# Sheet Metal Workers' National Pension Fund

***Actuarial Certification of Plan Status as of January 1, 2017 under IRC Section 432***

Segal Consulting
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*March 31, 2017*

*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, 2017 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, 2016 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, 2017, 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 also 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:*

*Richard G. Gerasta*
*Senior Vice President*

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

*cc:* *Ms. Lori Wood*
*Mr. Tim Myers*
*Ms. Debbie Elkins*
*Stephen M. Rosenblatt, Esq.*

Segal Consulting

*March 31, 2017*

*Internal Revenue Service*
*Employee Plans Compliance Unit*
*Group 7602 (TEGE:EP:EPCU)*
*230 S. Dearborn Street*
*Room 1700 - 17th Floor*
*Chicago, Illinois 60604*

*To Whom It May Concern:*

*As required by ERISA Section 305 and the Internal Revenue Code (IRC) Section 432, we have completed the actuarial status certification as of January 1, 2017 for the following plan:*

| | |
|---|---|
| *Name of Plan:* | *Sheet Metal Workers' National Pension Fund* |
| *Plan number:* | *EIN 52-6112463 / PN 001* |
| *Plan sponsor:* | *Board of Trustees, Sheet Metal Workers' National Pension Fund* |
| *Address:* | *8403 Arlington Blvd., Suite 300*<br>*Fairfax, Virginia, 22031* |
| *Phone number:* | *703.739.7000* |

*As of January 1, 2017, 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 also 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.*

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

*Segal Consulting*
*101 North Wacker Drive, Suite 500*
*Chicago, Illinois 60606*
*Phone number: 312.984.8500*

*Sincerely,*

*Daniel V. Ciner, MAAA*
*Senior Vice President and Actuary*
*Enrolled Actuary No. 14-05773*

EIN 52-6112463 / PN 001

**March 31, 2017**

## Illustration Supporting Actuarial Certification of Status (Schedule MB, line 4b)
## ACTUARIAL STATUS CERTIFICATION AS OF JANUARY 1, 2017 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, 2017 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, 2016 actuarial valuation, dated October 10, 2016. 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 VI.

Segal Consulting does not practice law and, therefore, cannot and does not provide legal advice. Any statutory interpretations 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. 14-05773

EIN 52-6112463 / PN 001

## Certificate Contents

## EXHIBIT I
## Status Determination as of January 1, 2017

| Status | Condition | 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%? | Yes | N/A |
| C4. (a) | The funded percentage is less than 65%, | Yes | |
| (b) | AND the present value of assets plus contributions is less than the present value of benefit payments and administrative expenses over seven years? | No | 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 |

## EXHIBIT I (continued)
## Status Determination as of January 1, 2017

| Status | Condition | Component Result | Final Result |
|---|---|---|---|
| | (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** |
| **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 | |
| | **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** |

## EXHIBIT II
## Summary of Actuarial Valuation Projections

The actuarial factors as of January 1, 2017 (based on projections from the January 1, 2016 valuation certificate):

| | | | |
|---|---|---|---|
| **I. Financial Information** | | | |
| 1. Market value of assets* | | | $4,303,508,792 |
| 2. Actuarial value of assets* | | | 4,537,941,615 |
| 3. Reasonably anticipated contributions | | | |
| a. Upcoming year | | | $460,741,816 |
| b. Present value for the next five years | | | 1,935,431,063 |
| c. Present value for the next seven years | | | 2,533,867,554 |
| 4. Projected benefit payments | | | 481,783,941 |
| 5. Projected administrative expenses (beginning of year) | | | 14,364,360 |
| **II. Liabilities** | | | |
| 1. Present value of vested benefits for active participants | | | $2,049,567,564 |
| 2. Present value of vested benefits for non-active participants | | | 5,072,131,033 |
| 3. Total unit credit accrued liability | | | 7,485,493,585 |
| 4. Present value of payments | **Benefit Payments** | **Administrative Expenses** | **Total** |
| a. Next five years | $2,108,108,778 | $66,055,297 | $2,174,164,075 |
| b. Next seven years | 2,820,567,490 | 88,768,257 | 2,909,335,747 |
| 5. Unit credit normal cost plus expenses | | | 150,527,601 |
| **III. Funded Percentage** (I.2)/(II.3) | | | 60.6% |
| **IV. Funding Standard Account** | | **Without amortization extension** | **With amortization extension** |
| 1. Credit balance/(funding deficiency) as of the end of prior year | | ($638,019,070) | $217,619,748 |
| 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 $17,639,984*

## 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, | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** |
| 1. Credit balance at beginning of year | $190,973,941 | $217,619,748 | $164,690,082 | $217,271,546 | $221,180,915 | $218,703,496 | $223,982,774 | $251,890,234 |
| 2. Interest on (1) | 14,323,046 | 16,321,481 | 12,351,756 | 16,295,366 | 16,588,569 | 16,402,762 | 16,798,708 | 18,891,768 |
| 3. Normal cost | 165,497,678 | 136,163,241 | 67,818,011 | 112,961,175 | 111,548,205 | 109,681,956 | 107,546,201 | 105,094,430 |
| 4. Administrative expenses | 13,945,981 | 14,364,360 | 14,795,291 | 15,239,150 | 15,696,325 | 16,167,215 | 16,652,231 | 17,151,798 |
| 5. Net amortization charges | 300,156,548 | 358,561,498 | 325,056,702 | 328,414,521 | 335,584,260 | 329,591,244 | 310,560,833 | 304,583,802 |
| 6. Interest on (3), (4) and (5) | 35,970,016 | 38,181,682 | 30,575,250 | 34,246,113 | 34,712,160 | 34,158,031 | 32,606,945 | 32,012,253 |
| 7. Expected contributions | 508,812,515 | 460,741,816 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 |
| 8. Interest on (7) | 19,080,469 | 17,277,818 | 17,294,276 | 17,294,276 | 17,294,276 | 17,294,276 | 17,294,276 | 17,294,276 |
| 9. Credit balance at end of year: (1) + (2) – (3) – (4) – (5) – (6) + (7) + (8) | $217,619,748 | $164,690,082 | $217,271,546 | $221,180,915 | $218,703,496 | $223,982,774 | $251,890,234 | $290,414,681 |
| | **2024** | **2025** | **2026** | **2027** | **2028** | **2029** | **2030** | **2031** |
| 1. Credit balance at beginning of year | $290,414,681 | $327,842,028 | $369,469,244 | $392,483,956 | $462,183,591 | $549,833,632 | $635,569,459 | $757,733,230 |
| 2. Interest on (1) | 21,781,101 | 24,588,152 | 27,710,193 | 29,436,297 | 34,663,769 | 41,237,522 | 47,667,709 | 56,829,992 |
| 3. Normal cost | 102,533,532 | 99,815,207 | 97,238,956 | 94,598,628 | 92,261,005 | 90,055,966 | 88,102,724 | 86,461,362 |
| 4. Administrative expenses | 17,666,352 | 18,196,343 | 18,742,233 | 19,304,500 | 19,883,635 | 20,480,144 | 21,094,548 | 21,727,384 |
| 5. Net amortization charges | 310,338,456 | 311,231,146 | 333,479,688 | 293,735,591 | 283,658,793 | 293,163,106 | 266,597,054 | 231,356,118 |
| 6. Interest on (3), (4) and (5) | 32,290,376 | 32,193,202 | 33,709,566 | 30,572,905 | 29,685,257 | 30,277,441 | 28,184,574 | 25,465,865 |
| 7. Expected contributions | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 |
| 8. Interest on (7) | 17,294,276 | 17,294,276 | 17,294,276 | 17,294,276 | 17,294,276 | 17,294,276 | 17,294,276 | 17,294,276 |
| 9. Credit balance at end of year: (1) + (2) – (3) – (4) – (5) – (6) + (7) + (8) | $327,842,028 | $369,469,244 | $392,483,956 | $462,183,591 | $549,833,632 | $635,569,459 | $757,733,230 | $928,027,455 |

## EXHIBIT III (continued)
## Funding Standard Account Projections

Without Amortization Extension under IRC Section 431(d)

| | Year Beginning January 1, | | | | | |
|---|---|---|---|---|---|---|
| | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** |
| 1. Credit balance/(funding deficiency) at beginning of year | ($598,736,647) | ($638,019,070) | ($692,884,317) | ($605,507,108) | ($543,316,710) | ($471,393,852) |
| 2. Interest on (1) | (44,905,249) | (47,851,430) | (51,966,324) | (45,413,033) | (40,748,753) | (35,354,539) |
| 3. Normal cost | 165,497,678 | 136,163,241 | 67,818,011 | 112,961,175 | 111,548,205 | 109,681,956 |
| 4. Administrative expenses | 13,945,981 | 14,364,360 | 14,795,291 | 15,239,150 | 15,696,325 | 16,167,215 |
| 5. Net amortization charges | 306,389,047 | 300,666,307 | 232,857,795 | 216,796,448 | 213,037,656 | 202,783,078 |
| 6. Interest on (3), (4) and (5) | 36,437,452 | 33,839,543 | 23,660,332 | 25,874,758 | 25,521,165 | 24,647,419 |
| 7. Expected contributions | 508,812,515 | 460,741,816 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 |
| 8. Interest on (7) | 19,080,469 | 17,277,818 | 17,294,276 | 17,294,276 | 17,294,276 | 17,294,276 |
| 9. Credit balance/(funding deficiency) at end of year (1) + (2) – (3) – (4) – (5) – (6) + (7) + (8) | ($638,019,070) | ($692,884,317) | ($605,507,108) | ($543,316,710) | ($471,393,852) | ($381,553,097) |

**EXHIBIT IV**

**Funding Standard Account – Projected Bases Assumed Established After January 1, 2016**

**Schedule of Funding Standard Account Bases**

| Type of Base | Date Established | Base Established | Amortization Period | Amortization Payment |
|---|---|---|---|---|
| Actuarial loss | 01/01/2017 | $125,802,733 | 15 | $13,257,529 |
| Actuarial loss | 01/01/2018 | 121,013,350 | 15 | 12,752,807 |
| Actuarial loss | 01/01/2019 | 81,536,930 | 15 | 8,592,645 |
| Actuarial loss | 01/01/2020 | 65,708,604 | 15 | 6,924,601 |
| Actuarial gain | 01/01/2021 | (2,119,565) | 15 | (223,367) |

## EXHIBIT V
## Solvency Projection

The table below presents the projected Market Value of Assets for the Plan Years beginning January 1, 2017 through 2052.

| | Year Beginning January 1, | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** |
| 1. Market Value at beginning of year | $4,303,508,792 | $4,588,999,058 | $4,885,390,081 | $5,192,033,898 | $5,509,029,489 | $5,835,511,306 | $6,171,368,679 | $6,516,812,366 |
| 2. Contributions | 460,741,816 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 |
| 3. Benefit payments | 481,783,941 | 491,907,401 | 502,991,145 | 514,706,856 | 527,990,939 | 542,052,807 | 556,574,208 | 571,272,321 |
| 4. Administrative expenses | 14,935,000 | 15,383,050 | 15,844,542 | 16,319,878 | 16,809,474 | 17,313,758 | 17,833,171 | 18,368,166 |
| 5. Interest earnings | 321,467,391 | 342,500,788 | 364,298,818 | 386,841,639 | 410,101,544 | 434,043,252 | 458,670,380 | 484,009,328 |
| 6. Market Value at end of year: (1)+(2)-(3)-(4)+(5) | $4,588,999,058 | $4,885,390,081 | $5,192,033,898 | $5,509,029,489 | $5,835,511,306 | $6,171,368,679 | $6,516,812,366 | $6,872,361,893 |
| | **2025** | **2026** | **2027** | **2028** | **2029** | **2030** | **2031** | **2032** |
| 1. Market Value at beginning of year | $6,872,361,893 | $7,238,647,614 | $7,616,951,508 | $8,008,051,135 | $8,413,759,255 | $8,835,452,578 | $9,275,286,824 | $9,735,865,782 |
| 2. Contributions | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 |
| 3. Benefit payments | 586,077,410 | 600,406,494 | 614,837,937 | 628,429,656 | 641,732,459 | 654,094,475 | 665,239,108 | 675,369,831 |
| 4. Administrative expenses | 18,919,211 | 19,486,787 | 20,071,391 | 20,673,533 | 21,293,739 | 21,932,551 | 22,590,528 | 23,268,244 |
| 5. Interest earnings | 510,101,656 | 537,016,489 | 564,828,269 | 593,630,623 | 623,538,835 | 654,680,586 | 687,227,908 | 721,368,436 |
| 6. Market Value at end of year: (1)+(2)-(3)-(4)+(5) | $7,238,647,614 | $7,616,951,508 | $8,008,051,135 | $8,413,759,255 | $8,835,452,578 | $9,275,286,824 | $9,735,865,782 | $10,219,776,829 |

## EXHIBIT V (continued)
## Solvency Projection

| | Year Beginning January 1, | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 |
| 1. Market Value at beginning of year | $10,219,776,829 | $10,729,527,013 | $11,268,291,486 | $11,839,136,859 | $12,445,853,469 | $13,092,357,471 | $13,782,824,926 | $14,521,759,575 |
| 2. Contributions | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 |
| 3. Benefit payments | 684,750,517 | 692,917,836 | 700,205,308 | 706,136,405 | 710,863,191 | 714,417,567 | 716,784,875 | 717,837,785 |
| 4. Administrative expenses | 23,966,291 | 24,685,280 | 25,425,838 | 26,188,613 | 26,974,271 | 27,783,499 | 28,617,004 | 29,475,514 |
| 5. Interest earnings | 757,286,306 | 795,186,903 | 835,295,833 | 877,860,942 | 923,160,778 | 971,487,835 | 1,023,155,842 | 1,078,507,330 |
| 6. Market Value at end of year: (1)+(2)-(3)-(4)+(5) | $10,729,527,013 | $11,268,291,486 | $11,839,136,859 | $12,445,853,469 | $13,092,357,471 | $13,782,824,926 | $14,521,759,575 | $15,314,134,292 |
| | 2041 | 2042 | 2043 | 2044 | 2045 | 2046 | 2047 | 2048 |
| 1. Market Value at beginning of year | $15,314,134,292 | $16,165,113,879 | $17,080,209,787 | $18,065,271,935 | $19,126,577,298 | $20,270,638,877 | $21,504,668,163 | $22,835,343,750 |
| 2. Contributions | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 |
| 3. Benefit payments | 717,750,044 | 716,560,121 | 714,339,406 | 711,098,350 | 707,062,372 | 702,028,182 | 697,029,835 | 692,067,075 |
| 4. Administrative expenses | 30,359,779 | 31,270,572 | 32,208,689 | 33,174,950 | 34,170,199 | 35,195,305 | 36,251,164 | 37,338,699 |
| 5. Interest earnings | 1,137,908,724 | 1,201,745,915 | 1,270,429,557 | 1,344,397,977 | 1,424,113,464 | 1,510,072,087 | 1,602,775,900 | 1,702,725,776 |
| 6. Market Value at end of year: (1)+(2)-(3)-(4)+(5) | $16,165,113,879 | $17,080,209,787 | $18,065,271,935 | $19,126,577,298 | $20,270,638,877 | $21,504,668,163 | $22,835,343,750 | $24,269,844,438 |

## EXHIBIT V (continued)
## Solvency Projection

| | Year Beginning January 1, | | | |
|---|---|---|---|---|
| | **2049** | **2050** | **2051** | **2052** |
| 1. Market Value at beginning of year | $24,269,844,438 | $25,815,886,718 | $27,481,765,066 | $29,276,395,261 |
| 2. Contributions | 461,180,686 | 461,180,686 | 461,180,686 | 461,180,686 |
| 3. Benefit payments | 687,139,649 | 682,247,306 | 677,389,796 | 672,566,871 |
| 4. Administrative expenses | 38,458,860 | 39,612,626 | 40,801,005 | 42,025,035 |
| 5. Interest earnings | 1,810,460,103 | 1,926,557,594 | 2,051,640,310 | 2,186,376,907 |
| 6. Market Value at end of year: (1)+(2)-(3)-(4)+(5) | $25,815,886,718 | $27,481,765,066 | $29,276,395,261 | $31,209,360,948 |

## 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, | | | | |
|---|---|---|---|---|---|
| | **2017** | **2018** | **2019** | **2020** | **2021** |
| 1. Credit balance/(funding deficiency) at end of year | $166,392,077 | $244,124,937 | $272,077,820 | $295,540,898 | $328,829,994 |
| 2. Actuarial value of assets at end of year | $4,722,454,187 | $4,976,839,371 | $5,254,155,237 | $5,607,451,448 | $5,970,836,867 |
| 3. Present value of accumulated benefit at end of year | $7,694,181,447 | $7,838,293,695 | $8,033,238,117 | $8,229,035,659 | $8,423,605,779 |
| 4. Funded percentage at end of year | 61.4% | 63.5% | 65.4% | 68.1% | 70.9% |
| | **2022** | **2023** | **2024** | **2025** | **2026** |
| 1. Credit balance/(funding deficiency) at end of year | $386,989,667 | $458,197,862 | $530,930,097 | $610,690,366 | $674,868,987 |
| 2. Actuarial value of assets at end of year | $6,346,365,612 | $6,734,456,024 | $7,135,850,780 | $7,551,420,122 | $7,982,703,909 |
| 3. Present value of accumulated benefit at end of year | $8,615,741,874 | $8,804,423,949 | $8,989,085,065 | $9,169,132,987 | $9,344,877,732 |
| 4. Funded percentage at end of year | 73.7% | 76.5% | 79.4% | 82.4% | 85.4% |

## EXHIBIT VII
## Actuarial Assumptions and Methodology

The actuarial assumptions and plan of benefits are as used in the January 1, 2016 actuarial valuation certificate, dated October 10, 2016, 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 1.00% for 2017, and is projected to be 0.50% for 2018, based on the preliminary investment return for the 2016 Plan Year.

**Contribution Rates:** Contributions for employers that adopted an Alternative Option under the Funding Improvement Plan are assumed to increase in 2016 based on terms of the collective bargaining agreement in effect. In addition, 1.15% of the employees have bargained increases in contribution rates in 2017 under the Funding Improvement Plan, based on data received from the Fund Office for purposes of the January 1, 2016 actuarial valuation.

**Asset Information:** The financial information as of December 31, 2016, including contribution income, benefit payments and administrative expenses for the Plan Year ended December 31, 2016, was based on an unaudited financial statement provided by the Fund Office.

For projections after that date, the assumed administrative expenses were increased by 3% per year thereafter from the assumption used for the January 1, 2016 actuarial valuation. The benefit payments were projected based on the January 1, 2016 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.

EIN 52-6112463 / PN 001

**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 2017 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).

**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 2017 Plan Year recognizes the Applicable Percentage (benefit accrual multiplier) of 1.00%. The Normal Cost for the 2018 Plan Year recognizes an Applicable Percentage (benefit accrual multiplier) of 0.50%, based on the preliminary rate of return for the 2016 Plan Year. Normal Costs for 2019 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 2016 were based upon stochastic projections using the Plan's target investment allocation and capital market assumptions provided by the Plan's Investment Manager in 2016.

**Elections under the Preservation of Access to Care for Medicare Beneficiaries and Pension Relief Act of 2010:** This status certification reflects the following 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.

**Expanded Smoothing Period (IRC Section 431(b)(8)(B)):** The asset valuation method was changed effective January 1, 2009 as follows: the difference between expected and actual returns for the Plan Year ended December 31, 2008 is recognized over a period of 10 years and the upper limit on the actuarial value of assets for the Plan Years beginning January 1, 2009 and 2010 has been increased to 130% of market value.

EIN 52-6112463 / PN 001

**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).

**Assumptions for Scheduled Progress Determination Projections (Exhibit VI):** For this purpose, all of the assumptions are the same as those described above, except all groups are expected to remain on the same Funding Improvement Plan Option as reflected in the January 1, 2016 actuarial valuation with remaining scheduled contribution rate increases assumed to be effective each December 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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