

|                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Form 5500</b><br><br>Department of the Treasury<br>Internal Revenue Service<br><br>Department of Labor<br>Employee Benefits Security<br>Administration<br><br>Pension Benefit Guaranty Corporation | <b>Annual Return/Report of Employee Benefit Plan</b><br>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).<br><br><b>▶ Complete all entries in accordance with the instructions to the Form 5500.</b> | OMB Nos. 1210-0110<br>1210-0089<br><br><b>2018</b><br><br><b>This Form is Open to Public Inspection</b> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Part I</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Annual Report Identification Information</b><br>For calendar plan year 2018 or fiscal plan year beginning <u>01/01/2018</u> and ending <u>12/31/2018</u> |
| <b>A</b> This return/report is for: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> <input type="checkbox"/> a multiemployer plan         </div> <div> <input type="checkbox"/> a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.)         </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> <input checked="" type="checkbox"/> a single-employer plan         </div> <div> <input type="checkbox"/> a DFE (specify) ____         </div> </div> |                                                                                                                                                             |
| <b>B</b> This return/report is: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> <input type="checkbox"/> the first return/report         </div> <div> <input type="checkbox"/> the final return/report         </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> <input type="checkbox"/> an amended return/report         </div> <div> <input type="checkbox"/> a short plan year return/report (less than 12 months)         </div> </div>                                                                                                         |                                                                                                                                                             |
| <b>C</b> If the plan is a collectively-bargained plan, check here. . . . . <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                             |
| <b>D</b> Check box if filing under: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> <input checked="" type="checkbox"/> Form 5558         </div> <div> <input type="checkbox"/> automatic extension         </div> <div> <input type="checkbox"/> the DFVC program         </div> </div> <div style="margin-top: 5px;"> <input type="checkbox"/> special extension (enter description)         </div>                                                                                                                                                                                                |                                                                                                                                                             |

|                                                                                                                                                                                                                                                                                                                                                                                     |                                                               |                                                                         |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------------|------------|
| <b>Part II</b>                                                                                                                                                                                                                                                                                                                                                                      | <b>Basic Plan Information—enter all requested information</b> |                                                                         |            |
| <b>1a</b> Name of plan<br><u>ALERIS CASH BALANCE PLAN</u>                                                                                                                                                                                                                                                                                                                           |                                                               | <b>1b</b> Three-digit plan number (PN) ▶                                | <u>008</u> |
| <b>2a</b> Plan sponsor's name (employer, if for a single-employer plan)<br>Mailing address (include room, apt., suite no. and street, or P.O. Box)<br>City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions)<br><u>ALERIS ROLLED PRODUCTS, INC.</u><br><br><u>25825 SCIENCE PARK DR STE 400</u><br><u>BEACHWOOD, OH 44122-7392</u> |                                                               | <b>1c</b> Effective date of plan<br><u>01/01/1962</u>                   |            |
| <b>2b</b> Employer Identification Number (EIN)<br><u>27-1539745</u>                                                                                                                                                                                                                                                                                                                 |                                                               | <b>2c</b> Plan Sponsor's telephone number<br><u>216-910-3400</u>        |            |
| <b>2d</b> Business code (see instructions)<br><u>331400</u>                                                                                                                                                                                                                                                                                                                         |                                                               | <div style="border: 1px solid black; height: 30px; width: 100%;"></div> |            |

**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.

|                  |                                                   |            |                                                              |
|------------------|---------------------------------------------------|------------|--------------------------------------------------------------|
| <b>SIGN HERE</b> | Filed with authorized/valid electronic signature. | 10/11/2019 | ELLEN V. MATISKO                                             |
|                  | <b>Signature of plan administrator</b>            | Date       | Enter name of individual signing as plan administrator       |
| <b>SIGN HERE</b> |                                                   |            |                                                              |
|                  | <b>Signature of employer/plan sponsor</b>         | Date       | Enter name of individual signing as employer or plan sponsor |
| <b>SIGN HERE</b> |                                                   |            |                                                              |
|                  | <b>Signature of DFE</b>                           | Date       | Enter name of individual signing as DFE                      |

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

Form 5500 (2018)  
v. 171027

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>3a</b> Plan administrator's name and address <input checked="" type="checkbox"/> Same as Plan Sponsor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>3b</b> Administrator's EIN<br><br><b>3c</b> Administrator's telephone number<br><br><div style="background-color: #cccccc; height: 40px; width: 100%;"></div> |
| <b>4</b> 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:<br><b>a</b> Sponsor's name<br><b>c</b> Plan Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>4b</b> EIN<br><br><b>4d</b> PN                                                                                                                                |
| <b>5</b> Total number of participants at the beginning of the plan year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>5</b> 667                                                                                                                                                     |
| <b>6</b> Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines <b>6a(1)</b> , <b>6a(2)</b> , <b>6b</b> , <b>6c</b> , and <b>6d</b> ).<br><br><b>a(1)</b> Total number of active participants at the beginning of the plan year .....<br><b>a(2)</b> Total number of active participants at the end of the plan year .....<br><br><b>b</b> Retired or separated participants receiving benefits.....<br><b>c</b> Other retired or separated participants entitled to future benefits .....<br><b>d</b> Subtotal. Add lines <b>6a(2)</b> , <b>6b</b> , and <b>6c</b> .....<br><b>e</b> Deceased participants whose beneficiaries are receiving or are entitled to receive benefits. ....<br><b>f</b> Total. Add lines <b>6d</b> and <b>6e</b> .....<br><br><b>g</b> Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item) .....<br><br><b>h</b> Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested ..... | <b>6a(1)</b> 101<br><b>6a(2)</b> 95<br><b>6b</b> 300<br><b>6c</b> 187<br><b>6d</b> 582<br><b>6e</b> 70<br><b>6f</b> 652<br><br><b>6g</b><br><br><b>6h</b> 0      |
| <b>7</b> Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item) .....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>7</b>                                                                                                                                                         |

**8a** If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions:

1C 1I 3D 3H

**b** If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:

|                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>9a</b> Plan funding arrangement (check all that apply)<br><b>(1)</b> <input type="checkbox"/> Insurance<br><b>(2)</b> <input type="checkbox"/> Code section 412(e)(3) insurance contracts<br><b>(3)</b> <input checked="" type="checkbox"/> Trust<br><b>(4)</b> <input type="checkbox"/> General assets of the sponsor | <b>9b</b> Plan benefit arrangement (check all that apply)<br><b>(1)</b> <input type="checkbox"/> Insurance<br><b>(2)</b> <input type="checkbox"/> Code section 412(e)(3) insurance contracts<br><b>(3)</b> <input checked="" type="checkbox"/> Trust<br><b>(4)</b> <input type="checkbox"/> 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<br/>(Form 5500)<br/><br/>Department of the Treasury<br/>Internal Revenue Service<br/><br/>Department of Labor<br/>Employee Benefits Security Administration<br/><br/>Pension Benefit Guaranty Corporation</div> | <div>Single-Employer Defined Benefit Plan<br/>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> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

|                                                                                                                                    |                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 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<br>ALERIS CASH BALANCE PLAN                                                                                         | B Three-digit plan number (PN) ▶ 008                                                                                                             |
| C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF<br>ALERIS ROLLED PRODUCTS, INC.                                  | D Employer Identification Number (EIN)<br>27-1539745                                                                                             |
| 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 type="checkbox"/> 100 or fewer <input type="checkbox"/> 101-500 <input checked="" 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                         | 30543142                  |                          |
| b      | Actuarial value .....                                                                                                                                                                                  | 2b                         | 29042410                  |                          |
| 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 .....                                                                                                                                     | 361                        | 21211573                  | 21211573                 |
| b      | For terminated vested participants .....                                                                                                                                                               | 210                        | 3983943                   | 3983943                  |
| c      | For active participants .....                                                                                                                                                                          | 101                        | 4930976                   | 4930976                  |
| d      | Total .....                                                                                                                                                                                            | 672                        | 30126492                  | 30126492                 |
| 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                          | 5.41 %                    |                          |
| 6      | Target normal cost .....                                                                                                                                                                               | 6                          | 380042                    |                          |

**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<br/>HERE</div>                             |  |                                        |
| Signature of actuary                                 |  | 09/24/2019                             |
| NICHOLAS FRIES                                       |  | Date                                   |
| Type or print name of actuary                        |  | 17-07926                               |
| MERCER                                               |  | Most recent enrollment number          |
| 200 PUBLIC SQUARE, SUITE 3760<br>CLEVELAND, OH 44114 |  | 216-830-8031                           |
| Firm name                                            |  | Telephone number (including area code) |
| Address of the firm                                  |  |                                        |

**Part II Beginning of Year Carryover and Prefunding Balances**

|                                                                                                                                                                      | (a) Carryover balance | (b) Prefunding balance |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------|
| <b>7</b> Balance at beginning of prior year after applicable adjustments (line 13 from prior year) .....                                                             | 0                     | 0                      |
| <b>8</b> Portion elected for use to offset prior year's funding requirement (line 35 from prior year) .....                                                          | 0                     | 0                      |
| <b>9</b> Amount remaining (line 7 minus line 8) .....                                                                                                                | 0                     | 0                      |
| <b>10</b> Interest on line 9 using prior year's actual return of <u>14.27</u> % .....                                                                                | 0                     | 0                      |
| <b>11</b> Prior year's excess contributions to be added to prefunding balance:                                                                                       |                       |                        |
| <b>a</b> Present value of excess contributions (line 38a from prior year) .....                                                                                      |                       | 273                    |
| <b>b(1)</b> 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>5.62</u> % ..... |                       | 15                     |
| <b>b(2)</b> Interest on line 38b from prior year Schedule SB, using prior year's actual return .....                                                                 |                       |                        |
| <b>c</b> Total available at beginning of current plan year to add to prefunding balance .....                                                                        |                       | 288                    |
| <b>d</b> Portion of (c) to be added to prefunding balance .....                                                                                                      |                       | 0                      |
| <b>12</b> Other reductions in balances due to elections or deemed elections .....                                                                                    | 0                     | 0                      |
| <b>13</b> Balance at beginning of current year (line 9 + line 10 + line 11d – line 12) .....                                                                         | 0                     | 0                      |

**Part III Funding Percentages**

|                                                                                                                                                                            |           |        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------|
| <b>14</b> Funding target attainment percentage .....                                                                                                                       | <b>14</b> | 96.40% |
| <b>15</b> Adjusted funding target attainment percentage .....                                                                                                              | <b>15</b> | 96.40% |
| <b>16</b> Prior year's funding percentage for purposes of determining whether carryover/prefunding balances may be used to reduce current year's funding requirement ..... | <b>16</b> | 97.46% |
| <b>17</b> If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage. ....                                        | <b>17</b> | %      |

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

| (a) Date<br>(MM-DD-YYYY) | (b) Amount paid by<br>employer(s) | (c) Amount paid by<br>employees | (a) Date<br>(MM-DD-YYYY) | (b) Amount paid by<br>employer(s) | (c) Amount paid by<br>employees |
|--------------------------|-----------------------------------|---------------------------------|--------------------------|-----------------------------------|---------------------------------|
| 04/11/2018               | 219000                            | 0                               |                          |                                   |                                 |
| 07/11/2018               | 219000                            | 0                               |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
| <b>Totals ▶</b>          |                                   |                                 | <b>18(b)</b>             | 438000                            | <b>18(c)</b> 0                  |

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

|                                                                                                                         |            |        |
|-------------------------------------------------------------------------------------------------------------------------|------------|--------|
| <b>a</b> Contributions allocated toward unpaid minimum required contributions from prior years .....                    | <b>19a</b> | 0      |
| <b>b</b> Contributions made to avoid restrictions adjusted to valuation date .....                                      | <b>19b</b> | 0      |
| <b>c</b> Contributions allocated toward minimum required contribution for current year adjusted to valuation date ..... | <b>19c</b> | 428906 |

**20** Quarterly contributions and liquidity shortfalls:

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

| Liquidity shortfall as of end of quarter of this plan year |         |         |         |
|------------------------------------------------------------|---------|---------|---------|
| (1) 1st                                                    | (2) 2nd | (3) 3rd | (4) 4th |
| 0                                                          | 0       | 0       | 0       |

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

|                                                 |                       |                                                |                                                           |                                                     |
|-------------------------------------------------|-----------------------|------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------|
| <b>21</b> Discount rate:                        |                       |                                                |                                                           |                                                     |
| <b>a</b> Segment rates:                         | 1st segment:<br>3.92% | 2nd segment:<br>5.52%                          | 3rd segment:<br>6.29%                                     | <input type="checkbox"/> N/A, full yield curve used |
| <b>b</b> Applicable month (enter code) .....    |                       |                                                |                                                           | <b>21b</b> 0                                        |
| <b>22</b> Weighted average retirement age ..... |                       |                                                |                                                           | <b>22</b> 61                                        |
| <b>23</b> Mortality table(s) (see instructions) | Prior regulation:     | <input type="checkbox"/> Prescribed - combined | <input checked="" type="checkbox"/> Prescribed - separate | <input type="checkbox"/> Substitute                 |
|                                                 | Current regulation:   | <input type="checkbox"/> Prescribed - combined | <input type="checkbox"/> Prescribed - separate            | <input type="checkbox"/> Substitute                 |

**Part VI Miscellaneous Items**

|                                                                                                                                                                        |                                         |                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------------------------------------|
| <b>24</b> Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment. .... | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |
| <b>25</b> Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment. ....                                      | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| <b>26</b> Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment. ....                            | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |
| <b>27</b> If the plan is subject to alternative funding rules, enter applicable code and see instructions regarding attachment .....                                   | <b>27</b>                               |                                        |

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

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

**Part VIII Minimum Required Contribution For Current Year**

|                                                                                                                                                                                      |                     |                    |               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|---------------|
| <b>31</b> Target normal cost and excess assets (see instructions):                                                                                                                   |                     |                    |               |
| <b>a</b> Target normal cost (line 6) .....                                                                                                                                           | <b>31a</b>          | 380042             |               |
| <b>b</b> Excess assets, if applicable, but not greater than line 31a .....                                                                                                           | <b>31b</b>          | 0                  |               |
| <b>32</b> Amortization installments:                                                                                                                                                 | Outstanding Balance |                    | Installment   |
| <b>a</b> Net shortfall amortization installment .....                                                                                                                                | 1084082             |                    | 0             |
| <b>b</b> Waiver amortization installment .....                                                                                                                                       | 0                   |                    | 0             |
| <b>33</b> 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 ..... | <b>33</b>           |                    |               |
| <b>34</b> Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33) .....                                                         | <b>34</b>           | 380042             |               |
|                                                                                                                                                                                      | Carryover balance   | Prefunding balance | Total balance |
| <b>35</b> Balances elected for use to offset funding requirement .....                                                                                                               | 0                   | 0                  | 0             |
| <b>36</b> Additional cash requirement (line 34 minus line 35) .....                                                                                                                  | <b>36</b>           | 380042             |               |
| <b>37</b> Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c) .....                                                  | <b>37</b>           | 428906             |               |
| <b>38</b> Present value of excess contributions for current year (see instructions)                                                                                                  |                     |                    |               |
| <b>a</b> Total (excess, if any, of line 37 over line 36) .....                                                                                                                       | <b>38a</b>          | 48864              |               |
| <b>b</b> Portion included in line 38a attributable to use of prefunding and funding standard carryover balances .....                                                                | <b>38b</b>          | 0                  |               |
| <b>39</b> Unpaid minimum required contribution for current year (excess, if any, of line 36 over line 37) .....                                                                      | <b>39</b>           | 0                  |               |
| <b>40</b> Unpaid minimum required contributions for all years .....                                                                                                                  | <b>40</b>           | 0                  |               |

**Part IX Pension Funding Relief Under Pension Relief Act of 2010 (See Instructions)**

|                                                                                  |                                                                                                                         |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>41</b> If an election was made to use PRA 2010 funding relief for this plan:  |                                                                                                                         |
| <b>a</b> Schedule elected .....                                                  | <input type="checkbox"/> 2 plus 7 years <input type="checkbox"/> 15 years                                               |
| <b>b</b> Eligible plan year(s) for which the election in line 41a was made ..... | <input type="checkbox"/> 2008 <input type="checkbox"/> 2009 <input type="checkbox"/> 2010 <input type="checkbox"/> 2011 |

|                                                                                                                                                                                                                           |                                                                                                                                                                                                                        |                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| <b>SCHEDULE C</b><br><b>(Form 5500)</b><br><br>Department of the Treasury<br>Internal Revenue Service<br><br>Department of Labor<br>Employee Benefits Security Administration<br><br>Pension Benefit Guaranty Corporation | <b>Service Provider Information</b><br><br>This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).<br><br><b>► File as an attachment to Form 5500.</b> | OMB No. 1210-0110                              |
|                                                                                                                                                                                                                           |                                                                                                                                                                                                                        | <b>2018</b>                                    |
|                                                                                                                                                                                                                           |                                                                                                                                                                                                                        | <b>This Form is Open to Public Inspection.</b> |

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

|                                                                                                      |                                                                    |            |
|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|------------|
| <b>A</b> Name of plan<br><b>ALERIS CASH BALANCE PLAN</b>                                             | <b>B</b> Three-digit plan number (PN) <b>►</b>                     | <b>008</b> |
|                                                                                                      |                                                                    |            |
| <b>C</b> Plan sponsor's name as shown on line 2a of Form 5500<br><b>ALERIS ROLLED PRODUCTS, INC.</b> | <b>D</b> Employer Identification Number (EIN)<br><b>27-1539745</b> |            |

|               |                                                        |
|---------------|--------------------------------------------------------|
| <b>Part I</b> | <b>Service Provider Information (see instructions)</b> |
|---------------|--------------------------------------------------------|

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

**1 Information on Persons Receiving Only Eligible Indirect Compensation**

**a** Check "Yes" or "No" to indicate whether you are excluding a person from the remainder of this Part because they received only eligible indirect compensation for which the plan received the required disclosures (see instructions for definitions and conditions)..... ☒ Yes ☐ No

**b** If you answered line 1a "Yes," enter the name and EIN or address of each person providing the required disclosures for the service providers who received only eligible indirect compensation. Complete as many entries as needed (see instructions).

|                                                                                                                   |                                                           |
|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| <b>(b)</b> Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation |                                                           |
| <b>NEUBERGER BERMAN</b>                                                                                           | <b>1290 AVENUE OF THE AMERICAS<br/>NEW YORK, NY 10104</b> |

|                                                                                                                   |                                                       |
|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| <b>(b)</b> Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation |                                                       |
| <b>FRANKLIN TEMPLETON INVESTMENTS</b>                                                                             | <b>P O BOX 33030<br/>ST PETERSBURG, FL 33733-8030</b> |

|                                                                                                                   |  |
|-------------------------------------------------------------------------------------------------------------------|--|
| <b>(b)</b> Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation |  |
| <b>VANGUARD</b>                                                                                                   |  |
| <b>23-2376849</b>                                                                                                 |  |

|                                                                                                                   |                                                                   |
|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| <b>(b)</b> Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation |                                                                   |
| <b>WILLIAM BLAIR FUNDS</b>                                                                                        | <b>222 WEST ADAMS STREET<br/>12TH FLOOR<br/>CHICAGO, IL 60606</b> |

---

---

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

DIMENSIONAL FUND ADVISORS

6300 BEE CAVE ROAD  
BUILDING ONE  
AUSTIN, TX 78746

---

---

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

---

---

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

---

---

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

---

---

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

---

---

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

---

---

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

---

---

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

---

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

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

JP MORHAN CHASE AND CO.

270 PARK AVE.  
NEW YORK, NY 10017

| <b>(b)</b><br>Service Code(s) | <b>(c)</b><br>Relationship to employer, employee organization, or person known to be a party-in-interest | <b>(d)</b><br>Enter direct compensation paid by the plan. If none, enter -0-. | <b>(e)</b><br>Did service provider receive indirect compensation? (sources other than plan or plan sponsor) | <b>(f)</b><br>Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures? | <b>(g)</b><br>Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-. | <b>(h)</b><br>Did the service provider give you a formula instead of an amount or estimated amount? |
|-------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 17 28 50 51                   | NONE                                                                                                     | 95648                                                                         | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>                                         | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>                                                                   | 0                                                                                                                                                                                      | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>                                 |

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

MERCER

13-2834414

| <b>(b)</b><br>Service Code(s) | <b>(c)</b><br>Relationship to employer, employee organization, or person known to be a party-in-interest | <b>(d)</b><br>Enter direct compensation paid by the plan. If none, enter -0-. | <b>(e)</b><br>Did service provider receive indirect compensation? (sources other than plan or plan sponsor) | <b>(f)</b><br>Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures? | <b>(g)</b><br>Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-. | <b>(h)</b><br>Did the service provider give you a formula instead of an amount or estimated amount? |
|-------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 16 50                         | NONE                                                                                                     | 93551                                                                         | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>                                         | Yes <input type="checkbox"/> No <input type="checkbox"/>                                                                              |                                                                                                                                                                                        | Yes <input type="checkbox"/> No <input type="checkbox"/>                                            |

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

IR&M

100 FEDERAL STREET  
30TH FLOOR  
BOSTON, MD 02110

| <b>(b)</b><br>Service Code(s) | <b>(c)</b><br>Relationship to employer, employee organization, or person known to be a party-in-interest | <b>(d)</b><br>Enter direct compensation paid by the plan. If none, enter -0-. | <b>(e)</b><br>Did service provider receive indirect compensation? (sources other than plan or plan sponsor) | <b>(f)</b><br>Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures? | <b>(g)</b><br>Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-. | <b>(h)</b><br>Did the service provider give you a formula instead of an amount or estimated amount? |
|-------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 28 50 51                      | NONE                                                                                                     | 24987                                                                         | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>                                         | Yes <input type="checkbox"/> No <input type="checkbox"/>                                                                              |                                                                                                                                                                                        | Yes <input type="checkbox"/> No <input type="checkbox"/>                                            |

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

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

SANDERSON ASSET MANAGEMENT

20-0348128

| (b)<br>Service Code(s) | (c)<br>Relationship to employer, employee organization, or person known to be a party-in-interest | (d)<br>Enter direct compensation paid by the plan. If none, enter -0-. | (e)<br>Did service provider receive indirect compensation? (sources other than plan or plan sponsor) | (f)<br>Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures? | (g)<br>Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-. | (h)<br>Did the service provider give you a formula instead of an amount or estimated amount? |
|------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| 28 50 51               | NONE                                                                                              | 24711                                                                  | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>                                  | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>                                                            | 0                                                                                                                                                                               | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>                          |

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

BDO USA, LLP

13-5381590

| (b)<br>Service Code(s) | (c)<br>Relationship to employer, employee organization, or person known to be a party-in-interest | (d)<br>Enter direct compensation paid by the plan. If none, enter -0-. | (e)<br>Did service provider receive indirect compensation? (sources other than plan or plan sponsor) | (f)<br>Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures? | (g)<br>Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-. | (h)<br>Did the service provider give you a formula instead of an amount or estimated amount? |
|------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| 10 50                  | NONE                                                                                              | 13825                                                                  | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>                                  | Yes <input type="checkbox"/> No <input type="checkbox"/>                                                                       |                                                                                                                                                                                 | Yes <input type="checkbox"/> No <input type="checkbox"/>                                     |

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

WELLS FARGO

94-2948313

| (b)<br>Service Code(s)  | (c)<br>Relationship to employer, employee organization, or person known to be a party-in-interest | (d)<br>Enter direct compensation paid by the plan. If none, enter -0-. | (e)<br>Did service provider receive indirect compensation? (sources other than plan or plan sponsor) | (f)<br>Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures? | (g)<br>Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-. | (h)<br>Did the service provider give you a formula instead of an amount or estimated amount? |
|-------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| 10 14 16 25 27 50 63 64 | TRUSTEE                                                                                           | 11704                                                                  | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>                                  | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>                                                            | 0                                                                                                                                                                               | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>                          |

**Part I Service Provider Information (continued)**

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

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

**Part II Service Providers Who Fail or Refuse to Provide Information**

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

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

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

|                    |                     |
|--------------------|---------------------|
| <b>a</b> Name:     | <b>b</b> EIN:       |
| <b>c</b> Position: |                     |
| <b>d</b> Address:  | <b>e</b> Telephone: |
|                    |                     |

Explanation:

|                    |                     |
|--------------------|---------------------|
| <b>a</b> Name:     | <b>b</b> EIN:       |
| <b>c</b> Position: |                     |
| <b>d</b> Address:  | <b>e</b> Telephone: |
|                    |                     |

Explanation:

|                    |                     |
|--------------------|---------------------|
| <b>a</b> Name:     | <b>b</b> EIN:       |
| <b>c</b> Position: |                     |
| <b>d</b> Address:  | <b>e</b> Telephone: |
|                    |                     |

Explanation:

|                    |                     |
|--------------------|---------------------|
| <b>a</b> Name:     | <b>b</b> EIN:       |
| <b>c</b> Position: |                     |
| <b>d</b> Address:  | <b>e</b> Telephone: |
|                    |                     |

Explanation:

|                    |                     |
|--------------------|---------------------|
| <b>a</b> Name:     | <b>b</b> EIN:       |
| <b>c</b> Position: |                     |
| <b>d</b> Address:  | <b>e</b> Telephone: |
|                    |                     |

Explanation:

|                                                                                                                                                                                                               |                                                                                                                                                                                                                              |                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>SCHEDULE D</b><br><b>(Form 5500)</b><br><br><small>Department of the Treasury<br/>Internal Revenue Service</small><br><br><small>Department of Labor<br/>Employee Benefits Security Administration</small> | <b>DFE/Participating Plan Information</b><br><br>This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).<br><br><b>► File as an attachment to Form 5500.</b> | OMB No. 1210-0110<br><br><hr/> <b>2018</b><br><br><hr/> <b>This Form is Open to Public Inspection.</b> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|

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

|                                                                                                             |                                                                    |            |
|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|------------|
| <b>A</b> Name of plan<br><u>ALERIS CASH BALANCE PLAN</u>                                                    | <b>B</b> Three-digit plan number (PN) <b>►</b>                     | <u>008</u> |
| <b>C</b> Plan or DFE sponsor's name as shown on line 2a of Form 5500<br><u>ALERIS ROLLED PRODUCTS, INC.</u> | <b>D</b> Employer Identification Number (EIN)<br><u>27-1539745</u> |            |

|               |                                                                                                                                                                                  |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Part I</b> | <b>Information on interests in MTIAs, CCTs, PSAs, and 103-12 IEs (to be completed by plans and DFEs)</b><br>(Complete as many entries as needed to report all interests in DFEs) |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**a** Name of MTIA, CCT, PSA, or 103-12 IE: JPM STRAT PROP IRT DECENT MIR HLD

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

|                                       |                               |                                                                                                                    |
|---------------------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>c</b> EIN-PN <u>13-6038770-001</u> | <b>d</b> Entity code <u>C</u> | <b>e</b> Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) <u>3335544</u> |
|---------------------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------|

**a** Name of MTIA, CCT, PSA, or 103-12 IE: SANDERSON INTL VAL EQUITY FUND

**b** Name of sponsor of entity listed in (a): SANDERSON ASSET MANAGEMENT LIMITED

|                                       |                               |                                                                                                                    |
|---------------------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>c</b> EIN-PN <u>20-0348128-001</u> | <b>d</b> Entity code <u>E</u> | <b>e</b> Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) <u>2141594</u> |
|---------------------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------|

**a** Name of MTIA, CCT, PSA, or 103-12 IE:

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

|                 |                      |                                                                                                     |
|-----------------|----------------------|-----------------------------------------------------------------------------------------------------|
| <b>c</b> EIN-PN | <b>d</b> Entity code | <b>e</b> Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) |
|-----------------|----------------------|-----------------------------------------------------------------------------------------------------|

**a** Name of MTIA, CCT, PSA, or 103-12 IE:

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

|                 |                      |                                                                                                     |
|-----------------|----------------------|-----------------------------------------------------------------------------------------------------|
| <b>c</b> EIN-PN | <b>d</b> Entity code | <b>e</b> Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) |
|-----------------|----------------------|-----------------------------------------------------------------------------------------------------|

**a** Name of MTIA, CCT, PSA, or 103-12 IE:

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

|                 |                      |                                                                                                     |
|-----------------|----------------------|-----------------------------------------------------------------------------------------------------|
| <b>c</b> EIN-PN | <b>d</b> Entity code | <b>e</b> Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) |
|-----------------|----------------------|-----------------------------------------------------------------------------------------------------|

**a** Name of MTIA, CCT, PSA, or 103-12 IE:

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

|                 |                      |                                                                                                     |
|-----------------|----------------------|-----------------------------------------------------------------------------------------------------|
| <b>c</b> EIN-PN | <b>d</b> Entity code | <b>e</b> Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) |
|-----------------|----------------------|-----------------------------------------------------------------------------------------------------|

**a** Name of MTIA, CCT, PSA, or 103-12 IE:

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

|                 |                      |                                                                                                     |
|-----------------|----------------------|-----------------------------------------------------------------------------------------------------|
| <b>c</b> EIN-PN | <b>d</b> Entity code | <b>e</b> Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) |
|-----------------|----------------------|-----------------------------------------------------------------------------------------------------|

**a** Name of MTIA, CCT, PSA, or 103-12 IE:

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

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

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

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

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

|                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                              |                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <b>SCHEDULE H</b><br><b>(Form 5500)</b><br><br><small>Department of the Treasury<br/>Internal Revenue Service</small><br><br><small>Department of Labor<br/>Employee Benefits Security Administration</small><br><br><small>Pension Benefit Guaranty Corporation</small> | <b>Financial Information</b><br><br>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).<br><br><b>► File as an attachment to Form 5500.</b> | OMB No. 1210-0110<br><br><b>2018</b><br><br><b>This Form is Open to Public Inspection</b> |
| For calendar plan year 2018 or fiscal plan year beginning <b>01/01/2018</b> and ending <b>12/31/2018</b>                                                                                                                                                                 |                                                                                                                                                                                                                                                                              |                                                                                           |
| <b>A</b> Name of plan<br><b>ALERIS CASH BALANCE PLAN</b>                                                                                                                                                                                                                 | <b>B</b> Three-digit plan number (PN) <b>►</b>                                                                                                                                                                                                                               | <b>008</b>                                                                                |
| <b>C</b> Plan sponsor's name as shown on line 2a of Form 5500<br><b>ALERIS ROLLED PRODUCTS, INC.</b>                                                                                                                                                                     | <b>D</b> Employer Identification Number (EIN)<br><b>27-1539745</b>                                                                                                                                                                                                           |                                                                                           |

| Part I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Asset and Liability Statement                                                               |                 | (a) Beginning of Year | (b) End of Year |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------|-----------------------|-----------------|
| <b>1</b> Current value of plan assets and liabilities at the beginning and end of the plan year. Combine the value of plan assets held in more than one trust. Report the value of the plan's interest in a commingled fund containing the assets of more than one plan on a line-by-line basis unless the value is reportable on lines 1c(9) through 1c(14). Do not enter the value of that portion of an insurance contract which guarantees, during this plan year, to pay a specific dollar benefit at a future date. <b>Round off amounts to the nearest dollar.</b> MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 1b(1), 1b(2), 1c(8), 1g, 1h, and 1i. CCTs, PSAs, and 103-12 IEs also do not complete lines 1d and 1e. See instructions. |                                                                                             |                 |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Assets</b>                                                                               |                 |                       |                 |
| <b>a</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Total noninterest-bearing cash .....                                                        | <b>1a</b>       |                       |                 |
| <b>b</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Receivables (less allowance for doubtful accounts):                                         |                 |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (1) Employer contributions .....                                                            | <b>1b(1)</b>    | 315000                | 0               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (2) Participant contributions .....                                                         | <b>1b(2)</b>    |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (3) Other .....                                                                             | <b>1b(3)</b>    | 0                     | 14705           |
| <b>c</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | General investments:                                                                        |                 |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (1) Interest-bearing cash (include money market accounts & certificates of deposit) .....   | <b>1c(1)</b>    | 676751                | 399941          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (2) U.S. Government securities .....                                                        | <b>1c(2)</b>    |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (3) Corporate debt instruments (other than employer securities):                            |                 |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (A) Preferred .....                                                                         | <b>1c(3)(A)</b> |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (B) All other .....                                                                         | <b>1c(3)(B)</b> |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (4) Corporate stocks (other than employer securities):                                      |                 |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (A) Preferred .....                                                                         | <b>1c(4)(A)</b> |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (B) Common .....                                                                            | <b>1c(4)(B)</b> |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (5) Partnership/joint venture interests .....                                               | <b>1c(5)</b>    | 13551213              | 14281874        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (6) Real estate (other than employer real property) .....                                   | <b>1c(6)</b>    |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (7) Loans (other than to participants) .....                                                | <b>1c(7)</b>    |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (8) Participant loans .....                                                                 | <b>1c(8)</b>    |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (9) Value of interest in common/collective trusts .....                                     | <b>1c(9)</b>    | 3620033               | 3335544         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (10) Value of interest in pooled separate accounts .....                                    | <b>1c(10)</b>   |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (11) Value of interest in master trust investment accounts .....                            | <b>1c(11)</b>   |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (12) Value of interest in 103-12 investment entities .....                                  | <b>1c(12)</b>   | 2623600               | 2141594         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (13) Value of interest in registered investment companies (e.g., mutual funds) .....        | <b>1c(13)</b>   | 9761381               | 5703470         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (14) Value of funds held in insurance company general account (unallocated contracts) ..... | <b>1c(14)</b>   |                       |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (15) Other .....                                                                            | <b>1c(15)</b>   |                       |                 |

**1d** Employer-related investments:

|                                                                      |              | (a) Beginning of Year | (b) End of Year |
|----------------------------------------------------------------------|--------------|-----------------------|-----------------|
| (1) Employer securities .....                                        | <b>1d(1)</b> |                       |                 |
| (2) Employer real property .....                                     | <b>1d(2)</b> |                       |                 |
| <b>e</b> Buildings and other property used in plan operation .....   | <b>1e</b>    |                       |                 |
| <b>f</b> Total assets (add all amounts in lines 1a through 1e) ..... | <b>1f</b>    | 30547978              | 25877128        |

**Liabilities**

|                                                                           |           |   |   |
|---------------------------------------------------------------------------|-----------|---|---|
| <b>g</b> Benefit claims payable .....                                     | <b>1g</b> |   |   |
| <b>h</b> Operating payables .....                                         | <b>1h</b> |   |   |
| <b>i</b> Acquisition indebtedness .....                                   | <b>1i</b> |   |   |
| <b>j</b> Other liabilities .....                                          | <b>1j</b> |   |   |
| <b>k</b> Total liabilities (add all amounts in lines 1g through 1j) ..... | <b>1k</b> | 0 | 0 |

**Net Assets**

|                                                           |           |          |          |
|-----------------------------------------------------------|-----------|----------|----------|
| <b>l</b> Net assets (subtract line 1k from line 1f) ..... | <b>1l</b> | 30547978 | 25877128 |
|-----------------------------------------------------------|-----------|----------|----------|

**Part II Income and Expense Statement**

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

**Income**

|                                                                                                            |                 | (a) Amount | (b) Total |
|------------------------------------------------------------------------------------------------------------|-----------------|------------|-----------|
| <b>a Contributions:</b>                                                                                    |                 |            |           |
| (1) Received or receivable in cash from: <b>(A)</b> Employers .....                                        | <b>2a(1)(A)</b> | 454000     |           |
| <b>(B)</b> Participants .....                                                                              | <b>2a(1)(B)</b> |            |           |
| <b>(C)</b> Others (including rollovers) .....                                                              | <b>2a(1)(C)</b> |            |           |
| (2) Noncash contributions .....                                                                            | <b>2a(2)</b>    |            |           |
| (3) Total contributions. Add lines <b>2a(1)(A)</b> , <b>(B)</b> , <b>(C)</b> , and line <b>2a(2)</b> ..... | <b>2a(3)</b>    |            | 454000    |
| <b>b Earnings on investments:</b>                                                                          |                 |            |           |
| (1) Interest:                                                                                              |                 |            |           |
| <b>(A)</b> Interest-bearing cash (including money market accounts and certificates of deposit) .....       | <b>2b(1)(A)</b> | 1550       |           |
| <b>(B)</b> U.S. Government securities .....                                                                | <b>2b(1)(B)</b> |            |           |
| <b>(C)</b> Corporate debt instruments .....                                                                | <b>2b(1)(C)</b> |            |           |
| <b>(D)</b> Loans (other than to participants) .....                                                        | <b>2b(1)(D)</b> |            |           |
| <b>(E)</b> Participant loans .....                                                                         | <b>2b(1)(E)</b> |            |           |
| <b>(F)</b> Other .....                                                                                     | <b>2b(1)(F)</b> |            |           |
| <b>(G)</b> Total interest. Add lines <b>2b(1)(A)</b> through <b>(F)</b> .....                              | <b>2b(1)(G)</b> |            | 1550      |
| (2) Dividends: <b>(A)</b> Preferred stock .....                                                            | <b>2b(2)(A)</b> |            |           |
| <b>(B)</b> Common stock .....                                                                              | <b>2b(2)(B)</b> |            |           |
| <b>(C)</b> Registered investment company shares (e.g. mutual funds) .....                                  | <b>2b(2)(C)</b> | 105505     |           |
| <b>(D)</b> Total dividends. Add lines <b>2b(2)(A)</b> , <b>(B)</b> , and <b>(C)</b> .....                  | <b>2b(2)(D)</b> |            | 105505    |
| (3) Rents .....                                                                                            | <b>2b(3)</b>    |            |           |
| (4) Net gain (loss) on sale of assets: <b>(A)</b> Aggregate proceeds .....                                 | <b>2b(4)(A)</b> |            |           |
| <b>(B)</b> Aggregate carrying amount (see instructions) .....                                              | <b>2b(4)(B)</b> |            |           |
| <b>(C)</b> Subtract line <b>2b(4)(B)</b> from line <b>2b(4)(A)</b> and enter result .....                  | <b>2b(4)(C)</b> |            | 0         |
| (5) Unrealized appreciation (depreciation) of assets: <b>(A)</b> Real estate .....                         | <b>2b(5)(A)</b> |            |           |
| <b>(B)</b> Other .....                                                                                     | <b>2b(5)(B)</b> | -1092286   |           |
| <b>(C)</b> Total unrealized appreciation of assets. Add lines <b>2b(5)(A)</b> and <b>(B)</b> .....         | <b>2b(5)(C)</b> |            | -1092286  |

|                                                                                                |        | (a) Amount | (b) Total |
|------------------------------------------------------------------------------------------------|--------|------------|-----------|
| (6) Net investment gain (loss) from common/collective trusts .....                             | 2b(6)  |            | 249079    |
| (7) Net investment gain (loss) from pooled separate accounts .....                             | 2b(7)  |            |           |
| (8) Net investment gain (loss) from master trust investment accounts .....                     | 2b(8)  |            |           |
| (9) Net investment gain (loss) from 103-12 investment entities .....                           | 2b(9)  |            | -457294   |
| (10) Net investment gain (loss) from registered investment companies (e.g., mutual funds)..... | 2b(10) |            | -596321   |
| c Other income.....                                                                            | 2c     |            |           |
| d Total income. Add all <b>income</b> amounts in column (b) and enter total .....              | 2d     |            | -1335767  |

**Expenses**

|                                                                                      |       |         |         |
|--------------------------------------------------------------------------------------|-------|---------|---------|
| e Benefit payment and payments to provide benefits:                                  |       |         |         |
| (1) Directly to participants or beneficiaries, including direct rollovers .....      | 2e(1) | 2874352 |         |
| (2) To insurance carriers for the provision of benefits .....                        | 2e(2) |         |         |
| (3) Other .....                                                                      | 2e(3) |         |         |
| (4) Total benefit payments. Add lines 2e(1) through (3).....                         | 2e(4) |         | 2874352 |
| f Corrective distributions (see instructions) .....                                  | 2f    |         |         |
| g Certain deemed distributions of participant loans (see instructions) .....         | 2g    |         |         |
| h Interest expense .....                                                             | 2h    |         |         |
| i Administrative expenses: (1) Professional fees.....                                | 2i(1) | 180201  |         |
| (2) Contract administrator fees.....                                                 | 2i(2) |         |         |
| (3) Investment advisory and management fees.....                                     | 2i(3) | 83266   |         |
| (4) Other .....                                                                      | 2i(4) | 197264  |         |
| (5) Total administrative expenses. Add lines 2i(1) through (4).....                  | 2i(5) |         | 460731  |
| j Total expenses. Add all <b>expense</b> amounts in column (b) and enter total ..... | 2j    |         | 3335083 |

**Net Income and Reconciliation**

|                                                          |       |  |          |
|----------------------------------------------------------|-------|--|----------|
| k Net income (loss). Subtract line 2j from line 2d ..... | 2k    |  | -4670850 |
| l Transfers of assets:                                   |       |  |          |
| (1) To this plan.....                                    | 2l(1) |  |          |
| (2) From this plan.....                                  | 2l(2) |  |          |

**Part III Accountant's Opinion**

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

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

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

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

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

(1) Name: BDO USA, LLP

(2) EIN: 13-5381590

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

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

**Part IV Compliance Questions**

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

During the plan year:

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

**b** Were any loans by the plan or fixed income obligations due the plan in default as of the close of the plan year or classified during the year as uncollectible? Disregard participant loans secured by participant's account balance. (Attach Schedule G (Form 5500) Part I if "Yes" is checked.) .....

|    | Yes | No | Amount |
|----|-----|----|--------|
| 4a |     | X  |        |
| 4b |     | X  |        |

|                                                                                                                                                                                                                               |           | Yes | No | Amount   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----|----|----------|
| <b>c</b> Were any leases to which the plan was a party in default or classified during the year as uncollectible? (Attach Schedule G (Form 5500) Part II if "Yes" is checked.) .....                                          | <b>4c</b> |     | X  |          |
| <b>d</b> Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a. Attach Schedule G (Form 5500) Part III if "Yes" is checked.) .....                               | <b>4d</b> |     | X  |          |
| <b>e</b> Was this plan covered by a fidelity bond? .....                                                                                                                                                                      | <b>4e</b> | X   |    | 10000000 |
| <b>f</b> Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty? .....                                                                                       | <b>4f</b> |     | X  |          |
| <b>g</b> 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? .....                                                    | <b>4g</b> |     | X  |          |
| <b>h</b> 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? .....                                          | <b>4h</b> |     | X  |          |
| <b>i</b> Did the plan have assets held for investment? (Attach schedule(s) of assets if "Yes" is checked, and see instructions for format requirements.) .....                                                                | <b>4i</b> | X   |    |          |
| <b>j</b> Were any plan transactions or series of transactions in excess of 5% of the current value of plan assets? (Attach schedule of transactions if "Yes" is checked, and see instructions for format requirements.) ..... | <b>4j</b> | X   |    |          |
| <b>k</b> Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC? .....                                                           | <b>4k</b> |     | X  |          |
| <b>l</b> Has the plan failed to provide any benefit when due under the plan? .....                                                                                                                                            | <b>4l</b> |     | X  |          |
| <b>m</b> If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.) .....                                                                                                  | <b>4m</b> |     |    |          |
| <b>n</b> 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. ....                                      | <b>4n</b> |     |    |          |

**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 4161762. (See instructions.)

|                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                             |                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <b>SCHEDULE R</b><br><b>(Form 5500)</b><br><br>Department of the Treasury<br>Internal Revenue Service<br><br>Department of Labor<br>Employee Benefits Security Administration<br><br>Pension Benefit Guaranty Corporation | <b>Retirement Plan Information</b><br><br>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).<br><br>▶ <b>File as an attachment to Form 5500.</b> | OMB No. 1210-0110<br><br><b>2018</b><br><br><b>This Form is Open to Public Inspection.</b> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|

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

|                                                                                                      |                                                                    |
|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <b>A</b> Name of plan<br><u>ALERIS CASH BALANCE PLAN</u>                                             | <b>B</b> Three-digit plan number (PN) ▶<br><u>008</u>              |
| <b>C</b> Plan sponsor's name as shown on line 2a of Form 5500<br><u>ALERIS ROLLED PRODUCTS, INC.</u> | <b>D</b> Employer Identification Number (EIN)<br><u>27-1539745</u> |

|               |                      |
|---------------|----------------------|
| <b>Part I</b> | <b>Distributions</b> |
|---------------|----------------------|

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

|                                                                                                                                                                                                                                                                    |          |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|
| <b>1</b> Total value of distributions paid in property other than in cash or the forms of property specified in the instructions .....                                                                                                                             | <b>1</b> | <u>0</u> |
| <b>2</b> 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):<br><br>EIN(s): <u>41-2657133</u> |          |          |
| Profit-sharing plans, ESOPs, and stock bonus plans, skip line 3.                                                                                                                                                                                                   |          |          |
| <b>3</b> Number of participants (living or deceased) whose benefits were distributed in a single sum, during the plan year .....                                                                                                                                   | <b>3</b> | <u>8</u> |

|                |                                                                                                                                                                               |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Part II</b> | <b>Funding Information</b> (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.) |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                                                                                                                                                                                                                                             |                              |                             |                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------------------|-----------------------------------------|
| <b>4</b> Is the plan administrator making an election under Code section 412(d)(2) or ERISA section 302(d)(2)? .....                                                                                                                                                                                                                                        | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| If the plan is a defined benefit plan, go to line 8.                                                                                                                                                                                                                                                                                                        |                              |                             |                                         |
| <b>5</b> 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 _____<br>If you completed line 5, complete lines 3, 9, and 10 of Schedule MB and do not complete the remainder of this schedule. |                              |                             |                                         |
| <b>6 a</b> Enter the minimum required contribution for this plan year (include any prior year accumulated funding deficiency not waived) .....                                                                                                                                                                                                              | <b>6a</b>                    |                             |                                         |
| <b>b</b> Enter the amount contributed by the employer to the plan for this plan year .....                                                                                                                                                                                                                                                                  | <b>6b</b>                    |                             |                                         |
| <b>c</b> 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) .....                                                                                                                                                                                                            | <b>6c</b>                    |                             |                                         |
| If you completed line 6c, skip lines 8 and 9.                                                                                                                                                                                                                                                                                                               |                              |                             |                                         |
| <b>7</b> Will the minimum funding amount reported on line 6c be met by the funding deadline? .....                                                                                                                                                                                                                                                          | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            |
| <b>8</b> 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? .....                                                                                 | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |

|                 |                   |
|-----------------|-------------------|
| <b>Part III</b> | <b>Amendments</b> |
|-----------------|-------------------|

|                                                                                                                                                                                                                            |                                   |                                   |                               |                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------|-------------------------------|----------------------------------------|
| <b>9</b> 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..... | <input type="checkbox"/> Increase | <input type="checkbox"/> Decrease | <input type="checkbox"/> Both | <input checked="" type="checkbox"/> No |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------|-------------------------------|----------------------------------------|

|                |                                                                                                                                                   |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Part IV</b> | <b>ESOPs</b> (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. |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                                                                              |                              |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------------------|
| <b>10</b> Were unallocated employer securities or proceeds from the sale of unallocated securities used to repay any exempt loan? .....                                                      | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <b>11 a</b> Does the ESOP hold any preferred stock? .....                                                                                                                                    | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <b>b</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.) ..... | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <b>12</b> Does the ESOP hold any stock that is not readily tradable on an established securities market? .....                                                                               | <input type="checkbox"/> Yes | <input type="checkbox"/> 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: \_\_\_\_\_ % 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):



## **Aleris Cash Balance Plan**

Financial Statements  
And Supplemental Schedules  
Years Ended December 31, 2018 and 2017

## **Aleris Cash Balance Plan**

### **Index to Financial Statements and Supplemental Schedules**

| <b><u>Index</u></b>                                                                                               | <b><u>Page</u></b> |
|-------------------------------------------------------------------------------------------------------------------|--------------------|
| Independent Auditor's Report .....                                                                                | 1                  |
| Statements of Net Assets Available for Benefits as of December 31, 2018 and 2017 .....                            | 3                  |
| Statements of Changes in Net Assets Available for Benefits for the Years Ended<br>December 31, 2018 and 2017..... | 4                  |
| Notes to Financial Statements .....                                                                               | 5                  |
| Supplemental Schedules:                                                                                           |                    |
| Schedule H, Line 4i – Schedule of Assets (Held at End of Year) as of December 31, 2018 .....                      | 13                 |
| Schedule H, Line 4j – Schedule of Reportable Transactions for the Year Ended December 31, 2018 .....              | 14                 |



Tel: 216-325-1700  
Fax: 216-325-1701  
[www.bdo.com](http://www.bdo.com)

Hanna Building, 1422 Euclid Avenue  
Suite 1500  
Cleveland, OH 44115

## **Independent Auditor's Report**

To the Benefits Committee  
Aleris Cash Balance Plan  
Beachwood, Ohio

### ***Report on the Financial Statements***

We were engaged to audit the accompanying financial statements of the Aleris Cash Balance Plan (the Plan), which comprise the statements of net assets available for benefits as of December 31, 2018 and 2017, and the related statements of changes in net assets available for benefits for the years then ended, and the related notes to the financial statements.

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

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

### ***Auditor's Responsibility***

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

### ***Basis for Disclaimer of Opinion***

As permitted by 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974, the plan administrator instructed us not to perform, and we did not perform, any auditing procedures with respect to the information summarized in Note 5, which was certified by Wells Fargo Bank, N.A., the trustee of the Plan, except for comparing such information with the related information included in the financial statements. We have been informed by the plan administrator that the trustee holds the Plan's investment assets and executes investment transactions. The plan administrator has obtained a certification from the trustee as of and for the years ended December 31, 2018 and 2017, that the information provided to the plan administrator by the trustee is complete and accurate.

BDO USA, LLP, a Delaware limited liability partnership, is the U.S. member of BDO International Limited, a UK company limited by guarantee, and forms part of the international BDO network of independent member firms.

BDO is the brand name for the BDO network and for each of the BDO Member Firms.

***Disclaimer of Opinion***

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

***Other Matter - Supplemental Schedules***

The supplemental schedules of Assets (Held at End of Year) and Reportable Transactions as of and for the year ended December 31, 2018 are required by the Department of Labor's (DOL) Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974 and are presented for the purpose of additional analysis and are not a required part of the financial statements. Because of the significance of the matter described in the *Basis for Disclaimer of Opinion* paragraph, we do not express an opinion on the supplemental schedules referred to above.

***Report on Form and Content in Compliance With DOL Rules and Regulations***

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

BDO USA, LLP

Cleveland, Ohio  
October 9, 2019

**Aleris Cash Balance Plan**  
**Statements of Net Assets Available for Benefits**

|                                                                   | <b>December 31,</b>  |                      |
|-------------------------------------------------------------------|----------------------|----------------------|
|                                                                   | <b>2018</b>          | <b>2017</b>          |
| <b>Assets</b>                                                     |                      |                      |
| Investments, at fair value as determined by quoted market prices: |                      |                      |
| Interest-bearing cash                                             | \$ 399,941           | \$ 676,751           |
| Mutual funds                                                      | 5,703,470            | 9,761,381            |
| Investments, at estimated fair value:                             |                      |                      |
| Commingled funds                                                  | 5,477,138            | 6,243,633            |
| Limited partnership interests                                     | 14,281,874           | 13,551,213           |
| Total investments                                                 | 25,862,423           | 30,232,978           |
| Other receivable                                                  | 14,705               | —                    |
| Employer contributions receivable                                 | —                    | 315,000              |
| Net assets available for benefits                                 | <u>\$ 25,877,128</u> | <u>\$ 30,547,978</u> |

*See accompanying notes to financial statements.*

**Aleris Cash Balance Plan**  
**Statements of Changes in Net Assets Available for Benefits**

|                                                              | <b>For the Year Ended December 31,</b> |                      |
|--------------------------------------------------------------|----------------------------------------|----------------------|
|                                                              | <b>2018</b>                            | <b>2017</b>          |
| <b>Additions:</b>                                            |                                        |                      |
| <b>Investment (loss) income:</b>                             |                                        |                      |
| Net (depreciation) appreciation in fair value of investments | \$ (1,896,822)                         | \$ 3,955,298         |
| Interest, dividends, and other                               | 107,055                                | 132,848              |
|                                                              | <u>(1,789,767)</u>                     | <u>4,088,146</u>     |
| <br><b>Employer contributions</b>                            | <br>454,000                            | <br>909,000          |
| <br><b>Deductions:</b>                                       |                                        |                      |
| Benefits paid to participants                                | 2,874,352                              | 3,961,891            |
| Administrative expenses                                      | 460,731                                | 471,790              |
|                                                              | <u>3,335,083</u>                       | <u>4,433,681</u>     |
| <br>Net (decrease) increase                                  | <br>(4,670,850)                        | <br>563,465          |
| <br>Net assets available for benefits:                       |                                        |                      |
| Beginning of year                                            | 30,547,978                             | 29,984,513           |
| End of year                                                  | <u>\$ 25,877,128</u>                   | <u>\$ 30,547,978</u> |

*See accompanying notes to financial statements.*

**Aleris Cash Balance Plan**  
**Notes to Financial Statements**  
**December 31, 2018 and 2017**

**1. Description of the Plan**

The following description of the Aleris Cash Balance Plan (the “Plan”) is provided for general information only. Complete information regarding the Plan’s provisions may be found in the Plan document, which is available to all participants upon request.

**General**

The Plan is a noncontributory cash balance defined benefit plan covering all eligible employees of Aleris Rolled Products, Inc. (the “Plan Sponsor”) and other subsidiaries of Aleris International, Inc. (the “Company”), and provides for retirement income, disability, and preretirement death benefits. The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974, as amended (“ERISA”).

On July 26, 2018, Aleris Corporation, the Company’s parent, announced that a definitive agreement was finalized for the Aleris Corporation to be acquired by Novelis Inc., a subsidiary of Hindalco Industries Limited. The transaction is expected to close within fifteen months from the date of the definitive agreement. There can be no assurance that the transaction will be consummated within the expected timing or at all. Management believes that this transaction should have no impact on the Plan.

The Plan is a cash balance account plan whereby a participant’s accrued benefit is maintained in a notional cash balance account. A participant’s notional cash balance account consists of the sum of the benefit credits and the interest credits entitled under the Plan. Effective January 1, 2007, the Plan was amended such that participants no longer earn additional benefit credits, any increase in their accrued benefits (excluding interest credits), or additional credited service, as defined in the Plan.

Effective January 1, 2017, the Plan was amended so that the interest crediting rate is the lesser of (a) the average of the auction yields on a three-year treasury rate or (b) the annual rate of interest on a 30-year treasury security. The interest crediting rate cannot be less than the interest rate determined by compounding the annual interest crediting rates provided under the Plan for the six-year period beginning five years before the current Plan year, and the minimum interest crediting rate for such six-year compounding period shall be 22.45%.

Information about the Plan, the vesting and benefit provisions and the Pension Benefit Guaranty Corporation’s (“PBGC”) benefit guarantee is contained in the Plan’s *Summary Plan Description*. Copies of the *Summary Plan Description* are available from the Company’s employee benefits department.

**Plan Administration**

Overall responsibility for administering the Plan rests with the Company’s Benefits Committee, which is appointed by the Board of Directors of the Company. The Company’s Benefits Committee has appointed Wells Fargo Bank, N.A. as the trustee of the Plan (the “Trustee”). Wells Fargo Bank, N.A. is responsible for management and control of the Plan’s assets.

**Eligibility**

The Plan provides benefits to eligible employees of the Company. Employees that are covered under a collective bargaining agreement are not eligible. Effective December 9, 2004, the Plan was amended to preclude any employee hired by the Company on or after that date from participating in the Plan.

## **Aleris Cash Balance Plan**

### **Notes to Financial Statements (continued)**

#### **Funding Policy**

The Company has agreed to voluntarily contribute such amounts as are necessary to provide assets sufficient to meet the benefits to be paid to Plan participants. The Company's intention is to make contributions in amounts sufficient to fund the Plan's normal costs on a current basis and any increases in the past service liability due to subsequent amendments to the Plan. The Plan has met the minimum funding requirements of ERISA for 2018 and 2017.

#### **Benefit and Vesting Provisions**

The Plan generally provides for normal retirement at age 65. The Plan provides for payments of retirement, disability and death benefits to participants or their beneficiaries under various payment options, including a monthly retirement benefit, straight-life annuity and single-sum payment. Participants are 100% vested after three years of service.

#### **Plan Termination**

The Company reserves the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions of ERISA. Upon termination, the net assets of the Plan will be allocated for payment to the participants in an order of priority as prescribed by ERISA and its related regulations and the Plan document.

Whether all participants receive their benefits should the Plan terminate at some future time will be dependent on the sufficiency, at that time, of the Plan's net assets to provide for accumulated plan benefits and may also depend on the financial condition of the Company and the level of benefits guaranteed by the PBGC as well as the priority of those benefits. Some benefits may be fully or partially provided for by the then-existing net assets of the Plan and the PBGC guarantee, while other benefits may not be provided for at all.

## **2. Summary of Significant Accounting Policies**

#### **Basis of Accounting**

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

#### **Use of Estimates**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the financial statements and the accompanying notes and supplemental schedules. Actual results could differ from those estimates.

#### **Risks and Uncertainties**

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

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

## **Aleris Cash Balance Plan**

### **Notes to Financial Statements (continued)**

#### **Investment Valuation and Income Recognition**

The Plan's investments are stated at fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. See Note 4 for further discussion and disclosures related to fair value measurements.

In conformity with Accounting Standards Codification ("ASC") 820, *Fair Value Measurement*, assets and liabilities measured at fair value are categorized into the following fair value hierarchy:

Level 1 – Fair value is based on unadjusted quoted prices for identical assets or liabilities in an active market that the Plan has the ability to access at the measurement date.

Level 2 – Fair value is based on quoted prices in markets that are not active, quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the asset or liability.

Level 3 – Fair value is based on prices or valuation techniques that require inputs that are both significant to the fair value measurements and unobservable. These inputs reflect management's judgment about the assumptions that a market participant would use in pricing the investment and are based on the best available information, some of which may be internally developed.

Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded as earned. Dividends are recorded on the ex-dividend date. Net (depreciation) appreciation includes the Plan's gains and losses on investments bought and sold as well as held during the year.

#### **Benefit Payments**

Benefits are recorded when paid.

#### **Administrative Expenses**

Administrative expenses are paid by the Plan.

#### **Actuarial Present Value of Accumulated Plan Benefits**

Accumulated plan benefits (see Note 3) represent the actuarial present value of estimated future periodic payments, including lump-sum distributions that are attributable under the Plan's provisions to services rendered by employees through the valuation date. Accumulated plan benefits include benefits expected to be paid to (a) retired or terminated employees or their beneficiaries (b) beneficiaries of deceased employees and (c) present employees or their beneficiaries. Normal retirement benefits for participants who retire or otherwise terminate employment in Plan years commencing after January 1, 1998, are based on the participants' notional account balances on the normal retirement date converted to a benefit using the RP-2014 Mortality Table and an applicable interest rate. The Plan also includes provisions for the payment of later retirement benefits, early retirement benefits, disability benefits, and deferred vested benefits to participants. The accumulated plan benefits for active employees are based on their compensation for services rendered and interest credits accumulated prior to the valuation date. Benefits payable under all circumstances (retirement, death, disability, and termination of employment) are included only to the extent they are deemed attributable to employee services rendered through the valuation date.

**Aleris Cash Balance Plan**  
**Notes to Financial Statements (continued)**

**Evaluation of Subsequent Events**

Plan management has evaluated subsequent events through October 9, 2019, which is the date the financial statements were available to be issued and has determined that there were no subsequent events that have occurred through that date that have not already been reflected in the financial statements and / or disclosed in the notes.

**3. Actuarial Present Value of Accumulated Plan Benefits**

Mercer (U.S.) Inc., the Plan's actuary, estimated the actuarial present value of accumulated plan benefits, which is the amount that resulted from applying actuarial assumptions to adjust the accumulated plan benefits earned by the participants to reflect the time value of money (through discounts for interest) and the probability of payment (by means of decrements for death, disability, withdrawal or retirement) between the valuation date and the expected date of payment.

The actuarial present value of accumulated plan benefits is as follows:

|                                                            | <b>January 1,</b>           |                             |
|------------------------------------------------------------|-----------------------------|-----------------------------|
|                                                            | <b>2018</b>                 | <b>2017</b>                 |
| Actuarial present value of accumulated plan benefits:      |                             |                             |
| Vested benefits:                                           |                             |                             |
| Participants currently receiving benefits                  | \$ 20,221,833               | \$ 20,162,387               |
| Other participants                                         | 8,095,380                   | 8,858,032                   |
| Total vested benefits                                      | <u>28,317,213</u>           | <u>29,020,419</u>           |
| Total actuarial present value of accumulated plan benefits | <u><u>\$ 28,317,213</u></u> | <u><u>\$ 29,020,419</u></u> |

The changes in accumulated plan benefits as of January 1, 2018, are as follows:

|                                                                           |                             |
|---------------------------------------------------------------------------|-----------------------------|
| Actuarial present value of accumulated plan benefits at beginning of year | \$ 29,020,419               |
| (Decrease) increase during the year attributed to:                        |                             |
| Benefits accumulated and (gains)/losses                                   | 227,696                     |
| Increase for interest due to the decrease in the discount period          | 2,082,766                   |
| Benefits paid                                                             | (3,961,891)                 |
| Change in actuarial assumptions                                           | <u>948,223</u>              |
| Net decrease                                                              | <u>(703,206)</u>            |
| Actuarial present value of accumulated plan benefits at end of year       | <u><u>\$ 28,317,213</u></u> |

Significant assumptions underlying the actuarial valuation include:

|                                       |                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Interest crediting rate               | 3.50%                                                                                                                                                                                                                                                                                                                                                   |
| Assumed rate of return on investments | 6.80% (7.75% for the year beginning January 1, 2017)                                                                                                                                                                                                                                                                                                    |
| Mortality basis                       | Adjusted RP-2014, which back out the post-2006 mortality improvements, white collar, separate annuitant and non-annuitant, sex distinct base tables. Post-2006 mortality improvements are projected generationally using the MP-2017 projection scale<br><br>(The RP-2014 tables using MP-2016 projection scale for the year beginning January 1, 2017) |
| Normal retirement                     | Age 65                                                                                                                                                                                                                                                                                                                                                  |

## Aleris Cash Balance Plan

### Notes to Financial Statements (continued)

The actuarial assumptions are based on the presumption that the Plan will continue. Were the Plan to terminate, different actuarial assumptions and other factors might be applicable in determining the actuarial present value of accumulated plan benefits. The actuary estimated the accumulated plan benefits as of January 1, 2018.

#### 4. Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value hierarchy distinguishes between (1) market participant assumptions developed based on market data obtained from independent sources (observable inputs) and (2) an entity's own assumptions about market participant assumptions developed based on the best information available in the circumstances (unobservable inputs). The fair value hierarchy consists of three broad levels, which gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). The three levels of the fair value hierarchy in ASC 820 are described in Note 2.

The level in the fair value hierarchy within which the fair value measurement is classified is determined based on the lowest level input that is significant to the fair value measure in its entirety. Following is a description of the valuation techniques and inputs used for each major class of assets measured at fair value.

**Interest-bearing cash:** Valued at carrying value (which approximates fair value due to the short-term nature of the asset).

**Registered investment companies (Mutual funds):** Valued at quoted prices from an active market which represents the net asset value ("NAV") of shares held by the Plan at year-end.

**Commingled funds:** Include pooled separate accounts, common and collective funds. Commingled private funds include multiple kinds of assets from several accounts combined to mitigate risk through investment diversification. Pooled separate accounts are valued at the NAV of units held by the Plan, which is determined by dividing the fair value of the fund's net assets by its units outstanding at the valuation date. Common collective funds are valued based on net asset value per share.

**Limited partnership interests:** Valued at estimated NAV at the valuation date.

While the Plan believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

The following tables set forth by level, within the fair value hierarchy, the Plan's assets carried at fair value as of December 31, 2018 and 2017:

|                                          | <b>Assets at Fair Value as of December 31, 2018</b> |                     |                |                |
|------------------------------------------|-----------------------------------------------------|---------------------|----------------|----------------|
|                                          | <b>Total</b>                                        | <b>Level 1</b>      | <b>Level 2</b> | <b>Level 3</b> |
| Interest-bearing cash                    | \$ 399,941                                          | \$ 399,941          | \$ -           | \$ -           |
| Mutual funds:                            |                                                     |                     |                |                |
| Small/Mid U.S. equity                    | 949,837                                             | 949,837             | -              | -              |
| Large U.S. equity                        | 2,624,062                                           | 2,624,062           | -              | -              |
| International equity                     | 2,129,571                                           | 2,129,571           | -              | -              |
| Total assets in the fair value hierarchy | 6,103,411                                           | 6,103,411           | -              | -              |
| Investments measured at NAV (a)          | 19,759,012                                          |                     |                |                |
| Total assets                             | <u>\$ 25,862,423</u>                                | <u>\$ 6,103,411</u> | <u>\$ -</u>    | <u>\$ -</u>    |

**Aleris Cash Balance Plan**  
**Notes to Financial Statements (continued)**

|                                          | Assets at Fair Value as of December 31, 2017 |                      |             |             |
|------------------------------------------|----------------------------------------------|----------------------|-------------|-------------|
|                                          | Total                                        | Level 1              | Level 2     | Level 3     |
| Interest-bearing cash                    | \$ 676,751                                   | \$ 676,751           | \$ -        | \$ -        |
| Mutual funds:                            |                                              |                      |             |             |
| Small/Mid U.S. equity                    | 1,125,141                                    | 1,125,141            | -           | -           |
| Large U.S. equity                        | 6,036,296                                    | 6,036,296            | -           | -           |
| International equity                     | 2,599,944                                    | 2,599,944            | -           | -           |
| Total assets in the fair value hierarchy | 10,438,132                                   | 10,438,132           | -           | -           |
| Investments measured at NAV (a)          | 19,794,846                                   |                      |             |             |
| Total assets                             | <u>\$ 30,232,978</u>                         | <u>\$ 10,438,132</u> | <u>\$ -</u> | <u>\$ -</u> |

- (a) In accordance with ASC 820-10, certain investments that were measured at NAV (or its equivalent) have not been classified in the fair value hierarchy. The fair value amounts presented in the tables are intended to permit reconciliation of the fair value hierarchy to the line items presented in the Statements of Net Assets Available for Benefits.

The following table summarizes investments measured at fair value based on NAV per share as of December 31, 2018 and 2017:

|                                                  | 2018                 | 2017                 |
|--------------------------------------------------|----------------------|----------------------|
| Commingled funds:                                |                      |                      |
| Core real estate (a)                             | \$ 3,335,544         | \$ 3,620,033         |
| International large cap equity (b)               | 2,141,594            | 2,623,601            |
| Limited partnership interests:                   |                      |                      |
| Core fixed income (c)                            | 9,038,906            | 10,956,758           |
| Hedged equity (d)                                | 3,368,332            | -                    |
| Small cap value equity (e)                       | 1,874,636            | 2,594,454            |
| Total assets measured at fair value based on NAV | <u>\$ 19,759,012</u> | <u>\$ 19,794,846</u> |

The Plan used the practical expedient to measure the fair value of the commingled funds and limited partnership interests at December 31, 2018 and 2017 within the scope of Accounting Standards Update 2009-12, *Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent)* based on the investment's NAV.

A description of each of the significant investment strategies is as follows:

- a) **Core real estate:** Core real estate fund is composed primarily of real estate investments owned through a commingled pension trust fund. The investment objective of the fund is to provide a high, stable income stream with the potential for moderate capital appreciation over the long term. The core real estate fund invests in high-quality stabilized office, retail, residential and industrial assets in primary markets throughout the United States. Management of the core real estate fund has the ability to rebalance and refine the composition of the overall portfolio and remove assets of lesser quality and/or growth prospects, and where appropriate, trade up for asset quality and geographic location. As a result of how the fund is managed and priced, an extended notice period of six months is required for redemption requests. The Plan has the ability to redeem the investment at the NAV (or its equivalent) in the near term.
- b) **International large cap equity:** International large cap equity fund invests in equity securities. The investment objective of the fund is to achieve long-term growth principally by investing in a diversified portfolio of equity securities of companies ordinarily located in any country other than the United States and Canada. Redemption requests must be made at least six business days before the end of the month. The Plan has the ability to redeem the investment at the NAV (or its equivalent) on the measurement date.

**Aleris Cash Balance Plan**  
**Notes to Financial Statements (continued)**

- c) **Core fixed income:** Core fixed income fund invests primarily in fixed income securities. The investment objective is to seek total return consistent with the preservation of capital by investing in U.S. dollar-denominated fixed income securities, particularly U.S. government, agency, corporate and mortgage-backed issues. Investments may also include highly liquid AAA-rated mortgage paper, investment grade corporate and Yankee securities. Core fixed income is valued based on the Plan's ownership interest in the net asset value of the investment, which is used as a practical expedient to fair value per the underlying investment funds, which are based upon the Plan's own assumptions about the assumptions a market participant would use in pricing the assets and liabilities of the fund. The Plan has the ability to redeem the investment at the NAV (or its equivalent) on the measurement date.
- d) **Hedged equity:** Hedged equity fund is comprised primarily of shares or units in other investment companies or trusts. The fund invests the assets of its portfolios in other private investment funds. The investment objective of the fund is to generate absolute returns while maintaining a moderate level of risk. Its portfolio assets are allocated to the other private investment funds targeting absolute returns throughout the global financial markets with an emphasis on developed markets. In addition to its investments in other private investment funds, the fund may also make short-term investments for liquidity or defensive purposes, including but not limited to, interest-earning money market accounts, government obligations, commercial paper and short-term certificates of deposit. The fund may also maintain positions in a variety of derivative and non-derivative financial instruments in order to manage the various types of risks that are associated with the financial instruments and markets in which it invests. Hedged equity fund is valued based on the Plan's ownership interest in the net asset value of the investment funds, which are based upon the Plan's own assumptions about the assumptions a market participant would use in pricing the assets and liabilities of the fund. The fund's investments can only be redeemed on the first business day of each calendar quarter or each calendar month, but only after such redemption request has been made at least 45 days prior to the last business day of each quarter. The Plan has the ability to redeem the investment at the NAV (or its equivalent) in the near term.
- e) **Small cap value equity:** Limited partnership interests invested primarily in equity securities of domestic and international small capitalization companies. Small cap value equity is valued based on the Plan's ownership interest in the net asset value of the investment, which is used as a practical expedient to fair value per the underlying investment funds, which are based upon the Plan's own assumptions about the assumptions a market participant would use in pricing the assets and liabilities of the fund. Redemptions may be made on the last day of any month, subject to approval and certain other limitations. The Plan has the ability to redeem the investment at the NAV (or its equivalent) at the reporting date.

There were no unfunded commitments at December 31, 2018 and 2017 for any of the commingled funds or limited partnership interests.

The Company's Benefits Committee is responsible for determining the Plan's valuation policies and analyzing information provided by the investment Trustee and funds' general managers or partners that is used to determine the fair value of the Plan's investments. The Company's Benefits Committee is comprised of various members of the Company's management (including the Company's Chief Financial Officer, General Counsel and Executive Vice President, and Chief Human Resources Officer) and reports to the Company's Board of Directors. The Company also has established policies and procedures that relate to the approval of any new Level 3 assets in which the Plan is permitted to invest.

#### **5. Investments (unaudited)**

Other than the fair values of the commingled funds and limited partnership interests and the related interest and net appreciation or depreciation, all investment information for the Plan disclosed in the accompanying financial statements and supplemental schedules, including investments held at December 31, 2018 and 2017, and net

**Aleris Cash Balance Plan**  
**Notes to Financial Statements (continued)**

(depreciation) appreciation in fair value of investments and interest and dividends for the years ended December 31, 2018 and 2017, was obtained or derived from information provided to the plan administrator and certified as complete and accurate by the Trustee.

The following investment information was not certified by the Trustee:

|                                                   | <b>December 31,</b> |               |
|---------------------------------------------------|---------------------|---------------|
|                                                   | <b>2018</b>         | <b>2017</b>   |
| IR&M Long Government Credit Fund LLC              | \$ 9,038,906        | \$ 10,956,758 |
| Strategic Property Trust Fund of JPMC             | 3,335,544           | 3,620,033     |
| Sanderson Intl. Value Group Trust Fund            | 2,141,594           | 2,623,601     |
| Frontier Small Cap Value Fund, LP                 | 1,874,636           | 2,594,454     |
| Neuberger Berman US Equity Index Putwrite Fund    | 3,368,332           | -             |
| <b>For the Year Ended</b>                         |                     |               |
|                                                   | <b>December 31,</b> |               |
|                                                   | <b>2018</b>         | <b>2017</b>   |
| Net appreciation (depreciation) in fair value of: |                     |               |
| IR&M Long Government Credit Fund LLC              | \$ (442,743)        | \$ 773,525    |
| Strategic Property Trust Fund of JPMC             | 38,420              | 243,194       |
| Sanderson Intl. Value Group Trust Fund            | (455,891)           | 560,429       |
| Frontier Small Cap Value Fund, LP                 | 943,293             | 1,394,235     |
| Neuberger Berman US Equity Index Putwrite Fund    | (231,667)           | -             |

**6. Transactions with Parties-in-Interest**

Fees paid during the year for services rendered by parties-in-interest were based on customary and reasonable rates for such services. Certain of the Plan's investments are managed by the Trustee. These transactions qualify as party-in-interest transactions; however, they are exempt from the prohibited transactions rules under ERISA.

**7. Tax Status**

The Plan received a determination letter from the Internal Revenue Service (the "IRS") dated December 28, 2012, stating that the Plan is qualified under Section 401(a) of the Internal Revenue Code (the "Code") and, therefore, the related trust is exempt from taxation. Subsequent to this determination by the IRS, the Plan was amended. Once qualified, the Plan is required to operate in conformity with the Code to maintain its qualification. The plan administrator and the Plan's tax counsel believe the Plan is being operated in compliance with the applicable requirements of the Code and, therefore, believe that the Plan, as amended, is qualified and the related trust is tax-exempt.

Accounting principles generally accepted in the United States of America require Plan management to evaluate uncertain tax positions taken by the Plan. The financial statement effects of a tax position are recognized when the position is more likely than not, based on the technical merits, to not be sustained upon examination by the IRS. The plan administrator has analyzed the tax positions taken by the Plan, and has concluded that as of December 31, 2018 and 2017, there are no uncertain tax positions taken or expected to be taken. The Plan has recognized no interest or penalties related to uncertain tax positions. The Plan is subject to routine audits by taxing jurisdictions; however, there are currently no audits for any tax periods in progress.

**Aleris Cash Balance Plan**

**EIN # 27-1539745**

**Plan # 008**

**Schedule H, Line 4i – Schedule of Assets (Held at End of Year)**

**As of December 31, 2018**

| (a) | (b)                                                      | (c)                                                                                                               | (d)                  | (e)                  |
|-----|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------|----------------------|
|     | Identity of Issue, Borrower,<br>Lessor, or Similar Party | Description of Investment,<br>Including Maturity Date,<br>Rate of Interest, Collateral,<br>Par, or Maturity Value | Cost                 | Current<br>Value     |
|     | <b>Interest-Bearing Cash</b>                             |                                                                                                                   |                      |                      |
| *   | Wells Fargo Bank Collateralized Instl Bank Deposit       |                                                                                                                   | \$ 399,941           | \$ 399,941           |
|     | <b>Mutual Funds</b>                                      |                                                                                                                   |                      |                      |
|     | Vanguard Institutional Index Fund                        | 11,532 shares                                                                                                     | 2,581,740            | 2,624,062            |
|     | Templeton Instl Foreign Small Company Fund               | 62,489 shares                                                                                                     | 1,498,705            | 1,122,303            |
|     | DFA Emerging Markets Core Equity                         | 52,326 shares                                                                                                     | 1,106,790            | 1,007,268            |
|     | Vanguard Mid-Cap Growth Index Fund                       | 18,451 shares                                                                                                     | 1,015,997            | 949,837              |
|     |                                                          |                                                                                                                   | <u>6,203,232</u>     | <u>5,703,470</u>     |
|     | <b>Commingled Funds</b>                                  |                                                                                                                   |                      |                      |
|     | Strategic Property Trust Fund of JPMC                    | 954 shares                                                                                                        | 3,297,124            | 3,335,544            |
|     | Sanderson Intl. Value Group Trust Fund                   | 74,778 shares                                                                                                     | 2,597,485            | 2,141,594            |
|     |                                                          |                                                                                                                   | <u>5,894,609</u>     | <u>5,477,138</u>     |
|     | <b>Limited Partnership Interests</b>                     |                                                                                                                   |                      |                      |
|     | IR&M Long Government Credit Fund LLC                     | 808,628 shares                                                                                                    | 9,481,649            | 9,038,906            |
|     | Neuberger Berman US Equity Index Fund                    | 3,600,000 shares                                                                                                  | 3,600,000            | 3,368,332            |
|     | Frontier Small Cap Value Fund, L.P.                      | 210,000 shares                                                                                                    | 931,343              | 1,874,636            |
|     |                                                          |                                                                                                                   | <u>14,012,992</u>    | <u>14,281,874</u>    |
|     |                                                          |                                                                                                                   | <u>\$ 26,510,774</u> | <u>\$ 25,862,423</u> |

\* Denotes a party-in-interest to the Plan.

**Aleris Cash Balance Plan**

**EIN # 27-1539745**

**Plan # 008**

**Schedule H, Line 4j – Schedule of Reportable Transactions**

**Year Ended December 31, 2018**

| (a) / (b)                                                                 | (c)               | (d)              | (e)              | (f)<br>Current<br>Value of<br>Asset on<br>Transaction<br>Date | (g)<br>Net Gain<br>(Loss) |
|---------------------------------------------------------------------------|-------------------|------------------|------------------|---------------------------------------------------------------|---------------------------|
| Identity of Party Involved/<br>Description of Asset                       | Purchase<br>Price | Selling<br>Price | Cost of<br>Asset |                                                               |                           |
| <b>Category 1 – Single transactions in excess of 5% of plan assets</b>    |                   |                  |                  |                                                               |                           |
| Neuberger Berman US Equity Index Putwrite Fund                            | \$ 3,600,000      | \$ -             | \$ 3,600,000     | \$ 3,600,000                                                  | \$ -                      |
| Neuberger Berman US Equity Index Putwrite Fund                            | -                 | 3,076,068        | 3,161,144        | 3,076,068                                                     | (85,076)                  |
| Vanguard 500 Index Fund                                                   | -                 | 2,581,740        | 1,921,701        | 2,581,740                                                     | 660,039                   |
| Vanguard Institutional Index Fund                                         | 2,581,740         | -                | 2,581,740        | 2,581,740                                                     | -                         |
| Wells Fargo Bank Collateralized Instl Bank Deposit                        | 3,076,068         | -                | 3,076,068        | 3,076,068                                                     | -                         |
| Wells Fargo Bank Collateralized Instl Bank Deposit                        | 3,300,000         | -                | 3,300,000        | 3,300,000                                                     | -                         |
| <b>Category 2 – Series of transactions</b>                                |                   |                  |                  |                                                               |                           |
| Cash held at ABS Alpha Global Equity                                      | -                 | 260,160          | 258,095          | 260,160                                                       | 2,065                     |
| Frontier Small Cap Value Fund                                             | -                 | 375,000          | 375,000          | 375,000                                                       | -                         |
| IR&M Long Government Credit Fund LLC                                      | -                 | 300,000          | 274,504          | 300,000                                                       | 25,496                    |
| IR&M Long Government Credit Fund LLC                                      | -                 | 5,961            | 5,478            | 5,961                                                         | 483                       |
| IR&M Long Government Credit Fund LLC                                      | -                 | 6,453            | 6,137            | 6,453                                                         | 316                       |
| IR&M Long Government Credit Fund LLC                                      | -                 | 6,278            | 5,927            | 6,278                                                         | 351                       |
| IR&M Long Government Credit Fund LLC                                      | -                 | 150,000          | 140,504          | 150,000                                                       | 9,496                     |
| IR&M Long Government Credit Fund LLC                                      | -                 | 150,000          | 142,790          | 150,000                                                       | 7,210                     |
| IR&M Long Government Credit Fund LLC                                      | -                 | 275,000          | 266,964          | 275,000                                                       | 8,036                     |
| IR&M Long Government Credit Fund LLC                                      | -                 | 150,000          | 146,416          | 150,000                                                       | 3,584                     |
| IR&M Long Government Credit Fund LLC                                      | -                 | 6,294            | 6,172            | 6,294                                                         | 122                       |
| IR&M Long Government Credit Fund LLC                                      | -                 | 350,000          | 330,062          | 350,000                                                       | 19,938                    |
| JP Morgan Strategic Property Fund                                         | -                 | 8,733            | 6,469            | 8,733                                                         | 2,264                     |
| JP Morgan Strategic Property Fund                                         | -                 | 500,000          | 370,329          | 500,000                                                       | 129,671                   |
| JP Morgan Strategic Property Fund                                         | -                 | 8,904            | 6,541            | 8,904                                                         | 2,363                     |
| JP Morgan Strategic Property Fund                                         | -                 | 7,899            | 5,768            | 7,899                                                         | 2,131                     |
| JP Morgan Strategic Property Fund                                         | -                 | 8,031            | 5,834            | 8,031                                                         | 2,197                     |
| Neuberger Berman US Equity Index Putwrite Fund                            | 3,600,000         | -                | 3,600,000        | 3,600,000                                                     | -                         |
| Sanderson International Value Group Trust Fund                            | -                 | 2,308            | 1,127            | 2,308                                                         | 1,181                     |
| Sanderson International Value Group Trust Fund                            | -                 | 2,200            | 1,126            | 2,200                                                         | 1,074                     |
| Sanderson International Value Group Trust Fund                            | -                 | 2,141            | 1,125            | 2,141                                                         | 1,016                     |
| Sanderson International Value Group Trust Fund                            | -                 | 2,173            | 1,124            | 2,173                                                         | 1,049                     |
| Sanderson International Value Group Trust Fund                            | -                 | 2,095            | 1,123            | 2,095                                                         | 972                       |
| Sanderson International Value Group Trust Fund                            | -                 | 2,046            | 1,122            | 2,046                                                         | 924                       |
| Sanderson International Value Group Trust Fund                            | -                 | 2,081            | 1,121            | 2,081                                                         | 960                       |
| Sanderson International Value Group Trust Fund                            | -                 | 2,043            | 1,120            | 2,043                                                         | 923                       |
| Sanderson International Value Group Trust Fund                            | -                 | 2,046            | 1,119            | 2,046                                                         | 927                       |
| Sanderson International Value Group Trust Fund                            | -                 | 1,900            | 1,118            | 1,900                                                         | 782                       |
| Sanderson International Value Group Trust Fund                            | -                 | 1,892            | 1,118            | 1,892                                                         | 774                       |
| Sanderson International Value Group Trust Fund                            | -                 | 1,786            | 1,117            | 1,786                                                         | 669                       |
| <b>Category 3 – Series of transactions in excess of 5% of plan assets</b> |                   |                  |                  |                                                               |                           |
| Neuberger Berman US Equity Index Putwrite Fund                            | 3,600,000         | -                | 3,600,000        | 3,600,000                                                     | -                         |

**Aleris Cash Balance Plan**

**EIN # 27-1539745**

**Plan # 008**

**Schedule H, Line 4j – Schedule of Reportable Transactions**

**Year Ended December 31, 2018**

| (a) / (b)                                           | (c)               | (d)              | (e)              | (f)<br>Current<br>Value of<br>Asset on<br>Transaction<br>Date | (g)<br>Net Gain<br>(Loss) |
|-----------------------------------------------------|-------------------|------------------|------------------|---------------------------------------------------------------|---------------------------|
| Identity of Party Involved/<br>Description of Asset | Purchase<br>Price | Selling<br>Price | Cost of<br>Asset |                                                               |                           |
| Neuberger Berman US Equity Index Putwrite Fund      | \$ -              | \$ 3,076,068     | \$ 3,161,144     | \$ 3,076,068                                                  | \$ (85,076)               |
| Vanguard 500 Index Fund                             | 425,000           | -                | 425,000          | 425,000                                                       | -                         |
| Vanguard 500 Index Fund                             | -                 | 3,271,740        | 2,368,988        | 3,271,740                                                     | 902,752                   |
| Vanguard Institutional Index Fund                   | -                 | 2,581,740        | 2,581,740        | 2,581,740                                                     | -                         |
| Wells Fargo Bank Collateralized Instl Bank Deposit  | 7,465,442         | -                | 7,465,442        | 7,465,442                                                     | -                         |
| Wells Fargo Bank Collateralized Instl Bank Deposit  | -                 | 7,484,035        | 7,484,035        | 7,484,035                                                     | -                         |
| <b>Category 4-Single transaction by broker</b>      |                   |                  |                  |                                                               |                           |
| Cash held at ABS Alpha Global Equity                | -                 | 260,160          | 258,095          | 260,160                                                       | 2,065                     |
| Frontier Small Cap Value Fund, LP                   | -                 | 375,000          | 375,000          | 375,000                                                       | -                         |
| IR&M Long Government Credit Fund LLC                | -                 | 300,000          | 274,504          | 300,000                                                       | 25,496                    |
| IR&M Long Government Credit Fund LLC                | -                 | 5,961            | 5,478            | 5,961                                                         | 483                       |
| IR&M Long Government Credit Fund LLC                | -                 | 6,453            | 6,137            | 6,453                                                         | 316                       |
| IR&M Long Government Credit Fund LLC                | -                 | 6,278            | 5,927            | 6,278                                                         | 351                       |
| IR&M Long Government Credit Fund LLC                | -                 | 150,000          | 140,504          | 150,000                                                       | 9,496                     |
| IR&M Long Government Credit Fund LLC                | -                 | 150,000          | 142,790          | 150,000                                                       | 7,210                     |
| IR&M Long Government Credit Fund LLC                | -                 | 275,000          | 266,964          | 275,000                                                       | 8,036                     |
| IR&M Long Government Credit Fund LLC                | -                 | 150,000          | 146,416          | 150,000                                                       | 3,584                     |
| IR&M Long Government Credit Fund LLC                | -                 | 6,294            | 6,172            | 6,294                                                         | 122                       |
| IR&M Long Government Credit Fund LLC                | -                 | 350,000          | 330,062          | 350,000                                                       | 19,938                    |
| JP Morgan Strategic Property Fund                   | -                 | 8,733            | 6,469            | 8,733                                                         | 2,264                     |
| JP Morgan Strategic Property Fund                   | -                 | 500,000          | 370,329          | 500,000                                                       | 129,671                   |
| JP Morgan Strategic Property Fund                   | -                 | 8,904            | 6,541            | 8,904                                                         | 2,363                     |
| JP Morgan Strategic Property Fund                   | -                 | 7,899            | 5,768            | 7,899                                                         | 2,131                     |
| JP Morgan Strategic Property Fund                   | -                 | 8,031            | 5,834            | 8,031                                                         | 2,197                     |
| Neuberger Berman US Equity Index Putwrite Fund      | 3,600,000         | -                | 3,600,000        | 3,600,000                                                     | -                         |
| Sanderson International Value Group Trust Fund      | -                 | 2,308            | 1,127            | 2,308                                                         | 1,181                     |
| Sanderson International Value Group Trust Fund      | -                 | 2,200            | 1,126            | 2,200                                                         | 1,074                     |
| Sanderson International Value Group Trust Fund      | -                 | 2,141            | 1,125            | 2,141                                                         | 1,016                     |
| Sanderson International Value Group Trust Fund      | -                 | 2,173            | 1,124            | 2,173                                                         | 1,049                     |
| Sanderson International Value Group Trust Fund      | -                 | 2,095            | 1,123            | 2,095                                                         | 972                       |
| Sanderson International Value Group Trust Fund      | -                 | 2,046            | 1,122            | 2,046                                                         | 924                       |
| Sanderson International Value Group Trust Fund      | -                 | 2,081            | 1,121            | 2,081                                                         | 960                       |
| Sanderson International Value Group Trust Fund      | -                 | 2,043            | 1,120            | 2,043                                                         | 923                       |
| Sanderson International Value Group Trust Fund      | -                 | 2,046            | 1,119            | 2,046                                                         | 927                       |
| Sanderson International Value Group Trust Fund      | -                 | 1,900            | 1,118            | 1,900                                                         | 782                       |
| Sanderson International Value Group Trust Fund      | -                 | 1,892            | 1,118            | 1,892                                                         | 774                       |
| Sanderson International Value Group Trust Fund      | -                 | 1,786            | 1,117            | 1,786                                                         | 669                       |

*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     |                           |     |     |       |       |       |       |       |       |         |       |
| 25-29        |                           |     |     |       |       |       |       |       |       |         |       |
| 30-34        |                           |     |     |       |       |       |       |       |       |         |       |
| 35-39        |                           |     |     |       |       |       |       |       |       |         |       |
| 40-44        |                           |     | 3   | 1     |       |       |       |       |       |         | 4     |
| 45-49        |                           | 1   | 1   | 5     | 2     |       |       |       |       |         | 9     |
| 50-54        |                           | 3   | 5   |       | 15    |       |       |       |       |         | 23    |
| 55-59        |                           | 6   | 6   | 2     | 5     | 4     | 2     |       |       |         | 25    |
| 60-64        |                           | 4   | 5   | 4     | 9     | 3     | 6     | 2     |       |         | 33    |
| 65-69        |                           |     | 1   | 1     | 1     | 1     |       |       |       |         | 4     |
| 70 & up      |                           |     | 1   |       | 1     | 1     |       |       |       |         | 3     |
| Total        |                           | 14  | 22  | 13    | 33    | 9     | 8     | 2     |       |         | 101   |

In each cell, the number is the count of active participants for each age/service combination.

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

## ACTUARIAL ASSUMPTIONS

## DISCOUNT RATE SPONSOR ELECTIONS

|                                     |                          |                             |  |
|-------------------------------------|--------------------------|-----------------------------|--|
| • Segment rates or full yield curve | Segment                  |                             |  |
| • Look-back months                  | 0                        |                             |  |
|                                     | <b><u>Stabilized</u></b> | <b><u>Nonstabilized</u></b> |  |
| • First 5 years                     | 3.92%                    | 1.81%                       |  |
| • Next 15 years                     | 5.52%                    | 3.68%                       |  |
| • Over 20 years                     | 6.29%                    | 4.53%                       |  |

## Mortality sponsor elections

- |                        |                                                                                                                                                                                                                                                                                                                              |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • Healthy participants | Section 430(h)(3) prescribed separate static annuitant and non-annuitant mortality tables in accordance with the regulations in effect prior to the 2018 plan year. These tables are based on the RP-2000 mortality tables projected with mortality improvement to the valuation year plus 7 and 15 years based on Scale AA. |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Cash balance plans

- |                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • Interest accumulation rate | 3.50%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| • Lump Sums                  | The plan provides the greater of the current cash balance account and the minimum lump sum equivalent of the accrued benefit under 417(e) assumptions. For participants commencing under age 57, the cash balance account is expected to be larger and for participants commencing on or after age 57, the minimum 417(e) lump sum is expected to be larger. For participants commencing on or after age 57, the cash balance account is loaded with a factor to estimate the minimum 417(e) lump sum. This factor is not interest-sensitive as the plan-defined cash balance conversion to an annuity also uses 417(e) interest rates. The factor only reflects the difference between the plan-defined cash balance conversion mortality table (unisex 1983 GAM table) and the prescribed 417(e) mortality table. These factors are updated annually to reflect the 417(e) mortality table in effect during the valuation year. |

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

| Other economic assumptions                                                   |                                                                                                             |
|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Expected investment return</li> </ul> | 7.75% per year for year 2016 and 2017<br>6.80% per year for year 2018<br>(Limited to the 3rd segment rate). |
| <ul style="list-style-type: none"> <li>Expenses</li> </ul>                   | \$380,042 added to current year normal cost.                                                                |

## RATIONALE FOR ECONOMIC ASSUMPTIONS

- **Interest Rate (Funding Valuation)** – Interest rates prescribed by IRS.
- **Cash balance interest accumulation rate** – The cash balance plan interest crediting rate assumption is based on the historical spread between high quality corporate bonds and the plan defined interest crediting rate. The interest crediting rate assumption is determined by applying the historical spread to the discount rate used for disclosure as this rate is based on high quality corporate bond yields. The resulting Aleris Cash Balance Plan assumed interest crediting rate will not be lower than 3.50%, the approximate minimum interest crediting rate defined in the plan.
- **Expected investment return** – The interest rate was selected by plan sponsor based on their expected long-term rate of return on assets.
- **Expenses** are based on year-by-year experience for actual administrative expenses paid from plan assets.

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

## DEMOGRAPHIC ASSUMPTIONS

## • Withdrawal

## Percentage

## Attained Age

## All

|    |       |
|----|-------|
| 20 | 6.39% |
| 25 | 4.76% |
| 30 | 3.31% |
| 35 | 2.80% |
| 40 | 2.57% |
| 45 | 2.33% |
| 50 | 2.10% |
| 55 | 1.87% |

## • Retirement Age

## Percentage

## Attained Age

## All

|              |      |
|--------------|------|
| Under 55     | 0%   |
| 55           | 10%  |
| 56           | 5%   |
| 57           | 5%   |
| 58           | 5%   |
| 59           | 5%   |
| 60           | 15%  |
| 61           | 10%  |
| 62           | 25%  |
| 63           | 10%  |
| 64           | 10%  |
| 65 and above | 100% |

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

|                                                   |                                 |                                   |
|---------------------------------------------------|---------------------------------|-----------------------------------|
| • Benefit commencement age for                    |                                 |                                   |
| – Future vested deferred                          | Immediately                     |                                   |
| – Current vested deferred                         | 65                              |                                   |
| • Spouse assumptions                              | <b><u>Male participants</u></b> | <b><u>Female participants</u></b> |
| – Percentage married                              | 85%                             | 85%                               |
| – Spouse age difference                           | 3 years younger                 | 3 years older                     |
| <b>Form of payment</b>                            | <b><u>Lump sum</u></b>          | <b><u>Single life</u></b>         |
| • Active retirements                              | 100%                            | 0%                                |
| • Future vested deferred                          | 100%                            | 0%                                |
| • Future deaths                                   | 100%                            | 0%                                |
| • Current vested deferred (account balance)       | 100%                            | 0%                                |
| • Current vested deferred (annuity)               | 0%                              | 100%                              |
| <b>Unpredictable contingent event assumptions</b> | Not applicable                  |                                   |

## RATIONALE FOR DEMOGRAPHIC ASSUMPTIONS

- **Mortality** - Mortality table prescribed by the IRS. IRS released the new prescribed funding mortality tables to determine minimum contributions for 2018 plan year and onwards. The regulation permits the use of old methodology funding tables (except lump sum tables) until the 2019 plan year. This election does not require IRS approval. The Plan Sponsor chose to use the PPA tables based on old methodology for the 2018 plan year.
- **Withdrawal** – The termination table is based on the Society of Actuaries 2003 ultimate turnover table with adjustments. Annual review of the experience has shown that this table produced a reasonable approximation of the rates of termination experienced by the plan.
- **Retirement age** – Retirement rates have been developed based on the actuary's experience with similar plans and the age social insurance programs are first available. Annual review of the plan experience has shown that these rates provide similar results to the actual rates of retirement experienced under the plan.
- **Form of payment** – 100% of participants are assumed to elect a lump sum of their cash balance account, based on experience that shows relatively fewer participants elect the actuarially equivalent annuity options.

*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:** The plan sponsor provides us with data on all employees as of the valuation date, but 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.

**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 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

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

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.

- 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.

|                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Form 5500</b><br><br>Department of the Treasury<br>Internal Revenue Service<br><br>Department of Labor<br>Employee Benefits Security<br>Administration<br><br>Pension Benefit Guaranty Corporation | <b>Annual Return/Report of Employee Benefit Plan</b><br>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).<br><br><p style="text-align: center;">▶ <b>Complete all entries in accordance with the instructions to the Form 5500.</b></p> | OMB Nos. 1210-0110<br>1210-0089<br><br><div style="text-align: center; font-size: 1.2em; font-weight: bold;">2018</div><br><br>This Form is Open to Public Inspection |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                          |                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Part I</b>                                                                                            | <b>Annual Report Identification Information</b>                                                                                                                                                                                                                                                                                            |
| For calendar plan year 2018 or fiscal plan year beginning <u>01/01/2018</u> and ending <u>12/31/2018</u> |                                                                                                                                                                                                                                                                                                                                            |
| <b>A</b> This return/report is for:                                                                      | <input type="checkbox"/> a multiemployer plan <input type="checkbox"/> a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.)<br><input checked="" type="checkbox"/> a single-employer plan <input type="checkbox"/> a DFE (specify) _____ |
| <b>B</b> This return/report is:                                                                          | <input type="checkbox"/> the first return/report <input type="checkbox"/> the final return/report<br><input type="checkbox"/> an amended return/report <input type="checkbox"/> a short plan year return/report (less than 12 months)                                                                                                      |
| <b>C</b> If the plan is a collectively-bargained plan, check here: .....                                 | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                   |
| <b>D</b> Check box if filing under:                                                                      | <input checked="" type="checkbox"/> Form 5558 <input type="checkbox"/> automatic extension <input type="checkbox"/> the DFVC program<br><input type="checkbox"/> special extension (enter description)                                                                                                                                     |

|                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |     |                                                |  |                                                              |  |                                                           |  |                                                      |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-----|------------------------------------------------|--|--------------------------------------------------------------|--|-----------------------------------------------------------|--|------------------------------------------------------|--|
| <b>Part II</b>                                                                                                                                                                                                                                                                                                                                                            | <b>Basic Plan Information—enter all requested information</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |     |                                                |  |                                                              |  |                                                           |  |                                                      |  |
| <b>1a</b> Name of plan<br>ALERIS CASH BALANCE PLAN                                                                                                                                                                                                                                                                                                                        | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;"><b>1b</b> Three-digit plan number (PN) ▶</td> <td style="width: 20%; text-align: center;">008</td> </tr> <tr> <td colspan="2"><b>1c</b> Effective date of plan<br/>01/01/1962</td> </tr> <tr> <td colspan="2"><b>2b</b> Employer Identification Number (EIN)<br/>27-1539745</td> </tr> <tr> <td colspan="2"><b>2c</b> Plan Sponsor's telephone number<br/>216-910-3400</td> </tr> <tr> <td colspan="2"><b>2d</b> Business code (see instructions)<br/>331400</td> </tr> </table> | <b>1b</b> Three-digit plan number (PN) ▶ | 008 | <b>1c</b> Effective date of plan<br>01/01/1962 |  | <b>2b</b> Employer Identification Number (EIN)<br>27-1539745 |  | <b>2c</b> Plan Sponsor's telephone number<br>216-910-3400 |  | <b>2d</b> Business code (see instructions)<br>331400 |  |
| <b>1b</b> Three-digit plan number (PN) ▶                                                                                                                                                                                                                                                                                                                                  | 008                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                          |     |                                                |  |                                                              |  |                                                           |  |                                                      |  |
| <b>1c</b> Effective date of plan<br>01/01/1962                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |     |                                                |  |                                                              |  |                                                           |  |                                                      |  |
| <b>2b</b> Employer Identification Number (EIN)<br>27-1539745                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |     |                                                |  |                                                              |  |                                                           |  |                                                      |  |
| <b>2c</b> Plan Sponsor's telephone number<br>216-910-3400                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |     |                                                |  |                                                              |  |                                                           |  |                                                      |  |
| <b>2d</b> Business code (see instructions)<br>331400                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |     |                                                |  |                                                              |  |                                                           |  |                                                      |  |
| <b>2a</b> Plan sponsor's name (employer, if for a single-employer plan)<br>Mailing address (include room, apt., suite no. and street, or P.O. Box)<br>City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions)<br><br>ALERIS ROLLED PRODUCTS, INC.<br><br><br>25825 SCIENCE PARK DR STE 400<br><br>BEACHWOOD OH 44122-7392 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |     |                                                |  |                                                              |  |                                                           |  |                                                      |  |

**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.

|                  |                                    |                 |                                                              |
|------------------|------------------------------------|-----------------|--------------------------------------------------------------|
| <b>SIGN HERE</b> |                                    | <u>10.11.19</u> | ELLEN V. MATISKO                                             |
|                  | Signature of plan administrator    | Date            | Enter name of individual signing as plan administrator       |
| <b>SIGN HERE</b> |                                    |                 | Enter name of individual signing as employer or plan sponsor |
|                  | Signature of employer/plan sponsor | Date            | Enter name of individual signing as employer or plan sponsor |
| <b>SIGN HERE</b> |                                    |                 | Enter name of individual signing as DFE                      |
|                  | Signature of DFE                   | Date            | Enter name of individual signing as DFE                      |

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

Form 5500 (2018)  
v. 171027

|                                                                                                                                                                                                                                                                                        |                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| <b>3a</b> Plan administrator's name and address <input checked="" type="checkbox"/> Same as Plan Sponsor                                                                                                                                                                               | <b>3b</b> Administrator's EIN<br><br><b>3c</b> Administrator's telephone number |
| <b>4</b> 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:<br><b>a</b> Sponsor's name<br><b>c</b> Plan Name | <b>4b</b> EIN<br><br><b>4d</b> PN                                               |
| <b>5</b> Total number of participants at the beginning of the plan year                                                                                                                                                                                                                | <b>5</b> 667                                                                    |
| <b>6</b> 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).                                                                                                                               |                                                                                 |
| <b>a(1)</b> Total number of active participants at the beginning of the plan year .....                                                                                                                                                                                                | <b>6a(1)</b> 101                                                                |
| <b>a(2)</b> Total number of active participants at the end of the plan year .....                                                                                                                                                                                                      | <b>6a(2)</b> 95                                                                 |
| <b>b</b> Retired or separated participants receiving benefits.....                                                                                                                                                                                                                     | <b>6b</b> 300                                                                   |
| <b>c</b> Other retired or separated participants entitled to future benefits.....                                                                                                                                                                                                      | <b>6c</b> 187                                                                   |
| <b>d</b> Subtotal. Add lines 6a(2), 6b, and 6c.....                                                                                                                                                                                                                                    | <b>6d</b> 582                                                                   |
| <b>e</b> Deceased participants whose beneficiaries are receiving or are entitled to receive benefits. ....                                                                                                                                                                             | <b>6e</b> 70                                                                    |
| <b>f</b> Total. Add lines 6d and 6e.....                                                                                                                                                                                                                                               | <b>6f</b> 652                                                                   |
| <b>g</b> Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item) .....                                                                                                                                        | <b>6g</b>                                                                       |
| <b>h</b> Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested .....                                                                                                                                             | <b>6h</b> 0                                                                     |
| <b>7</b> Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item) .....                                                                                                                                                   | <b>7</b>                                                                        |
| <b>8a</b> If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions:<br>1C 1I 3D 3H                                                                                                            |                                                                                 |
| <b>b</b> If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:                                                                                                                            |                                                                                 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>9a</b> Plan funding arrangement (check all that apply)<br>(1) <input type="checkbox"/> Insurance<br>(2) <input type="checkbox"/> Code section 412(e)(3) insurance contracts<br>(3) <input checked="" type="checkbox"/> Trust<br>(4) <input type="checkbox"/> General assets of the sponsor                                                                                                                                         | <b>9b</b> Plan benefit arrangement (check all that apply)<br>(1) <input type="checkbox"/> Insurance<br>(2) <input type="checkbox"/> Code section 412(e)(3) insurance contracts<br>(3) <input checked="" type="checkbox"/> Trust<br>(4) <input type="checkbox"/> General assets of the sponsor                                                                                                                                                                                                                |
| <b>10</b> Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>a Pension Schedules</b><br>(1) <input checked="" type="checkbox"/> <b>R</b> (Retirement Plan Information)<br><br>(2) <input type="checkbox"/> <b>MB</b> (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary<br><br>(3) <input checked="" type="checkbox"/> <b>SB</b> (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary | <b>b General Schedules</b><br>(1) <input checked="" type="checkbox"/> <b>H</b> (Financial Information)<br>(2) <input type="checkbox"/> <b>I</b> (Financial Information – Small Plan)<br>(3) <input type="checkbox"/> <b>A</b> (Insurance Information)<br>(4) <input checked="" type="checkbox"/> <b>C</b> (Service Provider Information)<br>(5) <input checked="" type="checkbox"/> <b>D</b> (DFE/Participating Plan Information)<br>(6) <input type="checkbox"/> <b>G</b> (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 \_\_\_\_\_

|                         |                                 |
|-------------------------|---------------------------------|
| <b>Plan Name</b>        | <b>Aleris Cash Balance Plan</b> |
| <b>Plan Sponsor EIN</b> | <b>27-1539745</b>               |
| <b>ERISA Plan No.</b>   | <b>008</b>                      |
| <b>Plan Year End</b>    | <b>12/31/2018</b>               |

The required attachment noted below is included within the Accountant's Opinion attachment to the Form 5500 Schedule H, Part III, which consists of the entire Audit report issued by the Plan's Independent Qualified Public Accountant (IQPA).

| <b>Form/Schedule</b> | <b>Line Item</b> | <b>Description</b>                  |
|----------------------|------------------|-------------------------------------|
| 5500 Schedule H      | Line 4j          | Schedule of Reportable Transactions |

|                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                    |                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>SCHEDULE SB</b><br><b>(Form 5500)</b><br><br><small>Department of the Treasury<br/>Internal Revenue Service</small><br><hr/> <small>Department of Labor<br/>Employee Benefits Security Administration<br/>Pension Benefit Guaranty Corporation</small> | <b>Single-Employer Defined Benefit Plan</b><br><b>Actuarial Information</b><br><br>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).<br><br><b>► File as an attachment to Form 5500 or 5500-SF.</b> | <small>OMB No. 1210-0110</small><br><br><b>2018</b><br><br><b>This Form is Open to Public Inspection</b> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|

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.

|                                                                                                          |                                                                                                                                                                                                               |                                         |     |
|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|-----|
| <b>A</b> Name of plan<br>ALERIS CASH BALANCE PLAN                                                        | <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;"><b>B</b> Three-digit plan number (PN) ►</td> <td style="width:40%; text-align: center;">008</td> </tr> </table> | <b>B</b> Three-digit plan number (PN) ► | 008 |
| <b>B</b> Three-digit plan number (PN) ►                                                                  | 008                                                                                                                                                                                                           |                                         |     |
| <b>C</b> Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF<br>ALERIS ROLLED PRODUCTS, INC. | <b>D</b> Employer Identification Number (EIN)<br>27-1539745                                                                                                                                                   |                                         |     |

**E** Type of plan: ☒ Single ☐ Multiple-A ☐ Multiple-B **F** Prior year plan size: ☐ 100 or fewer ☐ 101-500 ☒ More than 500

|               |                                                                                                                                                                                                          |                            |                           |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------|
| <b>Part I</b> | <b>Basic Information</b>                                                                                                                                                                                 |                            |                           |
| <b>1</b>      | Enter the valuation date: Month <u>01</u> Day <u>01</u> Year <u>2018</u>                                                                                                                                 |                            |                           |
| <b>2</b>      | Assets:                                                                                                                                                                                                  |                            |                           |
|               | a Market value.....                                                                                                                                                                                      | <b>2a</b>                  | 30,543,142                |
|               | b Actuarial value .....                                                                                                                                                                                  | <b>2b</b>                  | 29,042,410                |
| <b>3</b>      | Funding target/participant count breakdown                                                                                                                                                               | (1) Number of participants | (2) Vested Funding Target |
|               | a For retired participants and beneficiaries receiving payment .....                                                                                                                                     | 361                        | 21,211,573                |
|               | b For terminated vested participants .....                                                                                                                                                               | 210                        | 3,983,943                 |
|               | c For active participants .....                                                                                                                                                                          | 101                        | 4,930,976                 |
|               | d Total .....                                                                                                                                                                                            | 672                        | 30,126,492                |
| <b>4</b>      | 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 .....                                                                                                                                       | <b>4a</b>                  |                           |
|               | 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 ..... | <b>4b</b>                  |                           |
| <b>5</b>      | Effective interest rate.....                                                                                                                                                                             | <b>5</b>                   | 5.41%                     |
| <b>6</b>      | Target normal cost .....                                                                                                                                                                                 | <b>6</b>                   | 380,042                   |

**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.

|                  |                                                                                                                                                                                                                                                     |                                                                                                                                                    |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SIGN HERE</b> | NICHOLAS FRIES NGCF<br>_____<br>Signature of actuary<br><br>NICHOLAS FRIES<br>_____<br>Type or print name of actuary<br><br>MERCER<br>_____<br>Firm name<br><br>200 PUBLIC SQUARE, SUITE 3760<br>CLEVELAND OH 44114<br>_____<br>Address of the firm | 9/24/2019<br>_____<br>Date<br>1707926<br>_____<br>Most recent enrollment number<br>216-830-8031<br>_____<br>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 ☐

**Part II Beginning of Year Carryover and Prefunding Balances**

|                                                                                                                                                                     | (a) Carryover balance | (b) Prefunding balance |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------|
| <b>7</b> Balance at beginning of prior year after applicable adjustments (line 13 from prior year).....                                                             | 0                     | 0                      |
| <b>8</b> Portion elected for use to offset prior year's funding requirement (line 35 from prior year) .....                                                         | 0                     | 0                      |
| <b>9</b> Amount remaining (line 7 minus line 8).....                                                                                                                | 0                     | 0                      |
| <b>10</b> Interest on line 9 using prior year's actual return of <u>14.27%</u> .....                                                                                | 0                     | 0                      |
| <b>11</b> Prior year's excess contributions to be added to prefunding balance:                                                                                      |                       |                        |
| <b>a</b> Present value of excess contributions (line 38a from prior year) .....                                                                                     |                       | 273                    |
| <b>b(1)</b> 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>5.62%</u> ..... |                       | 15                     |
| <b>b(2)</b> Interest on line 38b from prior year Schedule SB, using prior year's actual return.....                                                                 |                       |                        |
| <b>c</b> Total available at beginning of current plan year to add to prefunding balance .....                                                                       |                       | 288                    |
| <b>d</b> Portion of (c) to be added to prefunding balance.....                                                                                                      |                       | 0                      |
| <b>12</b> Other reductions in balances due to elections or deemed elections .....                                                                                   | 0                     | 0                      |
| <b>13</b> Balance at beginning of current year (line 9 + line 10 + line 11d – line 12).....                                                                         | 0                     | 0                      |

**Part III Funding Percentages**

|                                                                                                                                                                            |           |        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------|
| <b>14</b> Funding target attainment percentage .....                                                                                                                       | <b>14</b> | 96.40% |
| <b>15</b> Adjusted funding target attainment percentage.....                                                                                                               | <b>15</b> | 96.40% |
| <b>16</b> Prior year's funding percentage for purposes of determining whether carryover/prefunding balances may be used to reduce current year's funding requirement ..... | <b>16</b> | 97.46% |
| <b>17</b> If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage. ....                                        | <b>17</b> | %      |

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

| (a) Date<br>(MM-DD-YYYY) | (b) Amount paid by<br>employer(s) | (c) Amount paid by<br>employees | (a) Date<br>(MM-DD-YYYY) | (b) Amount paid by<br>employer(s) | (c) Amount paid by<br>employees |
|--------------------------|-----------------------------------|---------------------------------|--------------------------|-----------------------------------|---------------------------------|
| 04/11/2018               | 219,000                           | 0                               |                          |                                   |                                 |
| 07/11/2018               | 219,000                           | 0                               |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
|                          |                                   |                                 |                          |                                   |                                 |
| <b>Totals ▶</b>          |                                   |                                 | <b>18(b)</b>             | 438,000                           | <b>18(c)</b>                    |
|                          |                                   |                                 |                          |                                   | 0                               |

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

|                                                                                                                        |            |         |
|------------------------------------------------------------------------------------------------------------------------|------------|---------|
| <b>a</b> Contributions allocated toward unpaid minimum required contributions from prior years.....                    | <b>19a</b> | 0       |
| <b>b</b> Contributions made to avoid restrictions adjusted to valuation date .....                                     | <b>19b</b> | 0       |
| <b>c</b> Contributions allocated toward minimum required contribution for current year adjusted to valuation date..... | <b>19c</b> | 428,906 |

**20** Quarterly contributions and liquidity shortfalls:

|                                                                                                                         |                                                                     |  |
|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|--|
| <b>a</b> Did the plan have a "funding shortfall" for the prior year?.....                                               | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| <b>b</b> If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? ..... | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| <b>c</b> If line 20a is "Yes," see instructions and complete the following table as applicable:                         |                                                                     |  |

Liquidity shortfall as of end of quarter of this plan year

| (1) 1st | (2) 2nd | (3) 3rd | (4) 4th |
|---------|---------|---------|---------|
| 0       | 0       | 0       | 0       |

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

|                                                 |                        |                        |                                                                                                                                              |
|-------------------------------------------------|------------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>21</b> Discount rate:                        |                        |                        |                                                                                                                                              |
| <b>a</b> Segment rates:                         | 1st segment:<br>3.92 % | 2nd segment:<br>5.52 % | 3rd segment:<br>6.29 %                                                                                                                       |
|                                                 |                        |                        | <input type="checkbox"/> N/A, full yield curve used                                                                                          |
| <b>b</b> Applicable month (enter code).....     |                        |                        | <b>21b</b> 0                                                                                                                                 |
| <b>22</b> Weighted average retirement age ..... |                        |                        | <b>22</b> 61                                                                                                                                 |
| <b>23</b> Mortality table(s) (see instructions) |                        | Prior regulation:      | <input type="checkbox"/> Prescribed - combined <input checked="" type="checkbox"/> Prescribed - separate <input type="checkbox"/> Substitute |
|                                                 |                        | Current regulation:    | <input type="checkbox"/> Prescribed - combined <input type="checkbox"/> Prescribed - separate <input type="checkbox"/> Substitute            |

**Part VI Miscellaneous Items**

|                                                                                                                                                                        |                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <b>24</b> Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment. .... | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| <b>25</b> Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment. ....                                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| <b>26</b> Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment. ....                            | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| <b>27</b> If the plan is subject to alternative funding rules, enter applicable code and see instructions regarding attachment .....                                   | <b>27</b>                                                           |

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

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

**Part VIII Minimum Required Contribution For Current Year**

|                                                                                                                                                                                      |                   |                     |               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------|---------------|
| <b>31</b> Target normal cost and excess assets (see instructions):                                                                                                                   |                   |                     |               |
| <b>a</b> Target normal cost (line 6) .....                                                                                                                                           |                   | <b>31a</b>          | 380,042       |
| <b>b</b> Excess assets, if applicable, but not greater than line 31a .....                                                                                                           |                   | <b>31b</b>          | 0             |
| <b>32</b> Amortization installments:                                                                                                                                                 |                   | Outstanding Balance | Installment   |
| <b>a</b> Net shortfall amortization installment .....                                                                                                                                |                   | 1,084,082           | 0             |
| <b>b</b> Waiver amortization installment .....                                                                                                                                       |                   | 0                   | 0             |
| <b>33</b> 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 ..... |                   | <b>33</b>           |               |
| <b>34</b> Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33)....                                                           |                   | <b>34</b>           | 380,042       |
|                                                                                                                                                                                      | Carryover balance | Prefunding balance  | Total balance |
| <b>35</b> Balances elected for use to offset funding requirement .....                                                                                                               | 0                 | 0                   | 0             |
| <b>36</b> Additional cash requirement (line 34 minus line 35) .....                                                                                                                  |                   | <b>36</b>           | 380,042       |
| <b>37</b> Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c) .....                                                  |                   | <b>37</b>           | 428,906       |
| <b>38</b> Present value of excess contributions for current year (see instructions)                                                                                                  |                   |                     |               |
| <b>a</b> Total (excess, if any, of line 37 over line 36) .....                                                                                                                       |                   | <b>38a</b>          | 48,864        |
| <b>b</b> Portion included in line 38a attributable to use of prefunding and funding standard carryover balances .....                                                                |                   | <b>38b</b>          | 0             |
| <b>39</b> Unpaid minimum required contribution for current year (excess, if any, of line 36 over line 37) .....                                                                      |                   | <b>39</b>           | 0             |
| <b>40</b> Unpaid minimum required contributions for all years .....                                                                                                                  |                   | <b>40</b>           | 0             |

**Part IX Pension Funding Relief Under Pension Relief Act of 2010 (See Instructions)**

|                                                                                  |                                                                                                                         |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>41</b> If an election was made to use PRA 2010 funding relief for this plan:  |                                                                                                                         |
| <b>a</b> Schedule elected .....                                                  | <input type="checkbox"/> 2 plus 7 years <input type="checkbox"/> 15 years                                               |
| <b>b</b> Eligible plan year(s) for which the election in line 41a was made ..... | <input type="checkbox"/> 2008 <input type="checkbox"/> 2009 <input type="checkbox"/> 2010 <input type="checkbox"/> 2011 |

*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 61.

| (A)<br>Retirement age | (B)<br>Retirement Percent | (C)<br>Lx | (D)<br>Number of employees expected to retire<br>(B) x (C) | (E)<br>(A) x (D) |
|-----------------------|---------------------------|-----------|------------------------------------------------------------|------------------|
| 55                    | 10.0%                     | 100,000   | 10,000                                                     | 550,000          |
| 56                    | 5.0%                      | 90,000    | 4,500                                                      | 252,000          |
| 57                    | 5.0%                      | 85,500    | 4,275                                                      | 243,675          |
| 58                    | 5.0%                      | 81,225    | 4,061                                                      | 235,538          |
| 59                    | 5.0%                      | 77,164    | 3,858                                                      | 227,622          |
| 60                    | 15.0%                     | 73,306    | 10,996                                                     | 659,760          |
| 61                    | 10.0%                     | 62,310    | 6,231                                                      | 380,091          |
| 62                    | 25.0%                     | 56,079    | 14,020                                                     | 869,240          |
| 63                    | 10.0%                     | 42,059    | 4,206                                                      | 264,978          |
| 64                    | 10.0%                     | 37,853    | 3,785                                                      | 242,240          |
| 65                    | 100.0%                    | 34,068    | 34,068                                                     | 2,214,420        |
| Total                 |                           |           | 100,000                                                    | 6,139,564        |
| Average               |                           |           |                                                            | 61.40            |

Note: Column (D) is the product of columns (B) and (C). Column (E) is the product of column (A) and (D). The average retirement age is the total from column (E) divided by the total column (D).

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

## ACTUARIAL ASSUMPTIONS

## DISCOUNT RATE SPONSOR ELECTIONS

|                                     |                   |                      |  |
|-------------------------------------|-------------------|----------------------|--|
| • Segment rates or full yield curve | Segment           |                      |  |
| • Look-back months                  | 0                 |                      |  |
|                                     | <u>Stabilized</u> | <u>Nonstabilized</u> |  |
| • First 5 years                     | 3.92%             | 1.81%                |  |
| • Next 15 years                     | 5.52%             | 3.68%                |  |
| • Over 20 years                     | 6.29%             | 4.53%                |  |

## Mortality sponsor elections

- |                        |                                                                                                                                                                                                                                                                                                                              |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • Healthy participants | Section 430(h)(3) prescribed separate static annuitant and non-annuitant mortality tables in accordance with the regulations in effect prior to the 2018 plan year. These tables are based on the RP-2000 mortality tables projected with mortality improvement to the valuation year plus 7 and 15 years based on Scale AA. |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Cash balance plans

- |                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • Interest accumulation rate | 3.50%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| • Lump Sums                  | The plan provides the greater of the current cash balance account and the minimum lump sum equivalent of the accrued benefit under 417(e) assumptions. For participants commencing under age 57, the cash balance account is expected to be larger and for participants commencing on or after age 57, the minimum 417(e) lump sum is expected to be larger. For participants commencing on or after age 57, the cash balance account is loaded with a factor to estimate the minimum 417(e) lump sum. This factor is not interest-sensitive as the plan-defined cash balance conversion to an annuity also uses 417(e) interest rates. The factor only reflects the difference between the plan-defined cash balance conversion mortality table (unisex 1983 GAM table) and the prescribed 417(e) mortality table. These factors are updated annually to reflect the 417(e) mortality table in effect during the valuation year. |

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

| Other economic assumptions                                                   |                                                                                                             |
|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Expected investment return</li> </ul> | 7.75% per year for year 2016 and 2017<br>6.80% per year for year 2018<br>(Limited to the 3rd segment rate). |
| <ul style="list-style-type: none"> <li>Expenses</li> </ul>                   | \$380,042 added to current year normal cost.                                                                |

## RATIONALE FOR ECONOMIC ASSUMPTIONS

- **Interest Rate (Funding Valuation)** – Interest rates prescribed by IRS.
- **Cash balance interest accumulation rate** – The cash balance plan interest crediting rate assumption is based on the historical spread between high quality corporate bonds and the plan defined interest crediting rate. The interest crediting rate assumption is determined by applying the historical spread to the discount rate used for disclosure as this rate is based on high quality corporate bond yields. The resulting Aleris Cash Balance Plan assumed interest crediting rate will not be lower than 3.50%, the approximate minimum interest crediting rate defined in the plan.
- **Expected investment return** – The interest rate was selected by plan sponsor based on their expected long-term rate of return on assets.
- **Expenses** are based on year-by-year experience for actual administrative expenses paid from plan assets.

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

## DEMOGRAPHIC ASSUMPTIONS

## • Withdrawal

## Percentage

## Attained Age

## All

|    |       |
|----|-------|
| 20 | 6.39% |
| 25 | 4.76% |
| 30 | 3.31% |
| 35 | 2.80% |
| 40 | 2.57% |
| 45 | 2.33% |
| 50 | 2.10% |
| 55 | 1.87% |

## • Retirement Age

## Percentage

## Attained Age

## All

|              |      |
|--------------|------|
| Under 55     | 0%   |
| 55           | 10%  |
| 56           | 5%   |
| 57           | 5%   |
| 58           | 5%   |
| 59           | 5%   |
| 60           | 15%  |
| 61           | 10%  |
| 62           | 25%  |
| 63           | 10%  |
| 64           | 10%  |
| 65 and above | 100% |

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

|                                                   |                                 |                                   |
|---------------------------------------------------|---------------------------------|-----------------------------------|
| • Benefit commencement age for                    |                                 |                                   |
| – Future vested deferred                          | Immediately                     |                                   |
| – Current vested deferred                         | 65                              |                                   |
| • Spouse assumptions                              | <b><u>Male participants</u></b> | <b><u>Female participants</u></b> |
| – Percentage married                              | 85%                             | 85%                               |
| – Spouse age difference                           | 3 years younger                 | 3 years older                     |
| <b>Form of payment</b>                            | <b><u>Lump sum</u></b>          | <b><u>Single life</u></b>         |
| • Active retirements                              | 100%                            | 0%                                |
| • Future vested deferred                          | 100%                            | 0%                                |
| • Future deaths                                   | 100%                            | 0%                                |
| • Current vested deferred (account balance)       | 100%                            | 0%                                |
| • Current vested deferred (annuity)               | 0%                              | 100%                              |
| <b>Unpredictable contingent event assumptions</b> | Not applicable                  |                                   |

## RATIONALE FOR DEMOGRAPHIC ASSUMPTIONS

- **Mortality** - Mortality table prescribed by the IRS. IRS released the new prescribed funding mortality tables to determine minimum contributions for 2018 plan year and onwards. The regulation permits the use of old methodology funding tables (except lump sum tables) until the 2019 plan year. This election does not require IRS approval. The Plan Sponsor chose to use the PPA tables based on old methodology for the 2018 plan year.
- **Withdrawal** – The termination table is based on the Society of Actuaries 2003 ultimate turnover table with adjustments. Annual review of the experience has shown that this table produced a reasonable approximation of the rates of termination experienced by the plan.
- **Retirement age** – Retirement rates have been developed based on the actuary's experience with similar plans and the age social insurance programs are first available. Annual review of the plan experience has shown that these rates provide similar results to the actual rates of retirement experienced under the plan.
- **Form of payment** – 100% of participants are assumed to elect a lump sum of their cash balance account, based on experience that shows relatively fewer participants elect the actuarially equivalent annuity options.

*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:** The plan sponsor provides us with data on all employees as of the valuation date, but 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.

**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 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

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

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.

- 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, 1962<br>Restated plan: June 1, 2010<br>Plan year: January 1 – December 31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Status of the plan                               | The plan was frozen effective January 1, 2007                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Significant events that occurred during the year | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>DEFINITIONS</b>                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| • Eligibility                                    | All salaried employees are eligible to participate at hire date. Barmet, Alflex, and Concast employees are not eligible to participate until the later of their hire date or January 1, 1998. Employees who are hired on or after December 9, 2004 are not eligible to participate in the plan.                                                                                                                                                                                                                                                                                                                                                                                        |
| • Employee contributions                         | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| • Vesting service                                | For periods prior to January 1, 1994, one year of Vesting Service is granted for each vesting computation period (any 12-month period beginning on a participant's date of hire or anniversary thereof) during which the participant has at least 1,000 Hours of Service. A partial year of Vesting Service is granted between 173.33 and 999 hours worked.<br><br>For periods after December 31, 1993, Vesting Service will be granted in full years only, contingent upon at least 1,000 Hours of Service in any such year.<br><br>For periods after January 1, 2007, all participants who have an Hour of Service will be fully vested after completing 3 years of vesting service. |

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

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Credited service</li> </ul>                     | <p>For periods prior to January 1, 1994, one year of Credited Service is granted for each 12-month period beginning on a Participant's date of hire or any anniversary thereof during which the Participant works 2,080 hours. A partial Year of Credited Service is granted if the Participant has less than 2,080 Hours of Service rounded up to the nearest 1/12 of 2,080.</p> <p>For periods after December 31, 1993, Credited Service will be granted in full years only, contingent upon at least 1,000 Hours of Service in any such years.</p> <p>Effective January 1, 2007, no further Credited Service shall be earned.</p> |
| <ul style="list-style-type: none"> <li>Compensation considered</li> </ul>              | <p>Annual earnings paid to an employee including overtime, shift differential, commissions, qualified plan salary deferrals, severance pay and all bonuses. However, Pensionable Earnings shall exclude items of imputed income, expense allowance and reimbursement for compensation in lieu of vacation time, taxable fringe benefits distributions from deferred compensation plans, deferrals to nonqualified deferred compensation plans, short-term and long-term disability pay and other welfare benefit plans. All compensation is limited to the amount specified in code section 401(a)(17).</p>                          |
| <ul style="list-style-type: none"> <li>Final Earnings</li> </ul>                       | <p>The average of Pensionable Earnings over the 5 complete consecutive calendar years preceding termination of employment that produce the highest average. If the Participant did not work 5 complete calendar years, all complete calendar years shall be averaged.</p> <p>Final earnings are frozen at January 1, 2007.</p>                                                                                                                                                                                                                                                                                                       |
| <ul style="list-style-type: none"> <li>Social Security Covered Compensation</li> </ul> | <p>Covered Compensation developed without rounding as published each year by the IRS. This table is subject to annual changes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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

- Accrued benefit

For periods prior to January 1, 1998 and after December 31, 1992:

1.15% of a participant's Final Average Pensionable Earnings multiplied by Credited Service.

Plus 0.45% of his Final Average Pensionable Earnings in excess of his Covered Compensation, multiplied by Credited Service not exceeding 35 years.

For periods after December 31, 1997:

The accrued benefit as of January 1, 1998 converted to a cash account balance using an interest rate of 5.81%. Future interest that is accrued uses a guaranteed rate of return which is the lesser of: (a) 3-Year Treasury rate of prior November; (b) 30-Year Treasury rate of prior November. This rate applies for the following calendar year.

Benefit credits accrued are based on age:

| <u>Age</u> | <u>Percent of salary</u> |
|------------|--------------------------|
| 0 – 39     | 3.50%                    |
| 40 – 46    | 4.50%                    |
| 47 – 49    | 4.90%                    |
| 50 – 54    | 6.00%                    |
| 55+        | 8.00%                    |

Benefit Credits are frozen as of January 1, 2007.

Interest is earned on the balance at the beginning of the year. No interest is earned on the benefit credit of the current year.

The Normal Retirement Benefit is the cash account balance converted to life annuity using the blended (50% Male / 50% Female) 1983 GAM table and the lesser of 6% and the applicable interest rate.

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

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | <p><u>Grandfathered Participants:</u></p> <p>Participants who have attained age 55 and have 15 years of Vesting Service as of December 31, 1997 will receive the better of the old plan with continued service credits and the cash balance plan. In no event will the benefit be less than the accrued benefit as of December 31, 1993 as calculated under the plan formula and salary limits in effect on that date.</p> <p>The plan provides the greater of the current cash balance account and the minimum lump sum equivalent of the accrued benefit under 417(e) assumptions. For participants commencing under age 57, the cash balance account is expected to be larger and for participants commencing after on or after age 57, the minimum 417(e) lump sum is expected to be larger. All lump sums are determined as equal to the cash balance account. For participants commencing on or after age 57, the cash balance account is loaded with a factor to estimate the minimum 417(e) lump sum. This factor is not interest-sensitive as the plan-defined cash balance conversion to an annuity also uses 417(e) interest rates. The factor only reflects the difference between the plan-defined cash balance conversion mortality table (unisex 1983 GAM table) and the prescribed 417(e) mortality table. These factors are updated annually to reflect the 417(e) mortality table in effect during the valuation year.</p> |
| <b>NORMAL RETIREMENT</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| • Eligibility            | The first day of the month coincident with or next following attainment of age 65. At the option of the Participant, the January 1 following attainment of age 65.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| • Benefit                | Equal to the participant's Accrued Benefit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EARLY RETIREMENT</b>     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| • Eligibility               | The first day of any month following attainment of age 55 and completion of 5 years of Credited Service.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| • Benefit                   | <p>Accrued Benefit at Early Retirement Date reduced by 5% for each year that commencement precedes attainment of age 62.</p> <p>A terminated vested participant may elect to receive a reduced benefit payable at any time following attainment of age 55. The benefit is reduced by 5% for each year that commencement precedes Normal Retirement Date.</p> <p>For vested Participants who terminated prior to 1994, the 5% figure above is reduced by 1/10% for each year of Credited Service in excess of 5, but such figure will not be reduced below 2 1/2%.</p> |
| <b>LATE RETIREMENT</b>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| • Eligibility               | The first day of the month coincident with or immediately following the participant's attainment of Normal Retirement Eligibility.                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| • Benefit                   | Accrued Benefit at Late Retirement Date.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>DEFERRED VESTED</b>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| • Eligibility               | <p><u>Prior to January 1, 2007</u></p> <p>100% vested at the earlier of five years of vesting service or age 65.</p> <p><u>After January 1, 2007</u></p> <p>100% vested at the earlier of three years of vesting service or age 65.</p>                                                                                                                                                                                                                                                                                                                               |
| • Benefit                   | Accrued Benefit based upon Credited Service, Final Average Pensionable Earnings and Covered Compensation as of date of termination.                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>PRE-RETIREMENT DEATH</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| • Eligibility               | Eligible for Early Retirement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| • Benefit                   | <p>Greater of:</p> <ol style="list-style-type: none"> <li>1. The Accrued Benefit the participant would have received had he terminated employment on his date of death, survived to his earliest commencement date, and elected a 75% Joint and Survivor annuity.</li> <li>2. The account balance.</li> </ol>                                                                                                                                                                                                                                                         |

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

| FORM OF BENEFITS                                                                            |                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Automatic form for unmarried participants</li> </ul> | Life Annuity                                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>Automatic form for married participants</li> </ul>   | 50% Joint and Survivor Annuity                                                                                                                                                                                                                                                                                                                                       |
| <ul style="list-style-type: none"> <li>Optional forms</li> </ul>                            | <ul style="list-style-type: none"> <li>Life Annuity</li> <li>50%, 66 2/3%, 75% or 100% Joint and Survivor Annuity</li> <li>Life Annuity with 5 or 10 years certain</li> <li>Social Security Level Income Annuity</li> <li>Lump Sum</li> </ul>                                                                                                                        |
| <ul style="list-style-type: none"> <li>Optional form conversion factors</li> </ul>          | <p>For purposes of converting a Cash Balance Account to the Normal form:</p> <ul style="list-style-type: none"> <li>GAM83 (50/50) and the lesser of 6% and 417(e) rates as of the November preceding the beginning of the plan year.</li> </ul> <p>For optional form conversion factors:</p> <ul style="list-style-type: none"> <li>GAM71 (male) and 5.5%</li> </ul> |
| MISCELLANEOUS                                                                               |                                                                                                                                                                                                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>Maximum benefits</li> </ul>                          | 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"> <li>Administration</li> </ul>                            | Administered by the Benefit Committee.                                                                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>Funding Medium</li> </ul>                            | Trust                                                                                                                                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>Benefits not included in valuation</li> </ul>        | None                                                                                                                                                                                                                                                                                                                                                                 |

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

Unless noted below, all benefits provided by the plan, as restated, are included in this valuation.

**Plan amendments excluded:** Amendments adopted after the valuation date or effective after the current plan year are excluded from the valuation.

- **Late retirement increases:**

- *Active participants:* The plan provides benefit suspension notices to participants who work beyond normal retirement; therefore, late retirement actuarial increases only apply to participants who defer retirement beyond age 70½.
- *Deferred vested participants:* Current deferred vested participants over normal retirement age are not valued including the late retirement actuarial increase because it is deemed immaterial.

- **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% 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.

- **IRC Section 436 benefit restrictions:**

- *Unpredictable contingent event benefits:* This plan does not have any unpredictable contingent event benefits.
- *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.

**PLAN PROVISION CHANGES SINCE PRIOR VALUATION**

Maximum benefit amounts under IRS rules were updated from \$215,000 in 2017 to \$220,000 in 2018.

*Schedule SB, line 24 — Change in Actuarial Assumptions*

- The expense component of normal cost decreased from \$411,464 to \$380,042 to reflect our expectations for the current plan year.
- The expected return on asset assumption decreased from 7.75% to 6.80% to reflect the plan's updated target asset allocation.

## 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     |                           |     |     |       |       |       |       |       |       |         |       |
| 25-29        |                           |     |     |       |       |       |       |       |       |         |       |
| 30-34        |                           |     |     |       |       |       |       |       |       |         |       |
| 35-39        |                           |     |     |       |       |       |       |       |       |         |       |
| 40-44        |                           |     | 3   | 1     |       |       |       |       |       |         | 4     |
| 45-49        |                           | 1   | 1   | 5     | 2     |       |       |       |       |         | 9     |
| 50-54        |                           | 3   | 5   |       | 15    |       |       |       |       |         | 23    |
| 55-59        |                           | 6   | 6   | 2     | 5     | 4     | 2     |       |       |         | 25    |
| 60-64        |                           | 4   | 5   | 4     | 9     | 3     | 6     | 2     |       |         | 33    |
| 65-69        |                           |     | 1   | 1     | 1     | 1     |       |       |       |         | 4     |
| 70 & up      |                           |     | 1   |       | 1     | 1     |       |       |       |         | 3     |
| Total        |                           | 14  | 22  | 13    | 33    | 9     | 8     | 2     |       |         | 101   |

In each cell, the number is the count of active participants for each age/service combination.

*Schedule SB, line 32 — Schedule of Amortization Bases*

The total shortfall amortization charge is the sum of the individual shortfall amortization installment for each plan year covered under PPA. Although an individual shortfall amortization installment can be negative, the combined shortfall amortization charge cannot be less than \$0.

| SHORTFALL BASES     |    |                        |                    |    |                     |
|---------------------|----|------------------------|--------------------|----|---------------------|
| YEAR<br>ESTABLISHED |    | OUTSTANDING<br>BALANCE | YEARS<br>REMAINING |    | 2018<br>INSTALLMENT |
| 2012                | \$ | (516,843)              | 1                  | \$ | (516,843)           |
| 2013                |    | 66,510                 | 2                  |    | 33,894              |
| 2014                |    | 195,746                | 3                  |    | 67,773              |
| 2015                |    | (297,178)              | 4                  |    | (78,633)            |
| 2016                |    | 335,831                | 5                  |    | 72,428              |
| 2017                |    | 578,227                | 6                  |    | 107,056             |
| 2018                |    | 721,789                | 7                  |    | 117,832             |
| Total               | \$ | 1,084,082              |                    | \$ | (196,493)           |

*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 61.

| (A)<br>Retirement age | (B)<br>Retirement Percent | (C)<br>Lx | (D)<br>Number of employees expected to retire<br>(B) x (C) | (E)<br>(A) x (D) |
|-----------------------|---------------------------|-----------|------------------------------------------------------------|------------------|
| 55                    | 10.0%                     | 100,000   | 10,000                                                     | 550,000          |
| 56                    | 5.0%                      | 90,000    | 4,500                                                      | 252,000          |
| 57                    | 5.0%                      | 85,500    | 4,275                                                      | 243,675          |
| 58                    | 5.0%                      | 81,225    | 4,061                                                      | 235,538          |
| 59                    | 5.0%                      | 77,164    | 3,858                                                      | 227,622          |
| 60                    | 15.0%                     | 73,306    | 10,996                                                     | 659,760          |
| 61                    | 10.0%                     | 62,310    | 6,231                                                      | 380,091          |
| 62                    | 25.0%                     | 56,079    | 14,020                                                     | 869,240          |
| 63                    | 10.0%                     | 42,059    | 4,206                                                      | 264,978          |
| 64                    | 10.0%                     | 37,853    | 3,785                                                      | 242,240          |
| 65                    | 100.0%                    | 34,068    | 34,068                                                     | 2,214,420        |
| Total                 |                           |           | 100,000                                                    | 6,139,564        |
| Average               |                           |           |                                                            | 61.40            |

Note: Column (D) is the product of columns (B) and (C). Column (E) is the product of column (A) and (D). The average retirement age is the total from column (E) divided by the total column (D).

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

|                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effective date and plan year                                             | Original plan: January 1, 1962<br>Restated plan: June 1, 2010<br>Plan year: January 1 – December 31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Status of the plan                                                       | The plan was frozen effective January 1, 2007                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Significant events that occurred during the year                         | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>DEFINITIONS</b>                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>Eligibility</li> </ul>            | All salaried employees are eligible to participate at hire date. Barmet, Alflex, and Concast employees are not eligible to participate until the later of their hire date or January 1, 1998. Employees who are hired on or after December 9, 2004 are not eligible to participate in the plan.                                                                                                                                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>Employee contributions</li> </ul> | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>Vesting service</li> </ul>        | <p>For periods prior to January 1, 1994, one year of Vesting Service is granted for each vesting computation period (any 12-month period beginning on a participant's date of hire or anniversary thereof) during which the participant has at least 1,000 Hours of Service. A partial year of Vesting Service is granted between 173.33 and 999 hours worked.</p> <p>For periods after December 31, 1993, Vesting Service will be granted in full years only, contingent upon at least 1,000 Hours of Service in any such year.</p> <p>For periods after January 1, 2007, all participants who have an Hour of Service will be fully vested after completing 3 years of vesting service.</p> |

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

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Credited service</li> </ul>                     | <p>For periods prior to January 1, 1994, one year of Credited Service is granted for each 12-month period beginning on a Participant's date of hire or any anniversary thereof during which the Participant works 2,080 hours. A partial Year of Credited Service is granted if the Participant has less than 2,080 Hours of Service rounded up to the nearest 1/12 of 2,080.</p> <p>For periods after December 31, 1993, Credited Service will be granted in full years only, contingent upon at least 1,000 Hours of Service in any such years.</p> <p>Effective January 1, 2007, no further Credited Service shall be earned.</p> |
| <ul style="list-style-type: none"> <li>Compensation considered</li> </ul>              | <p>Annual earnings paid to an employee including overtime, shift differential, commissions, qualified plan salary deferrals, severance pay and all bonuses. However, Pensionable Earnings shall exclude items of imputed income, expense allowance and reimbursement for compensation in lieu of vacation time, taxable fringe benefits distributions from deferred compensation plans, deferrals to nonqualified deferred compensation plans, short-term and long-term disability pay and other welfare benefit plans. All compensation is limited to the amount specified in code section 401(a)(17).</p>                          |
| <ul style="list-style-type: none"> <li>Final Earnings</li> </ul>                       | <p>The average of Pensionable Earnings over the 5 complete consecutive calendar years preceding termination of employment that produce the highest average. If the Participant did not work 5 complete calendar years, all complete calendar years shall be averaged.</p> <p>Final earnings are frozen at January 1, 2007.</p>                                                                                                                                                                                                                                                                                                       |
| <ul style="list-style-type: none"> <li>Social Security Covered Compensation</li> </ul> | <p>Covered Compensation developed without rounding as published each year by the IRS. This table is subject to annual changes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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

- Accrued benefit

For periods prior to January 1, 1998 and after December 31, 1992:

1.15% of a participant's Final Average Pensionable Earnings multiplied by Credited Service.

Plus 0.45% of his Final Average Pensionable Earnings in excess of his Covered Compensation, multiplied by Credited Service not exceeding 35 years.

For periods after December 31, 1997:

The accrued benefit as of January 1, 1998 converted to a cash account balance using an interest rate of 5.81%. Future interest that is accrued uses a guaranteed rate of return which is the lesser of: (a) 3-Year Treasury rate of prior November; (b) 30-Year Treasury rate of prior November. This rate applies for the following calendar year.

Benefit credits accrued are based on age:

| <u>Age</u> | <u>Percent of salary</u> |
|------------|--------------------------|
| 0 – 39     | 3.50%                    |
| 40 – 46    | 4.50%                    |
| 47 – 49    | 4.90%                    |
| 50 – 54    | 6.00%                    |
| 55+        | 8.00%                    |

Benefit Credits are frozen as of January 1, 2007.

Interest is earned on the balance at the beginning of the year. No interest is earned on the benefit credit of the current year.

The Normal Retirement Benefit is the cash account balance converted to life annuity using the blended (50% Male / 50% Female) 1983 GAM table and the lesser of 6% and the applicable interest rate.

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

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | <p><u>Grandfathered Participants:</u></p> <p>Participants who have attained age 55 and have 15 years of Vesting Service as of December 31, 1997 will receive the better of the old plan with continued service credits and the cash balance plan. In no event will the benefit be less than the accrued benefit as of December 31, 1993 as calculated under the plan formula and salary limits in effect on that date.</p> <p>The plan provides the greater of the current cash balance account and the minimum lump sum equivalent of the accrued benefit under 417(e) assumptions. For participants commencing under age 57, the cash balance account is expected to be larger and for participants commencing after on or after age 57, the minimum 417(e) lump sum is expected to be larger. All lump sums are determined as equal to the cash balance account. For participants commencing on or after age 57, the cash balance account is loaded with a factor to estimate the minimum 417(e) lump sum. This factor is not interest-sensitive as the plan-defined cash balance conversion to an annuity also uses 417(e) interest rates. The factor only reflects the difference between the plan-defined cash balance conversion mortality table (unisex 1983 GAM table) and the prescribed 417(e) mortality table. These factors are updated annually to reflect the 417(e) mortality table in effect during the valuation year.</p> |
| <b>NORMAL RETIREMENT</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| • Eligibility            | The first day of the month coincident with or next following attainment of age 65. At the option of the Participant, the January 1 following attainment of age 65.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| • Benefit                | Equal to the participant's Accrued Benefit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EARLY RETIREMENT</b>     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| • Eligibility               | The first day of any month following attainment of age 55 and completion of 5 years of Credited Service.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| • Benefit                   | <p>Accrued Benefit at Early Retirement Date reduced by 5% for each year that commencement precedes attainment of age 62.</p> <p>A terminated vested participant may elect to receive a reduced benefit payable at any time following attainment of age 55. The benefit is reduced by 5% for each year that commencement precedes Normal Retirement Date.</p> <p>For vested Participants who terminated prior to 1994, the 5% figure above is reduced by 1/10% for each year of Credited Service in excess of 5, but such figure will not be reduced below 2 1/2%.</p> |
| <b>LATE RETIREMENT</b>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| • Eligibility               | The first day of the month coincident with or immediately following the participant's attainment of Normal Retirement Eligibility.                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| • Benefit                   | Accrued Benefit at Late Retirement Date.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>DEFERRED VESTED</b>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| • Eligibility               | <p><u>Prior to January 1, 2007</u><br/>100% vested at the earlier of five years of vesting service or age 65.</p> <p><u>After January 1, 2007</u><br/>100% vested at the earlier of three years of vesting service or age 65.</p>                                                                                                                                                                                                                                                                                                                                     |
| • Benefit                   | Accrued Benefit based upon Credited Service, Final Average Pensionable Earnings and Covered Compensation as of date of termination.                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>PRE-RETIREMENT DEATH</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| • Eligibility               | Eligible for Early Retirement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| • Benefit                   | <p>Greater of:</p> <ol style="list-style-type: none"> <li>1. The Accrued Benefit the participant would have received had he terminated employment on his date of death, survived to his earliest commencement date, and elected a 75% Joint and Survivor annuity.</li> <li>2. The account balance.</li> </ol>                                                                                                                                                                                                                                                         |

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

| FORM OF BENEFITS                                                                            |                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Automatic form for unmarried participants</li> </ul> | Life Annuity                                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>Automatic form for married participants</li> </ul>   | 50% Joint and Survivor Annuity                                                                                                                                                                                                                                                                                                                                       |
| <ul style="list-style-type: none"> <li>Optional forms</li> </ul>                            | <ul style="list-style-type: none"> <li>Life Annuity</li> <li>50%, 66 2/3%, 75% or 100% Joint and Survivor Annuity</li> <li>Life Annuity with 5 or 10 years certain</li> <li>Social Security Level Income Annuity</li> <li>Lump Sum</li> </ul>                                                                                                                        |
| <ul style="list-style-type: none"> <li>Optional form conversion factors</li> </ul>          | <p>For purposes of converting a Cash Balance Account to the Normal form:</p> <ul style="list-style-type: none"> <li>GAM83 (50/50) and the lesser of 6% and 417(e) rates as of the November preceding the beginning of the plan year.</li> </ul> <p>For optional form conversion factors:</p> <ul style="list-style-type: none"> <li>GAM71 (male) and 5.5%</li> </ul> |
| MISCELLANEOUS                                                                               |                                                                                                                                                                                                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>Maximum benefits</li> </ul>                          | 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"> <li>Administration</li> </ul>                            | Administered by the Benefit Committee.                                                                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>Funding Medium</li> </ul>                            | Trust                                                                                                                                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>Benefits not included in valuation</li> </ul>        | None                                                                                                                                                                                                                                                                                                                                                                 |

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

Unless noted below, all benefits provided by the plan, as restated, are included in this valuation.

**Plan amendments excluded:** Amendments adopted after the valuation date or effective after the current plan year are excluded from the valuation.

- **Late retirement increases:**

- *Active participants:* The plan provides benefit suspension notices to participants who work beyond normal retirement; therefore, late retirement actuarial increases only apply to participants who defer retirement beyond age 70½.
- *Deferred vested participants:* Current deferred vested participants over normal retirement age are not valued including the late retirement actuarial increase because it is deemed immaterial.

- **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% 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.

- **IRC Section 436 benefit restrictions:**

- *Unpredictable contingent event benefits:* This plan does not have any unpredictable contingent event benefits.
- *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.

**PLAN PROVISION CHANGES SINCE PRIOR VALUATION**

Maximum benefit amounts under IRS rules were updated from \$215,000 in 2017 to \$220,000 in 2018.

|                         |                                 |
|-------------------------|---------------------------------|
| <b>Plan Name</b>        | <b>Aleris Cash Balance Plan</b> |
| <b>Plan Sponsor EIN</b> | <b>27-1539745</b>               |
| <b>ERISA Plan No.</b>   | <b>008</b>                      |
| <b>Plan Year End</b>    | <b>12/31/2018</b>               |

The required attachment noted below is included within the Accountant's Opinion attachment to the Form 5500 Schedule H, Part III, which consists of the entire Audit report issued by the Plan's Independent Qualified Public Accountant (IQPA).

| <b>Form/Schedule</b> | <b>Line Item</b> | <b>Description</b>                       |
|----------------------|------------------|------------------------------------------|
| 5500 Schedule H      | Line 4i          | Schedule of Assets (Held at End of Year) |

*Schedule SB, line 32 — Schedule of Amortization Bases*

The total shortfall amortization charge is the sum of the individual shortfall amortization installment for each plan year covered under PPA. Although an individual shortfall amortization installment can be negative, the combined shortfall amortization charge cannot be less than \$0.

| SHORTFALL BASES     |    |                        |                    |    |                     |
|---------------------|----|------------------------|--------------------|----|---------------------|
| YEAR<br>ESTABLISHED |    | OUTSTANDING<br>BALANCE | YEARS<br>REMAINING |    | 2018<br>INSTALLMENT |
| 2012                | \$ | (516,843)              | 1                  | \$ | (516,843)           |
| 2013                |    | 66,510                 | 2                  |    | 33,894              |
| 2014                |    | 195,746                | 3                  |    | 67,773              |
| 2015                |    | (297,178)              | 4                  |    | (78,633)            |
| 2016                |    | 335,831                | 5                  |    | 72,428              |
| 2017                |    | 578,227                | 6                  |    | 107,056             |
| 2018                |    | 721,789                | 7                  |    | 117,832             |
| Total               | \$ | 1,084,082              |                    | \$ | (196,493)           |

*Schedule SB, line 24 — Change in Actuarial Assumptions*

- The expense component of normal cost decreased from \$411,464 to \$380,042 to reflect our expectations for the current plan year.
- The expected return on asset assumption decreased from 7.75% to 6.80% to reflect the plan's updated target asset allocation.