

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). <p style="text-align: center;">▶ Complete all entries in accordance with the instructions to the Form 5500.</p>	OMB Nos. 1210-0110 1210-0089 2018 This Form is Open to Public Inspection
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Part I	Annual Report Identification Information		
For calendar plan year 2018 or fiscal plan year beginning <u>01/01/2018</u> and ending <u>12/31/2018</u>			
A	This return/report is for:	☐ a multiemployer plan ☐ a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.)	
	☒ a single-employer plan	☐ a DFE (specify) ____	
B	This return/report is:	☐ the first return/report ☐ the final return/report ☐ an amended return/report ☐ a short plan year return/report (less than 12 months)	
C	If the plan is a collectively-bargained plan, check here. ☒		
D	Check box if filing under:	☒ Form 5558 ☐ automatic extension ☐ special extension (enter description)	☐ the DFVC program

Part II	Basic Plan Information —enter all requested information		
1a	Name of plan <u>RPM INTERNATIONAL INC. UNION RETIREMENT PLAN</u>	1b	Three-digit plan number (PN) ▶ <u>008</u>
		1c	Effective date of plan <u>02/01/1997</u>
2a	Plan sponsor's name (employer, if for a single-employer plan) Mailing address (include room, apt., suite no. and street, or P.O. Box) City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions) <u>RPM INTERNATIONAL INC.</u> <u>JANEEN KASTNER</u> <u>P.O. BOX 777</u> <u>MEDINA, OH 44258</u> <u>2628 PEARL ROAD</u> <u>MEDINA, OH 44258</u>	2b	Employer Identification Number (EIN) <u>02-0642224</u>
		2c	Plan Sponsor's telephone number <u>330-273-8825</u>
		2d	Business code (see instructions) <u>325500</u>

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

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

SIGN HERE	Filed with authorized/valid electronic signature.	09/27/2019	JANEEN KASTNER
	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

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3a Plan administrator's name and address ☒ Same as Plan Sponsor	3b Administrator's EIN 3c Administrator's telephone number <div style="background-color: #cccccc; height: 40px; width: 100%;"></div>
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 83
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 a(2) Total number of active participants at the end of the plan year b Retired or separated participants receiving benefits..... c Other retired or separated participants entitled to future benefits d Subtotal. Add lines 6a(2) , 6b , and 6c e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits. f Total. Add lines 6d and 6e g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item) h Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	6a(1) 53 6a(2) 52 6b 4 6c 18 6d 74 6e 3 6f 77 6g 6h 2
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: 1A b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:	
9a Plan funding arrangement (check all that apply) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor	9b Plan benefit arrangement (check all that apply) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor

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

a Pension Schedules

- (1)** ☒ **R** (Retirement Plan Information)
- (2)** ☐ **MB** (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary
- (3)** ☒ **SB** (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary

b General Schedules

- (1)** ☐ **H** (Financial Information)
- (2)** ☒ **I** (Financial Information – Small Plan)
- (3)** ☐ 0 **A** (Insurance Information)
- (4)** ☐ **C** (Service Provider Information)
- (5)** ☐ **D** (DFE/Participating Plan Information)
- (6)** ☐ **G** (Financial Transaction Schedules)

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

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

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

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

11c Enter the Receipt Confirmation Code for the 2018 Form M-1 annual report. If the plan was not required to file the 2018 Form M-1 annual report, enter the Receipt Confirmation Code for the most recent Form M-1 that was required to be filed under the Form M-1 filing requirements. (Failure to enter a valid Receipt Confirmation Code will subject the Form 5500 filing to rejection as incomplete.)

Receipt Confirmation Code _____

<div>SCHEDULE SB (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation</div>	<div>Single-Employer Defined Benefit Plan Actuarial Information</div> <div>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).</div> <div>▶ File as an attachment to Form 5500 or 5500-SF.</div>	<div>OMB No. 1210-0110</div> <div>2018</div> <div>This Form is Open to Public Inspection</div>
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For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018	
▶ Round off amounts to nearest dollar.	
▶ Caution: A penalty of \$1,000 will be assessed for late filing of this report unless reasonable cause is established.	
A Name of plan RPM INTERNATIONAL INC. UNION RETIREMENT PLAN	B Three-digit plan number (PN) ▶ 008
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF RPM INTERNATIONAL INC.	D Employer Identification Number (EIN) 02-0642224
E Type of plan: ☒ Single ☐ Multiple-A ☐ Multiple-B	F Prior year plan size: ☐ 100 or fewer ☐ 101-500 ☒ More than 500

Part I	Basic Information			
1	Enter the valuation date: Month 01 Day 01 Year 2018			
2	Assets:			
a	Market value.....	2a	2325195	
b	Actuarial value	2b	2198659	
3	Funding target/participant count breakdown	(1) Number of participants	(2) Vested Funding Target	(3) Total Funding Target
a	For retired participants and beneficiaries receiving payment	4	140348	140348
b	For terminated vested participants	23	336523	336523
c	For active participants	56	1277364	1432701
d	Total	83	1754235	1909572
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	5.93 %	
6	Target normal cost	6	198166	

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.

<div>SIGN HERE</div>		
Signature of actuary		09/19/2019
DANIEL SECKAR, EA, MAAA		Date
Type or print name of actuary		17-06799
MERCER		Most recent enrollment number
Firm name		412-355-8800
SIX PPG PLACE, SUITE 400 PITTSBURGH, PA 15222-5406		Telephone number (including area code)
Address of the firm		

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 <u>15.65</u> %	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)		293196
b(1) Interest on the excess, if any, of line 38a over line 38b from prior year Schedule SB, using prior year's effective interest rate of <u>6.09</u> %		17856
b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		
c Total available at beginning of current plan year to add to prefunding balance		311052
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	115.13%
15 Adjusted funding target attainment percentage	15	115.13%
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	112.25%
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
04/11/2018	73300	0			
07/12/2018	69800	0			
10/15/2018	69800	0			
01/11/2019	69800	0			
04/12/2019	77500	0			
09/11/2019	41600	0			
Totals ▶			18(b)	401800	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	382106

20 Quarterly contributions and liquidity shortfalls:

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

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

Part V Assumptions Used to Determine Funding Target and Target Normal Cost**21** Discount rate:**a** Segment rates:

1st segment:

3.92%

2nd segment:

5.52%

3rd segment:

6.29%

☐ N/A, full yield curve used**b** Applicable month (enter code).....**21b**

0

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**

198166

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

198166

32 Amortization installments:

Outstanding Balance

Installment

a Net shortfall amortization installment.....

0

0

b Waiver amortization installment

0

0

33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount**33****34** Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33).....**34**

0

Carryover balance

Prefunding balance

Total balance

35 Balances elected for use to offset funding requirement.....

0

0

0

36 Additional cash requirement (line 34 minus line 35).....**36**

0

37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c).....**37**

382106

38 Present value of excess contributions for current year (see instructions)**a** Total (excess, if any, of line 37 over line 36)**38a**

382106

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 I (Form 5500) <small>Department of the Treasury Internal Revenue Service</small> <small>Department of Labor Employee Benefits Security Administration</small> <small>Pension Benefit Guaranty Corporation</small>	Financial Information—Small Plan 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 <div style="border: 1px solid black; padding: 5px; display: inline-block;"> 2018 </div> This Form is Open to Public Inspection
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For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018					
A Name of plan RPM INTERNATIONAL INC. UNION RETIREMENT PLAN	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;">B Three-digit plan number (PN) ►</td> <td style="width:40%; text-align: center; color: blue;">008</td> </tr> <tr> <td colspan="2" style="height: 20px;"></td> </tr> </table>	B Three-digit plan number (PN) ►	008		
B Three-digit plan number (PN) ►	008				
C Plan sponsor's name as shown on line 2a of Form 5500 RPM INTERNATIONAL INC.	D Employer Identification Number (EIN) 02-0642224				

Complete Schedule I if the plan covered fewer than 100 participants as of the beginning of the plan year. You may also complete Schedule I if you are filing as a small plan under the 80-120 participant rule (see instructions). Complete Schedule H if reporting as a large plan or DFE.

Part I	Small Plan Financial Information
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Report below the current value of assets and liabilities, income, expenses, transfers and changes in net assets during the plan year. Combine the value of plan assets held in more than one trust. Do not enter the value of the portion of an insurance contract that guarantees during this plan year to pay a specific dollar benefit at a future date. 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.**

		(a) Beginning of Year	(b) End of Year
1 Plan Assets and Liabilities:			
a Total plan assets	1a	2332885	2388320
b Total plan liabilities	1b		
c Net plan assets (subtract line 1b from line 1a)	1c	2332885	2388320
2 Income, Expenses, and Transfers for this Plan Year:		(a) Amount	(b) Total
a Contributions received or receivable:			
(1) Employers.....	2a(1)	401800	
(2) Participants.....	2a(2)		
(3) Others (including rollovers)	2a(3)		
b Noncash contributions	2b		215870
c Other income.....	2c	-185930	
d Total income (add lines 2a(1), 2a(2), 2a(3), 2b, and 2c)	2d		
e Benefits paid (including direct rollovers)	2e	97603	
f Corrective distributions (see instructions)	2f		
g Certain deemed distributions of participant loans (see instructions).....	2g		
h Administrative service providers (salaries, fees, and commissions)	2h	56462	
i Other expenses	2i	6370	
j Total expenses (add lines 2e, 2f, 2g, 2h, and 2i).....	2j		160435
k Net income (loss) (subtract line 2j from line 2d)	2k		55435
l Transfers to (from) the plan (see instructions)	2l		

3 Specific Assets: If the plan held assets at any time during the plan year in any of the following categories, check "Yes" and enter the current value of any assets remaining in the plan as of the end of the plan year. Allocate the value of the plan's interest in a commingled trust containing the assets of more than one plan on a line-by-line basis unless the trust meets one of the specific exceptions described in the instructions.				
		Yes	No	Amount
a Partnership/joint venture interests	3a		X	
b Employer real property	3b		X	
c Real estate (other than employer real property)	3c		X	
d Employer securities	3d		X	
e Participant loans	3e		X	
f Loans (other than to participants)	3f		X	
g Tangible personal property	3g		X	

Part II Compliance Questions

4 During the plan year:	Yes	No	Amount
a Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? Continue to answer "Yes" for any prior year failures until fully corrected. (See instructions and DOL's Voluntary Fiduciary Correction Program.)			
4a		X	
b Were any loans by the plan or fixed income obligations due the plan in default as of the close of plan year or classified during the year as uncollectible? Disregard participant loans secured by the participant's account balance.			
4b		X	
c Were any leases to which the plan was a party in default or classified during the year as uncollectible?			
4c		X	
d Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a.)			
4d		X	
e Was the plan covered by a fidelity bond?	X		10000000
4e			
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 at any time hold 20% or more of its assets in any single security, debt, mortgage, parcel of real estate, or partnership/joint venture interest?			
4i		X	
j Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?			
4j		X	
k Are you claiming a waiver of the annual examination and report of an independent qualified public accountant (IQPA) under 29 CFR 2520.104-46? If "No," attach an IQPA's report or 2520.104-50 statement. (See instructions on waiver eligibility and conditions.)			
4k	X		
l Has the plan failed to provide any benefit when due under the plan?			
4l		X	
m If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)			
4m			
n If 4m was answered "Yes," check the "Yes" box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3			
4n			

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

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

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

5c If the plan is a defined benefit plan, is it covered under the PBGC insurance program (See ERISA section 4021.)? ☒ Yes ☐ No ☐ Not determined.
 If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year 4161202. (See instructions.)

SCHEDULE R (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Retirement Plan Information This schedule is required to be filed under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6058(a) of the Internal Revenue Code (the Code). ▶ File as an attachment to Form 5500.	OMB No. 1210-0110 2018 This Form is Open to Public Inspection.
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For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

A Name of plan <u>RPM INTERNATIONAL INC. UNION RETIREMENT PLAN</u>	B Three-digit plan number (PN) ▶ <u>008</u>
C Plan sponsor's name as shown on line 2a of Form 5500 <u>RPM INTERNATIONAL INC.</u>	D Employer Identification Number (EIN) <u>02-0642224</u>

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

1 Total value of distributions paid in property other than in cash or the forms of property specified in the instructions	1	<u>0</u>
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): <u>34-0797057</u>		
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	<u>5</u>

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

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

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

Schedule R (Form 5500) 2018
v. 171027

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

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

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

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

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

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

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

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

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

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

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

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

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

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

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

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

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

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

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

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

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

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

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

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

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

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

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

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

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

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

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

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

- 14** Enter the number of participants on whose behalf no contributions were made by an employer as an employer of the participant for:

a The current year

b The plan year immediately preceding the current plan year

c The second preceding plan year

14a**14b****14c**

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

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

b The corresponding number for the second preceding plan year

15a**15b**

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

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

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

16a**16b**

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

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

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

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

- a** Enter the percentage of plan assets held as:

Stock: 0.0 % Investment-Grade Debt: _____ % High-Yield Debt: _____ % Real Estate: _____ % Other: _____ %

- 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): _____

Schedule SB, line 26 — Schedule of Active Participant Data

ATTAINED AGE	YEARS OF CREDITED SERVICE										
	UNDER 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	TOTAL
Under 25		4									4
25-29		6		1							7
30-34	1	2	1	1							5
35-39		2	2	1	2						7
40-44		2	1		3						6
45-49		4	1	2	2	2					11
50-54				2	2	1					5
55-59					4	2					6
60-64					2						2
65-69					1	2					3
70 & up											
Total	1	20	5	7	16	7					56

In each cell, the number is the count of active participants for each age/service combination. Average pay is not shown for plans with less than 1,000 active participants.

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

ACTUARIAL ASSUMPTIONS FOR JANUARY 1, 2018 FUNDING VALUATION

DISCOUNT RATE SPONSOR ELECTIONS			
• Segment rates or full yield curve	Segment		
• Look-back months	0		
	Stabilized	Nonstabilized	
• First 5 years	3.92%	1.81%	
• Next 15 years	5.52%	3.68%	
• Over 20 years	6.29%	4.53%	
Rationale:	Assumption prescribed by the IRS.		
MORTALITY SPONSOR ELECTIONS			
• All participants	Section 430(h)(3) prescribed separate generational annuitant and non-annuitant mortality tables. These tables are based on the RP-2014 mortality tables projected with mortality improvement based on the IRS methodology and projection scale MP-2016.		
Rationale:	Assumption prescribed by the IRS.		

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

417(E) LUMP SUMS	<p>Liabilities are determined based on the underlying annuity used by the plan to determine the lump sum amount, rather than valuing the lump sum payment. This annuity is valued based on funding interest rates and unisex generational mortality rather than 417(e) rates and current year 417(e) unisex mortality.</p> <p>The plan provides the greater of the lump sum determined using the deferred accrued benefit and deferred conversion factor and the lump sum determined using the immediate benefit reduced for early retirement and immediate conversion factor. The conversion factors used for this comparison are based on valuation assumptions.</p>
OPTIONAL FORM OF PAYMENT CONVERSION FACTORS	Based on PPA mortality projected to year 2030 using Mortality Projection Scale MP2017 and an interest rate of 7.0% per annum.
LATE RETIREMENT INCREASE ASSUMPTION	<p>The valuation assumes that the late retirement actuarial increase factors for deferred vested participants who terminated before June 1, 2015 are best using the plan's old definition of actuarial equivalence that is protected under Section 1 (b) of Amendment #1. Therefore, late retirement increases for these deferred vested participants is based on the Unisex Pension 1984 Mortality Table rates with an age set back of one year for participants and an interest rate of 8%. Late retirement increases for active participants and terminated participants on or after June 1, 2015 are based on the PPA Mortality Table projected to year 2030 using Mortality Projection Scale MP2017 and an interest rate of 7%.</p>
OTHER ECONOMIC ASSUMPTIONS	
• Salary increases	Age-graded table. See table of rates.

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

Rationale:	Based on results of experience study in 2010 for the RPM Inc. Plan. Based on discussions with RPM management, they expect these rates to be representative of future experience.
• Social Security taxable wage base increases	3.00% per year
• Inflation	2.25% per year
• Expected investment return Rationale:	7.90% for 2016, 7.70% for 2017, 7.10% for 2018 Based on a blend of the hypothetical past performance of the plan's target asset mix and the median simulated investment return using capital market assumptions published in Mercer Investment Consulting's Capital Market Outlook for the plan's current target asset mix.
• Expenses Rationale:	\$88,293 added to current year normal cost Based on actual administrative expenses during the prior year.
DEMOGRAPHIC ASSUMPTIONS	
• Withdrawal	50% of SOA 2003 small plan table. See table of sample rates.
• Disability incidence	1985 Pension Disability Study Class 3, sex distinct. See table of sample rates. 0% of participants becoming disabled are assumed to be eligible for Social Security disability benefits.

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

• Retirement age		
	Attained age	Percentage
	60	10%
	61	10%
	62	25%
	63	15%
	64	15%
	65	30%
	66	30%
	67	30%
	68	30%
	69	30%
	70 and above	100%
• Benefit commencement age for		
– Future vested deferred	65	
– Current vested deferred	65 if over age 63 on the valuation date, otherwise age 63	
• Spouse assumptions	MALE PARTICIPANTS	FEMALE PARTICIPANTS
– Percentage married	85%	75%
– Spouse age difference	2 years younger	2 years older
Rationale for certain Demographic assumptions	Withdrawal and retirement rates are based on the results of an experience study in 2016 for this plan as well as RPM International’s other three U.S. qualified pension plans.	

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

FORM OF PAYMENT	<u>LUMP SUM</u>	<u>SINGLE LIFE</u>	
• Active retirements	85%	15%	
• Future vested deferred	85%	15%	
• Future disabilities	85%	15%	
• Future deaths	85%	15%	
• Current vested deferred	85%	15%	
Rationale:	Based on the results of an experience study in 2016 for this plan as well as RPM International's other three U.S. qualified pension plans.		
UNPREDICTABLE CONTINGENT EVENT ASSUMPTIONS	Not applicable		

*Schedule SB, Part V — Statement of Actuarial Assumptions/Methods***Table of Sample Rates**

ATTAINED AGE	PERCENTAGE		
	WITHDRAWAL	DISABILITY INCIDENCE	
		MALE	FEMALE
25	9.75%	0.219%	0.150%
30	7.75%	0.309%	0.252%
35	6.05%	0.431%	0.388%
40	4.70%	0.597%	0.547%
45	3.65%	0.829%	0.777%
50	2.80%	1.224%	1.201%
55	2.10%	2.118%	1.962%
60	1.50%	3.240%	2.326%
65	0.95%	4.369%	2.718%

ATTAINED AGE	PERCENTAGE
	SALARY INCREASE
20 – 30	5.00%
31 -- 45	3.75%
46 – 55	3.25%
56 – 69	3.00%

*Schedule SB, Part V — Statement of Actuarial Assumptions/Methods***ACTUARIAL METHODS****Asset Methods**

The asset valuation method is an average of the adjusted market value for each year during the last two years preceding the valuation date. The adjusted market value is the market value at each determination date adjusted to the valuation date based on actual cash flows and expected interest at the lesser of the expected rate of return and the third segment rate. This amount is adjusted to be no greater than 110% and no less than 90% of the fair market value, as defined in IRC Section 430.

A characteristic of this asset method is that, over time, it is slightly more likely to produce an actuarial value of assets that is less than the market value of assets than an actuarial value that is greater than the market value.

Participant Methods

Participants or former participants are included or excluded from the valuation as described below:

- **Participants included:** Only those employees who have completed the plan's eligibility requirements are included in the valuation of liabilities.
- **Participants excluded:** No actuarial liability is included for nonvested participants who terminated prior to the valuation date. For this purpose, participants with a break in service on the valuation date are treated as terminated participants.
- **Insurance contracts:** The plan does not have any insurance contracts.
- **Transferred participants:** The liabilities for employees who have transferred into another plan of the plan sponsor have been included with the liabilities for terminated vested participants with the exception of nonvested transfers who are included with the actives until they are vested.

Minimum Funding Methods

The funding target for minimum funding calculations is computed using the traditional unit credit method of funding. The objective under this method is to fund each participant's benefits under the plan as they accrue. Thus, the total pension to which each participant is expected to become

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

entitled at retirement is broken down into units, each associated with a year of past or future credited service.

A detailed description of the calculation follows:

- The plan's valuation date is the beginning of the plan year.
- An individual's **funding target** is the present value of future benefits based on credited service and average pay as of the beginning of the plan year, and an individual's **target normal cost** is the present value of the benefit expected to accrue in the plan year. If multiple decrements are used, the funding target and the target normal cost for an individual is the sum of the component funding targets and target normal costs associated with the various anticipated separation dates.
- This plan provides disability benefits that are only partially based on a participant's accrued benefit or years of service. This benefit is allocated to funding target based on the accrued benefit on the valuation date plus a portion of the excess of the benefit over the accrued benefit multiplied by the ratio of the participant's service at the beginning of the plan year to their service at each decrement age. This benefit is allocated to target normal cost based on the proportionate benefit attributable to the increase in the participant's service and compensation during the plan year.
- The plan's **target normal cost** is the sum of the individual target normal costs, and the plan's **funding target** is the sum of the individual funding targets for all participants under the plan.

SCHEDULE SB (Form 5500) <small>Department of the Treasury Internal Revenue Service</small> <small>Department of Labor Employee Benefits Security Administration</small> <small>Pension Benefit Guaranty Corporation</small>	Single-Employer Defined Benefit Plan Actuarial Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6059 of the Internal Revenue Code (the Code). ► File as an attachment to Form 5500 or 5500-SF.	OMB No. 1210-0110 2018 This Form is Open to Public Inspection
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For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

► Round off amounts to nearest dollar.

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

A Name of plan RPM INTERNATIONAL INC. UNION RETIREMENT PLAN	B Three-digit plan number (PN) ►	008
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF RPM INTERNATIONAL INC.	D Employer Identification Number (EIN) 02-0642224	
E Type of plan: ☒ Single ☐ Multiple-A ☐ Multiple-B		
F Prior year plan size: ☐ 100 or fewer ☐ 101-500 ☒ More than 500		

Part I Basic Information

1 Enter the valuation date: Month <u>01</u> Day <u>01</u> Year <u>2018</u>			
2 Assets:			
a Market value.....	2a	2,325,195	
b Actuarial value.....	2b	2,198,659	
3 Funding target/participant count breakdown	(1) Number of participants	(2) Vested Funding Target	(3) Total Funding Target
a For retired participants and beneficiaries receiving payment.....	4	140,348	140,348
b For terminated vested participants.....	23	336,523	336,523
c For active participants.....	56	1,277,364	1,432,701
d Total.....	83	1,754,235	1,909,572
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	5.93%	
6 Target normal cost.....	6	198,166	

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 DANIEL SECKAR, EA, MAAA Type or print name of actuary MERCER Firm name SIX PPG PLACE, SUITE 400 PITTSBURGH PA 15222-5406 Address of the firm	<u>9/29/2019</u> Date 1706799 Most recent enrollment number 412-355-8800 Telephone number (including area code)
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If the actuary has not fully reflected any regulation or ruling promulgated under the statute in completing this schedule, check the box and see instructions ☐

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

Schedule SB (Form 5500) 2018
v. 171027

Part II Beginning of Year Carryover and Prefunding Balances

	(a) Carryover balance	(b) Prefunding balance
7 Balance at beginning of prior year after applicable adjustments (line 13 from prior year).....	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 <u>15.65%</u>	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).....		293,196
b(1) Interest on the excess, if any, of line 38a over line 38b from prior year Schedule SB, using prior year's effective interest rate of <u>6.09%</u>		17,856
b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return.....		
c Total available at beginning of current plan year to add to prefunding balance.....		311,052
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	115.13%
15 Adjusted funding target attainment percentage.....	15	115.13%
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	112.25%
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
04/11/2018	73,300	0			
07/12/2018	69,800	0			
10/15/2018	69,800	0			
01/11/2019	69,800	0			
04/12/2019	77,500	0			
09/11/2019	41,600	0			
Totals ▶			18(b)	401,800	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	382,106

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

Liquidity shortfall as of end of quarter of this plan year

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

Part V Assumptions Used to Determine Funding Target and Target Normal Cost**21** Discount rate:**a** Segment rates:1st segment:
3.92 %2nd segment:
5.52 %3rd segment:
6.29 %☐ N/A, full yield curve used**b** Applicable month (enter code).....**21b**

0

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**

198,166

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

198,166

32 Amortization installments:**a** Net shortfall amortization installment

Outstanding Balance

Installment

0

0

b Waiver amortization installment

0

0

33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount**33****34** Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33)**34**

0

Carryover balance

Prefunding balance

Total balance

35 Balances elected for use to offset funding requirement

0

0

0

36 Additional cash requirement (line 34 minus line 35)**36**

0

37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)**37**

382,106

38 Present value of excess contributions for current year (see instructions)**a** Total (excess, if any, of line 37 over line 36)**38a**

382,106

b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances**38b**

0

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

0

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

0

Part IX Pension Funding Relief Under Pension Relief Act of 2010 (See Instructions)**41** If an election was made to use PRA 2010 funding relief for this plan:**a** Schedule elected☐

2 plus 7 years

☐

15 years

b Eligible plan year(s) for which the election in line 41a was made☐

2008

☐

2009

☐

2010

☐

2011

Schedule SB, line 26 — Schedule of Active Participant Data

ATTAINED AGE	YEARS OF CREDITED SERVICE										
	UNDER 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	TOTAL
Under 25		4									4
25-29		6		1							7
30-34	1	2	1	1							5
35-39		2	2	1	2						7
40-44		2	1		3						6
45-49		4	1	2	2	2					11
50-54				2	2	1					5
55-59					4	2					6
60-64					2						2
65-69					1	2					3
70 & up											
Total	1	20	5	7	16	7					56

In each cell, the number is the count of active participants for each age/service combination. Average pay is not shown for plans with less than 1,000 active participants.

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

ACTUARIAL ASSUMPTIONS FOR JANUARY 1, 2018 FUNDING VALUATION

DISCOUNT RATE SPONSOR ELECTIONS			
• Segment rates or full yield curve	Segment		
• Look-back months	0		
	Stabilized	Nonstabilized	
• First 5 years	3.92%	1.81%	
• Next 15 years	5.52%	3.68%	
• Over 20 years	6.29%	4.53%	
Rationale:	Assumption prescribed by the IRS.		
MORTALITY SPONSOR ELECTIONS			
• All participants	Section 430(h)(3) prescribed separate generational annuitant and non-annuitant mortality tables. These tables are based on the RP-2014 mortality tables projected with mortality improvement based on the IRS methodology and projection scale MP-2016.		
Rationale:	Assumption prescribed by the IRS.		

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

417(E) LUMP SUMS	<p>Liabilities are determined based on the underlying annuity used by the plan to determine the lump sum amount, rather than valuing the lump sum payment. This annuity is valued based on funding interest rates and unisex generational mortality rather than 417(e) rates and current year 417(e) unisex mortality.</p> <p>The plan provides the greater of the lump sum determined using the deferred accrued benefit and deferred conversion factor and the lump sum determined using the immediate benefit reduced for early retirement and immediate conversion factor. The conversion factors used for this comparison are based on valuation assumptions.</p>
OPTIONAL FORM OF PAYMENT CONVERSION FACTORS	Based on PPA mortality projected to year 2030 using Mortality Projection Scale MP2017 and an interest rate of 7.0% per annum.
LATE RETIREMENT INCREASE ASSUMPTION	<p>The valuation assumes that the late retirement actuarial increase factors for deferred vested participants who terminated before June 1, 2015 are best using the plan's old definition of actuarial equivalence that is protected under Section 1 (b) of Amendment #1. Therefore, late retirement increases for these deferred vested participants is based on the Unisex Pension 1984 Mortality Table rates with an age set back of one year for participants and an interest rate of 8%. Late retirement increases for active participants and terminated participants on or after June 1, 2015 are based on the PPA Mortality Table projected to year 2030 using Mortality Projection Scale MP2017 and an interest rate of 7%.</p>
OTHER ECONOMIC ASSUMPTIONS	
• Salary increases	Age-graded table. See table of rates.

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

Rationale:	Based on results of experience study in 2010 for the RPM Inc. Plan. Based on discussions with RPM management, they expect these rates to be representative of future experience.
• Social Security taxable wage base increases	3.00% per year
• Inflation	2.25% per year
• Expected investment return Rationale:	7.90% for 2016, 7.70% for 2017, 7.10% for 2018 Based on a blend of the hypothetical past performance of the plan's target asset mix and the median simulated investment return using capital market assumptions published in Mercer Investment Consulting's Capital Market Outlook for the plan's current target asset mix.
• Expenses Rationale:	\$88,293 added to current year normal cost Based on actual administrative expenses during the prior year.
DEMOGRAPHIC ASSUMPTIONS	
• Withdrawal	50% of SOA 2003 small plan table. See table of sample rates.
• Disability incidence	1985 Pension Disability Study Class 3, sex distinct. See table of sample rates. 0% of participants becoming disabled are assumed to be eligible for Social Security disability benefits.

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

• Retirement age		
	Attained age	Percentage
	60	10%
	61	10%
	62	25%
	63	15%
	64	15%
	65	30%
	66	30%
	67	30%
	68	30%
	69	30%
	70 and above	100%
• Benefit commencement age for		
– Future vested deferred	65	
– Current vested deferred	65 if over age 63 on the valuation date, otherwise age 63	
• Spouse assumptions	MALE PARTICIPANTS	FEMALE PARTICIPANTS
– Percentage married	85%	75%
– Spouse age difference	2 years younger	2 years older
Rationale for certain Demographic assumptions	Withdrawal and retirement rates are based on the results of an experience study in 2016 for this plan as well as RPM International’s other three U.S. qualified pension plans.	

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

FORM OF PAYMENT	<u>LUMP SUM</u>	<u>SINGLE LIFE</u>	
• Active retirements	85%	15%	
• Future vested deferred	85%	15%	
• Future disabilities	85%	15%	
• Future deaths	85%	15%	
• Current vested deferred	85%	15%	
Rationale:	Based on the results of an experience study in 2016 for this plan as well as RPM International's other three U.S. qualified pension plans.		
UNPREDICTABLE CONTINGENT EVENT ASSUMPTIONS	Not applicable		

*Schedule SB, Part V — Statement of Actuarial Assumptions/Methods***Table of Sample Rates**

ATTAINED AGE	PERCENTAGE		
	WITHDRAWAL	DISABILITY INCIDENCE	
		MALE	FEMALE
25	9.75%	0.219%	0.150%
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45	3.65%	0.829%	0.777%
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55	2.10%	2.118%	1.962%
60	1.50%	3.240%	2.326%
65	0.95%	4.369%	2.718%

ATTAINED AGE	PERCENTAGE
	SALARY INCREASE
20 – 30	5.00%
31 -- 45	3.75%
46 – 55	3.25%
56 – 69	3.00%

*Schedule SB, Part V — Statement of Actuarial Assumptions/Methods***ACTUARIAL METHODS****Asset Methods**

The asset valuation method is an average of the adjusted market value for each year during the last two years preceding the valuation date. The adjusted market value is the market value at each determination date adjusted to the valuation date based on actual cash flows and expected interest at the lesser of the expected rate of return and the third segment rate. This amount is adjusted to be no greater than 110% and no less than 90% of the fair market value, as defined in IRC Section 430.

A characteristic of this asset method is that, over time, it is slightly more likely to produce an actuarial value of assets that is less than the market value of assets than an actuarial value that is greater than the market value.

Participant Methods

Participants or former participants are included or excluded from the valuation as described below:

- **Participants included:** Only those employees who have completed the plan's eligibility requirements are included in the valuation of liabilities.
- **Participants excluded:** No actuarial liability is included for nonvested participants who terminated prior to the valuation date. For this purpose, participants with a break in service on the valuation date are treated as terminated participants.
- **Insurance contracts:** The plan does not have any insurance contracts.
- **Transferred participants:** The liabilities for employees who have transferred into another plan of the plan sponsor have been included with the liabilities for terminated vested participants with the exception of nonvested transfers who are included with the actives until they are vested.

Minimum Funding Methods

The funding target for minimum funding calculations is computed using the traditional unit credit method of funding. The objective under this method is to fund each participant's benefits under the plan as they accrue. Thus, the total pension to which each participant is expected to become

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

entitled at retirement is broken down into units, each associated with a year of past or future credited service.

A detailed description of the calculation follows:

- The plan's valuation date is the beginning of the plan year.
- An individual's **funding target** is the present value of future benefits based on credited service and average pay as of the beginning of the plan year, and an individual's **target normal cost** is the present value of the benefit expected to accrue in the plan year. If multiple decrements are used, the funding target and the target normal cost for an individual is the sum of the component funding targets and target normal costs associated with the various anticipated separation dates.
- This plan provides disability benefits that are only partially based on a participant's accrued benefit or years of service. This benefit is allocated to funding target based on the accrued benefit on the valuation date plus a portion of the excess of the benefit over the accrued benefit multiplied by the ratio of the participant's service at the beginning of the plan year to their service at each decrement age. This benefit is allocated to target normal cost based on the proportionate benefit attributable to the increase in the participant's service and compensation during the plan year.
- The plan's **target normal cost** is the sum of the individual target normal costs, and the plan's **funding target** is the sum of the individual funding targets for all participants under the plan.

*Schedule SB, Part V — Summary of Plan Provisions***SUMMARY OF MAJOR PLAN PROVISIONS**

Effective date and plan year	Original plan: January 1, 1998 Restated plan: January 1, 2014 Plan year: Calendar year
Most recent amendment	Effective January 1, 2018
Status of the plan	The plan has ongoing benefit accruals and new employees are eligible to participate in the plan once they satisfy the participation requirements.
Significant events that occurred during the year	None
DEFINITIONS	
• Participation	All employees who are members of the Union and were covered under the prior Plan become participants on the Plan's effective date. All other Union employees become participants upon attainment of age 21 and completion of 1,000 hours in a 12-month period.
• Vesting service	Vesting Service is computed on an elapsed time basis, rounded to the nearest month, from date of hire.
• Benefit service	Benefit Service is computed in the same manner as Vesting Service; however, Benefit Service for Participants employed at Tremco Incorporated shall not commence earlier than February 1, 1997.
• Covered Compensation	W-2 during calendar year, increased for salary reduction amounts which are excluded from taxable income under Code Sections 125(a), (including amounts deemed to be contributions under Code Section 125), 132(f)(4), 402(e)(3) and 402(h), and decreased for any auto allowances, general business expense allowances, and taxable life insurance amounts. Effective January 1, 2009, any "differential wage payments" (as described in Section 3401(h)(2) of the Code) paid with respect to Military Service shall be considered Compensation for purposes of the Plan. Severance payments are not considered Compensation under the Plan.

Schedule SB, Part V — Summary of Plan Provisions

<ul style="list-style-type: none"> Average annual compensation 	<p>Average Compensation is the average of total compensation over the 60 consecutive months that produce the highest average in the 120 months prior to retirement or termination. Effective January 1, 1989 for all formulas, annual compensation is limited to \$200,000 (indexed); such cap on pensionable earnings was decreased to \$150,000 (indexed) effective January 1, 1994 and in 2001 is \$170,000, in 2002 and 2003 is \$200,000, in 2004 is \$205,000, in 2005 is \$210,000, in 2006 is \$220,000, in 2007 is \$225,000, in 2008 is \$230,000, in 2009 through 2011 is \$245,000, in 2012 is \$250,000, in 2013 is \$255,000, and in 2014 is \$260,000. For 2015 and 2016, the cap on pensionable earnings is \$265,000, for 2017 is \$270,000 and for 2018 is \$275,000.</p>
<ul style="list-style-type: none"> Actuarial equivalence 	<p>Benefits other than lump sum payments: PPA mortality and an interest rate of 7.0% per annum.</p> <p>Lump Sum Payments: PPA mortality and interest rates equal to the 3-tiered minimum present value segment rates for the month that is two months prior to the first day of the calendar quarter in which a distribution is made, reflecting the appropriate phase-ins.</p> <p>For late retirement adjustments, the mortality assumption is the PPA mortality and an interest rate of 7.0%. For participants whose protected benefits are greater, UP84 mortality with a one-year setback and an interest rate of 8.0% per annum or the pre-2018 PPA mortality projected to 2020 by scale AA and 7.0% are used for late retirement adjustments.</p>
NORMAL RETIREMENT	
<ul style="list-style-type: none"> Eligibility 	<p>Eligible at attainment of age 65 and 5 years of participation in the Plan.</p>

Schedule SB, Part V — Summary of Plan Provisions

<ul style="list-style-type: none"> Benefit 	<p>A monthly benefit, payable on a straight-life basis, equal to the greater of:</p> <ul style="list-style-type: none"> 22.5% of Average Compensation times the ratio of Benefit Service to Normal Retirement Date (maximum 30 years) over 30 plus 22.5% of Average Compensation in excess of Social Security Covered Compensation times the ratio of Benefit Service to Normal Retirement Date (maximum 35 years) over 35; and \$20.00 times Benefit Service <p>Social Security Covered Compensation is one twelfth of the average of the Social Security taxable Wage Bases in effect for the 35 years ending with the year the participant would attain Social Security Normal Retirement Age (SSNRA), assuming, in the case of a participant who retires or terminates before SSNRA that the Wage Base then in effect continues unchanged until his SSNRA.</p> <p>For certain Euclid Chemical participants that were hired before June 1, 2001 and had non-union service before Euclid Chemical adopted this plan, a Euclid transfer benefit is added to the benefit earned under this plan.</p>
EARLY RETIREMENT	
<ul style="list-style-type: none"> Eligibility 	Eligible at any age and completion of 5 years of Vesting Service.

Schedule SB, Part V — Summary of Plan Provisions

<ul style="list-style-type: none"> Benefit 	<p>The Early Retirement Benefit is equal to the Normal Retirement Benefit multiplied by Benefit Service at date of termination and divided by Benefit Service to Normal Retirement Date, payable starting at Normal Retirement date, or payable starting at early retirement date on a reduced basis. The early retirement factor is the greater of the factor from the table below or the factor based on the plan's actuarial equivalence basis.</p> <table> <tr> <th>Age at commencement</th><th>% of accrued benefit</th></tr> <tr><td>55</td><td>48.5%</td></tr> <tr><td>56</td><td>52.5%</td></tr> <tr><td>57</td><td>56.5%</td></tr> <tr><td>58</td><td>60.5%</td></tr> <tr><td>59</td><td>64.5%</td></tr> <tr><td>60</td><td>68.5%</td></tr> <tr><td>61</td><td>73.0%</td></tr> <tr><td>62</td><td>77.5%</td></tr> <tr><td>63</td><td>85.0%</td></tr> <tr><td>64</td><td>92.5%</td></tr> <tr><td>65</td><td>100.0%</td></tr> </table>	Age at commencement	% of accrued benefit	55	48.5%	56	52.5%	57	56.5%	58	60.5%	59	64.5%	60	68.5%	61	73.0%	62	77.5%	63	85.0%	64	92.5%	65	100.0%
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LATE RETIREMENT																									
<ul style="list-style-type: none"> Eligibility 	<p>A plan participant is eligible for a Late Retirement Benefit on the first day of the month coinciding with or next following the date of Normal Retirement.</p>																								
<ul style="list-style-type: none"> Benefit 	<p>The Late Retirement Benefit is equal to the greater of:</p> <ol style="list-style-type: none"> the actuarial equivalent of the Normal Retirement Benefit and the benefit calculated in the same manner as the Normal Retirement Benefit, but based on Average Compensation, Social Security Covered Compensation, and Benefit Service on the date of retirement. 																								

Schedule SB, Part V — Summary of Plan Provisions

VESTED TERMINATION	
• Eligibility	A Plan participant is eligible for a Vested Termination Benefit at any age and the completion of 5 years of Vesting Service.
• Benefit	The Vested Termination Benefit is equal to the Normal Retirement Benefit multiplied by Benefit Service at date of termination and divided by Benefit Service to Normal Retirement Date, payable as under Early Retirement.
DISABILITY	
• Eligibility	A Plan participant is eligible for a Disability Benefit when he is eligible under the long term disability plan maintained by his employer.
• Benefit	The Disability Benefit is equal to the Accrued Benefit based on Average Compensation at the date of disability and Benefit Service accrued through the benefit commencement date. Benefit Service continues to be earned during the period of disability.
PRE-RETIREMENT SPOUSES'S BENEFIT	
• Eligibility	Spouse of an active or terminated participant who dies after attaining eligibility for a benefit under the above conditions but prior to his pension starting date.
• Benefit	<p>The Pre-Retirement Death Benefit, payable to the surviving spouse, if any, is equal to the monthly pension at retirement age that would have been payable had the participant survived to retirement age with Accrued Normal Retirement Benefit at the time of death, retired under the 50% Joint and Contingent Annuitant Annuity form of payment and then died.</p> <p>If death occurs after age 60 and completion of 20 years of Vesting Service, but before commencement of retirement benefits, the participant's designated beneficiary will be entitled to the lump sum equivalent of the participant's accrued Normal Retirement Benefit at date of death.</p> <p>A surviving spouse may elect any optional form of payment available under the plan.</p>

Schedule SB, Part V — Summary of Plan Provisions

FORM OF BENEFITS	
<ul style="list-style-type: none"> Automatic form for unmarried participants 	Unless otherwise elected, any benefit payable under the Plan shall be paid on a straight-life basis.
<ul style="list-style-type: none"> Automatic form for married participants 	Unless otherwise elected, any benefit payable under the Plan shall be paid on a 50% Joint and Contingent Annuitant Annuity basis.
<ul style="list-style-type: none"> Optional forms 	An employee commencing benefits may elect to have his lifetime benefit payable on an actuarially equivalent 50%, 75% or 100% Joint and Contingent Annuitant Annuity basis, a 5-Year, 10-Year, or 15-Year Certain and Life Annuity basis, or a single lump sum basis, each of which is the actuarial equivalent of the lifetime form.
MISCELLANEOUS	
<ul style="list-style-type: none"> Maximum compensation 	Compensation for any 12-month period used to determine accrued benefits may not exceed the limits in IRC Section 401(a)(17) for the calendar year in which the 12-month period begins. This limit is indexed annually. For 2018, the limit is \$275,000.
<ul style="list-style-type: none"> Maximum benefits 	Annual benefits may not exceed the limits in IRC Section 415. This limit is indexed annually. For 2018, the limit is \$220,000.
<ul style="list-style-type: none"> Funding medium 	Trust

*Schedule SB, Part V — Summary of Plan Provisions***Benefits Included or Excluded**

Unless noted below, all benefits provided by the plan, as restated and amended through Amendment #1, are included in this valuation:

- **Most recent plan amendments included:** Amendment #1, effective January 1, 2018
- **Plan amendments excluded:** None
- **IRC Section 436 benefit restrictions:**
 - *Unpredictable contingent event benefits:* This valuation excludes restricted contingent event benefits that occurred before the valuation date but includes contingent event benefits which are expected to occur on or after the valuation date regardless of anticipated funding-based limitations.
 - *Plan amendments:* See above.
 - *Prohibited payments:* Limitations on prohibited benefits (if any) are reflected for annuity starting dates before the valuation date but are ignored for annuity starting dates on or after the valuation date.
 - *Benefit accruals:* The plan's funding target does not reflect any limitation on benefit accruals. The target normal cost does not reflect any limitation on benefit accruals.
- **Late retirement increases:**
 - *Active participants:* Active participants over normal retirement age are valued with the late retirement actuarial increases. Active participants assumed to retire after normal retirement age are also valued with late retirement actuarial increases.
 - *Deferred vested participants:* Current deferred vested participants over normal retirement age are valued including the late retirement actuarial increase.
- **Unpredictable contingent event benefits:** The plan does not have any unpredictable contingent event benefits.
- **Internal Revenue Code limitations:** The limitations of Internal Revenue Code Section 415(b) and 401(a)(17) have been incorporated into our calculations.
- **IRC Section 416 rules for top-heavy plans:** We did not test whether this plan is top-heavy (when the present value of benefits for key employees equals or exceeds 60 percent of the present value for all participants). However, we expect that the plan is not top-heavy due to the large number of rank-and-file participants; therefore, the funding target and target normal cost do not reflect any liability for top-heavy benefit accruals.

Schedule SB, Part V — Summary of Plan Provisions

PLAN PROVISION CHANGES SINCE PRIOR VALUATION

- Maximum compensation amounts and maximum benefit amounts under IRS rules were updated from 2017 to 2018.
- The mortality table used for actuarial equivalence for optional forms of payment, lump sums and late retirement increases was updated to reflect the latest 417(e) mortality as prescribed by the IRS.

Schedule SB, line 22 — Description of Weighted Average Retirement Age

Each employee is assumed to retire in accordance with the table of retirement rates. The proportion of employees expected to retire at each potential retirement age is shown below. The average retirement age is 64.

(A) Retirement age	(B) Retirement Percent	(C) Lx	(D) Number of employees expected to retire (B) x (C)	(E) (A) x (D)
60	10.00%	10,000	1,000	60,000
61	10.00%	9,000	900	54,900
62	25.00%	8,100	2,025	125,550
63	15.00%	6,075	911	57,393
64	15.00%	5,164	775	49,600
65	30.00%	4,389	1,317	85,605
66	30.00%	3,072	922	60,852
67	30.00%	2,150	645	43,215
68	30.00%	1,505	452	30,736
69	30.00%	1,053	316	21,804
70	100.00%	737	737	51,590
Total			10,000	641,245
Average				64.12

Schedule SB, line 24 — Change in Actuarial Assumptions

ACTUARIAL ASSUMPTION CHANGES SINCE PRIOR VALUATION

- The mortality table used for all participants was updated to RP-2014 mortality tables projected with mortality improvement based on the IRS methodology and projection scale MP-2016.
- The expected investment return assumption decreased from 7.70% to 7.10% to reflect our expectations of future asset returns.
- The expense component of normal cost decreased from \$93,286 to \$88,293 to reflect our expectations for the current plan year.
- The actuarial equivalence for form of payment conversion was updated to use PPA mortality projected to 2030 using Mortality Projection Scale MP2017.
- The late retirement increase factor assumption was updated to use PPA mortality projected to 2030 using Mortality Projection Scale MP2017 and an interest rate of 7% for actives and deferred vested participants terminating after June 1, 2015.

Schedule SB, line 22 — Description of Weighted Average Retirement Age

Each employee is assumed to retire in accordance with the table of retirement rates. The proportion of employees expected to retire at each potential retirement age is shown below. The average retirement age is 64.

(A) Retirement age	(B) Retirement Percent	(C) Lx	(D) Number of employees expected to retire (B) x (C)	(E) (A) x (D)
60	10.00%	10,000	1,000	60,000
61	10.00%	9,000	900	54,900
62	25.00%	8,100	2,025	125,550
63	15.00%	6,075	911	57,393
64	15.00%	5,164	775	49,600
65	30.00%	4,389	1,317	85,605
66	30.00%	3,072	922	60,852
67	30.00%	2,150	645	43,215
68	30.00%	1,505	452	30,736
69	30.00%	1,053	316	21,804
70	100.00%	737	737	51,590
Total			10,000	641,245
Average				64.12

*Schedule SB, Part V — Summary of Plan Provisions***SUMMARY OF MAJOR PLAN PROVISIONS**

Effective date and plan year	Original plan: January 1, 1998 Restated plan: January 1, 2014 Plan year: Calendar year
Most recent amendment	Effective January 1, 2018
Status of the plan	The plan has ongoing benefit accruals and new employees are eligible to participate in the plan once they satisfy the participation requirements.
Significant events that occurred during the year	None
DEFINITIONS	
• Participation	All employees who are members of the Union and were covered under the prior Plan become participants on the Plan's effective date. All other Union employees become participants upon attainment of age 21 and completion of 1,000 hours in a 12-month period.
• Vesting service	Vesting Service is computed on an elapsed time basis, rounded to the nearest month, from date of hire.
• Benefit service	Benefit Service is computed in the same manner as Vesting Service; however, Benefit Service for Participants employed at Tremco Incorporated shall not commence earlier than February 1, 1997.
• Covered Compensation	W-2 during calendar year, increased for salary reduction amounts which are excluded from taxable income under Code Sections 125(a), (including amounts deemed to be contributions under Code Section 125), 132(f)(4), 402(e)(3) and 402(h), and decreased for any auto allowances, general business expense allowances, and taxable life insurance amounts. Effective January 1, 2009, any "differential wage payments" (as described in Section 3401(h)(2) of the Code) paid with respect to Military Service shall be considered Compensation for purposes of the Plan. Severance payments are not considered Compensation under the Plan.

Schedule SB, Part V — Summary of Plan Provisions

<ul style="list-style-type: none"> Average annual compensation 	<p>Average Compensation is the average of total compensation over the 60 consecutive months that produce the highest average in the 120 months prior to retirement or termination. Effective January 1, 1989 for all formulas, annual compensation is limited to \$200,000 (indexed); such cap on pensionable earnings was decreased to \$150,000 (indexed) effective January 1, 1994 and in 2001 is \$170,000, in 2002 and 2003 is \$200,000, in 2004 is \$205,000, in 2005 is \$210,000, in 2006 is \$220,000, in 2007 is \$225,000, in 2008 is \$230,000, in 2009 through 2011 is \$245,000, in 2012 is \$250,000, in 2013 is \$255,000, and in 2014 is \$260,000. For 2015 and 2016, the cap on pensionable earnings is \$265,000, for 2017 is \$270,000 and for 2018 is \$275,000.</p>
<ul style="list-style-type: none"> Actuarial equivalence 	<p>Benefits other than lump sum payments: PPA mortality and an interest rate of 7.0% per annum.</p> <p>Lump Sum Payments: PPA mortality and interest rates equal to the 3-tiered minimum present value segment rates for the month that is two months prior to the first day of the calendar quarter in which a distribution is made, reflecting the appropriate phase-ins.</p> <p>For late retirement adjustments, the mortality assumption is the PPA mortality and an interest rate of 7.0%. For participants whose protected benefits are greater, UP84 mortality with a one-year setback and an interest rate of 8.0% per annum or the pre-2018 PPA mortality projected to 2020 by scale AA and 7.0% are used for late retirement adjustments.</p>
NORMAL RETIREMENT	
<ul style="list-style-type: none"> Eligibility 	<p>Eligible at attainment of age 65 and 5 years of participation in the Plan.</p>

Schedule SB, Part V — Summary of Plan Provisions

<ul style="list-style-type: none"> • Benefit 	<p>A monthly benefit, payable on a straight-life basis, equal to the greater of:</p> <ul style="list-style-type: none"> • 22.5% of Average Compensation times the ratio of Benefit Service to Normal Retirement Date (maximum 30 years) over 30 plus 22.5% of Average Compensation in excess of Social Security Covered Compensation times the ratio of Benefit Service to Normal Retirement Date (maximum 35 years) over 35; and • \$20.00 times Benefit Service <p>Social Security Covered Compensation is one twelfth of the average of the Social Security taxable Wage Bases in effect for the 35 years ending with the year the participant would attain Social Security Normal Retirement Age (SSNRA), assuming, in the case of a participant who retires or terminates before SSNRA that the Wage Base then in effect continues unchanged until his SSNRA.</p> <p>For certain Euclid Chemical participants that were hired before June 1, 2001 and had non-union service before Euclid Chemical adopted this plan, a Euclid transfer benefit is added to the benefit earned under this plan.</p>
EARLY RETIREMENT	
<ul style="list-style-type: none"> • Eligibility 	Eligible at any age and completion of 5 years of Vesting Service.

Schedule SB, Part V — Summary of Plan Provisions

<ul style="list-style-type: none"> Benefit 	<p>The Early Retirement Benefit is equal to the Normal Retirement Benefit multiplied by Benefit Service at date of termination and divided by Benefit Service to Normal Retirement Date, payable starting at Normal Retirement date, or payable starting at early retirement date on a reduced basis. The early retirement factor is the greater of the factor from the table below or the factor based on the plan's actuarial equivalence basis.</p> <table> <tr> <th>Age at commencement</th><th>% of accrued benefit</th></tr> <tr><td>55</td><td>48.5%</td></tr> <tr><td>56</td><td>52.5%</td></tr> <tr><td>57</td><td>56.5%</td></tr> <tr><td>58</td><td>60.5%</td></tr> <tr><td>59</td><td>64.5%</td></tr> <tr><td>60</td><td>68.5%</td></tr> <tr><td>61</td><td>73.0%</td></tr> <tr><td>62</td><td>77.5%</td></tr> <tr><td>63</td><td>85.0%</td></tr> <tr><td>64</td><td>92.5%</td></tr> <tr><td>65</td><td>100.0%</td></tr> </table>	Age at commencement	% of accrued benefit	55	48.5%	56	52.5%	57	56.5%	58	60.5%	59	64.5%	60	68.5%	61	73.0%	62	77.5%	63	85.0%	64	92.5%	65	100.0%
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<ul style="list-style-type: none"> Benefit 	<p>The Late Retirement Benefit is equal to the greater of:</p> <ol style="list-style-type: none"> the actuarial equivalent of the Normal Retirement Benefit and the benefit calculated in the same manner as the Normal Retirement Benefit, but based on Average Compensation, Social Security Covered Compensation, and Benefit Service on the date of retirement. 																								

Schedule SB, Part V — Summary of Plan Provisions

VESTED TERMINATION	
• Eligibility	A Plan participant is eligible for a Vested Termination Benefit at any age and the completion of 5 years of Vesting Service.
• Benefit	The Vested Termination Benefit is equal to the Normal Retirement Benefit multiplied by Benefit Service at date of termination and divided by Benefit Service to Normal Retirement Date, payable as under Early Retirement.
DISABILITY	
• Eligibility	A Plan participant is eligible for a Disability Benefit when he is eligible under the long term disability plan maintained by his employer.
• Benefit	The Disability Benefit is equal to the Accrued Benefit based on Average Compensation at the date of disability and Benefit Service accrued through the benefit commencement date. Benefit Service continues to be earned during the period of disability.
PRE-RETIREMENT SPOUSES'S BENEFIT	
• Eligibility	Spouse of an active or terminated participant who dies after attaining eligibility for a benefit under the above conditions but prior to his pension starting date.
• Benefit	<p>The Pre-Retirement Death Benefit, payable to the surviving spouse, if any, is equal to the monthly pension at retirement age that would have been payable had the participant survived to retirement age with Accrued Normal Retirement Benefit at the time of death, retired under the 50% Joint and Contingent Annuitant Annuity form of payment and then died.</p> <p>If death occurs after age 60 and completion of 20 years of Vesting Service, but before commencement of retirement benefits, the participant's designated beneficiary will be entitled to the lump sum equivalent of the participant's accrued Normal Retirement Benefit at date of death.</p> <p>A surviving spouse may elect any optional form of payment available under the plan.</p>

Schedule SB, Part V — Summary of Plan Provisions

FORM OF BENEFITS	
<ul style="list-style-type: none"> Automatic form for unmarried participants 	Unless otherwise elected, any benefit payable under the Plan shall be paid on a straight-life basis.
<ul style="list-style-type: none"> Automatic form for married participants 	Unless otherwise elected, any benefit payable under the Plan shall be paid on a 50% Joint and Contingent Annuitant Annuity basis.
<ul style="list-style-type: none"> Optional forms 	An employee commencing benefits may elect to have his lifetime benefit payable on an actuarially equivalent 50%, 75% or 100% Joint and Contingent Annuitant Annuity basis, a 5-Year, 10-Year, or 15-Year Certain and Life Annuity basis, or a single lump sum basis, each of which is the actuarial equivalent of the lifetime form.
MISCELLANEOUS	
<ul style="list-style-type: none"> Maximum compensation 	Compensation for any 12-month period used to determine accrued benefits may not exceed the limits in IRC Section 401(a)(17) for the calendar year in which the 12-month period begins. This limit is indexed annually. For 2018, the limit is \$275,000.
<ul style="list-style-type: none"> Maximum benefits 	Annual benefits may not exceed the limits in IRC Section 415. This limit is indexed annually. For 2018, the limit is \$220,000.
<ul style="list-style-type: none"> Funding medium 	Trust

*Schedule SB, Part V — Summary of Plan Provisions***Benefits Included or Excluded**

Unless noted below, all benefits provided by the plan, as restated and amended through Amendment #1, are included in this valuation:

- **Most recent plan amendments included:** Amendment #1, effective January 1, 2018
- **Plan amendments excluded:** None
- **IRC Section 436 benefit restrictions:**
 - *Unpredictable contingent event benefits:* This valuation excludes restricted contingent event benefits that occurred before the valuation date but includes contingent event benefits which are expected to occur on or after the valuation date regardless of anticipated funding-based limitations.
 - *Plan amendments:* See above.
 - *Prohibited payments:* Limitations on prohibited benefits (if any) are reflected for annuity starting dates before the valuation date but are ignored for annuity starting dates on or after the valuation date.
 - *Benefit accruals:* The plan's funding target does not reflect any limitation on benefit accruals. The target normal cost does not reflect any limitation on benefit accruals.
- **Late retirement increases:**
 - *Active participants:* Active participants over normal retirement age are valued with the late retirement actuarial increases. Active participants assumed to retire after normal retirement age are also valued with late retirement actuarial increases.
 - *Deferred vested participants:* Current deferred vested participants over normal retirement age are valued including the late retirement actuarial increase.
- **Unpredictable contingent event benefits:** The plan does not have any unpredictable contingent event benefits.
- **Internal Revenue Code limitations:** The limitations of Internal Revenue Code Section 415(b) and 401(a)(17) have been incorporated into our calculations.
- **IRC Section 416 rules for top-heavy plans:** We did not test whether this plan is top-heavy (when the present value of benefits for key employees equals or exceeds 60 percent of the present value for all participants). However, we expect that the plan is not top-heavy due to the large number of rank-and-file participants; therefore, the funding target and target normal cost do not reflect any liability for top-heavy benefit accruals.

Schedule SB, Part V — Summary of Plan Provisions

PLAN PROVISION CHANGES SINCE PRIOR VALUATION

- Maximum compensation amounts and maximum benefit amounts under IRS rules were updated from 2017 to 2018.
- The mortality table used for actuarial equivalence for optional forms of payment, lump sums and late retirement increases was updated to reflect the latest 417(e) mortality as prescribed by the IRS.

Schedule SB, line 24 — Change in Actuarial Assumptions

ACTUARIAL ASSUMPTION CHANGES SINCE PRIOR VALUATION

- The mortality table used for all participants was updated to RP-2014 mortality tables projected with mortality improvement based on the IRS methodology and projection scale MP-2016.
- The expected investment return assumption decreased from 7.70% to 7.10% to reflect our expectations of future asset returns.
- The expense component of normal cost decreased from \$93,286 to \$88,293 to reflect our expectations for the current plan year.
- The actuarial equivalence for form of payment conversion was updated to use PPA mortality projected to 2030 using Mortality Projection Scale MP2017.
- The late retirement increase factor assumption was updated to use PPA mortality projected to 2030 using Mortality Projection Scale MP2017 and an interest rate of 7% for actives and deferred vested participants terminating after June 1, 2015.