

**Sheet Metal Workers' National Pension Fund**

*Actuarial Certification of Plan Status as of January 1, 2019 under IRC Section 432*

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*March 29, 2019*

*Board of Trustees Sheet Metal Workers' National Pension Fund 8403 Arlington Blvd., Suite 300 Fairfax,  
Virginia, 22031*

*Dear Trustees:*

*As required by ERISA Section 305 and Internal Revenue Code (IRC) Section 432, we have completed the  
Plan's actuarial status certification as of January 1, 2019 in accordance with the Multiemployer Pension*

*Reform Act of 2014 (MPRA). The attached exhibits outline the projections performed and the results of the various tests required by the statute. These projections have been prepared based on the Actuarial Valuation as of January 1, 2018 and in accordance with generally accepted actuarial principles and practices and a current understanding of the law. The actuarial calculations were completed under the supervision of Daniel V. Ciner, MAAA, Enrolled Actuary.*

*As of January 1, 2019, the Plan is in endangered status. In addition, the Plan is not projected to be in critical status for any of the succeeding five plan years.*

*This certification notifies the IRS that the Plan is making the scheduled progress in meeting the requirements of its funding improvement plan, based on a projection of the Plan's funding metrics. This certification is being filed with the Internal Revenue Service, pursuant to ERISA section 305(b)(3) and IRC section 432(b)(3).*

*Segal Consulting ("Segal") does not practice law and, therefore, cannot and does not provide legal advice. Any statutory interpretation on which the certification is based reflects Segal's understanding as an actuarial firm. Due to the complexity of the statute and the significance of its ramifications, Segal recommends that the Board of Trustees consult with legal counsel when making any decisions regarding compliance with ERISA and the Internal Revenue Code.*

*We look forward to reviewing this certification with you at your next meeting and to answering any questions you may have. We are available to assist the Trustees in communicating this information to plan stakeholders as well as in reviewing the Funding Improvement Plan as required.*

*Sincerely,*

*Segal Consulting, a Member of the Segal Group*

*By:*

*David A. Dean, MAAA, EA Daniel V. Ciner, MAAA, EA Senior Vice President Senior Vice President and Actuary*

*cc: Ms. Lori Wood Mr. Tim Myers Ms. Debbie Elkins Tearyn Loving, Esq.*

**IE Segal Consulting**

March 29, 2019

Internal Revenue Service Employee Plans Compliance Unit Group 7602 (TEGE :EP :EPCU) 230 S. Dearborn Street

Room 1700 - 17th Floor Chicago, IL 60604

To Whom It May Concern:

As required by ENSA Section 305 and the Internal Revenue Code (IRC) Section 432, we have completed the actuarial status certification as of January 1, 2019 for the following plan:

Name of Plan: Plan number: Plan sponsor: Address:

Phone number

Sheet Metal Workers' National Pension Fund EIN 52-61 12463 / PN 001 Board of Trustees, Sheet Metal Workers'

National Pension Fund 8403 Fairfax, Arlington Virginia, Blvd., 2203 Suite 1

300

703.739.7000

As of succeeding five January 1, 2019, plan the years. Plan This is in certification endangered status. also notifies

In addition, the IRS that the Plan is not projected making to be scheduled in critical progress status for in

any of

meeting the requirements of its funding improvement plan, based on a projection of the Plan's funding metrics.

If you have any questions on the attached certification, you may contact me at the following

Segal IOI Chicago, North Consulting IL Wacker 60606

Drive, Suite 500

Phone number: 312.984.8500

Sincerely,

Daniel V. Ciner, MAAA Senior Vice President and Actuary Enrolled Actuary No. 17-05773

**Actuarial Status Certification as of January 1, 2019 under IRC Section 432 for the Sheet Metal Workers' National Pension Fund**

**EIN 52-6112463 / PN 001 March 29, 2019 Illustration Supporting Actuarial Certification of Status (Schedule MB, line 4b) ACTUARIAL STATUS CERTIFICATION AS OF JANUARY 1, 2019 UNDER IRC SECTION 432**

This is to certify that Segal Consulting, a Member of The Segal Group, Inc. ("Segal") has prepared an actuarial status certification under Internal Revenue Code Section 432 for the Sheet Metal Workers' National Pension Fund as of January 1, 2019 in accordance with generally accepted actuarial principles and practices. It has been prepared at the request of the Board of Trustees to assist in administering the Fund and meeting filing and compliance requirements under federal law. This certification may not otherwise be copied or reproduced in any form without the consent of the Board of Trustees and may only be provided to other parties in its entirety.

The measurements shown in this actuarial certification may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or

demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); differences in statutory interpretation and changes in plan provisions or applicable law.

This certification is based on the January 1, 2018 actuarial valuation, dated October 12, 2018. This certification reflects the changes in the law made by the Multiemployer Pension Reform Act of 2014 (MPRA). Additional assumptions required for the projections (including those under MPRA), and sources of financial information used are summarized in Exhibit VII.

Segal Consulting does not practice law and, therefore, cannot and does not provide legal advice. Any statutory interpretation on which this certification is based reflect Segal's understanding as an actuarial firm.

This certification was based on the assumption that the Plan was qualified as a multiemployer plan for the year.

I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in this actuarial certification is complete and accurate. As required by IRC Section 432(b)(3)(B)(iii), the projected industry activity is based on information provided by the plan sponsor. In my opinion, the projections are based on reasonable actuarial estimates, assumptions and methods that (other than projected industry activity) offer my best estimate of anticipated experience under the Plan.

\_\_\_\_\_ Daniel V. Ciner, MAAA Senior Vice President and Actuary  
Enrolled Actuary No. 17-05773

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**Actuarial Status Certification as of January 1, 2019 under IRC Section 432 for the Sheet Metal Workers' National Pension Fund**

EIN 52-6112463 / PN 001 **Certificate Contents**

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**Actuarial Status Certification as of January 1, 2019 under IRC Section 432 for the Sheet Metal Workers' National Pension Fund**

EIN 52-6112463 / PN 001 **EXHIBIT I Status Determination as of January 1, 2019**

**Status Condition**

**3 Component Result**

**Final Result**

**Critical Status:**

**I. Initial critical status tests (not applicable since Plan previously met special emergence under IRC Section 432(e)(4)(B)(ii)(I)):**

C1. A funding deficiency is projected in four years (ignoring any amortization extensions)?

..... Yes N/A C2. (a) A funding deficiency is projected in five years (ignoring any amortization extensions), ..... Yes (b) AND the present value of vested benefits for non-actives is more than

present value of vested benefits for actives, ..... Yes (c) AND the normal cost plus interest on unfunded actuarial accrued liability (unit credit basis) is greater than contributions for

current year? ..... No N/A

C3. (a) A funding deficiency is projected in five years (ignoring any amortization extensions), ..... Yes

(b) AND the funded percentage is less than 65%? ..... No

N/A C4. (a) The funded percentage is less than 65%, ..... No

(b) AND the present value of assets plus contributions is less than the present value of benefit payments and administrative expenses over seven years? ..... N/A

N/A C5. The present value of assets plus contributions is less than the present value of benefit payments and administrative expenses

over five years? ..... No

**N/A II. Test special emergence rules for reentry into critical status:**

C6. Override condition: If satisfies (C6(a)) and (C6(b)), then ignore tests (C1) – (C5) and only apply test (C6(c))

(a) Had elected an amortization extension under the provisions of IRC Section 431(d)(1), ..... Yes

Yes (b) Previously emerged from critical status because:

(i) there was not projected to be an accumulated funding deficiency for the plan year or any of the nine succeeding plan years, without regard to the use of the shortfall method but taking into account any automatic extension of amortization periods up to five years under IRC Section 431(d)(1), ..... Yes (ii) AND was not projected to become insolvent for the current year or any of the 30 succeeding plan years, ..... Yes Yes (c) HOWEVER

(i) EITHER there is a projected funding deficiency for the plan year or any of the nine succeeding plan years, without regard to the use of the shortfall method but taking into account any extension of amortization periods under IRC Section 431(d), ..... No (ii) OR the Plan is projected to become insolvent for the current or any of the 30 succeeding plan years? ..... No No **In Critical Status?**

**(If any of (C1) through (C5) is Yes then Yes, unless (C6(a)) and (C6(b)) are Yes, then only if (C6(c)) is Yes) No**

**Actuarial Status Certification as of January 1, 2019 under IRC Section 432 for the Sheet Metal Workers' National Pension Fund**

EIN 52-6112463 / PN 001 **EXHIBIT I (continued) Status Determination as of January 1, 2019**

**Status Condition**

**4 Component Result**

**Final Result**

**III. Determination whether plan is projected to be in critical status in any of the succeeding five plan years:**

C7. (a) Is not in critical status, .....  
Yes

(b) AND is projected to be in critical status in any of the next five years? ..... No  
No **In Critical Status in any of the five succeeding plan years?**

..... No

**Endangered Status:**

E1. (a) Is not in critical status, .....  
Yes

(b) AND the funded percentage is less than 80%? ..... Yes  
Yes E2. (a) Is not in critical

status, ..... Yes

(b) AND a funding deficiency is projected in seven years? ..... No  
No **In Endangered Status? (Yes when either (E1) or (E2) is Yes)**

..... Yes **In Seriously Endangered Status? (Yes when BOTH (E1) and (E2) are Yes) ..... No**

**Neither Critical Status Nor Endangered Status:**

**Neither Critical nor Endangered**

**Status? ..... No**

**Actuarial Status Certification as of January 1, 2019 under IRC Section 432 for the Sheet Metal Workers' National Pension Fund**

EIN 52-6112463 / PN 001 **EXHIBIT II Summary of Actuarial Valuation Projections**

The actuarial factors as of January 1, 2019 (based on projections from the January 1, 2018 valuation certificate):

**I. Financial Information**

1. Market value of assets\* \$4,858,601,988 2. Actuarial value of assets\* 5,204,656,135 3. Reasonably anticipated contributions  
a. Upcoming year 481,377,661 b. Present value for the next five years 2,020,633,559 c. Present value for the next seven years 2,645,278,014 4. Projected benefit payments 523,946,312 5. Projected administrative expenses (beginning of year) 14,859,683 **II.**

**Liabilities**

1. Present value of vested benefits for active participants \$2,168,115,298 2. Present value of vested benefits for non-active participants 5,360,185,961 3. Total unit credit accrued liability 7,896,883,396 4. Present value of payments **Benefit Payments**  
**Administrative Expenses Total**

a. Next five years \$2,342,638,823 \$68,333,062 \$2,410,971,885 b. Next seven years 3,155,435,323 91,829,225 3,247,264,548 5. Unit credit normal cost plus expenses 130,350,181 **III. Funded Percentage (I.2)/(II.3) 65.9% IV. Funding Standard Account**

**Without amortization extension With amortization extension**

1. Credit Balance as of the end of prior year (\$389,605,350) \$433,173,304 2. Years to projected funding deficiency 0 N/A **V. Years to Projected Insolvency N/A VI. Year Projected to be in Critical Status (based on test C7. in Exhibit I), if within next five years N/A**

\*Excluding receivable withdrawal liability payments of \$14,611,449.

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**Actuarial Status Certification as of January 1, 2019 under IRC Section 432 for the Sheet Metal Workers' National Pension Fund**

EIN 52-6112463 / PN 001 **EXHIBIT III Funding Standard Account Projections**

The tables below present the Funding Standard Account Projections for the Plan Years beginning January 1.

With Amortization Extension under IRC Section 431(d)

**Year Beginning January 1,**

**2018 2019 2020 2021 2022 2023 2024 2025**

1. Credit balance at beginning of year \$249,042,887 \$433,173,304 \$469,772,188 \$534,843,899 \$549,318,466 \$579,210,682 \$605,591,719 \$629,434,346 2. Interest on (1) 18,678,217 32,487,998 35,232,914 40,113,292 41,198,885 43,440,801 45,419,379 47,207,576 3. Normal cost 77,684,128 115,490,498 75,771,934 125,185,477 122,848,273 120,541,036 118,486,489 116,369,509 4. Administrative expenses 14,426,877 14,859,683 15,305,473 15,764,637 16,237,576 16,724,703 17,226,444 17,743,237 5. Net amortization charges 322,072,447 330,411,156 345,750,989 347,485,280 336,017,399 343,189,226 348,943,881 349,836,572 6. Interest on (3), (4) and (5) 31,063,760 34,557,100 32,762,130 36,632,654 35,632,744 36,034,122 36,349,261 36,296,199 7. Expected contributions 588,625,939 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 8. Interest on (7) 22,073,473 18,051,662 18,051,662 18,051,662 18,051,662 18,051,662 18,051,662 18,051,662 9. Credit balance at end of year: (1) + (2) - (3) - (4) - (5) - (6) + (7) + (8) \$433,173,304 \$469,772,188 \$534,843,899 \$549,318,466 \$579,210,682 \$605,591,719 \$629,434,346 \$655,825,728

**2026 2027 2028 2029 2030 2031 2032 2033**

1. Credit balance at beginning of year \$655,825,728 \$661,687,178 \$712,054,801 \$778,018,096 \$839,287,395 \$934,056,101 \$1,074,063,133 \$1,248,856,419 2. Interest on (1) 49,186,930 49,626,538 53,404,110 58,351,357 62,946,555 70,054,208 80,554,735 93,664,231 3. Normal cost 114,527,537 112,731,222 111,249,715 110,132,364 109,211,663 108,365,124 107,797,687 107,396,978 4. Administrative expenses 18,275,534 18,823,800 19,388,514 19,970,169 20,569,274 21,186,352 21,821,943 22,476,601 5. Net amortization charges 372,085,118 332,341,014 322,264,225 331,768,519 305,202,479 269,961,546 247,302,018 242,834,706 6. Interest on (3), (4) and (5) 37,866,614 34,792,202 33,967,684 34,640,329 32,623,756 29,963,477 28,269,124 27,953,120 7. Expected contributions 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 8. Interest on (7) 18,051,662 18,051,662 18,051,662 18,051,662 18,051,662 18,051,662 18,051,662 18,051,662 9.

Credit balance at end of year:

(1) + (2) - (3) - (4) - (5) - (6)

+ (7) + (8) \$661,687,178 \$712,054,801 \$778,018,096 \$839,287,395 \$934,056,101 \$1,074,063,133 \$1,248,856,419 \$1,441,288,568

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**Actuarial Status Certification as of January 1, 2019 under IRC Section 432 for the Sheet Metal Workers' National Pension Fund**

EIN 52-6112463 / PN 001 **EXHIBIT III (continued) Funding Standard Account Projections**

Without Amortization Extension under IRC Section 431(d)

**Year Beginning January 1,**

**2018 2019 2020 2021 2022 2023**

1. Credit balance/(funding

deficiency) at beginning of year (\$608,531,513) (\$389,605,350) (\$294,725,437) (\$155,253,450) (\$56,217,402) \$52,045,448 2.

Interest on (1) (45,639,863) (29,220,401) (22,104,408) (11,644,009) (4,216,305) 3,903,409 3. Normal cost 77,684,128

115,490,498 75,771,934 125,185,477 122,848,273 120,541,036 4. Administrative expenses 14,426,877 14,859,683 15,305,473

15,764,637 16,237,576 16,724,703 5. Net amortization charges 229,873,539 218,793,083 223,204,387 220,677,111 220,867,796

277,209,300 6. Interest on (3), (4) and (5) 24,148,842 26,185,745 23,571,134 27,122,041 26,996,523 31,085,628 7. Expected

contributions 588,625,939 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 8. Interest on (7) 22,073,473

18,051,662 18,051,662 18,051,662 18,051,662 18,051,662 9. Credit balance/(funding

deficiency) at end of year (1) + (2) - (3) - (4) - (5) - (6) + (7) + (8) (\$389,605,350) (\$294,725,437) (\$155,253,450)

(\$56,217,402) \$52,045,448 \$109,817,513

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**Actuarial Status Certification as of January 1, 2019 under IRC Section 432 for the Sheet Metal Workers' National Pension Fund**

EIN 52-6112463 / PN 001 **EXHIBIT IV Funding Standard Account - Projected Bases Assumed**

**Established After January 1, 2018**

**Schedule of Funding Standard Account Bases**

**Type of Base Date Established**

**8 Base Established**



**Amortization Period  
Amortization Payment**

Experience loss 01/01/2019 \$128,801,394 15 \$13,573,539 Experience loss 01/01/2020 143,235,800 15 15,094,686 Experience loss 01/01/2021 71,206,139 15 7,503,950 Experience loss 01/01/2022 71,761,941 15 7,562,523 Experience loss 01/01/2023 124,771,567 15 13,148,861

**Actuarial Status Certification as of January 1, 2019 under IRC Section 432 for the Sheet Metal Workers' National Pension Fund**

EIN 52-6112463 / PN 001 **EXHIBIT V Solvency Projection**

The table below presents the projected Market Value of Assets for the Plan Years beginning January 1, 2019 through 2054.

**Year Beginning January 1,**

**2019 2020 2021 2022 2023 2024 2025** 1. Market Value at beginning of year \$4,858,601,988 \$5,162,858,002 \$5,470,988,003 \$5,782,506,841 \$6,097,009,877 \$6,414,770,350 \$6,736,323,941 2. Contributions 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 3. Benefit payments 523,946,312 541,744,857 560,277,206 579,430,271 598,520,998 617,315,742 636,115,056 4. Administrative expenses 15,396,780 15,858,683 16,334,443 16,824,476 17,329,210 17,849,086 18,384,559 5. Interest earnings 362,221,445 384,355,880 406,752,826 429,380,122 452,233,020 475,340,758 498,732,222 6. Market Value at end of year: (1)+(2)-(3)-(4)+(5) \$5,162,858,002 \$5,470,988,003 \$5,782,506,841 \$6,097,009,877 \$6,414,770,350 \$6,736,323,941 \$7,061,934,209

**2026 2027 2028 2029 2030 2031 2032** 1. Market Value at beginning of year \$7,061,934,209 \$7,392,975,302 \$7,730,333,548 \$8,075,704,935 \$8,431,141,136 \$8,798,631,158 \$9,179,777,768 2. Contributions 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 3. Benefit payments 653,867,081 671,140,857 687,219,566 701,882,468 715,337,751 728,100,936 739,473,130 4. Administrative expenses 18,936,096 19,504,179 20,089,304 20,691,983 21,312,742 21,952,124 22,610,688 5. Interest earnings 522,466,609 546,625,621 571,302,596 596,632,991 622,762,854 649,822,009 677,956,852 6. Market Value at end of year: (1)+(2)-(3)-(4)+(5) \$7,392,975,302 \$7,730,333,548 \$8,075,704,935 \$8,431,141,136 \$8,798,631,158 \$9,179,777,768 \$9,577,028,463

**Actuarial Status Certification as of January 1, 2019 under IRC Section 432 for the Sheet Metal Workers' National Pension Fund**

EIN 52-6112463 / PN 001 **EXHIBIT V (continued) Solvency Projection**

**Year Beginning January 1,**

**2033 2034 2035 2036 2037 2038 2039** 1. Market Value at beginning  
of year \$9,577,028,463 \$9,992,457,068 \$10,428,963,872 \$10,889,400,863 \$11,376,886,999 \$11,894,573,290 \$12,445,941,311 2.  
Contributions 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 3. Benefit payments  
749,990,849 759,006,826 766,776,665 773,248,582 778,616,505 782,788,932 785,912,213 4. Administrative expenses  
23,289,009 23,987,679 24,707,309 25,448,528 26,211,984 26,998,344 27,808,294 5. Interest earnings 707,330,802 738,123,648  
770,543,304 804,805,585 841,137,119 879,777,636 920,982,742 6. Market Value at end of year:  
(1)+(2)-(3)-(4)+(5) \$9,992,457,068 \$10,428,963,872 \$10,889,400,863 \$11,376,886,999 \$11,894,573,290 \$12,445,941,311  
\$13,034,581,207

**2040 2041 2042 2043 2044 2045 2046** 1. Market Value at beginning  
of year \$13,034,581,207 \$13,664,396,242 \$14,339,633,637 \$15,065,002,262 \$15,845,241,528 \$16,685,864,603 \$17,592,445,984  
2. Contributions 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 3. Benefit payments  
787,943,364 788,832,298 788,440,327 787,077,642 784,340,265 780,566,804 776,031,399 4. Administrative expenses  
28,642,543 29,501,819 30,386,874 31,298,480 32,237,434 33,204,557 34,200,694 5. Interest earnings 965,023,281  
1,012,193,851 1,062,818,165 1,117,237,727 1,175,823,113 1,238,975,081 1,307,101,408 6. Market Value at end of  
year: (1)+(2)-(3)-(4)+(5) \$13,664,396,242 \$14,339,633,637 \$15,065,002,262 \$15,845,241,528 \$16,685,864,603 \$17,592,445,984  
\$18,570,692,960

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**Actuarial Status Certification as of January 1, 2019 under IRC Section 432 for the Sheet Metal  
Workers' National Pension Fund**

EIN 52-6112463 / PN 001 **EXHIBIT V (continued) Solvency Projection**

**Year Beginning January 1,**

**2047 2048 2049 2050 2051 2052 2053** 1. Market Value at beginning  
of year  
11 \$18,570,692,960 \$19,626,540,487 \$20,766,488,460 \$21,996,766,386 \$23,324,070,335 \$24,755,597,905 \$26,299,085,800  
2. Contributions 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 481,377,661 3. Benefit payments  
770,926,315 765,135,170 759,387,528 753,683,062 748,021,448 742,402,363 736,825,488 4. Administrative expenses  
35,226,715 36,283,516 37,372,021 38,493,182 39,647,977 40,837,416 42,062,538 5. Interest earnings 1,380,622,896  
1,459,988,998 1,545,659,814 1,638,102,532 1,737,819,334 1,845,350,013 1,961,274,796 6. Market Value at end of  
year: (1)+(2)-(3)-(4)+(5) \$19,626,540,487 \$20,766,488,460 \$21,996,766,386 \$23,324,070,335 \$24,755,597,905 \$26,299,085,800  
\$27,962,850,231

**2054** 1. Market Value at beginning  
of year \$27,962,850,231 2. Contributions 481,377,661 3. Benefit payments 731,290,507 4. Administrative expenses 43,324,414  
5. Interest earnings 2,086,217,370 6. Market Value at end of

year: (1)+(2)-(3)-(4)+(5) \$29,755,830,341

**Actuarial Status Certification as of January 1, 2019 under IRC Section 432 for the Sheet Metal Workers' National Pension Fund**

**EIN 52-6112463 / PN 001 EXHIBIT VI Scheduled Progress of the Funding Improvement Plan - Projections of Benchmarks**

The Funding Improvement Plan indicates that scheduled progress is met if a projection of the funding metrics used for the benchmarks demonstrates that they are projected to be met. The benchmarks as stated in the Funding Improvement Plan are that (A) the funded percentage as of the close of the funding improvement period equals or exceeds the sum of (i) the funded percentage as of the beginning of the Plan Year beginning 2015, plus (ii) 33 percent of the difference between 100 percent and that percentage, and (B) avoiding an accumulated funding deficiency for the last year of the funding improvement period (taking into account the Plan's extension of its amortization periods under ERISA Section 304(d)).

A projection based on the actuarial assumptions and methods described in Exhibit VII of this certification indicates that the Plan is meeting scheduled progress.

**Year Beginning January 1,**

**2019 2020 2021 2022 2023** 1. Credit balance/(funding deficiency) at end of year \$469,772,188 \$534,843,899 \$551,959,195 \$591,400,091 \$632,217,284 2. Actuarial value of assets at end of year \$5,391,630,411 \$5,645,712,204 \$5,902,188,159 \$6,113,607,730 \$6,450,872,609 3. Present value of accumulated benefit at end of year \$8,069,707,638 \$8,194,330,251 \$8,363,165,822 \$8,524,667,625 \$8,677,371,391 4. Funded percentage at end of year 66.8% 68.8% 70.5% 71.7% 74.3%

**2024 2025 2026** 1. Credit balance/(funding deficiency) at end of year \$671,659,529 \$714,903,704 \$738,954,301 2. Actuarial value of assets at end of year \$6,793,393,435 \$7,141,543,482 \$7,496,814,837 3. Present value of accumulated benefit at end of year \$8,819,739,004 \$8,950,920,943 \$9,071,471,286 4. Funded percentage at end of year 77.0% 79.7% 82.6%

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**Actuarial Status Certification as of January 1, 2019 under IRC Section 432 for the Sheet Metal Workers' National Pension Fund**

**EIN 52-6112463 / PN 001 EXHIBIT VI Actuarial Assumptions and Methodology**

The actuarial assumptions and plan of benefits are as used in the January 1, 2018 actuarial valuation

certificate, dated October 12, 2018, except as specifically described below. We also assumed that experience would emerge as projected, except as described below. The calculations are based on a current understanding of the requirements of ERISA Section 305 and IRC Section 432.

**Plan of Benefits:** The Applicable Percentage under the Plan's benefit formula is 0.75% for 2019, and is projected to be 0.50% for 2020, based on the preliminary investment return for the 2018 Plan Year.

**Contribution Rates:** For purposes of the scheduled progress projections, contributions for employers that adopted an Alternative Option under the Funding Improvement Plan are assumed to increase in 2021 and 2022 (2% for the First Alternative, 1% for the Second Alternative), based on the required increases in contribution rates under the Funding Improvement Plan.

**Asset Information:** The financial information as of December 31, 2018, including contribution income, benefit payments and administrative expenses for the Plan Year ended December 31, 2018, was based on an unaudited financial statement provided by the Fund Office on March 4, 2019.

For projections after that date, the assumed administrative expenses were increased by 3% per year thereafter from the assumption used for the January 1, 2018 actuarial valuation. The benefit payments were projected based on the January 1, 2018 actuarial valuation. The projected net investment return was assumed to be 7.50% of the average market value of assets for future years. Any resulting investment gains or losses due to the operation of the asset valuation method are amortized over 15 years in the Funding Standard Account.

**Projected Industry Activity:** As required by Internal Revenue Code Section 432, assumptions with respect to projected industry activity are based on information provided by the Plan Sponsor. Based on this information, for 2019 and all future years, the number of active participants is assumed to remain at the December 31, 2013 level of 54,282 and, on the average, contributions will be made for each active for 1,650 hours each year (approximately 90 million hours).

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**Actuarial Status Certification as of January 1, 2019 under IRC Section 432 for the Sheet Metal Workers' National Pension Fund**

EIN 52-6112463 / PN 001 **Future Normal Costs:** Based on the assumed industry activity, we have determined the Normal Cost based on an open group forecast assuming new entrants have a similar demographic mix to recent entrants to the Plan. The Normal Cost for the 2019 Plan Year recognizes the Applicable Percentage (benefit accrual multiplier) of 0.75%. The Normal Cost for the 2020 Plan Year recognizes an Applicable Percentage

(benefit accrual multiplier) of 0.50%, based on the preliminary rate of return for the 2018 Plan Year. Normal Costs for 2021 and thereafter were adjusted to reflect the long-term average expected Applicable Percentage of 0.84%. This average is based on the assumed probability of three-year average market investment returns corresponding to the ranges in the Plan's variable benefit accrual formula. For this purpose, market investment returns after 2018 were based upon stochastic projections using the Plan's target investment allocation and capital market assumptions provided by the Plan's Investment Manager in 2018.

**Elections under the Preservation of Access to Care for Medicare Beneficiaries and Pension Relief Act of 2010:**

<sup>14</sup> This status certification reflects the elections made by the Board of Trustees as permitted under the Preservation of Access to Care for Medicare Beneficiaries and Pension Relief Act of 2010. The Plan Actuary certified to the Plan Sponsor that the Plan was projected to have sufficient assets to timely pay expected benefits and anticipated expenditures over the amortization period, taking into account the changes in the funding standard account elected.

**Amortization Extension:** This status certification recognizes an extension of the amortization charge bases as of

January 1, 2009, as permitted under Internal Revenue Code Section 431(d)(1).

**Technical Issues**

Segal Consulting ("Segal") does not practice law and, therefore, cannot and does not provide legal advice. Any statutory interpretation on which the certification is based reflects Segal's understanding as an actuarial firm. Due to the complexity of the statute and the significance of its ramifications, Segal recommends that the Board of Trustees consult with legal counsel when making any decisions regarding compliance with ERISA and the Internal Revenue Code.

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