,640 |
| Equity securities - put and call option contracts | 54,578,126 | - | - | - | 54,578,126 |
| Fixed income securities | | | | | |
| U.S. government debt | 192,811,156 | - | - | - | 192,811,156 |
| Corporate debt - other | - | 942,175,937 | - | - | 942,175,937 |
| Futures contracts | 5,863,473 | - | - | - | 5,863,473 |
| Interest rate collars | - | 59,648,321 | - | - | 59,648,321 |
| Gold Trust - exchange traded fund | 55,976,527 | - | - | - | 55,976,527 |
| Alternative Investments | | | | | |
| Private real estate - direct | - | - | - | 47,509,587 | 47,509,587 |
| Timber - direct | - | - | - | 10,548,941 | 10,548,941 |
| Venture capital - direct | - | - | - | 81,969,038 | 81,969,038 |
| Private equity - direct | - | - | - | 37,736,216 | 37,736,216 |
| Private debt - direct | - | - | - | 7,140,809 | 7,140,809 |
| Private equity/venture capital - fund of funds | - | - | - | 21,673,857 | 21,673,857 |
| Hedge funds | - | - | - | 697,638,937 | 697,638,937 |
| Total of assets in Arconic Retirement Plans Master Trust at fair value | 662,154,672 | 1,001,824,258 | - | 1,443,238,512 | 3,107,217,442 |
| Assets in RMI Retirement Plans Master Trust at fair value | | | | | |
| Cash and cash equivalents | - | - | - | 3,432,152 | 3,432,152 |
| Equity securities - common stocks | 5,308 | - | - | - | 5,308 |
| Alternative Investments | | | | | |
| Private real estate - direct | - | - | 566,291 | 2,119,183 | 2,685,474 |
| Timber - direct | - | - | 1,009,799 | - | 1,009,799 |
| Private equity - direct | - | - | 22,378 | 5,281,025 | 5,303,403 |
| Total of assets in RMI Retirement Plans Master Trust at fair value | 5,308 | - | 1,598,468 | 10,832,360 | 12,436,136 |
| Total assets at fair value | $ 662,159,980 | $ 1,001,824,258 | $ 1,598,468 | $ 1,454,070,872 | $ 3,119,653,578 |

(a) In accordance with Sub Topic 820-10, certain investments that were measured at net asset value per share (or its equivalent) have not been classified in the fair value hierarchy.

The following table sets forth by level, within the fair value hierarchy, the assets at fair value as of December 31, 2017.

| | Assets at Fair Value as of December 31, 2017 | | | | |
|---|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Assets Measured at Net Asset value (a) | Total |
| Assets in Arconic Retirement Plans Master Trust at fair value | | | | | |
| Cash and cash equivalents | $ 164,488,747 | $ - | $ - | $ 131,658,892 | $ 296,147,639 |
| Equity securities - common stocks | | | | | |
| Real estate investment trusts | 85,238,029 | - | - | - | $ 85,238,029 |
| Other | 26,130,575 | - | - | - | $ 26,130,575 |
| Equity securities - registered investment companies | 352,112,732 | - | - | - | $ 352,112,732 |
| Equity securities - commingled trust funds | - | - | - | 388,957,961 | $ 388,957,961 |
| Equity securities - put and call option contracts | 10,653,404 | - | - | - | $ 10,653,404 |
| Fixed income securities | | | | | |
| U.S. government debt | 201,420,286 | - | - | - | $ 201,420,286 |
| Corporate debt - other | - | 979,685,867 | - | - | $ 979,685,867 |
| Futures contracts | (374,033) | - | - | - | $ (374,033) |
| Interest rate collars and swaps | - | 75,972,144 | - | - | $ 75,972,144 |
| Gold Trust - exchange traded fund | 72,879,162 | | - | - | $ 72,879,162 |
| Alternative Investments | | | | | |
| Private real estate - direct | - | - | - | 52,866,602 | $ 52,866,602 |
| Timber - direct | - | - | - | 11,083,752 | $ 11,083,752 |
| Venture capital - direct | - | - | - | 69,852,590 | $ 69,852,590 |
| Private equity - direct | - | - | - | 54,592,037 | $ 54,592,037 |
| Private debt - direct | - | - | - | 7,729,050 | $ 7,729,050 |
| Private equity/venture capital - fund of funds | - | - | - | 26,597,341 | $ 26,597,341 |
| Hedge funds | - | - | - | 812,584,255 | $ 812,584,255 |
| Total of assets in Arconic Retirement Plans Master Trust at fair value | 912,548,902 | 1,055,658,011 | - | 1,555,922,480 | 3,524,129,393 |
| Assets in RMI Retirement Plans Master Trust at fair value | | | | | |
| Cash and cash equivalents | - | - | - | 1,760,417 | $ 1,760,417 |
| Equity securities - common stocks | 8,656 | - | - | - | $ 8,656 |
| Alternative Investments | | | | | |
| Private real estate - direct | - | - | 532,315 | 2,925,276 | $ 3,457,591 |
| Timber - direct | - | - | 1,054,613 | - | $ 1,054,613 |
| Private equity - direct | - | - | 66,995 | 5,408,204 | $ 5,475,199 |
| Total of assets in RMI Retirement Plans Master Trust at fair value | 8,656 | - | 1,653,923 | 10,093,897 | $ 11,756,476 |
| Total assets at fair value | $ 912,557,558 | $ 1,055,658,011 | $ 1,653,923 | $ 1,566,016,377 | $ 3,535,885,869 |

(a) In accordance with Sub Topic 820-10, certain investments that were measured at net asset value per share (or its equivalent) have not been classified in the fair value hierarchy.

The Arconic Master Trust and the RMI Retirement Plans Master Trust use the NAV as a practical expedient for all of the underlying investments which (a) do not have a readily determinable fair value and (b) either have the attributes of an investment company or prepare their financial statements consistent with the measurement principles of an investment company.

There have been no transfers between levels within the fair value hierarchy during 2018 or 2017. The following table sets forth a summary of changes in the fair value of the RMI Retirement Plans Master Trust's Level 3 assets for the year ended December 31, 2018.

| | |
|---|---|
| **Beginning Balance, December 31, 2017** | $ 1,653,923 |
| Realized gains/(losses) | 58,301 |
| Unrealized gains/(losses) | 6,428 |
| Purchases | 105,142 |
| Sales | (225,326) |
| **Ending Balance, December 31, 2018** | $ 1,598,468 |

At December 31, 2018, the RMI Retirement Plans Master Trust had Level 3 investments valued at $1,598,468. The investments in the Plan's financial statements have been valued primarily at the unadjusted net asset value (or its equivalent) as reported by the managers of the Alternative Investments or as reported in the audited financial statements.

The following table sets forth a summary of liquidity consideration of the investments classified as commingled trust funds and alternative investments within the Arconic Master Trust:

| Category of Investment | Investment Strategy | December 31, 2018 Fair Value | December 31, 2017 Fair Value | Unfunded Commitments at December 31, 2018 | Remaining Life at December 31, 2018 | Redemption Restrictions and Terms |
|---|---|---|---|---|---|---|
| Equity Securities-Commingled Trust Funds | Global Equity markets | $ 445,686,640 | $ 388,957,961 | Not Applicable | Not Applicable | (C) |
| Private Real Estate - Direct | Global Private Real Estate strategy | 47,509,587 | 52,866,602 | 2,241,802 | Up to 1 year | (A) |
| Timber - Direct | Global Timber strategy | 10,548,941 | 11,083,752 | - | Up to 5 years | (A) |
| Venture Capital - Direct | Global Private Real Estate strategy | 81,969,038 | 69,852,590 | 852,585 | Up to 5 years | (A) |
| Private Equity - Direct | Global Private Equity strategy | 37,736,216 | 54,592,037 | 42,196,942 | Up to 12 years | (A) |
| Private Debt - Direct | Global Distressed Debt | 7,140,809 | 7,729,050 | 8,688 | Up to 7 years | (A) |
| Private Equity/Venture Capital Fund of Funds | Global Private Equity/Venture Capital strategy | 21,673,857 | 26,597,341 | 2,619,264 | Up to 4 years | (A) |
| Hedge Funds | Discretionary and Systematic Macro strategy | 231,492,420 | 582,953,982 | Not Applicable | Not Applicable | (B) |
| Hedge Funds | Long / Short Equity strategy | 466,146,517 | 229,630,273 | Not Applicable | Not Applicable | (B) |

(A) Redemption not permitted during life of funds. Sale or transfer subject to approval of the general partner.

(B) Hedge Fund Redemption terms vary by fund. Under normal conditions, 87% liquidity is typically available within 180 days, but can be further restricted based on actions of other investors. When investor restrictions are in place, 82% of funds are available within one year.

(C) Redemption terms vary by fund. Full liquidity is available within 30 days.

The following table sets forth a summary of liquidity consideration of the investments classified as alternative investments within the RMI Retirement Plans Master Trust as of December 31, 2018 and as of December 31, 2017:

| Category of Investment | Investment Strategy | December 31, 2018 Fair Value | December 31, 2017 Fair Value | Unfunded Commitments at December 31, 2018 | Remaining Life at December 31, 2018 | Redemption Restrictions and Terms |
|---|---|---|---|---|---|---|
| Private Equity Funds | Global Private Equity strategy | $ 5,303,404 | $ 5,475,199 | $ 748,809 | Up to 7 years | Not redeemable |
| Real Estate Funds | Global Private Real Estate strategy | 2,685,474 | 3,457,591 | 1,053,650 | Up to 10 years | Not redeemable |
| Timberlands | Global Timber strategy | 1,009,799 | 1,054,613 | Not applicable | Not applicable | (A) |

(A) A sale of Timberlands may be initiatied at any time, but it may take 12 months, or more, for the sale to be realized.

## 5. Derivatives

### Derivatives Policy

The Arconic Master Trust enters into contractual arrangements classified as derivatives in carrying out its investment strategy, principally to (1) manage interest rate risk within the portfolio, (2) manage exposure to a market more efficiently than could be accomplished through the use of cash markets, and (3) increase investment returns by reducing the cost of structuring the portfolio or by capturing value disparities between financial instruments. The Arconic Master Trust utilizes exchange traded instruments such as interest rate futures, options on futures, interest rate swaps, interest rate collars, put and call option contracts, and foreign currency forward contracts. The Arconic Master Trust is subject to enforceable master netting arrangements, or netting arrangements, with certain counterparties. Master netting agreements may not be specific to each different asset type; in such instances, they would allow the company to close out and net its total exposure to a specified counter party in the event of a default.

The following is a summary of the Arconic Master Trust's usage of derivatives:

### Futures Contracts

A futures contract is a contractual agreement to make or take delivery of a standardized quantity of a specified grade or type of commodity or financial instrument at a specified future date in accordance with terms specified by a regulated future exchange.

The Arconic Master Trust may use treasury, Eurodollar, and other fixed income futures contracts to manage exposure to interest rate risk and exposure in the market. Buying futures tends to increase the Arconic Master Trust's exposure to the underlying instrument held, while selling futures tends to reduce the exposure.

A summary of the open futures contracts as of December 31, 2018 and 2017 is presented below:

| | Long Contracts | | | | Short Contracts | | | |
|---|---|---|---|---|---|---|---|---|
| | 2018 Number of Contracts | 2018 Aggregate Face Value | 2018 Unrealized Gain/Loss | 2018 Variation Margin | 2018 Number of Contracts | 2018 Aggregate Face Value | 2018 Unrealized Gain/Loss | 2018 Variation Margin |
| US Long Bond Future | 160 | $ 23,360,000 | $ 944,174 | $ - | | $ - | $ - | $ - |
| US 10 Year Treasury Notes Future | 1,838 | 224,264,719 | 4,457,724 | - | 38 | 4,636,594 | (100,278) | - |
| US 5 Year Treasury Notes Future | 61 | 6,995,938 | 112,984 | - | 172 | 19,726,250 | (332,453) | - |
| US 2 Year Treasury Notes Future | 36 | 7,643,250 | 52,682 | - | 1 | 212,313 | (1,453) | - |
| US Ultra Bond Future | 434 | 69,724,813 | 3,128,302 | - | 122 | 19,600,063 | (965,258) | - |
| US 10 Year Ultra Bond Future | 5 | 650,391 | 10,641 | - | 22 | 2,861,719 | (89,524) | - |
| US Treasury Bond Future | - | - | - | - | 1 | 146,000 | (6,828) | - |
| Mini MSCI EAFE Future | - | - | - | - | 100 | 8,580,000 | (91,189) | - |
| Mini MSCI Emerging Market Future | - | - | - | - | 68 | 3,287,120 | (40,188) | - |
| Eurodollar-BOBL Future | - | - | - | - | 21 | 3,181,295 | (32,670) | - |
| Eurodollar-BUND Future | - | - | - | - | 17 | 3,178,163 | (49,975) | - |
| Eurodollar-BUXL 30 Year Bond Future | - | - | - | - | 1 | 206,476 | (6,079) | - |
| S&P 500 EMINI Index Future | - | - | - | - | 608 | 76,158,080 | (985,428) | - |
| 90 Day Euro Future | - | - | - | - | 158 | 38,459,113 | (141,711) | - |
| Grand total | 2,534 | $ 332,639,111 | $ 8,706,507 | $ - | 1,329 | $ 180,233,186 | $ (2,843,034) | $ - |

| | Long Contracts | | | | Short Contracts | | | |
|---|---|---|---|---|---|---|---|---|
| | 2017 Number of Contracts | 2017 Aggregate Face Value | 2017 Unrealized Gain/Loss | 2017 Variation Margin | 2017 Number of Contracts | 2017 Aggregate Face Value | 2017 Unrealized Gain/Loss | 2017 Variation Margin |
| US Long Bond Future | 178 | $ 27,234,000 | $ 843 | $ - | - | $ - | $ - | $ - |
| US 10 Year Treasury Notes Future | 315 | 39,074,774 | (185,500) | - | 83 | 10,295,893 | 44,843 | - |
| US 5 Year Treasury Notes Future | 40 | 4,646,564 | (7,671) | - | 134 | 15,565,989 | 59,001 | - |
| US 2 Year Treasury Notes Future | 23 | 4,924,516 | (10,278) | - | 1 | 214,109 | 234 | - |
| US Ultra Bond Future | 31 | 5,197,345 | 25,591 | - | 220 | 36,884,386 | (364,337) | - |
| US 10 Year Ultra Bond Future | - | - | - | - | 51 | 6,811,688 | 14,850 | - |
| Mini MSCI EAFE Future | 72 | 7,363,800 | (1,351) | - | - | - | - | - |
| Mini MSCI Emerging Market Future | 525 | 30,547,125 | 90,333 | - | - | - | - | - |
| Eurodollar-BOBL Future | - | - | - | - | 17 | 2,686,634 | (23,097) | - |
| Eurodollar-Schatz Future | - | - | - | - | 7 | 941,217 | (11,389) | - |
| Eurodollar-BUND Future | - | - | - | - | 20 | 3,882,906 | (20,280) | - |
| Eurodollar-BUXL 30 Year Bond Future | - | - | - | - | 1 | 196,763 | 1,227 | - |
| S&P 500 EMINI Index Future | - | - | - | - | 171 | 22,879,800 | (30,163) | - |
| Grand total | 1,184 | $ 118,988,124 | $ (88,032) | $ - | 705 | $ 100,359,385 | $ (329,111) | $ - |

### Options on Futures Contracts

The Arconic Master Trust may buy or sell options on futures contracts to capture value disparities between financial instruments. Options strategies may be used to improve yields and enhance performance of the fixed income portfolio. Options on futures contracts are purchased or sold on regulated futures exchanges.

### Interest Rate Swaps

The Arconic Master Trust may use interest rate swaps to manage exposure to interest rates within the portfolio or to capture value disparities between financial instruments. An interest rate swap typically involves the agreement with a counterparty to exchange variable rate and fixed rate payments with respect to a notional amount of principal on the value of an underlying instrument or index. Interest rate swaps are purchased or sold on regulated futures exchanges.

As of 05/23/2018, the interest rate swap program was discontinued. The average notional value of interest rate swaps held by the Arconic Master Trust through May 23, 2018 was $4,025,625,000.

The average notional value of interest rate swaps held by the Arconic Master Trust during the year ended December 31, 2017 was $7,259,583,333.

| Investment | Expiration Date | 2017 Number of Contracts | 2017 Notional Value | 2017 Aggregate Book Value | 2017 Unrealized Gain/Loss |
|---|---|---|---|---|---|
| Options on Interest Rate Swaps | 03/21/2018 | 6 | $ 1,686,250,000 | $ 25,145,075 | $ (25,093,680) |
| Options on Interest Rate Swaps | 04/25/2018 | 8 | 2,850,000,000 | 27,704,375 | (27,499,460) |
| Options on Interest Rate Swaps | 05/23/2018 | 3 | 1,045,000,000 | 16,549,000 | (16,404,220) |
| Grand total | | 17 | $ 5,581,250,000 | $ 69,398,450 | $ (68,997,360) |

The following table is a summary by counterparty of the Arconic Master Trust's net exposure to interest rate swaps at December 31, 2017:

| Broker | Fair Value of Derivative Assets | Fair Value of Derivative Liabilities | Net Exposure |
|---|---|---|---|
| Bank of America Corp. | $ 70,395 | $ - | $ 70,395 |
| Barclays PLC | 161,880 | - | 161,880 |
| Credit Suisse Group AG | 50,255 | - | 50,255 |
| Royal Bank of Canada | 23,370 | - | 23,370 |
| Societe Generale SA | 29,640 | - | 29,640 |
| Wells Fargo & Co. | 65,550 | - | 65,550 |
| Grand total | $ 401,090 | $ - | $ 401,090 |

**Interest Rate Collars**

The Arconic Master Trust may use interest rate collars to manage exposure to interest rate fluctuations. The interest rate collar is an options strategy which involves buying an interest rate receiver swaption while selling an interest rate payer swaption. The premium received for selling the interest rate payor swaption pays for the purchase of the interest rate receiver swaption. The purchased receiver swaption protects against falling interest rates, while the sold payor swaption limits the benefit of rising interest rates.

The average notional values of the protective puts and covered calls held by the Arconic Master Trust during the year ended December 31, 2018 was $2,173,333,333 and ($2,173,333,333), respectively.

| Investment | Expiration Date | 2018 Number of Contracts | 2018 Notional Value | 2018 Aggregate Book Value | 2018 Unrealized Gain/Loss |
|---|---|---|---|---|---|
| Options - Interest Rate Collars | 07/01/2019 | 1 | $ (280,000,000) | $ (3,122,500) | $ 2,403,740 |
| Options - Interest Rate Collars | 08/07/2019 | 1 | (280,000,000) | (2,400,000) | 1,791,280 |
| Options - Interest Rate Collars | 08/28/2019 | 1 | (100,000,000) | (2,050,000) | 1,262,900 |
| Options - Interest Rate Collars | 09/04/2019 | 1 | (280,000,000) | (2,350,000) | 1,631,240 |
| Options - Interest Rate Collars | 09/18/2019 | 1 | (120,000,000) | (2,800,000) | 1,762,240 |
| Options - Interest Rate Collars | 10/02/2019 | 1 | (120,000,000) | (2,800,000) | 1,636,840 |
| Options - Interest Rate Collars | 11/06/2019 | 1 | (120,000,000) | (3,500,000) | 1,969,520 |
| Options - Interest Rate Collars | 11/20/2019 | 1 | (280,000,000) | (3,200,000) | 1,766,960 |
| Options - Interest Rate Collars | 12/11/2019 | 1 | (280,000,000) | (3,380,000) | 1,788,200 |
| Options - Interest Rate Collars | 01/08/2020 | 1 | (280,000,000) | (3,300,000) | 1,508,280 |
| Options - Interest Rate Collars | 01/22/2020 | 1 | (120,000,000) | (3,500,000) | 1,481,120 |
| Options - Interest Rate Collars | 02/12/2020 | 1 | (100,000,000) | (2,900,000) | 1,133,400 |
| Options - Interest Rate Collars | 08/01/2022 | 6 | 1,180,000,000 | 58,798,501 | (22,962,101) |
| Options - Interest Rate Collars | 12/05/2022 | 6 | 1,180,000,000 | 59,033,600 | (20,054,899) |
| Grand total | | 24 | $ - | $ 82,529,601 | $ (22,881,280) |

The following table is a summary by counterparty of the Arconic Master Trust's net exposure to interest rate collars at December 31, 2018:

| Broker | Fair Value of Derivative Assets | Fair Value of Derivative Liabilities | Net Exposure |
|---|---|---|---|
| Bank of America Corp. | $ 6,542,760 | $ (1,791,720) | $ 4,751,040 |
| Barclays PLC | 12,315,800 | (1,881,920) | 10,433,880 |
| Credit Suisse Group AG | 12,145,320 | (2,737,640) | 9,407,680 |
| Royal Bank of Canada | 10,998,480 | (787,100) | 10,211,380 |
| Societe Generale SA | 13,764,480 | (2,470,800) | 11,293,680 |
| Wells Fargo & Co. | 19,093,140 | (5,542,479) | 13,550,661 |
| Grand total | $ 74,859,980 | $ (15,211,659) | $ 59,648,321 |

The average notional values of the protective puts and covered calls held by the Arconic Master Trust during the year ended December 31, 2017 was $1,376,666,000 and ($1,376,666,000), respectively.

| Investment | Expiration Date | 2017 Number of Contracts | 2017 Notional Value | 2017 Aggregate Book Value | 2017 Unrealized Gain/Loss |
|---|---|---|---|---|---|
| Options - Interest Rate Collars | 08/01/2018 | 6 | $ (1,180,000,000) | $ (19,599,501) | $ 10,619,315 |
| Options - Interest Rate Collars | 12/05/2018 | 6 | (1,180,000,000) | (19,617,600) | 1,967,460 |
| Options - Interest Rate Collars | 08/01/2022 | 6 | 1,180,000,000 | 58,798,501 | (8,748,741) |
| Options - Interest Rate Collars | 12/05/2022 | 6 | 1,180,000,000 | 59,033,600 | (6,881,980) |
| Grand total | | 24 | $ - | $ 78,615,000 | $ (3,043,946) |

The following table is a summary by counterparty of the Arconic Master Trust's net exposure to interest rate collars at December 31, 2017:

| Broker | Fair Value of Derivative Assets | Fair Value of Derivative Liabilities | Net Exposure |
|---|---|---|---|
| Bank of America Corp. | $ 8,660,120 | $ (3,041,946) | $ 5,618,174 |
| Barclays PLC | 17,274,480 | (1,470,000) | 15,804,480 |
| Credit Suisse Group AG | 16,794,560 | (4,955,480) | 11,839,080 |
| Royal Bank of Canada | 15,300,200 | (4,443,400) | 10,856,800 |
| Societe Generale SA | 18,886,000 | (3,891,920) | 14,994,080 |
| Wells Fargo & Co. | 25,286,020 | (8,827,580) | 16,458,440 |
| Grand total | $ 102,201,380 | $ (26,630,326) | $ 75,571,054 |

**Equity – Put and Call Option Contracts**

The Arconic Master Trust may use put and call option contracts to manage exposure related to its equity holdings. A call option provides the holder the right (but not the obligation) to purchase an underlying asset at a specified price (the strike price), for a certain period of time. A put option

gives the holder the right to sell an underlying asset at a specified price (the strike price). The seller (or writer) of the put option is obligated to buy the stock at the strike price. Options are purchased or sold on regulated exchanges.

The average notional value of equity put and call option contracts held by the Arconic Master Trust during the year ended December 31, 2018 was $589,087,142.

| Investment | Expiration Date | 2018 Number of Contracts | 2018 Notional Value | 2018 Aggregate Book Value | 2018 Unrealized Gain/Loss |
|---|---|---|---|---|---|
| Equity - Put Option Contracts | 01/04/2019 | 6 | $ (84,614,909) | $ (876,910) | $ (1,209,723) |
| Equity - Call Option Contracts | 01/04/2019 | 6 | (133,408,855) | (676,108) | 675,943 |
| Equity - Put Option Contracts | 01/11/2019 | 5 | (81,868,528) | (910,930) | (991,124) |
| Equity - Call Option Contracts | 01/11/2019 | 6 | (125,522,088) | (489,109) | 455,281 |
| Equity - Put Option Contracts | 01/18/2019 | 4 | (95,640,381) | (1,232,615) | 720,180 |
| Equity - Call Option Contracts | 01/18/2019 | 7 | (297,931,497) | (2,378,221) | (768,786) |
| Equity - Put Option Contracts | 01/25/2019 | 3 | (24,484,197) | (702,524) | 390,585 |
| Equity - Call Option Contracts | 01/25/2019 | 9 | (119,214,201) | (50,481) | 2,004 |
| Equity - Put Option Contracts | 03/15/2019 | 8 | 140,946,982 | 9,742,839 | 7,495,229 |
| Equity - Put Option Contracts | 06/21/2019 | 8 | 140,946,982 | 8,271,033 | 8,072,169 |
| Equity - Put Option Contracts | 09/20/2019 | 8 | 140,950,888 | 7,772,593 | 12,793,497 |
| Equity - Put Option Contracts | 12/20/2019 | 6 | 144,219,969 | 10,061,722 | (1,588,419) |
| Grand total | | 76 | $ (395,619,835) | $ 28,531,289 | $ 26,046,837 |

The following table is a summary by counterparty of the Arconic Master Trust's net exposure to equity put and call options at December 31, 2018:

| Broker | Fair Value of Derivative Assets | Fair Value of Derivative Liabilities | Net Exposure |
|---|---|---|---|
| Bank of America Corp. | $ 17,969,601 | $ (1,967,273) | $ 16,002,328 |
| Barclays PLC | 17,681,777 | (1,236,922) | 16,444,855 |
| Credit Suisse Group AG | 5,248,758 | (913,441) | 4,335,317 |
| Goldman Sachs | 18,418 | (637,191) | (618,773) |
| Royal Bank of Canada | 6,302,334 | (5,589,902) | 712,432 |
| Societe Generale SA | 111,954 | (440,890) | (328,936) |
| Wells Fargo & Co. | 20,484,610 | (2,453,707) | 18,030,903 |
| Grand total | $ 67,817,452 | $ (13,239,326) | $ 54,578,126 |

The average notional value of equity put and call option contracts held by the Arconic Master Trust during the year ended December 31, 2017 was ($411,962,214).

| Investment | Expiration Date | 2017 Number of Contracts | 2017 Notional Value | 2017 Aggregate Book Value | 2017 Unrealized Gain/Loss |
|---|---|---|---|---|---|
| Equity - Put Option Contracts | 01/05/2018 | 5 | $ (175,421,364) | $ (397,950) | $ 303,235 |
| Equity - Call Option Contracts | 01/05/2018 | 5 | (272,191,827) | (261,117) | (59,423) |
| Equity - Put Option Contracts | 01/12/2018 | 6 | (153,218,412) | (435,219) | 256,136 |
| Equity - Call Option Contracts | 01/12/2018 | 6 | (234,242,426) | (252,801) | (149,060) |
| Equity - Put Option Contracts | 01/19/2018 | 6 | (158,655,266) | (426,488) | 38,746 |
| Equity - Call Option Contracts | 01/19/2018 | 12 | (513,223,736) | (416,954) | (200,173) |
| Equity - Put Option Contracts | 03/16/2018 | 6 | 288,493,374 | 454,906 | (110,835) |
| Equity - Put Option Contracts | 06/15/2018 | 6 | 280,154,082 | 1,921,405 | (273,355) |
| Equity - Put Option Contracts | 09/21/2018 | 6 | 270,522,674 | 4,462,322 | (514,041) |
| Equity - Put Option Contracts | 12/21/2018 | 6 | 255,820,687 | 7,194,944 | (480,874) |
| Grand total | | 64 | $ (411,962,214) | $ 11,843,048 | $ (1,189,644) |

The following table is a summary by counterparty of the Arconic Master Trust's net exposure to equity put and call options at December 31, 2017:

| Broker | Fair Value of Derivative Assets | Fair Value of Derivative Liabilities | Net Exposure |
|---|---|---|---|
| Bank of America Corp. | $ 3,118,294 | $ - | $ 3,118,294 |
| Barclays PLC | 4,497,361 | - | 4,497,361 |
| Credit Suisse Group AG | 182,954 | - | 182,954 |
| Royal Bank of Canada | 772,777 | - | 772,777 |
| Societe Generale SA | 2,093,803 | - | 2,093,803 |
| Wells Fargo & Co. | (11,786) | - | (11,786) |
| Grand total | $ 10,653,403 | $ - | $ 10,653,403 |

**Foreign Currency Forwards**

The Arconic Master Trust may use foreign currency forwards to capture value disparities between the fixed income and currency markets. Currency forwards may be purchased or sold to enhance returns in the fixed income portfolio. Foreign currency forwards are purchased or sold on regulated futures exchanges.

Activity and year end holdings of Options on Futures Contracts and Foreign Currency Forwards were not material to the overall investment portfolio.

The RMI Retirement Plans Master Trust did not enter into contractual arrangements classified as derivatives in carrying out its investment strategy.

## 6. Accumulated Plan Benefits

Accumulated plan benefits are those future benefit payments that are attributable, under each Plan's provisions, to employees' service rendered to the benefit information date. Accumulated plan benefits comprise benefits expected to be paid to (a) retired or terminated employees or their beneficiaries, (b) beneficiaries of deceased employees, and (c) present employees or their beneficiaries.

The actuarial present value of accumulated plan benefits is the amount that results from applying actuarial assumptions to adjust the accumulated plan benefits to reflect the time value of money (through discounts for interest) and the probability of payment (by means of decrements such as for death, disability, withdrawal, or retirement) between the valuation date and the expected date of payment. The Plans' actuary made this determination.

Actuarial valuation results as of December 31, 2018 using census data as of January 1, 2018, as well as those as of December 31, 2017, using census data as of January 1, 2017, have been presented below using standard actuarial techniques, taking into account the occurrence, if any, of significant events during the course of the year and the changes made to actuarial assumptions.

Based upon actuarial estimates at December 31, 2018, the present value of accumulated plan benefits for each of the Plans is as follows:

| | Actuarial Present Value of Accumulated Plan Benefits at December 31, 2018 | | | |
|---|---|---|---|---|
| | **Vested Benefits of Participants Currently Receiving Benefits** | **Other Vested Benefits** | **Nonvested Benefits** | **Total Present Value of Accumulated Plan Benefits** |
| Arconic Salary Plan | $ 1,818,520,458 | $ 866,303,318 | $ 29,243,817 | $ 2,714,067,593 |
| Arconic Hourly Plan | 1,332,122,632 | 489,583,763 | 28,856,944 | 1,850,563,339 |
| Huck Plan | 4,433,736 | 7,435,123 | - | 11,868,859 |
| Muskegon Plan | 53,203,136 | 60,588,754 | 771,644 | 114,563,534 |
| Howmet Plan | 27,269,360 | 114,333,487 | 3,707,304 | 145,310,151 |
| RMI Salaried Plan | 60,370,127 | 23,770,477 | 908,970 | 85,049,574 |
| RMI Hourly Plan | 44,323,896 | 28,350,606 | 2,269,378 | 74,943,880 |

Based upon actuarial estimates at December 31, 2017, the present value of accumulated plan benefits for each of the Plans is as follows:

| | Actuarial Present Value of Accumulated Plan Benefits at December 31, 2017 | | | |
|---|---|---|---|---|
| | **Vested Benefits of Participants Currently Receiving Benefits** | **Other Vested Benefits** | **Nonvested Benefits** | **Total Present Value of Accumulated Plan Benefits** |
| Arconic Salary Plan | $ 1,957,397,181 | $ 1,118,848,409 | $ 25,854,663 | $ 3,102,100,253 |
| Arconic Hourly Plan | 1,431,162,990 | 581,394,204 | 8,613,637 | 2,021,170,831 |
| Huck Plan | 4,636,486 | 8,067,085 | - | 12,703,571 |
| Muskegon Plan | 57,731,080 | 60,024,109 | 894,513 | 118,649,702 |
| Howmet Plan | 25,553,748 | 130,605,479 | 4,589,532 | 160,748,759 |
| RMI Salaried Plan | 65,542,988 | 27,973,994 | 1,150,703 | 94,667,685 |
| RMI Hourly Plan | 45,618,709 | 31,989,643 | 3,087,863 | 80,696,215 |

The 2018 change in the actuarial present value of accumulated plan benefits resulted from the following:

| | Actuarial Present Value of Accumulated Plan Benefits December 31, 2017 | Plan Amendments | Change in Actuarial Assumptions | Interest | Benefits Paid | Benefits Accumulated and Other Experience [(A)] | Actuarial Present Value of Accumulated Plan Benefits December 31, 2018 |
|---|---|---|---|---|---|---|---|
| Arconic Salary Plan | $ 3,102,100,253 | $ - | $ (181,698,638) | $ 110,841,682 | $ (339,561,269) | 22,385,565 | $ 2,714,067,593 |
| Arconic Hourly Plan | 2,021,170,831 | - | (127,920,085) | 72,157,586 | (141,931,597) | 27,086,604 | 1,850,563,339 |
| Huck Plan | 12,703,571 | - | (423,848) | 453,818 | (876,435) | 11,753 | 11,868,859 |
| Muskegon Plan | 118,649,702 | 8,755,875 | (8,917,551) | 4,144,903 | (10,181,418) | 2,112,023 | 114,563,534 |
| Howmet Plan | 160,748,759 | - | (12,581,340) | 5,635,685 | (11,844,473) | 3,351,520 | 145,310,151 |
| RMI Salaried Plan | 94,667,685 | - | (5,614,014) | 3,389,776 | (6,104,221) | (1,289,652) | 85,049,574 |
| RMI Hourly Plan | 80,696,215 | - | (5,295,117) | 2,901,390 | (4,560,519) | 1,201,911 | 74,943,880 |

(A) Consists of expected increase in benefits and other experience

The significant assumptions underlying the actuarial computations for the Plans at December 31, 2018 and 2017 are as follows:

**Interest Rate**
The following table lists the interest rates used for the Plans as of December 31, 2018 and 2017:

| | 2018 | 2017 |
|---|---|---|
| Arconic Salary Plan | 4.37 % | 3.78 % |
| Arconic Hourly Plan | 4.36 % | 3.70 % |
| Huck Plan | 4.35 % | 3.70 % |
| Muskegon Plan | 4.32 % | 3.65 % |
| Howmet Plan | 4.31 % | 3.64 % |
| RMI Salaried Plan | 4.35 % | 3.70 % |
| RMI Hourly Plan | 4.35 % | 3.70 % |

The cash balance interest rate is 3.00% for December 31, 2018 and 2017.

**Life Expectancy of Participants**
The following tables list the mortality tables used for the calculation of the Accumulated Plan Benefits and lump-sum distributions for each of the plans for the years ended December 31, 2018 and 2017:

| Plan | 12.31.2018 and 12.31.2017 Valuations |
|---|---|
| Arconic Salary Plan<br>Huck Plan<br>Howmet Plan (salaried employees)<br>RMI Salaried Plan | For deaths after service retirement and deaths after disability retirement, RP-2014 tables for males and females, and the following improvement tables:<br>· Males - based on experience of Arconic's salaried male population and trends to 0.65% ultimate improvement rate for ages less than 85, with the ultimate level grading to zero by age 115, achieved over a 20-year period<br>· Females - based on experience of Arconic's hourly (male and female) and salaried female population and trends to 0.50% ultimate improvement rate for ages less than 85, with the ultimate level grading to zero by age 115, achieved over a 20-year period |
| Arconic Hourly Plan<br>Muskegon Plan<br>Howmet Plan (hourly employees)<br>RMI Hourly Plan | For deaths after service retirement and deaths after disability retirement, RP-2014 tables for males and females, with Blue Collar adjustment and an adjustment based on Arconic's actual experience, and the following improvement table:<br>· Males and Females - based on experience of Arconic's hourly (male and female) and salaried female population and trends to 0.50% ultimate improvement rate for ages less than 85, with the ultimate level grading to zero by age 115, achieved over a 20-year period |

| Plan | 2017/2018 Lump Sum Distributions |
|---|---|
| Arconic Salary Plan<br>Arconic Hourly Plan<br>Howmet Plan<br>Muskegon Plan | For the 2017 and 2018 plan years, lump sum distributions are based on the PPA benefit calculated using modified segment rates and the Applicable Mortality Table as provided in Section 417(e)(3) of the Code. |

**Retirement**
The assumed weighted average retirement age is:

| | |
|---|---|
| Arconic Salary Plan | 65 |
| Arconic Hourly Plan | 64 |
| Huck Plan | 66 |
| Muskegon Plan | 64 |
| Howmet Plan | 64 |
| RMI Salaried Plan | 63 |
| RMI Hourly Plan | 63 |

## 7. Tax Status

The Internal Revenue Service ("IRS") has determined and informed the Company that the Plans are qualified and the trusts established under the Plans are tax exempt under the appropriate sections of the Internal Revenue Code (IRC).

The Plans have been amended since receiving the determination letters. However, the Plans' administrator and the Plans' tax counsel believe that the Plans are currently designed and being operated in compliance with the applicable requirements of the IRC. Therefore, they believe the Plans were qualified and the related trusts were tax-exempt as of the financial statements date.

Determination letters received were dated as follows:

| | |
|---|---|
| Arconic Salary Plan | December 08, 2016 |
| Arconic Hourly Plan | December 08, 2016 |
| Huck Plan | March 02, 2017 |
| Muskegon Plan | July 21, 2017 |
| Howmet Plan | December 13, 2016 |
| RMI Salaried Plan | September 12, 2014 |
| RMI Hourly Plan | June 27, 2014 |

U.S. GAAP requires the Plans' management to evaluate tax positions taken by the Plans and recognize a tax liability (or asset) if the organization has taken an uncertain position that would not be sustained upon examination by the IRS. The Plans' administrator and its tax counsel have analyzed the tax positions taken by the Plans and have concluded that as of December 31, 2018 and 2017, there are no uncertain tax positions taken or expected to be taken that would require recognition of a liability (or asset) or disclosure to the financial statements. As such, no reserve is required under U.S. GAAP. The Plans are subject to audits by the IRS; however, there are no current IRS audits for any tax periods in progress. The Plans' administrator and its tax counsel believe the Plans are no longer subject to IRS audits outside the statutory audit period.

## 8. Information Certified by the Plans' Trustee

*Arconic Master Trust*

The information included in the Plans' financial statements and Note 3 related to the Arconic Master Trust was prepared by Bank of New York Mellon, the Trustee of the Plans, as of December 31, 2018 and 2017 and for the year ended December 31, 2018 and furnished to the Plans' administrator. The Plans' administrator has obtained a certification from the Trustee that such information is complete and accurate in accordance with Section 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA. The Plans' management relies on third party valuation statements in valuing its alternative investments. In substantiating the reasonableness of the valuation information provided, management considers a variety of factors including review of methods and assumptions used by external sources, economic conditions, and market developments.

Statements of Individual Plan Net Assets Available for Benefits – Arconic Master Trust investments at fair value except for the alternative investments of $904,217,384 and $1,035,305,627 identified in Note 3 (and reflected in the table below) as of December 31, 2018 and 2017, respectively.

| | 2018 | 2017 |
|---|---|---|
| Arconic Master Trust | | |
| Private real estate - direct | $ 47,509,587 | $ 52,866,602 |
| Timber - direct | 10,548,941 | 11,083,752 |
| Venture capital - direct | 81,969,038 | 69,852,590 |
| Private equity - direct | 37,736,215 | 54,592,037 |
| Private debt - direct | 7,140,809 | 7,729,050 |
| Private equity/venture capital - fund of funds | 21,673,857 | 26,597,341 |
| Hedge funds | 697,638,937 | 812,584,255 |
| Total Arconic Master Trust | $ 904,217,384 | $ 1,035,305,627 |

Statements of Changes in Individual Plan Net Assets Available for Benefits – Arconic Master Trust interest, dividends and net appreciation/(depreciation) in fair value of investments except for the net appreciation/(depreciation) in fair value of alternative investments of $1,190,354 identified in Note 3 (and reflected in the table below) for the year ended December 31, 2018.

| | 2018 |
|---|---|
| Arconic Master Trust | |
| Private real estate - direct | $ 2,363,151 |
| Timber - direct | 1,293,053 |
| Venture capital - direct | 18,073,242 |
| Private equity - direct | (1,092,447) |
| Private debt - direct | (234,497) |
| Private equity/venture capital - fund of funds | 2,954,063 |
| Hedge funds | (22,166,212) |
| Total Arconic Master Trust | $ 1,190,353 |

*RMI Retirement Plans Master Trust*

The information included in the Plans' financial statements and Note 3 related to the RMI Retirement Plans Master Trust as of December 31, 2018 and 2017 and for the year ended December 31, 2018 was prepared by Bank of New York Mellon and furnished to the Plans' administrator. The Plans' administrator has obtained a certification from the Trustee that such information is complete and accurate in accordance with Section 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA. The Plans' management relies on third party valuation statements in valuing its alternative investments. In substantiating the reasonableness of the valuation information provided, management considers a variety of factors including review of methods and assumptions used by external sources, economic conditions, and market developments.

Statements of Individual Plan Net Assets Available for Benefits – RMI Retirement Plans Master Trust investments at fair value except for the alternative investments of $8,993,677 and $9,987,403 identified in Note 3 (and reflected in the table below) as of December 31, 2018 and 2017, respectively.

| | 2018 | 2017 |
|---|---|---|
| RMI Retirement Plans Master Trust | | |
| Real Estate Funds | $ 2,685,474 | $ 3,457,591 |
| Timberland Funds | 1,009,799 | 1,054,613 |
| Private Equity | 5,303,404 | 5,475,199 |
| Total RMI Retirement Plans Master Trust | $ 8,998,677 | $ 9,987,403 |

Statements of Changes in Individual Plan Net Assets Available for Benefits – RMI Retirement Plans Master Trust interest, dividends and net appreciation/(depreciation) in fair value of investments except for the net appreciation/(depreciation) in fair value of alternative investments of $723,123 identified in Note 3 (and reflected in the table below) for the year ended December 31, 2018.

| | 2018 |
|---|---|
| RMI Retirement Plans Master Trust | |
| Real Estate Funds | $ (572,690) |
| Timberland Funds | 6,686 |
| Private Equity | 1,289,127 |
| Total RMI Retirement Plans Master Trust | $ 723,123 |

## 9. Related Party Transactions

The Plans invest in funds managed by The Bank of New York Mellon. The Bank of New York Mellon is the trustee as defined by the Plans; therefore, these transactions, and expenses paid to The Bank of New York Mellon, qualify as party-in-interest transactions.

Arconic Inc. makes funding contributions to the Plans; therefore, these transactions qualify as party-in-interest transactions.

## 10. Plan Specific Activities

On March 29, 2018, Arconic made a cash contribution of $50,000,000 to the Arconic Salary Plan in accordance with an agreement that was reached with the PBGC in June 2016 in response to the Alcoa Inc. separation. This was the second $50,000,000 cash contribution made in accordance with this agreement which stipulated that Arconic would make cash contributions over a period of 30 months (from November 1, 2016) to the Arconic Salary Plan and Arconic Hourly Plan. The third and final cash contribution was made in April 2019 (see below). These contributions are not factored into minimum pension funding requirements. Arconic has the discretion as to how to apply the contributions to the Arconic Salary Plan and Arconic Hourly Plan and what plan year to apply the contributions. Arconic applied the $50,000,000 contribution made on March 29, 2018 to the 2017 plan year and is reflected as an Employer contribution receivable on the Statements of Individual Plan Net Assets Available for Benefits and as an Employer contribution on the Statements of Changes in Individual Plan Net Assets Available for Benefits.

On January 12, 2018, March 28, 2018, April 27, 2018 and September 14, 2018, Arconic made cash contributions of $44,970,013, $75,505,000, $2,702,000 and $2,183,000 to the Plans, respectively. Of the $75,505,000 March 28, 2018 contribution, $34,930,000 was applied to the 2017 Plan year and $40,575,000 to the 2018 Plan year. In the Plans' financial statements, a total of $84,785,013 was applied to the 2017 plan year and is reflected as an Employer contribution receivable on the Statements of Individual Plan Net Assets Available for Benefits and as an Employer contribution on the Statements of Changes in Individual Plan Net Assets Available for Benefits.

| | |
|---|---|
| Arconic Salary Plan | $ 103,367,792 |
| Arconic Hourly Plan | 21,578,566 |
| Muskegon Plan | 6,326,000 |
| Howmet Plan | 3,512,655 |

In addition, $16,000,000 of the March 28, 2018 contribution of $75,505,000 has been used to satisfy a portion of the $150,000,000 contribution required by the PBGC agreement discussed above. Through March 28, 2018, contributions totaling $116,000,000 have been made to the Plans partially satisfying the required $150,000,000 contribution. On April 17, 2019, a $34,000,000 contribution was made to Plan I which completely satisfies the agreement.

On April 13, 2018, the United Auto Workers ratified a new five-year labor agreement which expires on March 31, 2023. A provision within the agreement includes a retirement benefit increase for future retirees that participate in the Muskegon Plan. This plan amendment increases the actuarial present value of accumulated plan benefits by approximately $8,800,000. In addition, effective January 1, 2019, benefit accruals for future service will cease for participants in the Muskegon Plan.

## 11. Commitments and Contingencies

The Arconic Master Trust had capital commitments of $47,919,281 at December 31, 2018 in relation to additional funding for Limited Partnerships in which it invests.

The RMI Retirement Plans Master Trust had capital commitments of $1,802,459 at December 31, 2018, in relation to additional funding for Limited Partnerships in which it invests.

## 12. Subsequent Events

Management has evaluated the events and transactions that have occurred through September 12, 2019, the date the financial statements were available to be issued, and noted no items requiring adjustment of the financial statements or additional disclosures, other than that which is noted below.

On April 17, 2019, Arconic made a cash contribution of $34,000,000 to the Arconic Salary Plan in accordance with an agreement that was reached with the PBGC in June 2016 in response to the Alcoa Inc. separation which is discussed in more detail in Note 10. Arconic applied the $34,000,000 contribution made on April 17, 2019 to the 2018 plan year and is reflected as an Employer contribution receivable on the Statements of Individual Plan Net Assets Available for Benefits and as an Employer contribution on the Statements of Changes in Individual Plan Net Assets Available for Benefits.

On January 15, 2019 and March 27, 2019, Arconic made cash contributions of $27,009,150 and $16,000,000 to the Plans, respectively. Additionally, on September 13, 2019 Arconic is expected to make $25,203,000 of cash contributions to the Plans. In the Plans' financial statements, a total of $102,212,150 is being applied to the 2018 plan year and is reflected as an Employer contribution receivable on the Statements of Individual Plan Net Assets Available for Benefits and as an Employer contribution on the Statements of Changes in Individual Plan Net Assets Available for Benefits.

| | |
|---|---|
| Arconic Salary Plan | $ 54,704,868 |
| Arconic Hourly Plan | 28,694,296 |
| Muskegon Plan | 8,038,326 |
| Howmet Plan | 10,774,660 |

# HOWMET CORPORATION PENSION PLAN

## EIN: 13-2838093

## PN: 016

## ATTACHMENT TO SCHEDULE SB OF 2018 FORM 5500

***Schedule SB, Part V – Summary of Plan Provisions***

**Participation**

All non-union hourly-paid employees at the following divisions:

Dover Casting (Dover/Laporte)
Laporte Casting (Dover/Laporte)
Hampton Casting (Hampton)
Wichita Falls Casting (Wichita Falls)
Wichita Falls Refurbishment Center (Wichita Falls)
Morristown Pattern Facility (Morristown)
Tempcraft, Inc. (Tempcraft)
Advanced Refurbishment Center (Refurbishment)
Howmet Refurbishment, Inc. Advanced Refurbishment Center (Refurbishment)
Tulsa Refurbishment Center (Tulsa)
Howmet Refurbishment, Inc. Refurbishment Center (Tulsa)
Plymouth Alloy Division (Plymouth)
Dover Alloy (Dover Alloy)
Winsted Machining Center (Winsted)
Turbine Components Corporation (TCC)

Unionized hourly-paid employees at the Hampton Casting division hired before June 1, 2017.

**Accrued Benefit**

Consists of the applicable pension factor times Years of Credited Service not less than any Minimum Benefit plus any Additional Benefits. All accrued benefits for non-bargained participants were frozen effective April 1, 2018.

| Location | Pension Factor |
|---|---|
| Dover Casting | $ 21.50 |
| LaPorte Casting | $ 23.00 |
| Hampton | $ 24.50 |
| Wichita Falls | $ 23.00 |
| Morristown | $ 18.00 |
| Tempcraft | $ 12.00 |
| Refurbishment | $ 11.50 |
| Tulsa | $ 15.00 |
| Plymouth | $ 22.00 |
| Dover Alloy | $ 21.50 |
| Winsted | $ 12.00 |
| TCC | $ 16.50 |

**Minimum benefits**

Dover/LaPorte and Dover Alloy – 35% of Compensation at the later of age 50 or completion of five Years of Credited Service prior to age 55 (age 60 for Dover Alloy) less 65% of the Social Security Benefit at retirement multiplied by the ratio (not greater than 1.0) of Years of Service to ten.

Tempcraft – 0.6% of Final Average Earnings plus 0.6% of Final Average Earnings in excess of the Wage Base multiplied by Years of Credited Service and divided by 12.

**Additional benefits**

TCC – For service through December 10, 1991, $16.00 pension factor. Service from January 1, 1997 only is credited with the $16.50 factor.

**Normal Retirement**

Eligibility is age 65 (age 62 for Dover/LaPorte and Dover Alloy). The monthly benefit is equal to the Accrued Benefit.

**Delayed Retirement**

Eligibility is termination of employment after the Normal Retirement Date. The delayed retirement benefit is the Accrued Benefit including Credited Service after the Normal Retirement Date.

**Early Retirement**

| Location | Early Retirement Eligibility |
|---|---|
| Dover/LaPorte | Age 55 with 10 years of service |
| Tempcraft | Age 55 with 10 years of service |
| Tulsa | Age 55 with 10 years of service |
| Plymouth | Age 55 with 10 years of service |
| Dover Alloy | Age 55 with 10 years of service |
| Winsted | Age 55 with 10 years of service |
| Hampton | Age 57 with 10 years of service |
| Wichita Falls | Age 57 with 10 years of service |
| Morristown | Age 57 with 10 years of service |
| Refurbishment | Age 57 with 10 years of service |
| TCC | Age 57 with 10 years of service |

Monthly benefit is the Accrued Benefit payable at age 65 or a reduced benefit payable immediately. The benefit is reduced 0.25% (0.5% for Plymouth) for each completed calendar month that benefits commence prior to age 65 (age 62 for Dover/LaPorte and Dover Alloy, and Plymouth with 10 years of service).

**Disability Retirement**

Eligibility is permanent disability after 10 years of service. The disability retirement benefit is the Accrued Benefit reduced by worker's compensation or similar public disability benefits (except social security disability benefits) payable 26 weeks after Permanent Disability (immediate for Dover/LaPorts, Dover Alloy and Plymouth).

**Deferred Vested Benefit**

Eligibility is 5 Years of continuous service. The accrued normal retirement benefit is payable at the Normal Retirement Age. Reduced benefits are available at an earlier commencement with 10 years of service at the time of termination.

**Preretirement Spouse's Benefit**

Eligibility is death after 5 years of service. The accrued benefit reduced for early commencement and the joint and 100 percent survivor option is payable immediately (for years prior to the early retirement date, the reduction is 0.17% for each complete calendar month). 85 percent of the lump sum value of the early retirement benefit is payable to the estate if not legally married at date of death or is not survived by an eligible spouse.

**Normal Form of Payment**

If a participant does not have an eligible spouse at retirement their benefit shall be paid in the form of a single life annuity. If there is an eligible spouse at retirement the benefit shall be paid as a joint and 50 percent survivor annuity with reductions starting at 10% based on the difference in age of the participant and their spouse.

**Optional Form of Payment**

Single lump sum, actuarially equivalent joint and survivor annuities and certain and life annuities.

**Years of credited service**

Measured in years and fractions of a year based on a ratio of hours to 1,700. An employee shall be credited with one year of credited service for every plan year in which he or she has worked 1,700 or more hours.

**Years of continuous service**

Measured in years and months with 1 month credited for each 83.3333 hours of service. An employee shall be credited with one year of continuous service for every plan year in which he or she has worked 1,000 or more hours.

**Compensation**

Dover/LaPorte, Dover Alloy – Base pay plus any salary or wage reduction under IRC Sections 125, 129, and 401(k) excluding any overtime, bonuses, sick pay, holiday and vacation pay and any payments over regular wages. Tempcraft: Annual pay including overtime, sick pay, holiday and vacation pay.

**Final average earnings**

The greater of (i) the average of the five consecutive calendar years out of the last 10 years of employment which produce the highest average or (ii) one-fifth of the total compensation for the last 60 months of employment.

**Wage Base**

125 percent of covered compensation defined in IRC Section 401(1)(5)(E) and IRS Notice 89-70 as it applies to a person who attains age 65 in the plan year.

**Social Security benefit**

The actual annual primary old age insurance benefit payable to a participant who retires on or after Normal Retirement Date. For someone who retires before Normal Retirement date the primary old age insurance benefit shall be calculated assuming (i) for members termination prior to age 55, wages remain constant to attainment of age 65 and no wages after age 65 (ii) for members terminating after age 55, no wages from termination to Normal Retirement Date (iii) 6% past wage increases (iv) wages commencing at age 22.

**Contributions**

All contributions to support the Plan are made by the Company.

## *Howmet Corporation Salaried Employees' Pension Plan*

### Participation

All employees of Howmet Corporation compensated on a salaried basis.

### Accrued Benefit

The lifetime annuity Actuarially Equivalent to the Account Balance. This benefit shall not be less than the Accrued Benefit calculated on December 31, 1996 under the provisions of the plan at that date. All accrued benefits for non-bargained participants were frozen effective April 1, 2018.

### Account Balance

The initial Account Balance is equal to the lump sum Actuarial Equivalent of the Accrued Benefit on December 31, 1996. The Account Balance thereafter is equal to the sum of the initial account balance if applicable and the sum of the (a) and (b) below:

(a) The sum of (i) and (ii)

i) As of the last day of each month of active participation, a percentage of Earnings for the month based on the table below:

| Age | Benefit Credit |
|---|---|
| Less than 30 | 3.0% |
| 30 but not yet 35 | 3.5% |
| 35 but not yet 40 | 4.5% |
| 40 but not yet 50 | 5.5% |
| 50 and over | 7.0% |

ii) An additional percentage of Earnings per month for those participants who were employees as of January 1, 1997 and at least age 45 as of that date. These additional credits were granted to eligible employees through the year 2006. The following percentages apply:

| Age | Benefit Credit |
|---|---|
| 45 but not yet 47 | 3.5% |
| 47 but not yet 48 | 4.0% |
| 48 but not yet 49 | 5.0% |
| 49 but not yet 50 | 6.0% |
| 50 and over | 7.0% |

(b) As of the last day of each month the product of 1/12 and the Applicable Interest Rate and the Account Balance on that date.

**For those employees who do not meet the eligibility under (a)(ii) above, the account balance ceases to accrue credits under (a) effective December 31, 2001.**

### Applicable interest rate

The sum of the average yield in November of the preceding plan year on one-year Treasury Constant maturities and one percentage point.

**Earnings**

Base salary, overtime pay, annual cash bonuses, and commissions paid including any salary reductions under a qualified cash or deferred arrangement and contributions or deferrals under Section 125.

**Actuarial equivalence**

For determining the life annuity, use the Applicable Interest Rate and the 1994 Group Annuity Reserving Table Projected to 2000 with a 50% male/50% female weighting. For determining the initial Account Balance, apply the assumption in effect as of December 31, 1996.

**Normal retirement**

Eligibility is the later of age 65 or five years of service. The normal retirement benefit is the Actuarial Equivalent of the Account Balance.

**Delayed retirement**

Eligibility is continued service beyond the Normal Retirement Date. The delayed retirement benefit is the Actuarial Equivalent of the Account Balance.

**Early retirement**

Eligibility is age 55 and 5 years of service. The early retirement benefit is the Actuarial Equivalent of the Account Balance.

**Disability retirement**

Eligibility is total and permanent disability while an employee. The disabled retirement benefit is payable immediately and is the Actuarial Equivalent of the Account Balance.

**Deferred vested benefit**

Eligibility is 5 years of service. The deferred vested benefit is payable at age 65, unless requested in writing, at an earlier date, and is the Actuarial Equivalent of the Account Balance.

**Preretirement spouse benefit**

Eligibility is death while an employee after being vested in the plan. The beneficiary shall be paid a single lump sum equal to the Account Balance as of the date of death.

**Normal form of payment**

If a participant does not have an eligible spouse at retirement the benefit shall be paid in the form of a single life annuity. If there is an eligible spouse at retirement the benefit shall be paid as a joint and 50 percent survivor annuity Actuarially Equivalent to the single life annuity.

**Optional forms of payment**

Single lump sum, actuarially equivalent joint and survivor annuities and 10-year certain and life annuity.

**Years of service**

The number of whole years within the Employee’s period of service as measured from the date the Employee first performs an hour or service. Service measurement complies with Treasury Regulation 1.410(a)-7.

**Contributions**

All contributions to support the Plan are made by the Company.

## *Howmet Cerecast (U.S.A.), Inc. Combined Pension Plan*

**Participation**

All Hourly and Salaried employees of Howmet Cercast (U.S.A.), Inc.

**Salaried employees**

The plan provisions for the Salaried employees of Cercast are summarized in the plan provisions under Howmet Corporation Pension Plan Part IB. All provisions are applicable except the addition credits cease to accrue for all Cercast Salaried employees effective December 31, 2001.

### *The following plan provisions are applicable to the Hourly employees of Cercast only:*

**Accrued benefit**

Consists of $11.50 times Years of Credited Service for Hillsboro and $12.50 times Years of Credited Service for Bethlehem. All accrued benefits will be frozen effective April 4, 2018.

**Normal retirement**

Eligibility is age 65. The monthly amount is equal to the Accrued Benefit.

**Delayed retirement**

Eligibility is termination of employment after the normal retirement date. The delayed retirement benefit is the Accrued Benefit including Years of Credited Service after the Normal Retirement Date.

**Early retirement**

Eligibility is age 55 and 10 Years of Continuous Service. Monthly benefit is the Accrued Benefit payable at age 65 or the Accrued Benefit payable immediately reduced by .5% for each completed calendar month prior to age 65.

**Disability retirement**

Eligibility is Permanent Disability after 10 Years of Continuous Service. Monthly benefit is the Accrued Benefit reduced by worker's compensation or similar public disability benefits (excluding social security disability benefits) payable 26 weeks after Permanent Disability.

**Deferred vested benefit**

Eligibility is 5 years of continuous service. The monthly benefit is the Accrued Benefit payable at the normal retirement age.

**Preretirement spouse benefit**

Eligibility is death after five years of continuous service. The Accrued Benefit reduced for early commencement and the joint and 100 percent survivor option is payable immediately (for years prior to the early retirement date, the reduction is 0.17% for each complete calendar month). 85 percent of the lump sum value of the early retirement benefit is payable to the estate if the participant is not legally married at date of death or is not survived by an eligible spouse.

**Normal form of payment**

If a participant does not have an eligible spouse at retirement the benefit shall be paid in the form of a single life annuity. If there is an eligible spouse at retirement the benefit shall be paid as a joint and 50 percent survivor annuity with reductions starting at 10% based on the difference in age of the participant and their spouse.

**Optional form of payment**

Single lump sum, actuarially equivalent joint and survivor annuities and certain and life annuities.

**Years of credited service**

Measured in years and fractions of a year based on a ratio of hours to 2,080. An employee shall be credited with one Year of Credited Service for every plan year in which he or she has worked 2,080 or more hours.

**Years of continuous service**

Measured in years and months with one month credited for each 83.3333 hours of service. An employee shall be credited with one Year of Credited Service for every plan year in which he or she has worked 1,000 or more hours.

**Contributions**

All contributions to support the Plan are made by the Company.

## Summary of Changes from the January 1, 2017 Valuation

No further benefits will be earned for non-bargained participants, except unionized hourly-paid participants at the Hampton Casting division, under the Howmet Corporation Pension Plan for service or pay after March 31, 2018.

**Attachment to 2018 Form 5500**
**Schedule H, line 4i - Schedule of Assets (Held at End of Year)**

**Plan Name** Howmet Corporation Pension Plan **EIN:** 13-2838093
**Plan Sponsor's Name** HOWMET CORPORATION **PN:** 016

| (a) | (b) Identity of issue, borrower, lessor, or similar party | (c) Description of investment including maturity date, rate of interest, collateral, par, or maturity value. | (d) Cost | (e) Current value |
|---|---|---|---|---|
| * | Arconic Ret Plans MT | Investment in Arconic Retirement Plans Master Trust | 86,782,298 | 86,782,298 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**HOWMET CORPORATION PENSION PLAN**

**EIN: 13-2838093**

**PN: 016**

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

***Schedule SB, Line 26 – Schedule of Active Participant Data***

Hourly and Salaried participants have been separated into two schedules.

**Hourly Active Participants**
DISTRIBUTED BY AGE AND SERVICE
AS OF JANUARY 1, 2018

| | SERVICE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **AGE** | **< 1** | **1 - 4** | **5 - 9** | **10 - 14** | **15 - 19** | **20 - 24** | **25 - 29** | **30 - 34** | **35 - 39** | **40+** |
| **< 25** | 75 | 104 | 1 | | | | | | | |
| **25 - 29** | 64 | 166 | 24 | 1 | | | | | | |
| **30 - 34** | 45 | 126 | 50 | 23 | | | | | | |
| **35 - 39** | 33 | 103 | 51 | 40 | 18 | 1 | | | | |
| **40 - 44** | 35 | 92 | 50 | 50 | 27 | 21 | | | | |
| **45 - 49** | 24 | 80 | 69 | 60 | 32 | 34 | 4 | 1 | | |
| **50 - 54** | 19 | 77 | 64 | 69 | 60 | 53 | 38 | 46 | | |
| **55 - 59** | 16 | 56 | 59 | 82 | 49 | 57 | 39 | 68 | 28 | 1 |
| **60 - 64** | 2 | 27 | 34 | 51 | 28 | 31 | 19 | 46 | 29 | 24 |
| **65 - 69** | 1 | 2 | 9 | 9 | 5 | 9 | 7 | 13 | 8 | 8 |
| **70+** | | 3 | | 5 | 3 | 2 | 1 | 1 | 4 | 2 |

**Salaried Active Participants**
DISTIBUTED BY AGE AND SERVICE WITH CORRESPONDING AVERAGE SALARY
AND CASH BALANCE ACCOUNT AS OF JANUARY 1, 2018

| AGE | | SERVICE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | < 1 | 1 - 4 | 5 - 9 | 10 - 14 | 15 - 19 | 20 - 24 | 25 - 29 | 30 - 34 | 35 - 39 | 40+ |
| < 25 | Number | | | | | | | | | | |
| | Avg. Salary | | | | | | | | | | |
| | Avg. CB Account | | | | | | | | | | |
| 25 - 29 | Number | | | | | | | | | | |
| | Avg. Salary | | | | | | | | | | |
| | Avg. CB Account | | | | | | | | | | |
| 30 - 34 | Number | | | | | 1 | | | | | |
| | Avg. Salary | | | | | | | | | | |
| | Avg. CB Account | | | | | | | | | | |
| 35 - 39 | Number | | | | | 15 | 1 | | | | |
| | Avg. Salary | | | | | | | | | | |
| | Avg. CB Account | | | | | | | | | | |
| 40 - 44 | Number | | 1 | | 1 | 29 | 23 | 3 | | | |
| | Avg. Salary | | | | | 71,316 | 74,569 | | | | |
| | Avg. CB Account | | | | | 4,118 | 6,177 | | | | |
| 45 - 49 | Number | | | | 2 | 33 | 35 | 13 | 1 | | |
| | Avg. Salary | | | | | 65,435 | 79,530 | | | | |
| | Avg. CB Account | | | | | 3,956 | 11,097 | | | | |
| 50 - 54 | Number | | | | | 32 | 21 | 34 | 51 | 1 | |
| | Avg. Salary | | | | | 68,500 | 74,226 | 78,617 | 84,774 | | |
| | Avg. CB Account | | | | | 5,282 | 12,731 | 16,582 | 20,685 | | |
| 55 - 59 | Number | | | 1 | 3 | 33 | 30 | 45 | 108 | 67 | 5 |
| | Avg. Salary | | | | | 76,247 | 79,342 | 78,461 | 91,900 | 69,864 | |
| | Avg. CB Account | | | | | 9,449 | 20,732 | 20,662 | 27,027 | 24,318 | |
| 60 - 64 | Number | | 1 | 1 | | 20 | 12 | 13 | 39 | 61 | 26 |
| | Avg. Salary | | | | | 78,455 | | | 75,132 | 73,710 | 85,942 |
| | Avg. CB Account | | | | | 7,714 | | | 29,341 | 29,733 | 32,438 |
| 65 - 69 | Number | | | | | 4 | 2 | 5 | 4 | 6 | 8 |
| | Avg. Salary | | | | | | | | | | |
| | Avg. CB Account | | | | | | | | | | |
| 70+ | Number | | | | | | 1 | | | | 2 |
| | Avg. Salary | | | | | | | | | | |
| | Avg. CB Account | | | | | | | | | | |

# HOWMET CORPORATION PENSION PLAN

## EIN: 13-2838093

## PN: 016

## ATTACHMENT TO SCHEDULE SB OF 2018 FORM 5500

***Schedule SB, Part V – Statement of Actuarial Assumptions/Methods***

### Prescribed Funding/PBGC Assumptions and Methods

**The following assumptions and methods are prescribed by ERISA.**

**Funding interest rates**

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

| | Unconstrained Rates* | Rates Reflecting Corridor** |
|---|---|---|
| First Segment Rate | 1.75% | 3.92% |
| Second Segment Rate | 3.76% | 5.52% |
| Third Segment Rate | 4.66% | 6.29% |
| Effective Rate | 4.14% | 5.79% |

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

| | Unconstrained Rates* | Rates Reflecting Corridor** |
|---|---|---|
| First Segment Rate | 1.52% | 4.16% |
| Second Segment Rate | 3.80% | 5.72% |
| Third Segment Rate | 4.79% | 6.48% |
| Effective Rate | 4.19% | 5.96% |

*Used for maximum tax-deduction, PBGC premium, and 4010 reporting purposes

**Used for minimum funding and benefit restriction purposes.

**Mortality**

Substitute mortality tables for all plans in Arconic's controlled group apply for male annuitants and nonannuitants and for female annuitants and nonannuitants, approved by the IRS as specified in IRS Regulation 1.430(h)(3)–2, with Mortality Improvement Scale MP–2016 appropriate for 2018 on a generational basis. Approval is granted for a period of 10 years commencing January 1, 2018, subject to the conditions specified in IRS Regulation 1.430(h)(3)–2(d)(6). Lump sum mortality tables are as prescribed by IRS Code 417(e).

**Actuarial cost method**

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

## Non-Prescribed Funding Assumptions and Methods

**The following assumptions were selected by the plan's enrolled actuary. With the exception of the retirement rates, the assumptions are chosen based on the experience study done in 2011 for Alcoa Retirement Plan I (salaried participants) and Alcoa Retirement Plan II (hourly participants). The experience of these large plans is used where reasonable. Retirement rates were adjusted for the 2015 funding valuation to account for the increase in life expectancy noted in the Society of Actuaries report on mortality tables and the impact of the Great Recession on retirement savings which is expected to result in individuals working longer than previously assumed. The process used to determine the expected long-term rate of return on assets relied on a combination of historical asset return information and forward-looking returns by asset class using information from various external investment managers and consultants. The asset valuation method was selected by the plan sponsor with the actuary's advice and is an acceptable method under PPA.**

### Salary increases

Based on actual experience and future expectations. Cost-of-living plus additional increase varying by age. Select ages shown.

| Age | Salaried Employees<br>Annual Rate of Salary Increase | Hourly Employees<br>Annual Rate of Salary Increase |
|---|---|---|
| 20 | 9.4% | 5.8% |
| 25 | 6.9 | 5.3 |
| 30 | 5.3 | 4.8 |
| 35 | 4.4 | 4.3 |
| 40 | 3.6 | 3.8 |
| 45 | 3.1 | 3.3 |
| 50 | 2.8 | 2.8 |
| 55 | 2.6 | 2.3 |
| 60 | 2.4 | 2.3 |
| 65 | 2.3 | 2.3 |
| 69 | 2.2 | 2.3 |

Not applicable after April 1, 2018.

### Cash Balance interest crediting rate

| | |
|---|---|
| Current and Future Years: | 3.00% |
| Prior Year: | 3.00% |

### Expenses

Expected plan administrative and investment related expenses of $2,810,000 were added to the Target Normal Cost, based on expenses paid in the prior year and PBGC premiums to be paid in the current year.

**Frequency of optional payment forms**

Howmet Salaried and Cercast Salaried – 100% lump sum at decrement. Howmet Hourly – 60% lump sum and 40% life annuity at decrement. Based on review of actual experience and future expectations.

**Marital percentage**

80% of participants are assumed to be married at death. Husbands are assumed to be 3 years older than their wives.

**Normal Retirement rates**

| Age | Salaried Employees<br>Annual Rate of Normal Retirement | Hourly Employees<br>Annual Rate of Normal Retirement |
|---|---|---|
| 62 | | 35.00% |
| 63 | | 35.00 |
| 64 | | 35.00 |
| 65 | 20.00% | 35.00 |
| 66 | 20.00 | 35.00 |
| 67 | 20.00 | 25.00 |
| 68 | 20.00 | 20.00 |
| 69 | 20.00 | 25.00 |
| 70 | 100.00 | 100.00 |

**Early Retirement rates**

| Age | Salaried Employees<br>Annual Rate of Early Retirement | Hourly Employees<br>Annual Rate of Early Retirement |
|---|---|---|
| 55 | 2.0% | 3.0% |
| 56 | 2.0 | 3.0 |
| 57 | 2.0 | 3.0 |
| 58 | 2.0 | 6.0 |
| 59 | 3.0 | 6.0 |
| 60 | 3.0 | 8.0 |
| 61 | 3.0 | 8.0 |
| 62 | 8.0 | 20.0 |
| 63 | 8.0 | 17.0 |
| 64 | 8.0 | 17.0 |

Terminated vested participants are assumed to commence receiving benefits at Normal Retirement Age or the earliest age eligible for unreduced benefits.

**Withdrawal rates for active participants not eligible for retirement**

| | Hourly Annual Rates of | | | |
|---|---|---|---|---|
| | Withdrawal | | Vesting | Disability |
| Age | Male | Female | | |
| 25 | 16.97% | 16.00% | 17.00% | .05% |
| 30 | 13.00 | 14.00 | 11.00 | .07 |
| 35 | 11.50 | 12.00 | 9.00 | .08 |
| 40 | 11.00 | 10.00 | 7.00 | .11 |
| 45 | 10.50 | 9.00 | 4.00 | .23 |
| 50 | 10.50 | 8.00 | 3.00 | .45 |
| 55 | 10.50 | 7.00 | 3.00 | .77 |
| 60 | 10.50 | 7.00 | 3.00 | .77 |
| 64 | 10.50 | 7.00 | 3.00 | |

| Salaried Annual Rates of | |
|---|---|
| Age | Vesting |
| 20 | 20.0% |
| 25 | 20.0 |
| 30 | 16.0 |
| 35 | 11.0 |
| 40 | 7.0 |
| 45 | 5.0 |
| 50 | 4.0 |
| 55 | 4.0 |
| 60 | 4.0 |
| 64 | 4.0 |

**Asset valuation method**

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

| | Actuary's Assumption | Third Segment Rate | Reflecting PPA Limit |
|---|---|---|---|
| 2018 Expected Return | 7.00% | 6.29% | 6.29% |
| 2017 Expected Return | 7.75% | 6.48% | 6.48% |
| 2016 Expected Return | 7.75% | 6.65% | 6.65% |

**Future actuarial measurements**

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

## Summary of Changes from the January 1, 2017 Valuation

**Prescribed Assumptions**: The interest rates and mortality tables were updated to the current rates in accordance with PPA and HATFA. Arconic received approval by the IRS as specified in IRS Regulation 1.430(h)(3)-2, as revised in October 2017, to use mortality base tables based on Arconic's actual experience, applied using experience from aggregating all of Arconic's defined benefit pension plans. Approval was for 10 years from January 1, 2018 unless actual experience changes significantly.

**Non-Prescribed Assumptions:** The expected rate of return on assets was changed from 7.75% to 7.00%. This decrease was due to a combination of a decrease in the 20-year moving average of annual performance and lower future expected market returns. The process relied on a combination of historical asset return information and forward-looking returns by asset class information from various external investment managers and consultants.

These assumptions changes increased the Funding Target approximately $5,514,000 and decreased the plan's AFTAP by 3.8%. The change in expected return on asset assumption change does not impact the 2018 funding valuation.

**HOWMET CORPORATION PENSION PLAN**

**EIN: 13-2838093**

**PN: 016**

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

***Schedule SB, Line 32 – Schedule of Amortization Bases***

**Shortfall Amortization**

| Date Established | Type Of Base | Years Remaining | Shortfall Amortization Installment | Present Value of Remaining Installments as of January 1, 2018 |
|---|---|---|---|---|
| January 1, 2016 | Shortfall | 5 | 642,465 | 2,978,949 |
| January 1, 2017 | Shortfall | 6 | 1,020,647 | 5,512,677 |
| January 1, 2018 | Shortfall | 7 | 2,237,731 | 13,707,401 |
| Total | | | $ 3,900,843 | $ 22,199,027 |

## HOWMET CORPORATION PENSION PLAN

## EIN: 13-2838093

## PN: 016

## ATTACHMENT TO SCHEDULE SB OF 2018 FORM 5500

***Schedule SB, Line 24 –Change in Actuarial Assumptions***

The expected rate of return on assets was changed from 7.75% to 7.00%. This decrease was due to a combination of a decrease in the 20-year moving average of annual performance and lower future expected market returns. The process relied on a combination of historical asset return information and forward-looking returns by asset class information from various external investment managers and consultants. The change in the expected rate of return on assets had no impact on the results.

**HOWMET CORPORATION PENSION PLAN**

**EIN: 13-2838093**

**PN: 016**

# ATTACHMENT TO SCHEDULE SB OF 2018 FORM 5500

***Schedule SB, Line 23 – Information on Use of Substitute Mortality Tables***

The substitute mortality table applies to all groups of plan participants and thus there are no groups that use the prescribed mortality tables for the 2018 plan year. The mortality ratio used to develop the table is 1.0639255, and applies to both males and females. The tables are based on full credibility. The substitute mortality tables have been approved beginning with the plan year commencing January 1, 2018 and ending with the plan year commencing January 1, 2027.

## HOWMET CORPORATION PENSION PLAN

## EIN: 13-2838093

## PN: 016

## ATTACHMENT TO SCHEDULE SB OF 2018 FORM 5500

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

| (1) Age | (2) Expected Active Headcount | (3) Retirement Rate | (4) Expected Retirements (2)*(3) | (5) Weighted Age (1)*(4) |
|---|---|---|---|---|
| 55 | 2,243.2129 | 0.0049 | 11.0812 | 609.4648 |
| 56 | 2,398.1636 | 0.0101 | 24.1717 | 1,353.6128 |
| 57 | 2,558.8113 | 0.0175 | 44.6797 | 2,546.7437 |
| 58 | 2,710.5873 | 0.0481 | 130.3799 | 7,562.0354 |
| 59 | 2,755.7149 | 0.0498 | 137.3409 | 8,103.1119 |
| 60 | 2,797.8095 | 0.0645 | 180.5152 | 10,830.9145 |
| 61 | 2,761.1300 | 0.0643 | 177.6666 | 10,837.6653 |
| 62 | 2,718.1069 | 0.2021 | 549.3524 | 34,059.8515 |
| 63 | 2,276.4418 | 0.1823 | 414.9170 | 26,139.7728 |
| 64 | 1,940.5042 | 0.1732 | 336.1297 | 21,512.2984 |
| 65 | 1,647.0793 | 0.3004 | 494.7439 | 32,158.3556 |
| 66 | 1,199.7040 | 0.3017 | 361.9158 | 23,886.4443 |
| 67 | 853.8656 | 0.2318 | 197.9235 | 13,260.8778 |
| 68 | 670.6000 | 0.2000 | 134.1200 | 9,120.1603 |
| 69 | 544.4759 | 0.2322 | 126.4073 | 8,722.1020 |
| 70 | 423.0165 | 1.0000 | 423.0165 | 29,611.1568 |
| 71 | 12.0000 | 1.0000 | 12.0000 | 852.0000 |
| 72 | 12.0000 | 1.0000 | 12.0000 | 864.0000 |
| 73 | 2.0000 | 1.0000 | 2.0000 | 146.0000 |
| 74 | 4.0000 | 1.0000 | 4.0000 | 296.0000 |
| 75 | 3.0000 | 1.0000 | 3.0000 | 225.0000 |
| 76 | 4.0000 | 1.0000 | 4.0000 | 304.0000 |
| 77 | 2.0000 | 1.0000 | 2.0000 | 154.0000 |
| 78 | 2.0000 | 1.0000 | 2.0000 | 156.0000 |
| 79 | 0.0000 | 1.0000 | 0.0000 | 0.0000 |
| 80 | 2.0000 | 1.0000 | 2.0000 | 160.0000 |
| Total | | | 3,787.3615 | 243,471.5679 |

**WARA: Total (5) / Total (4) = 64.29 years**

Note: The table presents values rounded to fewer significant digits than used in the calculations.

Note to Column 2: The Expected Active Headcount for each age includes persons who are eligible to retire and persons who are not eligible to retire at each age.

Note to Column 3: At each age, these retirement rates are a weighted average of the rates shown in Attachment to Part V for active participants eligible to retire at the age and zero for all other active participants.

# 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

**2021**

**This Form is Open to Public Inspection**

## Part I Annual Report Identification Information

For calendar plan year 2021 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 instr.)

**B** This return/report is: ☒ a single-employer plan ☐ a DFE (specify) _____
☐ the first return/report ☐ the final return/report
☒ an amended return/report ☐ a short plan year return/report (less than 12 months)

**C** If the plan is a collectively-bargained plan, check here ▶ ☐

**D** Check box if filing under: ☒ Form 5558 ☐ automatic extension ☐ the DFVC program
☐ special extension (enter description)

**E** If this is a retroactively adopted plan permitted by SECURE Act section 201, check here ▶ ☐

## Part II Basic Plan Information - enter all requested information

**1a** Name of plan
HOWMET CORPORATION PENSION PLAN

**1b** Three-digit plan number (PN) ▶ 016

**1c** Effective date of plan 12/12/1995

**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)
HOWMET CORPORATION

C/O ARCONIC INC.
201 ISABELLA STREET

PITTSBURGH PA 15212-5858

**2b** Employer Identification Number (EIN) 13-2838093

**2c** Plan Sponsor's telephone number 412-553-4545

**2d** Business code (see instructions) 332900

**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 | [signature] | 5-23-22 | DAVID ADAMS |
| | **Signature of plan administrator** | Date | Enter name of individual signing as plan administrator |
| SIGN HERE | | | |
| | **Signature of employer/plan sponsor** | Date | Enter name of individual signing as employer or plan sponsor |
| SIGN HERE | | | |
| | **Signature of DFE** | Date | Enter name of individual signing as DFE |

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

**Form 5500 (2021)**
**v. 210624**

**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** | 5,384 |
| **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)** | 3,397 |
| **a(2)** | Total number of active participants at the end of the plan year | **6a(2)** | 3,299 |
| **b** | Retired or separated participants receiving benefits | **6b** | 454 |
| **c** | Other retired or separated participants entitled to future benefits | **6c** | 1,460 |
| **d** | Subtotal. Add lines **6a(2), 6b,** and **6c** | **6d** | 5,213 |
| **e** | Deceased participants whose beneficiaries are receiving or are entitled to receive benefits | **6e** | 53 |
| **f** | Total. Add lines **6d** and **6e** | **6f** | 5,266 |
| **g** | Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item) | **6g** | |
| **h** | Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested | **6h** | 165 |
| **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:
1B 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)
- (1) [ ] Insurance
- (2) [ ] Code section 412(e)(3) insurance contracts
- (3) [X] Trust
- (4) [ ] General assets of the sponsor

**9b** Plan benefit arrangement (check all that apply)
- (1) [ ] Insurance
- (2) [ ] Code section 412(e)(3) insurance contracts
- (3) [X] Trust
- (4) [ ] General assets of the sponsor

**10** Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)

**a Pension Schedules**
- (1) [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) [ ] ____ **A** (Insurance Information)
- (4) [ ] **C** (Service Provider Information)
- (5) [X] **D** (DFE/Participating Plan Information)
- (6) [ ] **G** (Financial Transaction Schedules)

# 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
HOWMET CORPORATION PENSION PLAN

**B** Three-digit plan number (PN) ▶ 016

**C** Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF
HOWMET CORPORATION

**D** Employer Identification Number (EIN)
13-2838093

**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 | 100,038,912 |
| b Actuarial value | 2b | 105,725,884 |

**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 | 447 | 23,055,869 | 23,055,869 |
| b For terminated vested participants | 1,540 | 29,489,899 | 29,489,899 |
| c For active participants | 3,562 | 73,303,552 | 75,379,143 |
| d Total | 5,549 | 125,849,320 | 127,924,911 |

**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 | 5.79% |
| **6** Target normal cost | 6 | 4,053,798 |

**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** Patrick Graham — Signature of actuary

9/30/2019 — Date

PATRICK A. GRAHAM — Type or print name of actuary

1708256 — Most recent enrollment number

BUCK GLOBAL, LLC — Firm name

412-281-2506 — Telephone number (including area code)

11 STANWIX STREET, SUITE 700

PITTSBURGH PA 15222-1312 — 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) | 0 | 0 |
| 8 | Portion elected for use to offset prior year's funding requirement (line 35 from prior year) | 0 | 0 |
| 9 | Amount remaining (line 7 minus line 8) | 0 | 0 |
| 10 | Interest on line 9 using prior year's actual return of 3.47% | 0 | 0 |
| 11 | Prior year's excess contributions to be added to prefunding balance: | | |
| | a Present value of excess contributions (line 38a from prior year) | | 637 |
| | 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 5.96% | | 38 |
| | 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 | | 675 |
| | 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) | 0 | 0 |

## Part III Funding Percentages

| | | | |
|---|---|---|---|
| 14 | Funding target attainment percentage | 14 | 82.64% |
| 15 | Adjusted funding target attainment percentage | 15 | 82.64% |
| 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 | 92.05% |
| 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 |
|---|---|---|---|---|---|
| 04/13/2018 | 1,774,660 | 0 | | | |
| 07/13/2018 | 1,774,660 | 0 | | | |
| 10/15/2018 | 1,774,660 | 0 | | | |
| 01/15/2019 | 1,774,660 | 0 | | | |
| 03/27/2019 | 9,000,000 | 0 | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | Totals ► 18(b) | 16,098,640 | 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 | 15,237,964 |

20 Quarterly contributions and liquidity shortfalls:

a Did the plan have a "funding shortfall" for the prior year? ☒ Yes ☐ No

b If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? ☒ Yes ☐ No

c If line 20a is "Yes," see instructions and complete the following table as applicable:

Liquidity shortfall as of end of quarter of this plan year

| (1) 1st | (2) 2nd | (3) 3rd | (4) 4th |
|---|---|---|---|
| 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: | ☐ N/A, full yield curve used |
|---|---|---|---|
| 3.92 % | 5.52 % | 6.29% | |

| | | |
|---|---|---|
| **b** Applicable month (enter code) | 21b | 4 |
| **22** Weighted average retirement age | 22 | 64 |

**23** Mortality table(s) (see instructions)

Prior regulation: ☐ Prescribed - combined ☐ Prescribed - separate ☐ Substitute

Current regulation: ☐ Prescribed - combined ☐ Prescribed - separate ☒ Substitute

## Part VI Miscellaneous Items

| | | |
|---|---|---|
| **24** Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment | ☒ Yes | ☐ No |
| **25** Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment | ☐ Yes | ☒ No |
| **26** Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment | ☒ Yes | ☐ No |

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

## Part VII Reconciliation of Unpaid Minimum Required Contributions For Prior Years

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

## Part VIII Minimum Required Contribution For Current Year

| | | |
|---|---|---|
| **31** Target normal cost and excess assets (see instructions): | | |
| **a** Target normal cost (line 6) | 31a | 4,053,798 |
| **b** Excess assets, if applicable, but not greater than line 31a | 31b | 0 |

| **32** Amortization installments: | Outstanding Balance | Installment |
|---|---|---|
| **a** Net shortfall amortization installment | 22,199,027 | 3,900,843 |
| **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 | 7,954,641 |

| | Carryover balance | Prefunding balance | Total balance |
|---|---|---|---|
| **35** Balances elected for use to offset funding requirement | 0 | 0 | 0 |

| | | |
|---|---|---|
| **36** Additional cash requirement (line 34 minus line 35) | 36 | 7,954,641 |
| **37** Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c) | 37 | 15,237,964 |
| **38** Present value of excess contributions for current year (see instructions) | | |
| **a** Total (excess, if any, of line 37 over line 36) | 38a | 7,283,323 |
| **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