

Form 5500-SF Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Short Form Annual Return/Report of Small Employee Benefit Plan This form is required to be filed 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-SF.	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 01/01/2018 and ending 12/31/2018			
A This return/report is for:	<input checked="" type="checkbox"/> a single-employer plan	<input type="checkbox"/> a multiple-employer plan (not multiemployer) (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.)	
	<input type="checkbox"/> a one-participant plan	<input type="checkbox"/> a foreign plan	
B This return/report is	<input type="checkbox"/> the first return/report	<input type="checkbox"/> the final return/report	
	<input type="checkbox"/> an amended return/report	<input type="checkbox"/> a short plan year return/report (less than 12 months)	
C Check box if filing under:	<input checked="" type="checkbox"/> Form 5558	<input type="checkbox"/> automatic extension	<input type="checkbox"/> DFVC program
	<input type="checkbox"/> special extension (enter description)		

Part II Basic Plan Information —enter all requested information			
1a Name of plan ALLOY ENGINEERING CO., INC. AMENDED AND RESTATED DEFINED BENEFIT PENSION PLAN	1b Three-digit plan number (PN) ►	001	
	1c Effective date of plan	11/23/1965	
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) ALLOY ENGINEERING CO., INC. 304 SEAVIEW AVENUE BRIDGEPORT, CT 06607	2b Employer Identification Number (EIN)	06-0769420	
	2c Sponsor's telephone number	203-366-5253	
	2d Business code (see instructions)	334500	
3a Plan administrator's name and address <input checked="" type="checkbox"/> 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		
5a Total number of participants at the beginning of the plan year	5a	46	
b Total number of participants at the end of the plan year	5b	45	
c Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)	5c		
d(1) Total number of active participants at the beginning of the plan year	5d(1)	26	
d(2) Total number of active participants at the end of the plan year	5d(2)	24	
e Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	5e	1	
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, if applicable, a Schedule SB or Schedule MB completed and signed by an enrolled actuary, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.			
SIGN HERE	Filed with authorized/valid electronic signature.	10/04/2019	KRIS LORCH
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE	Filed with authorized/valid electronic signature.	10/04/2019	KRIS LORCH
	Signature of employer/plan sponsor	Date	Enter name of individual signing as employer or plan sponsor

- 6a** Were all of the plan's assets during the plan year invested in eligible assets? (See instructions.) ☒ Yes ☐ No
- b** Are you claiming a waiver of the annual examination and report of an independent qualified public accountant (IQPA) under 29 CFR 2520.104-46? (See instructions on waiver eligibility and conditions.) ☒ Yes ☐ No
- If you answered "No" to either line 6a or line 6b, the plan cannot use Form 5500-SF and must instead use Form 5500.**
- c** 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 4186457. (See instructions.)

Part III Financial Information

7 Plan Assets and Liabilities		(a) Beginning of Year	(b) End of Year
a Total plan assets	7a	2251964	2076804
b Total plan liabilities	7b	0	0
c Net plan assets (subtract line 7b from line 7a)	7c	2251964	2076804
8 Income, Expenses, and Transfers for this Plan Year		(a) Amount	(b) Total
a Contributions received or receivable from:			
(1) Employers	8a(1)		
(2) Participants	8a(2)		
(3) Others (including rollovers)	8a(3)		
b Other income (loss)	8b	-138863	
c Total income (add lines 8a(1), 8a(2), 8a(3), and 8b)	8c		-138863
d Benefits paid (including direct rollovers and insurance premiums to provide benefits)	8d	26950	
e Certain deemed and/or corrective distributions (see instructions) ...	8e		
f Administrative service providers (salaries, fees, commissions)	8f	9347	
g Other expenses	8g		
h Total expenses (add lines 8d, 8e, 8f, and 8g)	8h		36297
i Net income (loss) (subtract line 8h from line 8c)	8i		-175160
j Transfers to (from) the plan (see instructions)	8j		

Part IV Plan Characteristics

- 9a** If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristic Codes in the instructions:
1B 3D
- b** If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristic Codes in the instructions:

Part V Compliance Questions

10 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? (See instructions and DOL's Voluntary Fiduciary Correction Program)	10a		<input checked="" type="checkbox"/>	
b Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 10a.)	10b		<input checked="" type="checkbox"/>	
c Was the plan covered by a fidelity bond?	10c	<input checked="" type="checkbox"/>		300000
d Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?	10d		<input checked="" type="checkbox"/>	
e Were any fees or commissions paid to any brokers, agents, or other persons by an insurance carrier, insurance service, or other organization that provides some or all of the benefits under the plan? (See instructions.)	10e		<input checked="" type="checkbox"/>	
f Has the plan failed to provide any benefit when due under the plan?	10f		<input checked="" type="checkbox"/>	
g Did the plan have any participant loans? (If "Yes," enter amount as of year-end.)	10g		<input checked="" type="checkbox"/>	
h If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)	10h			
i If 10h was answered "Yes," check the box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3	10i			

Part VI Pension Funding Compliance

11 Is this a defined benefit plan subject to minimum funding requirements? (If "Yes," see instructions and complete Schedule SB (Form 5500) and line 11a below) ☒ Yes ☐ No

11a Enter the unpaid minimum required contributions for all years from Schedule SB (Form 5500) line 40 **11a** 0

12 Is this a defined contribution plan subject to the minimum funding requirements of section 412 of the Code or section 302 of ERISA? ☐ Yes ☒ No
(If "Yes," complete line 12a or lines 12b, 12c, 12d, and 12e below, as applicable.)

a 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 letter ruling granting the waiver. Month _____ Day _____ Year _____

If you completed line 12a, complete lines 3, 9, and 10 of Schedule MB (Form 5500), and skip to line 13.

b Enter the minimum required contribution for this plan year **12b**

c Enter the amount contributed by the employer to the plan for this plan year **12c**

d Subtract the amount in line 12c from the amount in line 12b. Enter the result (enter a minus sign to the left of a negative amount) **12d**

e Will the minimum funding amount reported on line 12d be met by the funding deadline? ☐ Yes ☐ No ☐ N/A

Part VII Plan Terminations and Transfers of Assets

13a Has a resolution to terminate the plan been adopted in any plan year? ☐ Yes ☒ No

If "Yes," enter the amount of any plan assets that reverted to the employer this year **13a**

b Were all the plan assets distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC? ☐ Yes ☒ No

c 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.)

13c(1) Name of plan(s):	13c(2) EIN(s)	13c(3) PN(s)

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

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

A Name of plan <u>ALLOY ENGINEERING CO., INC. AMENDED AND RESTATED DEFINED BENEFIT PENSION PLAN</u>	B Three-digit plan number (PN) ▶ <u>001</u>
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF <u>ALLOY ENGINEERING CO., INC.</u>	D Employer Identification Number (EIN) <u>06-0769420</u>

E Type of plan: <input checked="" type="checkbox"/> Single <input type="checkbox"/> Multiple-A <input type="checkbox"/> Multiple-B	F Prior year plan size: <input checked="" type="checkbox"/> 100 or fewer <input type="checkbox"/> 101-500 <input type="checkbox"/> More than 500
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Part I	Basic Information
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1 Enter the valuation date: Month <u>01</u> Day <u>01</u> Year <u>2018</u>			
2 Assets:			
a Market value.....	2a	<u>2251964</u>	
b Actuarial value	2b	<u>2251964</u>	
3 Funding target/participant count breakdown	(1) Number of participants	(2) Vested Funding Target	(3) Total Funding Target
a For retired participants and beneficiaries receiving payment	<u>13</u>	<u>175533</u>	<u>175533</u>
b For terminated vested participants	<u>7</u>	<u>80943</u>	<u>80943</u>
c For active participants	<u>26</u>	<u>473990</u>	<u>479100</u>
d Total	<u>46</u>	<u>730466</u>	<u>735576</u>
4 If the plan is in at-risk status, check the box and complete lines (a) and (b)..... <input type="checkbox"/>			
a Funding target disregarding prescribed at-risk assumptions	4a		
b Funding target reflecting at-risk assumptions, but disregarding transition rule for plans that have been in at-risk status for fewer than five consecutive years and disregarding loading factor	4b		
5 Effective interest rate.....	5	<u>5.70 %</u>	
6 Target normal cost	6	<u>16142</u>	

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

SIGN HERE		
Signature of actuary	<u>09/30/2019</u>	Date
<u>R. ANDREW HARTNETT, JR.</u>	<u>17-08516</u>	Most recent enrollment number
Type or print name of actuary	<u>203-234-2229</u>	Telephone number (including area code)
<u>THE PENSION SERVICE, INC.</u>		
Firm name		
<u>127 WASHINGTON AVENUE</u> <u>FIRST FLOOR, WEST WING</u> <u>NORTH HAVEN, CT 06473</u>		
Address of the firm		

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

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)	45666	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)	45666	0
10 Interest on line 9 using prior year's actual return of <u>17.04</u> %	7781	0
11 Prior year's excess contributions to be added to prefunding balance:		
a Present value of excess contributions (line 38a from prior year)		0
b(1) Interest on the excess, if any, of line 38a over line 38b from prior year Schedule SB, using prior year's effective interest rate of <u>5.89</u> %		0
b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		0
c Total available at beginning of current plan year to add to prefunding balance		0
d Portion of (c) to be added to prefunding balance		0
12 Other reductions in balances due to elections or deemed elections	0	0
13 Balance at beginning of current year (line 9 + line 10 + line 11d - line 12)	53447	0

Part III Funding Percentages

14 Funding target attainment percentage	14	298.88%
15 Adjusted funding target attainment percentage	15	306.14%
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	266.50%
17 If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage.	17	%

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

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

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

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

20 Quarterly contributions and liquidity shortfalls:

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

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

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

1st segment:

3.92%

2nd segment:

5.52%

3rd segment:

6.29%

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

2

22 Weighted average retirement age**22**

65

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**

16142

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

16142

32 Amortization installments:

Outstanding Balance

Installment

a Net shortfall amortization installment.....

0

0

b Waiver amortization installment

0

0

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

0

Carryover balance

Prefunding balance

Total balance

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

0

0

0

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

0

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

0

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

0

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

0

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

0

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

0

Part IX Pension Funding Relief Under Pension Relief Act of 2010 (See Instructions)**41** If an election was made to use PRA 2010 funding relief for this plan:**a** Schedule elected☐ 2 plus 7 years☐ 15 years**b** Eligible plan year(s) for which the election in line 41a was made☐ 2008☐ 2009☐ 2010☐ 2011

Alloy Engineering Company, Inc.
Amended and Restated Defined Benefit Pension Plan
EIN: 06-6080978, PN: 001

Schedule SB, line 22, – Description of Weighted Average Retirement Age:

Normal Retirement Age – 65

All participants are assumed to retire at the Normal Retirement Age.

Schedule SB, Part V - Summary of Plan Provisions

Eligibility Requirements

Age (yrs) : 20
 Age (months) : 6
 Wait (months) : 6
 Two year eligibility : No

Service/Participation Requirements

Definition of years: Hours worked
 Continuing hours: 1,000
 Excluded classes:

Earnings

Total compensation excluding : 403(b)
 Cafeteria
 Other
 Prior to participation
 415 prior to participation

<u>Retirement</u>	<u>Normal</u>	<u>Early</u>	<u>Subsidized Early</u>	<u>Disability</u>	<u>Death</u>
Age:	65				
Service:	0				
Participation:	5				
Defined:	1st of month following				

Benefit Reduction / Mortality table & setback

Male:	Actuarial Equivalence	Actuarial Equivalence	N/A	0
Female:	Actuarial Equivalence	Actuarial Equivalence	N/A	0

Rates - Male:	N/A	N/A	N/A
Rates - Female:	N/A	N/A	N/A

Use Social Security Retirement Age:	No	REACT Benefits Percentage:	50.00%
Vesting Schedule:	5 Year Cliff	Pre-retirement death benefit	
Vesting Definition:	Hours Worked	Percentage of accrued benefit:	0.00%
		Death Benefit Payment method:	PVAB

	<u>Annuity</u>	<u>Percent</u>	<u>Years</u>
Normal:	Life only	0.00%	0
QJSA:	Joint and contingent	50.00%	0

Significant Changes in Plan Provisions Since Last Valuation

Name of Plan: Alloy Engineering Co., Inc. Amended & Restated DB Pension Pl
 Plan Sponsor's EIN: 06-6080978
 Plan Number: 001

Schedule SB, Part V - Summary of Plan Provisions

Benefits

Pension Formula:	Benefit formula		
Type of Formula:	Unit benefit non-integrated		
Effective Date:	11/23/1965		
Unit type:	Dollar		
Unit based on:	Service		
Maximum total percent:			
Tiers based on:	None		
First tier:	\$10.00	for 1st	None
Second tier:	None	for next	None
Third tier:	None	for remaining yrs	
Maximum credit:			
Past years:	99		
Future years:	99		
Total years:	30		

Averaging

Projection method:	Current Compensation	Apply exclusion to accrued benefit:	No
Based on:	Final Average	Annualize short compensation years:	No
Highest:	1	Annualize short plan years:	No
In the last:	10	Include compensations based	
Excluding:	0	on years of:	Accrual

Accrual

Frozen:	No						
Definition of years:	Hours worked					Fractions based on:	N/A
Accrual credit:	<u>Continuing</u>	<u>Died</u>	<u>Disabled</u>	<u>Retired</u>	<u>Terminated</u>	Precision:	N/A
	1000	1000	1000	1000	1000	Limit current credit	
						to:	N/A
Years based on:	Service					Cap/floor years:	0
Maximum past accrual years:	30.0000					Cap or floor:	Cap
Method:	Unit accrual					Accrual % per year:	0.00%
						Apply 415 before accrual:	No

Name of Plan:	Alloy Engineering Co., Inc. Amended & Restated DB Pension Pl
Plan Sponsor's EIN:	06-6080978
Plan Number:	001

SUMMARY OF PLAN PROVISIONS

<u>Effective Date:</u>	November 23, 1965, as amended and restated from time to time.	
<u>Eligibility:</u>	Age 20½ and 6 months of Service.	
<u>Credited Service:</u>	One Year of Credited Service for each plan year in which a participant completes 1,000 Hours of Service. A prorated Year of Credit Service for each plan year in which a participant completes more than 500 Hours of Service, but less than 1,000 Hours of Service.	
<u>Normal Retirement:</u>		
<u>Eligibility:</u>	Attainment of age 65, or 5 years of participation, if later.	
<u>Benefit:</u>	\$10 per month multiplied by Years of Credited Service. Credited Service not to exceed 30 years. Participants in plan on January 1, 1976 have minimum benefits based on Plan in effect December 31, 1975.	
<u>Early Retirement:</u>		
<u>Eligibility:</u>	Age 55 and at least 15 Years of Credited Service.	
<u>Benefit:</u>	Calculated as of the participant's Early Retirement Date, reduced (1/180) for each of the first 60 months and (1/360) for each of the next 60 months prior to Normal Retirement Date.	
<u>Vesting:</u>	<u>Years of Vesting Service</u>	<u>Vested Percentage of Accrued Benefit</u>
	Less than 5 years	0%
	5 years or more	100%
<u>Normal Form of Annuity:</u>	Married Participant – Reduced Joint & 50% Survivor Unmarried Participant - Life Only	
<u>Optional Forms of Annuity:</u>	<ol style="list-style-type: none">1) Life Only2) 10 Year Certain and Life3) Joint & 50% Survivorship4) Joint & 100% Survivorship5) Lump Sum	

**SCHEDULE SB
(Form 5500)**Department of the Treasury
Internal Revenue ServiceDepartment 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 Alloy Engineering Co., Inc. Amended and Restated Defined Benefit Pension Plan		B Three-digit plan number (PN) ► 001
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF Alloy Engineering Co., Inc.		D Employer Identification Number (EIN) 06-0769420
E Type of plan: <input checked="" type="checkbox"/> Single <input type="checkbox"/> Multiple-A <input type="checkbox"/> Multiple-B <input type="checkbox"/> F Prior year plan size: <input checked="" type="checkbox"/> 100 or fewer <input type="checkbox"/> 101-500 <input type="checkbox"/> More than 500		

Part I Basic Information

1 Enter the valuation date: Month 01 Day 01 Year 2018			
2 Assets:			
a Market value		2a	2,251,964
b Actuarial value		2b	2,251,964
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	13	175,533	175,533
b For terminated vested participants	7	80,943	80,943
c For active participants	26	473,990	479,100
d Total	46	730,466	735,576
4 If the plan is in at-risk status, check the box and complete lines (a) and (b) <input type="checkbox"/>			
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	5.70 %	
6 Target normal cost	6	16,142	

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

R. Andrew Hartnett, Jr.

Type or print name of actuary

The Pension Service, Inc.

Firm name

**127 Washington Avenue
First Floor, West Wing****US North Haven CT 06473**

Address of the firm

09/30/2019

Date

17-08516

Most recent enrollment number

(203) 234-2229

Telephone number (including area code)

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

Schedule SB, Part V - Statement of Actuarial Assumptions

Target Assumptions:

Male Nonannuitant: 2018 Nonannuitant Male
 Female Nonannuitant: 2018 Nonannuitant Female
 Male Annuitant: 2018 Annuitant Male
 Female Annuitant: 2018 Annuitant Female

Applicable months from valuation month: 2
 Probability of lump sum: 0.00%
 Use pre-retirement mortality: No

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
Segment rates:	1.77	3.73	4.60
High Quality Bond rates:	N/A	N/A	N/A
Final rates:	3.92	5.52	6.29
Override:	0.00	0.00	0.00

Salary Scale

Male: 0.00%
 Female: 0.00%

Withdrawal

Male: T-1 Only
 Female: T-1 Only

Withdrawal-Select

Male: N/A
 Female: N/A

Early Retirement Rates

Male: N/A
 Female: N/A

Subsidized Early Retirement Rates

Male: N/A
 Female: N/A

Options:

Use optional combined mortality table for small plans: Yes
 Use discount rate transition: No
 Lump sums use proposed regulations: Yes

Actuarial Equivalent Floor

Stability period: plan year
 Lookback months: 1
 Nonannuitant: N/A
 Annuitant: 2018 Applicable

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
Current:	2.33	3.55	4.11
Override:	0.00	0.00	0.00

Late Retirement Rates

Male: N/A
 Female: N/A

Marriage Probability

Male: 0.00%
 Female: 0.00%
 Expense loading: 0.00%

Disability Rates

Male: N/A
 Female: N/A

	<u>Mortality</u>	<u>Setback</u>
Male:	N/A	0
Female:	N/A	0

Name of Plan: Alloy Engineering Co., Inc. Amen
 Plan Sponsor's EIN: 06-6080978
 Plan Number: 001

ACTUARIAL METHODS AND ASSUMPTIONS

<u>Actuarial Cost Method:</u>	Pension Protection Act (“PPA”) prescribed actuarial cost method.								
<u>Asset Valuation Method:</u>	Market value.								
<u>Target Liability</u>									
<u>Interest Rates:</u>	PPA prescribed segment rates with a 2-month lookback adjusted by MAP-21 and HATFA: 3.92%, 5.52%, 6.29%								
<u>Effective Interest Rate:</u>	Equivalent single interest rate used to value target liability: 5.70%								
<u>Salary Increases:</u>	0.00%								
<u>Mortality Assumption:</u>	2018 static table in accordance with IRS Regulation 1.430(h)(3)-1.								
<u>Retirement Rates:</u>	Age 65 and 5 years of participation.								
<u>Withdrawal Rates:</u>	Sample rates are as follows: <table><tr><td><u>Age</u></td><td><u>Rate</u></td></tr><tr><td>25</td><td>4.89%</td></tr><tr><td>40</td><td>1.13%</td></tr><tr><td>55</td><td>0.00%</td></tr></table>	<u>Age</u>	<u>Rate</u>	25	4.89%	40	1.13%	55	0.00%
<u>Age</u>	<u>Rate</u>								
25	4.89%								
40	1.13%								
55	0.00%								
<u>Disability Rates:</u>	None assumed.								
<u>Form of Payment:</u>	Life annuity.								
<u>Expense Load:</u>	Prior year expenses, rounded to nearest \$1,000; included in target normal cost.								

Schedule SB, line 26 - Schedule of Active Participant Data

YEARS OF CREDITED SERVICE

Attained Age	Under 1		1 To 4		5 To 9		10 To 14		15 To 19		20 To 24		25 To 29		30 To 34		35 To 39		40 & Up	
	No.	Avg. Comp	No.	Avg. Comp	No.	Avg. Comp	No.	Avg. Comp	No.	Avg. Comp	No.	Avg. Comp	No.	Avg. Comp	No.	Avg. Comp	No.	Avg. Comp	No.	Avg. Comp
Under 25	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
45 to 49	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
50 to 54	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
55 to 59	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
60 to 64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
65 to 69	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
70 & Up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0

Name of plan:

Alloy Engineering Co., Inc. Amended & Restated DB Pension Pl

001

Plan number:

06-6080978

ETIN:

Plan sponsor's name: Alloy Engineering Company Co., Inc.