

***OUTSTATE MICHIGAN TROWEL TRADES  
PENSION PLAN  
LANSING, MICHIGAN***

***Actuarial Valuation Report  
For Plan Year Commencing  
January 1, 2017***

June 8, 2017

Board of Trustees  
Outstate Michigan Trowel Trades Pension Plan  
Lansing, Michigan

Dear Trustees:

We have been retained by the Board of Trustees of the Outstate Michigan Trowel Trades Pension Plan to perform annual actuarial valuations of the pension plan. This report presents the results of our actuarial valuation for the plan year beginning January 1, 2017. The valuation results contained herein are based on current plan provisions summarized in Appendix A, the actuarial assumptions and methods listed in Appendix B and on financial statements audited by Benda, Grace, Stulz & Company, P.C. Participant data was provided by TIC International. While we have reviewed the data for reasonableness in accordance with Actuarial Standards of Practice No. 23, we have not audited it. The data was relied on as being both accurate and comprehensive.

This report has been prepared in order to (1) assist the Trustees in evaluating the current actuarial position of the plan, (2) determine the minimum required and maximum deductible contribution amounts under Internal Revenue Code §431 and §404, (3) provide the fund's auditor with information necessary to comply with Accounting Standards Codification 960, and (4) document the plan's certified status under Internal Revenue Code §432 for the current year and provide the basis to certify such status for the subsequent year. In addition, information contained in this report will be used to prepare Schedule MB of Form 5500 that is filed annually with the IRS and could be used to calculate employer withdrawal liability. We are not responsible for the use of, or reliance upon, this report for any other purpose.

We have prepared this report in accordance with generally accepted actuarial principles and practices and have performed such tests as we considered necessary to assure the accuracy of the results. The results have been determined on the basis of actuarial assumptions that, in my opinion, are appropriate for the purposes of this report, are individually reasonable and in combination represent my best estimate of anticipated experience under the plan. Actuarial assumptions may be changed from previous valuations due to changes in mandated requirements, plan experience resulting in changes in expectations about the future, and/or other factors. An assumption change does not indicate that prior assumptions were unreasonable when made. For purposes of current liability calculations, assumptions are prescribed by regulation or statute. By relying on this valuation report, the Trustees confirm they have accepted the assumptions contained in the report.

The results are based on my best interpretation of existing laws and regulations and are subject to revision based on future regulatory or other guidance.

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), and changes in plan provisions or applicable law.

United Actuarial Services, Inc. does not provide, nor charge for, investment, tax or legal advice. None of the comments made herein should be construed as constituting such advice. We are not aware of any direct or material indirect financial interest or relationship that could create a conflict of interest that would impair the objectivity of our work.

The undersigned actuary meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

We are available to respond to any questions you may have about this report.

**UNITED ACTUARIAL SERVICES, INC.**

Enrolled Actuary



Paul Wedding, ASA, EA, MAAA  
Consulting Actuary

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***PART I: SUMMARY OF RESULTS***

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**5 - YEAR SUMMARY OF VALUATION RESULTS**

| <i>Actuarial Study<br/>as of January 1,</i> | <i>2017</i> | <i>2016</i> | <i>2015</i> | <i>2014</i> | <i>2013</i> |
|---|-------------|-------------|-------------|-------------|-------------|
| PPA funded status                           | Safe        | Critical    | Safe        | Safe        | Safe        |
| Improvements restricted*                    | Yes         | Yes         | Yes         | Yes         | Yes         |
| Funded ratio                                |             |             |             |             |             |
| <i>PPA certification</i>                    | 90.7%       | 87.4%       | 91.2%       | 95.0%       | 97.1%       |
| <i>Valuation report (AVA)</i>               | 90.7%       | 90.7%       | 91.1%       | 95.3%       | 97.2%       |
| <i>Valuation report (MVA)</i>               | 84.8%       | 80.5%       | 83.1%       | 85.2%       | 83.2%       |
| Date of first projected funding deficiency  |             |             |             |             |             |
| <i>PPA certification</i>                    | None        | 12/31/25    | 12/31/26    | None        | 12/31/26    |
| <i>Valuation report</i>                     | None        | None        | 12/31/27    | None        | 12/31/26    |
| Net investment return                       |             |             |             |             |             |
| <i>On market value</i>                      | 8.98%       | -1.16%      | 6.23%       | 10.52%      | 8.10%       |
| <i>On actuarial value</i>                   | 3.17%       | 1.40%       | 3.74%       | 5.32%       | 4.66%       |
| Asset values (\$ 000)                       |             |             |             |             |             |
| <i>Market</i>                               | 61,272      | 57,422      | 59,709      | 58,338      | 55,077      |
| <i>Actuarial</i>                            | 65,534      | 64,749      | 65,445      | 65,246      | 64,296      |
| Accum. ben. (\$ 000)                        | 72,258      | 71,364      | 71,840      | 68,448      | 66,163      |

| Plan Year Beginning | Assets (Actuarial) | Assets (Market) | Accumulated Benefits |
|---------------------|--------------------|-----------------|----------------------|
| 2017                | 65,534             | 61,272          | 72,258               |
| 2016                | 64,749             | 57,422          | 71,364               |
| 2015                | 65,445             | 59,709          | 71,840               |
| 2014                | 65,246             | 58,338          | 68,448               |
| 2013                | 64,296             | 55,077          | 66,163               |

\* Benefit improvement restrictions due to fund having amortization extension. Restrictions in place until 1/1/2038 when bases with amortization extension have been fully amortized

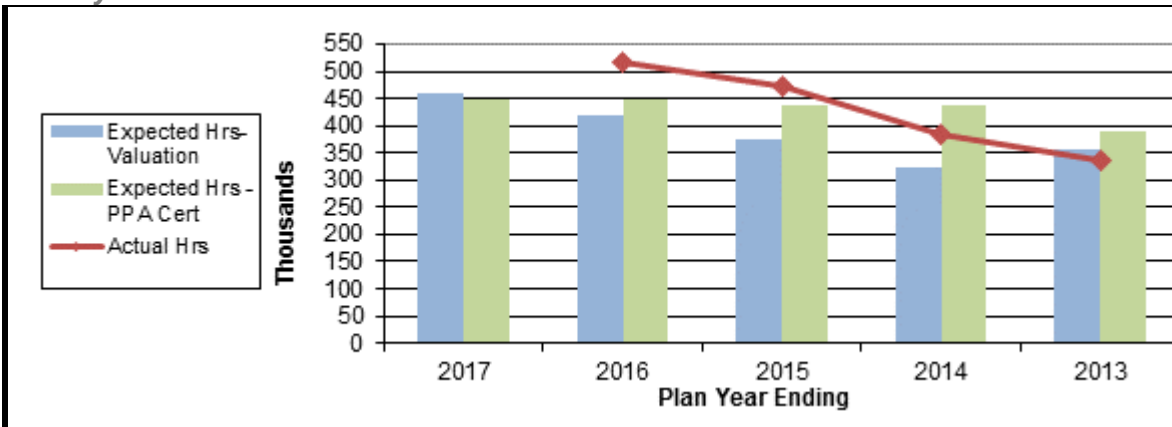
**5 - YEAR SUMMARY OF DEMOGRAPHICS**

| <i>Actuarial Study as of January 1,</i> | <i>2017</i> | <i>2016</i> | <i>2015</i> | <i>2014</i> | <i>2013</i> |
|---|-------------|-------------|-------------|-------------|-------------|
| <b>Demographics</b>                     |             |             |             |             |             |
| <i>Active</i>                           | 333         | 323         | 286         | 256         | 281         |
| <i>Inactive vested</i>                  | 520         | 533         | 550         | 598         | 583         |
| <i>Receiving benefits</i>               | 447         | 445         | 451         | 440         | 428         |
| <i>Total</i>                            | 1,300       | 1,301       | 1,287       | 1,294       | 1,292       |
| Unrecorded dates of birth               | 1           | 1           | 1           | 5           | 5           |
| Average entry age                       | 32.8        | 32.7        | 31.4        | 31.0        | 31.5        |
| Average attained age                    | 45.4        | 45.0        | 44.6        | 44.2        | 43.8        |

| Year | Actives | Inactive Vested | Retirees |
|------|---------|-----------------|----------|
| 2017 | 333     | 520             | 447      |
| 2016 | 323     | 533             | 445      |
| 2015 | 286     | 550             | 451      |
| 2014 | 256     | 598             | 440      |
| 2013 | 281     | 583             | 428      |

**History of Hours**



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***CHANGES FROM PRIOR STUDY***

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***Changes in Plan Provisions***

The plan provisions underlying this valuation are the same as those valued last year.

***Changes in Actuarial Assumptions and Methods***

The actuarial assumptions and methods used in this valuation differ from those used in the prior valuation in the following respects:

- The assumed credited hourly contribution rate was increased \$0.04 and the assumed hourly non-credited contribution rate was increased from \$2.07 to \$2.22 to reflect the negotiated increase effective June 1, 2016.
- The assumed future hours worked were increased from 1,350 hours to 1,450 hours per future year for vested active lives. This represents our best estimate of future hours based on recent plan experience.
- The assumed mortality rates were changed from the RP-2014 Blue Collar Mortality Table for employees and healthy annuitants projected using the MP-2014 projection scale with a 3-year set forward to 115% of the RP-2014 Blue Collar Mortality Table for employees and healthy annuitants adjusted backward to 2006 with the MP-2014 projection scale and projected forward using the MP-2016 projection scale. This change was made in order to better reflect anticipated improvements in mortality rates for each future year due to medical advances and lifestyle changes.
- The assumed retirement rates were changed according to the schedule in Appendix B to represent our best estimate of future retirement patterns based on recent plan experience.
- The percent married assumption was changed to 80% assumed married.
- The current liability interest rate was changed from 3.28% to 3.05%. The new rate is within established statutory guidelines.



*Summary of Results  
Outstate Michigan Trowel Trades Pension Plan  
January 1, 2017 Actuarial Valuation*

**HISTORY OF MAJOR ASSUMPTIONS**

| <i>Assumption</i>                        | <i>Actuarial Study as of January 1,</i> |             |             |             |             |
|--|---|-------------|-------------|-------------|-------------|
|  | <i>2017</i>                             | <i>2016</i> | <i>2015</i> | <i>2014</i> | <i>2013</i> |
| Future rate of net investment return     | 7.75%                                   | 7.75%       | 7.75%       | 7.75%       | 7.75%       |
| Mortality table                          | RP-2014                                 | RP-2014     | RP-2014     | RP-2000     | RP-2000     |
| <i>Adjustment</i>                        | 115%                                    | 3 yr. sf.   | 3 yr. sf.   | 2 yr. sf.   | 2 yr. sf.   |
| <i>Projection Scale</i>                  | MP-2016                                 | MP-2014     | MP-2014     | AA          | AA          |
| Future expenses                          | \$260,000                               | \$260,000   | \$260,000   | \$260,000   | \$260,000   |
| Average future hourly contribution rate* |   |             |             |             |             |
| <i>Credited</i>                          | \$3.95                                  | \$3.75      | \$3.80      | \$3.86      | \$3.81      |
| <i>Non-credited</i>                      | <u>2.22</u>                             | <u>2.07</u> | <u>1.82</u> | <u>1.82</u> | <u>1.50</u> |
| <i>Total</i>                             | \$6.17                                  | \$5.82      | \$5.62      | \$5.68      | \$5.31      |
| Average future annual hours              |   |             |             |             |             |
| <i>Vested</i>                            | 1,450                                   | 1,350       | 1,350       | 1,300       | 1,300       |
| <i>Non-vested</i>                        | 1,150                                   | 1,150       | 1,150       | 1,100       | 1,100       |
| Average expected retirement age**        |   |             |             |             |             |
| <i>Actives</i>                           | 59.8                                    | 59.4        | 59.0        | 58.9        | 58.9        |
| <i>Inactive vested</i>                   | 61.5                                    | 61.4        | 61.7        | 61.2        | 61.0        |

\* Actual average derived from application of assumptions specified in Appendix B.

\*\* Resulting from the application of the retirement probabilities shown in Appendix B to active participants.

***EXPERIENCE VS. ASSUMPTIONS***

*Comparing the prior year's experience to assumptions provides indications as to why overall results may differ from those expected*

Actuarial assumptions are used to project certain future events related to the pension plan (e.g. deaths, withdrawals, investment income, expenses, etc.). While actual results for a single plan year will rarely match expected experience, it is intended that the assumptions will provide a reasonable long term estimate of developing experience.

The following table provides a comparison of expected outcomes for the prior plan year with the actual experience observed during the same period. This display may provide insight as to why the plan's overall actuarial position may be different from expected.

| <i>Plan Year Ending<br/>December 31, 2016</i>               | <i>Expected</i> | <i>Actual</i> |
|---|-----------------|---------------|
| <b>Decrements</b>   |                 |               |
| <i>Terminations</i>   |                 | 44            |
| <i>less: Rehires</i>  |                 | 16            |
| <i>Terminations (net of rehires)</i>                        | 24.4            | 28            |
| <i>Retirements</i>  | 9.5             | 2             |
| <i>Disabilities</i>   | 1.5             | -             |
| <i>Deaths - pre-retirement</i>                              | 4.3             | 10            |
| <i>Deaths - post-retirement</i>                             | 18.6            | 18            |
| <b>Asset assumptions</b>                                    |                 |               |
| <i>Rate of net investment return on actuarial value</i>     | 7.75%           | 3.17%         |
| <i>Net expenses</i>   | \$ 260,000      | \$ 242,416    |
| <b>Other demographic assumptions</b>                        |                 |               |
| <i>Average retirement age from active (new retirees)</i>    | 60.8            | 58.4          |
| <i>Average retirement age from inactive (new retirees)*</i> | 61.4            | 61.1          |
| <i>Average entry age (new entrants)</i>                     | 32.7            | 36.0          |
| <i>Hours worked per vested active</i>                       | 1,350           | 1,574         |
| <i>Hours worked per non-vested active</i>                   | 1,150           | 1,336         |
| <i>Total hours worked (valuation assumption)</i>            | 417,350         | 516,786       |
| <i>Total hours worked (PPA certification assumption)</i>    | 450,000         | 516,786       |
| <b>Unfunded liability (gain)/loss</b>                       |                 |               |
| <i>(Gain)/loss due to asset experience</i>                  |                 | \$ 2,937,084  |
| <i>(Gain)/loss due to liability experience</i>              |                 | 478,789       |
| <i>Total (gain)/loss</i>                                    |                 | \$ 3,415,873  |

\* Expected average based on the average for the total group of participants.

**PLAN MATURITY**

*Measures of plan maturity can play a part in understanding risk and a plan's ability to recover from adverse experience*

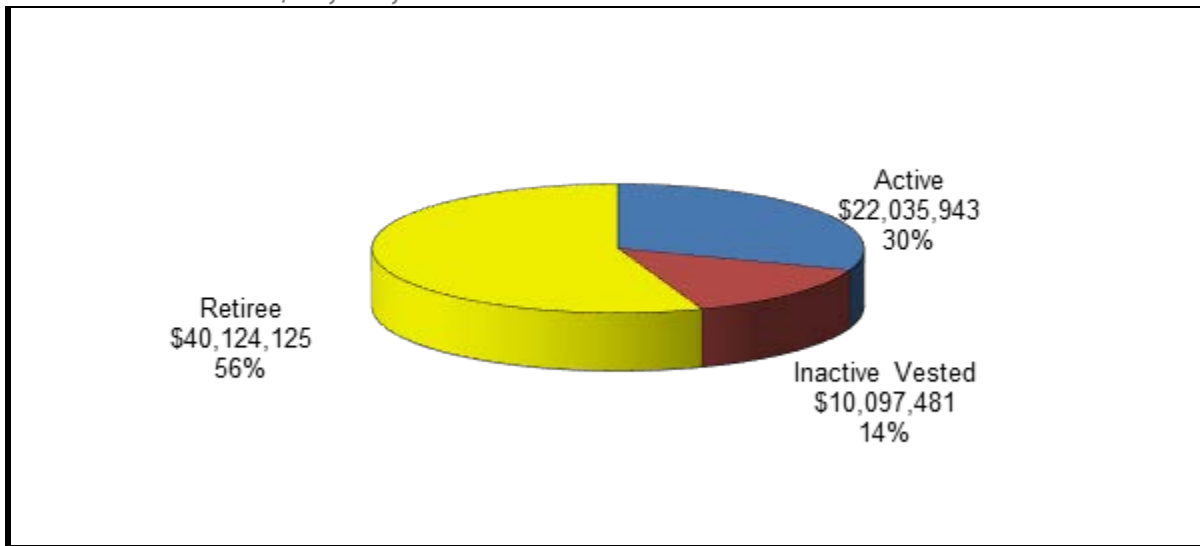
When a new pension plan is first established, its liabilities are typically limited to active plan participants. However, as people become vested and retire, a plan begins to develop liabilities attributable to inactive participants. The process of adding inactive liabilities (often referred to as "maturing") is a natural outgrowth of the operation

of the plan. As a plan matures, its liabilities tend to balloon in relation to its contribution base, making it more difficult to correct for adverse outcomes by increasing contribution rates or reducing future benefit accruals.

We generally consider a plan with an active to retiree headcount ratio of less than 1.0, or an active to inactive headcount ratio of less than 0.5, to be mature.

| <i>Actuarial Study as of January 1,</i> | <i>2017</i> | <i>2016</i> | <i>2015</i> | <i>2014</i> | <i>2013</i> |
|---|-------------|-------------|-------------|-------------|-------------|
| Active/retiree headcount ratio          | 0.74        | 0.73        | 0.63        | 0.58        | 0.66        |
| Active/inactive headcount ratio         | 0.34        | 0.33        | 0.29        | 0.25        | 0.28        |

***Liabilities of Actives, Retirees, and Inactive Vesteds***  
***Total Liabilities: \$72,257,549***



**UNFUNDED VESTED BENEFITS/EMPLOYER WITHDRAWAL LIABILITY**

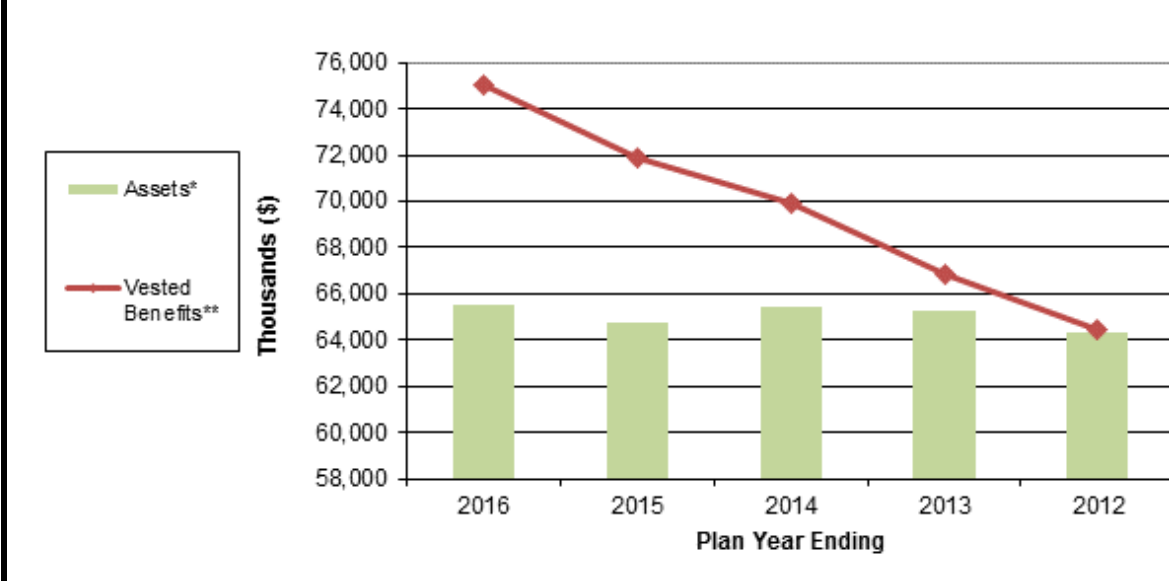
*An employer withdrawing during the coming year may have withdrawal liability*

The following table shows a history of the plan's unfunded vested benefits (UVB) required to compute a specific employer withdrawal liability under the presumptive method. If all unfunded vested benefits since the inception of the Multiemployer Pension Plan Amendments Act of 1980 (MPPAA) are zero (\$0) or less, there will be no withdrawal liability assessed to a withdrawing employer. Otherwise, an employer may be assessed withdrawal liability payments pursuant to MPPAA. The display does not reflect adjustments for prior employer withdrawals.

In accordance with IRC Section 432(e)(9)(A) and PBGC Technical Update 10-3, the impact of reducing adjustable benefits is reflected by adding the unamortized portion of the value of affected benefits (VAB) to the most recent year's unfunded vested benefits pool.

**Presumptive Method (\$ 000)**

| December 31,             | 2016   | 2015   | 2014   | 2013   | 2012   |
|--------------------------|--------|--------|--------|--------|--------|
| Vested benefits interest | 7.75%  | 7.75%  | 7.75%  | 7.75%  | 7.75%  |
| Vested benefits          | 70,726 | 71,847 | 69,884 | 66,810 | 64,443 |
| less: Asset value*       | 65,534 | 64,749 | 65,445 | 65,246 | 64,296 |
| UVB                      | 5,192  | 7,098  | 4,439  | 1,564  | 147    |
| Unamortized VAB          | 4,334  |        |        |        |        |
| UVB + VAB                | 9,526  | 7,098  | 4,439  | 1,564  | 147    |



\* Actuarial value.

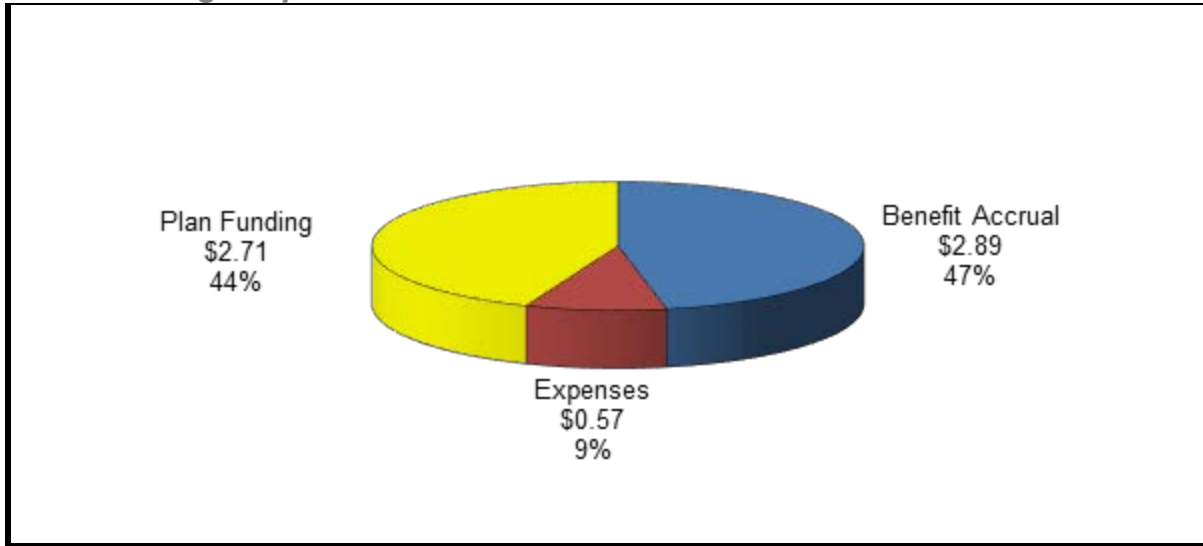
\*\* Includes VAB

**CONTRIBUTION ALLOCATION**

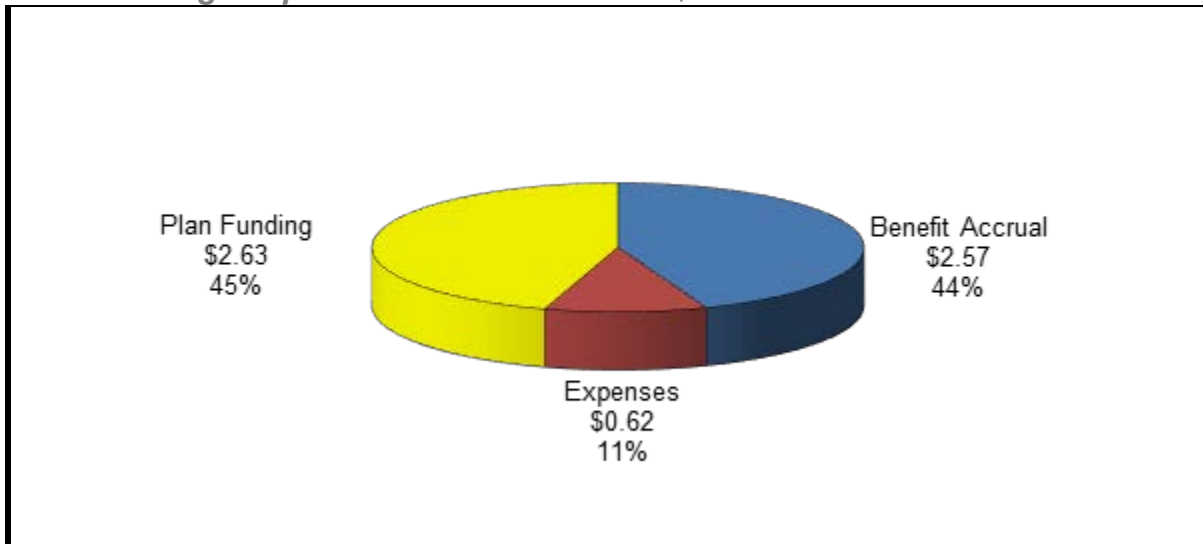
*These graphs show how the contributions are being spent*

The following allocation charts illustrate how the expected contribution rate for the coming plan year will be “spent” to pay for benefits being earned in the current year, plan expenses, and funding of past unfunded liabilities.

*Contribution Allocation as of January 1, 2017  
Total Average Expected Contribution Rate \$6.17*



*Contribution Allocation as of January 1, 2016  
Total Average Expected Contribution Rate \$5.82*



**FUNDING STANDARD ACCOUNT PROJECTION**

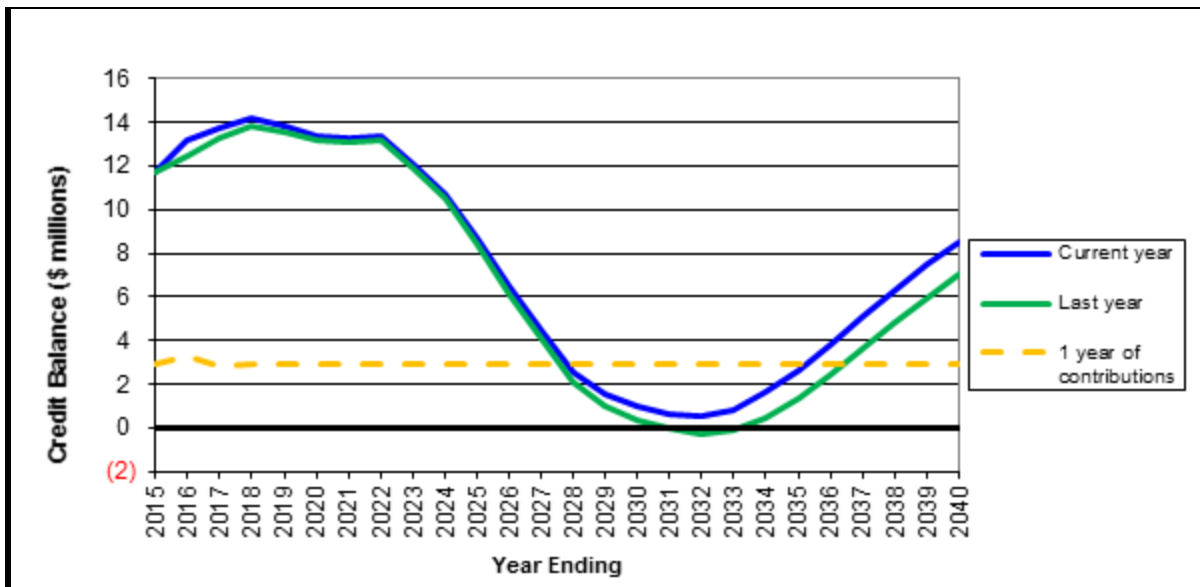
*The funding standard account projection is a major driver of PPA status*

The funding standard account (FSA) was established by ERISA as a means of determining compliance with minimum funding standards. The FSA is hypothetical in the sense that it does not represent actual assets held by a custodian.

Rather, a positive FSA balance (called a “credit balance”) means that the plan has exceeded minimum funding standards on a cumulative basis, while a negative balance (called a “funding deficiency”) means that the plan has fallen short of such standards.

Actuaries must project the plan’s credit balance each year in order to determine PPA status. If the credit balance is projected to be negative in a future year, the plan could be forced into yellow (endangered) or red (critical) status depending how far into the future the projected funding deficiency is. The plan’s credit balance projection appears below.

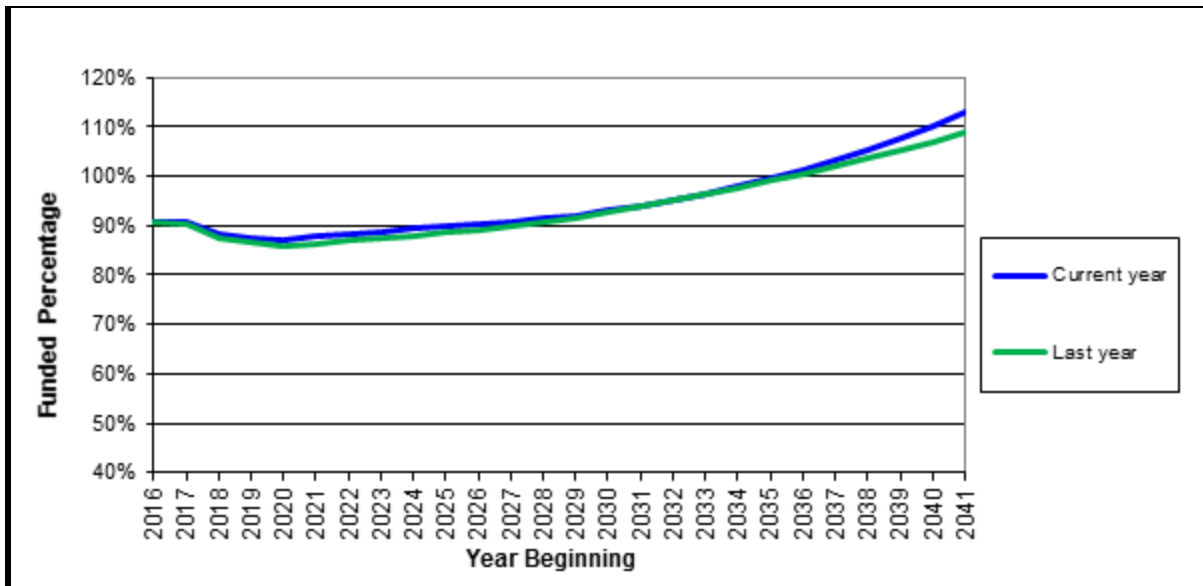
As a rule of thumb, UAS recommends that non-Critical status plans maintain a projected credit balance of at least one year’s contributions (shown as an orange dotted line in the graph below) in each future year. Maintaining a “cushion” in the Funding Standard Account helps minimize the risk of a surprise funding deficiency at the end of a non-Critical status plan year. Such a deficiency could trigger an excise tax payable directly by employers. If the Plan is in Critical status at the start of plan year, it is protected from these excise taxes so long as scheduled progress has been satisfied in at least one of the past three plan years. In order to provide a better comparison to the current year, last year’s graph has been revised to only show 2 years of 10¢ credited and 15¢ non-credited increases in 2016 and 2017.



**FUNDED RATIO PROJECTION**

*The plan's funded ratio is a major driver of PPA status*

The funded ratio is defined as the plan's liabilities for accrued benefits divided by the actuarial value of plan assets. Along with the funding standard account projection, funded ratio is one of the two major drivers of PPA funded status. In order for a plan to enter the green zone (also called "safe" or "not endangered or critical") the funded ratio must be at least 80%. The projection of the funded ratio appears below. In order to provide a better comparison to the current year, last year's graph has been revised to only show 2 years of 10¢ credited and 15¢ non-credited increases in 2016 and 2017.



**PPA FUNDING STATUS REPORT**

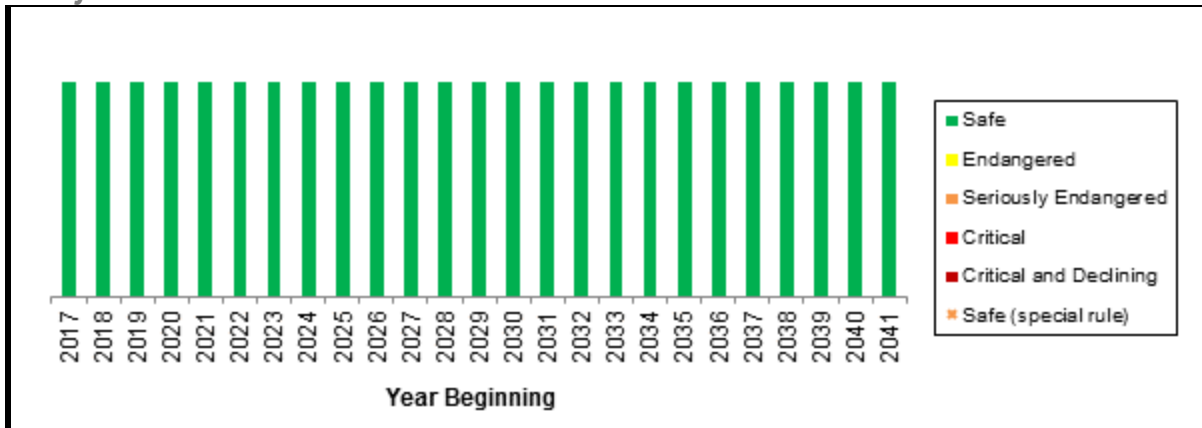
*The plan is not in either  
Endangered or Critical  
status for 2017*

The Pension Protection Act of 2006 (PPA), as amended by the Multiemployer Pension Reform Act of 2014 (“MPRA”), requires all multiemployer pension plans to obtain an annual status certification. The possible statuses are: “Endangered”, “Seriously Endangered”, “Critical”, “Critical and Declining” or none of these. As the plan’s actuary, we must complete the status certification within 90 days of the beginning of the plan year, and we must also certify whether or not the plan has made scheduled progress if its funding improvement or rehabilitation period has begun. The criteria for these determinations are outlined in Appendix D. Due to the timing requirement affecting PPA certifications, they are performed based on data different from that used in this report (see certification letter for additional details). The results are summarized below.

| <i>Description</i>                         | <i>Values Used for PPA Certification</i> |             |
|--|--|-------------|
|  | <i>2017</i>                              | <i>2016</i> |
| Funded ratio                               | 90.7%                                    | 87.4%       |
| Date of first projected funding deficiency |  |             |
| <i>With extensions</i>                     | None                                     | 12/31/2025  |
| <i>Without extensions</i>                  | 12/31/2028                               | 12/31/2023  |
| Years of benefit payments in assets        | 8+                                       | 8+          |
| Certified PPA status                       | Safe                                     | Critical*   |

\* The fund was certified healthy and projected to be critical in the next 5 years. The Trustees elected critical status.

**Projected PPA Status**



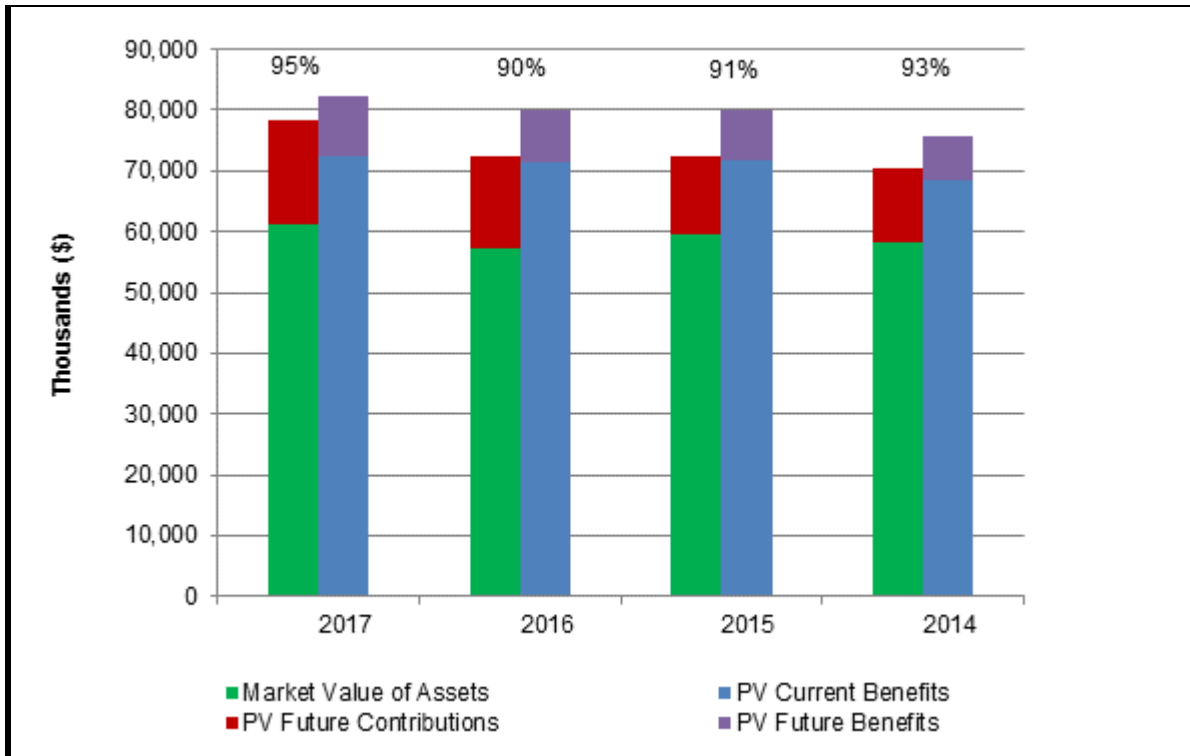


***ULTIMATE FUNDED STATUS***

*Ultimate funded status is a snapshot measure of contribution sufficiency*

An actuarial valuation deals primarily on the ability of the plan to meet Internal Revenue Code requirements now and in the near future. As such, it is heavily focused on current plan assets and liabilities. But it is also important to keep in mind the true purpose of the plan funding—that is, to accumulate sufficient assets to pay the benefits that the plan has promised to its participants. The chart below looks at this long-term funding adequacy. To the current plan assets we add the present value of all future contributions expected to be made for the current plan participants. To the value of the plan’s liabilities for benefits that have been previously earned we add the present value of all the future benefits the current plan participants are expected to earn through their future service. Ideally these ultimate asset and liability values will be approximately equal.

Neither of these amounts reflect the effect of future new participants or future contribution rate increases to the plan. Generally new entrants generate greater future contributions than benefits, so they represent a net positive to the actual future funding shown here.



**STRESS AND SENSITIVITY ANALYSIS**

*The table below illustrates the impact on the plan when experience varies from key assumptions*

Currently the plan is projected to be 100% funded by 2036, is projected to have no unfunded vested benefits in 2034, and projects no funding deficiencies. Considering that experience rarely matches our assumptions exactly, we developed the table below to demonstrate the impact that variations in certain key assumptions would have on these projections. We also showed what rate increases would be needed in 2018 and 2019 to project no funding deficiencies. We examined future hours assumptions equal to the baseline, 5% lower, and 5% higher. We examined asset returns for the 2017 plan year of 10.00%, 7.75%, 4.00%, or 0.00%. We also examined the impact of a lower asset return of 6.75% for the next 10 years at the baseline hours. Stochastic modeling is also available for a more detailed analysis of sensitivity to asset returns.

**Key Funding Statistics (without rate increases) and Rate Increases Needed to Project No Funding Deficiencies**

| Hours Assumption   | Funding Stats   | Return for 2017 PY<br>(7.25% for 2018-26 PY and 7.75% Thereafter) |   |   |   |
|--|---|---|---|---|---|
|  |   | 10.00%  | Assumed Return*   | 4.00%   | 0.00%   |
| <u>5% Lower</u><br>427,500 in 2017 and thereafter                    | 100% Funded:<br>No UVB:<br>Proj. Deficiency:<br>Increase: | 2034<br>2032<br>None<br>None needed                               | 2038<br>2036<br>2030<br>10¢ cr + 6¢ nc<br>2018-19<br>(32¢ total)  | 2045<br>2043<br>2029<br>10¢ cr + 31¢ nc<br>2018-19<br>(82¢ total) | n/a<br>n/a<br>2028<br>10¢ cr + 63¢ nc<br>2018-2019<br>(\$1.46 total)    |
| <u>Baseline</u><br>450,000 in 2017 and thereafter                    | 100% Funded:<br>No UVB:<br>Proj. Deficiency:<br>Increase: | 2032<br>2031<br>None<br>None needed                               | <b>2036</b><br><b>2034</b><br><b>None</b><br><b>None needed</b>   | 2041<br>2039<br>2029<br>10¢ cr + 19¢ nc<br>2018-19<br>(58¢ total) | 2055<br>2053<br>2028<br>10¢ cr + 49¢ nc<br>2018 -2019<br>(\$1.18 total) |
| <u>5% Higher</u><br>472,500 in 2017 and thereafter                   | 100% Funded:<br>No UVB:<br>Proj. Deficiency:<br>Increase: | 2031<br>2030<br>None<br>None needed                               | 2034<br>2032<br>None<br>None needed                               | 2038<br>2037<br>2030<br>10¢ cr + 8¢ nc<br>2018-19<br>(36¢ total)  | 2047<br>2045<br>2028<br>10¢ cr + 36¢ nc<br>2018-19<br>(92¢ total)       |
| <u>Lower short-term</u><br>6.75% return for 10 yrs<br>Baseline hours | 100% Funded:<br>No UVB:<br>Proj. Deficiency:<br>Increase: | 2037<br>2036<br>None<br>None needed                               | 2043<br>2041<br>2030<br>10¢ cr + 18¢ nc<br>2018-19<br>(56¢ total) | 2052<br>2050<br>2029<br>10¢ cr + 38¢ nc<br>2018-19<br>96¢ total)  | n/a<br>n/a<br>2028<br>10¢ cr + 67¢ nc<br>2018-19<br>(\$1.54 total)      |

\* The assumed return for the 2017 plan year is 7.25% in the first three rows and 6.75% in the last row.

***STRESS AND SENSITIVITY ANALYSIS (CONT.)***

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More action can be taken in any funding result to provide an even bigger “cushion” against future losses. There are other possible solutions besides the provided contribution rate increase schedule shown above, including different lengths of contribution rate increases. Benefit reductions could also be added to lower or eliminate the necessary contribution rate increases.

All actions taken to eliminate projected funding deficiencies need to be in place until the credit balance projection is past its low point. This is about 15 years out. Asset gains or strong hours could speed up this timeframe.

***PART II: SUPPLEMENTAL STATISTICS***

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***PARTICIPANT DATA RECONCILIATION***

The participant data reconciliation table below provides information as to how the plan's covered population changed since the prior actuarial study. Such factors as the number of participants retiring, withdrawing and returning to work have an impact on the actuarial position of the pension fund.

| <i>Participants<br/>Valued As</i> | <i>Active</i> | <i>Inactive<br/>Vested</i> | <i>Receiving<br/>Benefits</i> | <i>Total<br/>Valued</i> |
|-----------------------------------|---------------|----------------------------|-------------------------------|-------------------------|
| January 1, 2016                   | 323           | 533                        | 445                           | 1,301                   |
| Change due to:                    |               |                            |                               |                         |
| <i>New hire</i>                   | 41            | -                          | -                             | 41                      |
| <i>Rehire</i>                     | 16            | (15)                       | -                             | 1                       |
| <i>Termination</i>                | (44)          | 19                         | -                             | (25)                    |
| <i>Disablement</i>                | -             | (1)                        | 1                             | -                       |
| <i>Retirement</i>                 | (2)           | (10)                       | 12                            | -                       |
| <i>Death</i>                      | (1)           | (9)                        | (18)                          | (28)                    |
| <i>Cash out</i>                   | -             | (3)                        | -                             | (3)                     |
| <i>New beneficiary</i>            | -             | 6                          | 4                             | 10                      |
| <i>Certain pd. expired</i>        | -             | -                          | -                             | -                       |
| <i>Data adjustment</i>            | -             | -                          | 3 *                           | 3                       |
| Net change                        | 10            | (13)                       | 2                             | (1)                     |
| January 1, 2017                   | 333           | 520                        | 447                           | 1,300                   |

\* Includes 2 participants previously assumed to be deceased that are now retired and 1 beneficiary previously thought to be ineligible.

***HOURS WORKED DURING PLAN YEAR***

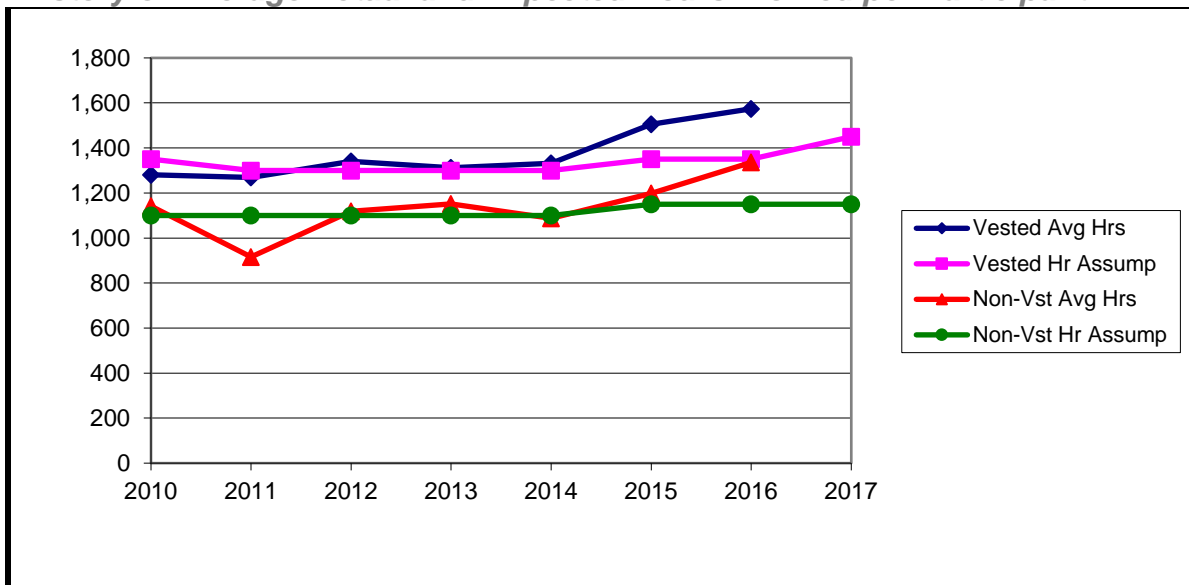
***Hours Worked Per Participant***

| <b><i>Plan Year Ending<br/>December 31, 2016</i></b> | <b><i>Number</i></b> | <b><i>Hours Worked</i></b> | <b><i>Average<br/>Hours Worked</i></b> |
|--|----------------------|----------------------------|--|
| Actives  |                      |                            |  |
| <i>Vested</i>  | 256                  | 402,827                    | 1,574                                  |
| <i>Non-vested, continuing</i>                        | 51                   | 75,221                     | 1,475                                  |
| <i>Non-vested, new entrant</i>                       | 26                   | 27,686                     | 1,065                                  |
| Total active   | 333                  | 505,734                    | 1,519                                  |
| Others   | 71                   | 11,052                     | 156                                    |
| Total for plan year                                  | 404                  | 516,786                    | 1,279                                  |

***History of Total Actual and Expected Hours Worked (Thousands)***

| <b><i>Plan Year Ending<br/>December 31,</i></b> | <b><i>2017</i></b> | <b><i>2016</i></b> | <b><i>2015</i></b> | <b><i>2014</i></b> | <b><i>2013</i></b> |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| Expected hours valuation                        | 458                | 417                | 376                | 325                | 357                |
| Expected hours PPA cert                         | 450                | 450                | 438                | 438                | 390                |
| Actual hours worked                             | N/A                | 517                | 471                | 385                | 337                |

***History of Average Actual and Expected Hours Worked per Participant***



**CONTRIBUTIONS MADE DURING PLAN YEAR**

**Employer Credited Contributions Reported in Employee Data**

| <i>Plan Year Ending<br/>December 31, 2016</i> | <i>Number</i> | <i>Credited<br/>Contributions<br/>Reported</i> |
|---|---------------|--|
| <b>Actives</b>                                |               |  |
| <i>Vested</i>                                 | 256           | \$ 1,584,227                                   |
| <i>Non-vested, continuing</i>                 | 51            | 299,173  |
| <i>Non-vested, new entrant</i>                | 26            | 105,521  |
| Total valued as active                        | 333           | 1,988,921                                      |
| <b>Others</b>                                 | 71            | 51,664   |
| <b>Total for plan year</b>                    | <b>404</b>    | <b>\$ 2,040,585</b>                            |

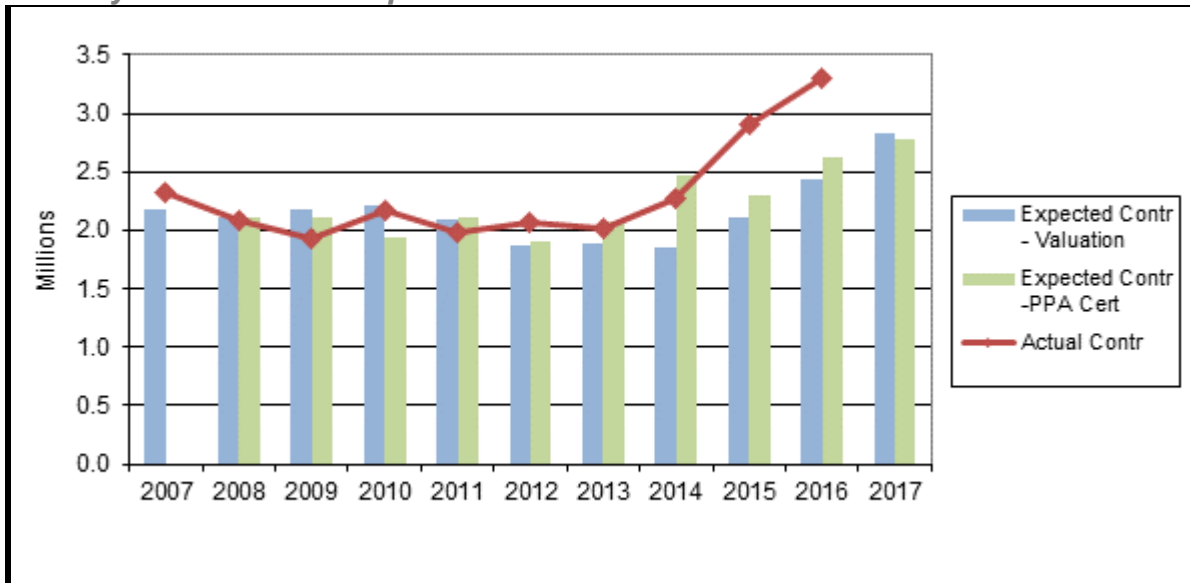
|   |    |      |
|---|----|------|
| Average credited hourly contribution rate | \$ | 3.95 |
|---|----|------|

**Comparison with Audited Employer Contributions**

|  |    |           |
|--|----|-----------|
| Employer credited contributions reported in data | \$ | 2,040,585 |
| Adjusted total employer contributions reported*  | \$ | 3,155,551 |
| Total audited employer contributions             | \$ | 3,301,405 |
| Percent reported                                 |    | 96%       |

\* Adjusted to reflect the non-credited contributions of \$2.07 per hour worked through May 31, 2016 and \$2.22 per hour worked from June 1, 2016 through the end of the plan year

**History of Actual and Expected Total Contributions Received**



*Supplemental Statistics  
Outstate Michigan Trowel Trades Pension Plan  
January 1, 2017 Actuarial Valuation*

**ACTIVE INFORMATION**

**Active Participants by Age and Service as of January 1, 2017**

| <b>Age</b>               | <b>Years of Service</b> |            |            |              |              |              |              |              |              |            | <b>Total</b> |     |
|--------------------------|-------------------------|------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|------------|--------------|-----|
|                          | <b>&lt;1</b>            | <b>1-4</b> | <b>5-9</b> | <b>10-14</b> | <b>15-19</b> | <b>20-24</b> | <b>25-29</b> | <b>30-34</b> | <b>35-39</b> | <b>40+</b> |              |     |
| < 25                     | -                       | 7          | -          | -            | -            | -            | -            | -            | -            | -          | -            | 7   |
| 25-29                    | -                       | 13         | 5          | -            | -            | -            | -            | -            | -            | -          | -            | 18  |
| 30-34                    | -                       | 6          | 2          | 5            | -            | -            | -            | -            | -            | -          | -            | 13  |
| 35-39                    | -                       | 20         | 6          | 11           | 23           | -            | -            | -            | -            | -          | -            | 60  |
| 40-44                    | -                       | 7          | 6          | 15           | 18           | 8            | -            | -            | -            | -          | -            | 54  |
| 45-49                    | -                       | 15         | 6          | 11           | 14           | 9            | 6            | -            | -            | -          | -            | 61  |
| 50-54                    | -                       | 5          | 4          | 7            | 16           | 13           | 11           | 7            | -            | -          | -            | 63  |
| 55-59                    | -                       | 2          | 4          | 4            | 11           | 7            | 5            | 6            | 2            | -          | -            | 41  |
| 60-64                    | -                       | 1          | 2          | 5            | -            | 2            | 2            | 2            | -            | -          | -            | 14  |
| 65-69                    | -                       | -          | -          | -            | -            | -            | -            | -            | -            | -          | -            | -   |
| 70+                      | -                       | -          | 1          | -            | -            | -            | -            | -            | -            | -          | -            | 1   |
| Totals                   | -                       | 76         | 36         | 58           | 82           | 39           | 24           | 15           | 2            | -          | -            | 332 |
| Unrecorded<br>DOB        | -                       | 1          | -          | -            | -            | -            | -            | -            | -            | -          | -            | 1   |
| Total<br>Active<br>Lives | -                       | 77         | 36         | 58           | 82           | 39           | 24           | 15           | 2            | -          | -            | 333 |



***INACTIVE VESTED INFORMATION***

*Inactive Vested Participants by Age as of January 1, 2017*

| <i>Age Group</i>            | <i>Number</i> | <i>Estimated Deferred Vested Benefits*</i> |         |
|-----------------------------|---------------|--|---------|
| < 30                        | -             | \$   | -       |
| 30-34                       | 10            |  | 2,444   |
| 35-39                       | 34            |  | 11,612  |
| 40-44                       | 57            |  | 20,582  |
| 45-49                       | 89            |  | 36,118  |
| 50-54                       | 114           |  | 38,889  |
| 55-59                       | 97            |  | 25,324  |
| 60-64                       | 82            |  | 16,899  |
| 65-69                       | 26            |  | 2,661   |
| 70+                         | 11            |  | 715     |
| Totals                      | 520           |  | 155,244 |
| Unrecorded birth date       | -             |  | -       |
| Total inactive vested lives | 520           | \$   | 155,244 |

\* Amount payable at assumed retirement age as used in the valuation process.

**RETIREE INFORMATION**

**Benefits Being Paid by Form of Payment as of January 1, 2017**

| Form of Payment  | Number     | Monthly Benefits Being Paid |               |             |                 |
|------------------|------------|-----------------------------|---------------|-------------|-----------------|
|                  |            | Total                       | Average       | Smallest    | Largest         |
| Life only        | 116        | \$ 77,512                   | \$ 668        | \$ 29       | \$ 4,305        |
| Certain & life   | 27         | 21,853                      | 809           | 33          | 3,446           |
| Joint & survivor | 182        | 190,858                     | 1,049         | 26          | 3,368           |
| Disability       | 28         | 37,257                      | 1,331         | 8           | 3,245           |
| Beneficiaries    | 94         | 31,338                      | 333           | 17          | 2,229           |
| <b>Totals</b>    | <b>447</b> | <b>\$ 358,818</b>           | <b>\$ 803</b> | <b>\$ 8</b> | <b>\$ 4,305</b> |

**Retirees by Age and Form of Payment as of January 1, 2017**

| Age Group                       | Form of Benefits Being Paid |                |                  |            |            |
|---------------------------------|-----------------------------|----------------|------------------|------------|------------|
|                                 | Life Only                   | Certain & Life | Joint & Survivor | Disability | Total      |
| < 40                            | -                           | -              | -                | -          | -          |
| 40-44                           | -                           | -              | -                | 2          | 2          |
| 45-49                           | -                           | -              | -                | 1          | 1          |
| 50-54                           | -                           | -              | -                | 6          | 6          |
| 55-59                           | 6                           | 3              | 9                | 12         | 30         |
| 60-64                           | 17                          | 8              | 37               | 7          | 69         |
| 65-69                           | 26                          | 5              | 37               | -          | 68         |
| 70-74                           | 22                          | 4              | 38               | -          | 64         |
| 75-79                           | 18                          | 4              | 22               | -          | 44         |
| 80-84                           | 17                          | 3              | 24               | -          | 44         |
| 85-89                           | 8                           | -              | 10               | -          | 18         |
| 90-94                           | 1                           | -              | 4                | -          | 5          |
| 95+                             | 1                           | -              | 1                | -          | 2          |
| <b>Totals</b>                   | <b>116</b>                  | <b>27</b>      | <b>182</b>       | <b>28</b>  | <b>353</b> |
| <i>plus:</i> Beneficiaries      |                             |                |                  |            | 94         |
| <b>Total receiving benefits</b> |                             |                |                  |            | <b>447</b> |

**RETIREE INFORMATION (CONT.)**

**Age of Participants Retired During Last 5 Plan Years**  
 (excludes beneficiaries and disability retirements)

| Age at Retirement | Plan Year Ending December 31, |      |      |      |      |
|-------------------|-------------------------------|------|------|------|------|
|                   | 2016                          | 2015 | 2014 | 2013 | 2012 |
| < 55              | -                             | -    | -    | -    | -    |
| 55                | 3                             | 1    | 4    | 1    | 4    |
| 56                | -                             | -    | 1    | -    | 2    |
| 57                | -                             | -    | 3    | 2    | 2    |
| 58                | 2                             | 2    | 4    | 5    | 4    |
| 59                | 2                             | -    | -    | 2    | 1    |
| 60                | -                             | -    | -    | 1    | 1    |
| 61                | 1                             | 1    | -    | -    | 1    |
| 62                | 1                             | 2    | 4    | 2    | 3    |
| 63                | 1                             | -    | 1    | -    | 1    |
| 64                | -                             | -    | -    | 1    | -    |
| 65                | 1                             | -    | 2    | 1    | 1    |
| 66+               | 1                             | 3    | -    | -    | 2    |
| Totals            | 12                            | 9    | 19   | 15   | 22   |

**History of Average Retirement Ages**  
 (excludes beneficiaries and disability retirements)

| Retirement During Plan Year Ending In: | Number | Average Retirement Age |
|--|--------|------------------------|
| 2016                                   | 12     | 60.7                   |
| 2015                                   | 9      | 62.4                   |
| 2014                                   | 19     | 59.2                   |
| 2013                                   | 15     | 59.8                   |
| 2012                                   | 22     | 59.8                   |

***PART III: ASSET INFORMATION***

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***MARKET AND ACTUARIAL FUND VALUES***

Asset information extracted from the fund's financial statements audited by Benda, Grace, Stulz & Company, P.C.

***Market/Actuarial Value  
of Fund Investments  
as of December 31,***

|   | <b><i>2016</i></b> | <b><i>2015</i></b> | <b><i>2014</i></b> |
|---|--------------------|--------------------|--------------------|
| Invested assets                                     |                    |                    |                    |
| <i>Common stock</i>                                 | \$ 15,594,405      | \$ 13,115,300      | \$ 18,029,254      |
| <i>Common collective trusts</i>                     | 3,963,119          | 6,670,445          | 1,355,033          |
| <i>Hedge fund of funds</i>                          | 6,505,048          | 6,015,007          | 10,843,435         |
| <i>Mutual funds</i>                                 | 24,637,716         | 24,984,563         | 22,605,579         |
| <i>Real estate funds</i>                            | 4,517,581          | 4,183,501          | 4,137,717          |
| <i>Limited partnership</i>                          | 5,349,186          | 3,881,233          | 1,852,648          |
| <i>Cash</i>   | 622,118            | 827,223            | 447,341            |
| <i>Other</i>  | 22,252             | 21,479             | 284,494            |
|   | 61,211,425         | 59,698,751         | 59,555,501         |
| Net receivables*                                    | 61,001             | (2,276,540)        | 153,910            |
| Market value  | \$ 61,272,426      | \$ 57,422,211      | \$ 59,709,411      |
| Fund assets - Actuarial value                       |                    |                    |                    |
| <i>Market value</i>                                 | \$ 61,272,426      | \$ 57,422,211      | \$ 59,709,411      |
| less: <i>Deferred investment gains and (losses)</i> | (4,261,707)        | (7,327,190)        | (5,735,199)        |
| Actuarial value                                     | \$ 65,534,133      | \$ 64,749,401      | \$ 65,444,610      |
| Actuarial value as a percentage of market value     | 106.96%            | 112.76%            | 109.61%            |

\* Equals receivables, less any liabilities

*Asset Information*  
**Outstate Michigan Trowel Trades Pension Plan**  
**January 1, 2017 Actuarial Valuation**

***FLOW OF FUNDS***

Asset information extracted from the fund's financial statements audited by Benda, Grace, Stulz & Company, P.C.

| <b><i>Plan Year Ending</i></b><br><b><i>December 31,</i></b> | <b><i>2016</i></b> | <b><i>2015</i></b> | <b><i>2014</i></b> |
|--|--------------------|--------------------|--------------------|
| Market value at beginning of plan year                       | \$ 57,422,211      | \$ 59,709,411      | \$ 58,338,459      |
| Additions  |                    |                    |                    |
| <i>Employer contributions</i>                                | 3,301,405          | 2,903,803          | 2,277,139          |
| <i>Net investment income*</i>                                | 5,098,121          | (686,105)          | 3,568,585          |
| <i>Other income</i>  | 807                | 399                | 8,278              |
|  | 8,400,333          | 2,218,097          | 5,854,002          |
| Deductions   |                    |                    |                    |
| <i>Benefits paid</i>   | 4,307,702          | 4,266,403          | 4,240,467          |
| <i>Net expenses*</i>   | 242,416            | 238,894            | 242,583            |
|  | 4,550,118          | 4,505,297          | 4,483,050          |
| Net increase (decrease)                                      | 3,850,215          | (2,287,200)        | 1,370,952          |
| Adjustment   | -                  | -                  | -                  |
| Market value at end of plan year                             | \$ 61,272,426      | \$ 57,422,211      | \$ 59,709,411      |
| Cashflow   |                    |                    |                    |
| <i>Contr.-ben.-exp.</i>                                      | (1,248,713)        | (1,601,494)        | (2,205,911)        |
| <i>Percent of assets</i>                                     | -2.04%             | -2.79%             | -3.69%             |
| Estimated net investment return                              |                    |                    |                    |
| <i>On market value</i>                                       | 8.98%              | -1.16%             | 6.23%              |
| <i>On actuarial value</i>                                    | 3.17%              | 1.40%              | 3.74%              |

\* Investment expenses have been offset against gross investment income.

**INVESTMENT GAIN AND LOSS**

**Investment Gain or Loss**  
**Plan Year Ending December 31, 2016**

|  |    |             |
|--|----|-------------|
| Expected market value at end of plan year            | \$ | 57,422,211  |
| Market value at beginning of plan year               |    | 3,302,212   |
| Employer contributions and non-investment income     |    | (4,550,118) |
| Benefits and expenses paid                           |    | 4,401,865   |
| Expected investment income (at 7.75% rate of return) |    | 60,576,170  |
| <hr/>  |    |             |
| Actual market value at end of plan year              |    | 61,272,426  |
| less: Expected market value                          |    | 60,576,170  |
| <hr/>  |    |             |
| Investment gain or (loss)                            | \$ | 696,256     |

**History of Gains and (Losses)**

| <i>Plan Year<br/>Ending<br/>December 31,</i> | <i>Investment<br/>Gain<br/>or (Loss)</i> |
|--|--|
| 2016   | \$ 696,256                               |
| 2015   | (5,251,542)                              |
| 2014   | (867,487)                                |
| 2013   | 1,494,887                                |
| 2008   | (16,197,687)                             |

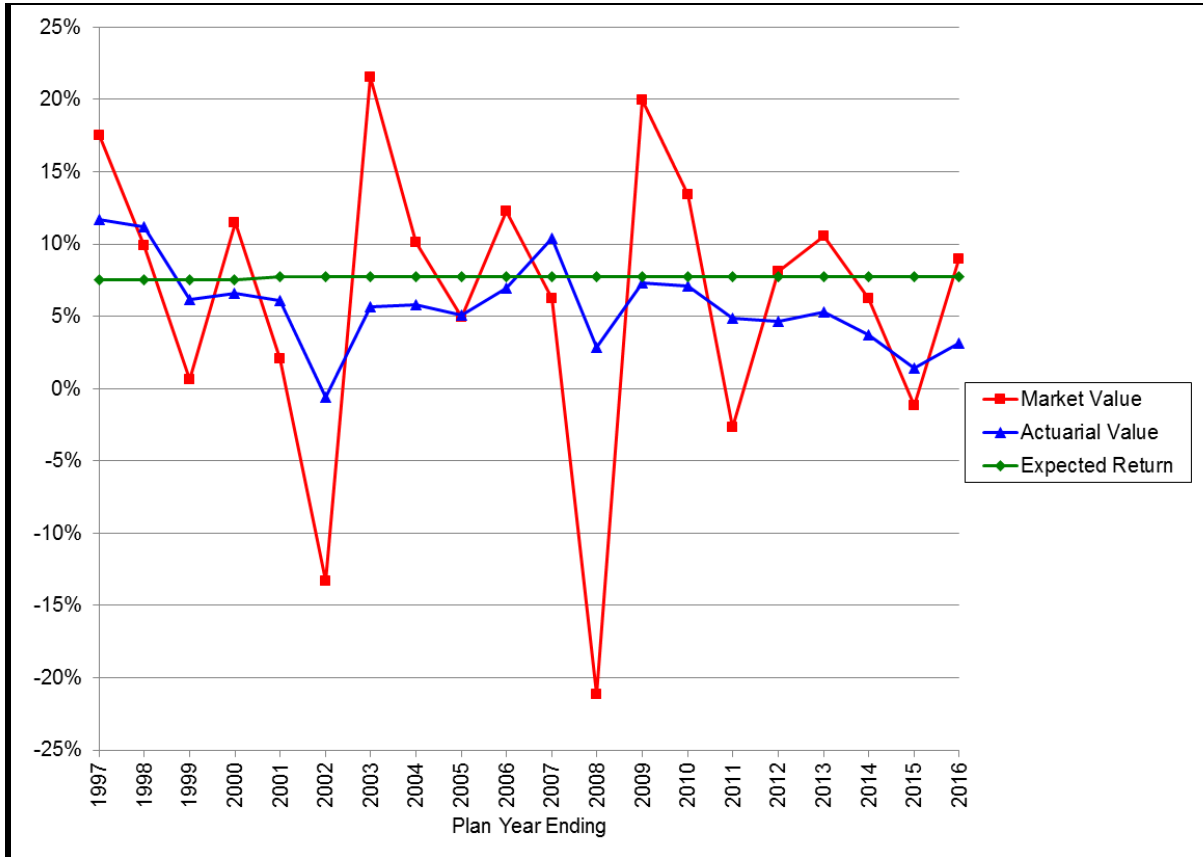
**Deferred Investment Gains and (Losses)\***

| <i>Plan Year<br/>Ending<br/>December 31,</i> | <i>Amount of Gain or (Loss) Deferred as of December 31,</i> |                       |                     |                   |
|--|---|-----------------------|---------------------|-------------------|
|  | <i>2016</i>   | <i>2017</i>           | <i>2018</i>         | <i>2019</i>       |
| 2016   | \$ 557,005  | \$ 417,754            | \$ 278,502          | \$ 139,251        |
| 2015   | (3,150,925)   | (2,100,617)           | (1,050,308)         | -                 |
| 2014   | (346,995)   | (173,497)             | -                   | -                 |
| 2013   | 298,977   | -                     | -                   | -                 |
| 2008   | (1,619,769)   | -                     | -                   | -                 |
| <b>Totals</b>                                | <b>\$ (4,261,707)</b>                                       | <b>\$ (1,856,360)</b> | <b>\$ (771,806)</b> | <b>\$ 139,251</b> |

\* Gains and (Losses) for the plan years ending 2009, 2010, 2011, and 2012 have been fully recognized.

***RATE OF RETURN ON FUND ASSETS***

***Historical Rates of Net Investment Return***



***Average Rates of Net Investment Return (dollar weighted)***

| <i>Period</i> | <i>Return on Market Value</i>     |             | <i>Return on Actuarial Value</i>  |             |
|---------------|-----------------------------------|-------------|-----------------------------------|-------------|
|               | <i>Period Ending December 31,</i> |             | <i>Period Ending December 31,</i> |             |
|               | <i>2016</i>                       | <i>2015</i> | <i>2016</i>                       | <i>2015</i> |
| One year      | 8.98%                             | -1.16%      | 3.17%                             | 1.40%       |
| 5 years       | 6.54%                             | 4.06%       | 3.69%                             | 4.03%       |
| 10 years      | 4.07%                             | 4.54%       | 5.19%                             | 5.56%       |
| 15 years      | 4.92%                             | 4.50%       | 4.95%                             | 5.13%       |
| 20 years      | 5.74%                             | 5.86%       | 5.72%                             | 5.97%       |



***PART IV: ENROLLED ACTUARY'S REPORT***

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*Enrolled Actuary's Report  
Outstate Michigan Trowel Trades Pension Plan  
January 1, 2017 Actuarial Valuation*

***NORMAL COST/ACTUARIAL LIABILITY***

| <b><i>Normal Cost as of January 1,</i></b>            | <b><i>2017</i></b>  | <b><i>2016</i></b>  |
|---|---------------------|---------------------|
| Active participants - service prior to valuation date | \$ -                | \$ -                |
| Active participants - service after valuation date    | 1,273,021           | 1,033,140           |
| Anticipated administrative expenses (beg. of year)    | 250,301             | 250,301             |
| <b>Total normal cost</b>                              | <b>\$ 1,523,322</b> | <b>\$ 1,283,441</b> |

| <b><i>Unfunded Actuarial Liability as of January 1,</i></b> | <b><i>2017</i></b>  | <b><i>2016</i></b>  |
|---|---------------------|---------------------|
| Actuarial liability   |                     |                     |
| <i>Participants currently receiving benefits</i>            | \$ 40,124,125       | \$ 40,152,010       |
| <i>Inactive vested participants</i>                         | 10,097,481          | 11,569,448          |
| <i>Active participants - service prior to val. date</i>     | 22,035,943          | 19,642,063          |
| <i>Active participants - service after val. date</i>        | -                   | -                   |
|   | 72,257,549          | 71,363,521          |
| <i>less: Fund assets (actuarial value)</i>                  | 65,534,133          | 64,749,401          |
| <b>Unfunded actuarial liability (not less than 0)</b>       | <b>\$ 6,723,416</b> | <b>\$ 6,614,120</b> |

***ACTUARIAL LIABILITY RECONCILIATION/PROJECTION***

***Reconciliation of Unfunded Actuarial Liability***

|   |    |  |             |
|---|----|--|-------------|
| Expected unfunded actuarial liability as of December 31, 2016 |    |  |             |
| <i>Unfunded actuarial liability as of January 1, 2016</i>     | \$ |  | 6,614,120   |
| <i>Normal cost (including expenses)</i>                       |    |  | 1,283,441   |
| <i>Actual contributions</i>                                   |    |  | (3,301,405) |
| <i>Interest to end of plan year</i>                           |    |  | 484,131     |
|   |    |  | 5,080,287   |
|   |    |  |             |
| Increase (decrease) due to:                                   |    |  |             |
| <i>Experience (gain) or loss</i>                              |    |  | 3,415,873   |
| <i>Plan amendment</i>   |    |  | (2,009,662) |
| <i>Change in actuarial assumptions</i>                        |    |  | 236,918     |
| <i>Change in actuarial method</i>                             |    |  | -           |
| Net increase (decrease)                                       |    |  | 1,643,129   |
|   |    |  |             |
| Unfunded actuarial liability as of January 1, 2017            | \$ |  | 6,723,416   |

***Projection of Actuarial Liability to Year End***

|  |    |  |             |
|--|----|--|-------------|
| Actuarial liability as of January 1, 2017            |    |  |             |
|  | \$ |  | 72,257,549  |
| Expected increase (decrease) due to:                 |    |  |             |
| <i>Normal cost (excluding expenses)</i>              |    |  | 1,273,021   |
| <i>Benefits paid</i>                                 |    |  | (4,724,756) |
| <i>Interest on above</i>                             |    |  | (84,425)    |
| <i>Interest on actuarial liability</i>               |    |  | 5,599,960   |
| Net expected increase (decrease)                     |    |  | 2,063,800   |
|  |    |  |             |
| Expected actuarial liability as of December 31, 2017 | \$ |  | 74,321,349  |

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**FUNDED RATIOS**

| <i>Present Value of Accumulated Benefits/<br/>Funded Ratios<br/>Actuarial Study as of January 1,</i> | <i>2017</i>   | <i>2016</i>   |
|--|---------------|---------------|
| Present value of vested accumulated benefits   |               |               |
| <i>Participants currently receiving benefits</i>   | \$ 40,124,125 | \$ 40,152,010 |
| <i>Inactive vested participants</i>  | 9,969,394     | 11,232,974    |
| <i>Active participants</i>   | 20,632,286    | 15,260,391    |
| Total  | 70,725,805    | 66,645,375    |
| Nonvested accumulated benefits   | 1,531,744     | 4,718,146     |
| Present value of all accumulated benefits  | \$ 72,257,549 | \$ 71,363,521 |
| Market value of assets   | \$ 61,272,426 | \$ 57,422,211 |
| Funded ratios (Market value)   |               |               |
| <i>Vested benefits</i>   | 86.6%         | 86.2%         |
| <i>All accumulated benefits</i>  | 84.8%         | 80.5%         |
| Actuarial value of assets  | \$ 65,534,133 | \$ 64,749,401 |
| Funded ratios (Actuarial value used for PPA)   |               |               |
| <i>Vested benefits</i>   | 92.7%         | 97.2%         |
| <i>All accumulated benefits</i>  | 90.7%         | 90.7%         |
| Interest rate used to value benefits   | 7.75%         | 7.75%         |

***FUNDING PERIOD***

The funding period is the approximate number of years that would be required to completely fund the unfunded entry age normal actuarial liability if future plan experience occurs according to the assumptions. The funding period is an indicator of the long term financial soundness of the plan. Historically, funds often targeted a maximum funding period of up to 20 years. Today, asset losses are being paid off over a maximum of 15 years and are the primary driver for ERISA minimum funding. An ultimate target of no more than 10 years is recommended. A lower, more conservative funding period target can be chosen. As the funding period drops, the risk of having future funding issues also diminishes.

***Funding Period Calculation***

| <b><i>Actuarial Study as of January 1,</i></b> | <b><i>2017</i></b> | <b><i>2016</i></b> |
|--|--------------------|--------------------|
| Unfunded actuarial liability                   |                    |                    |
| <i>Actuarial liability</i>                     | \$ 78,875,378      | \$ 76,769,888      |
| <i>less: Fund assets (actuarial value)</i>     | 65,534,133         | 64,749,401         |
|  | 13,341,245         | 12,020,487         |
| Funds available to amortize unfunded           |                    |                    |
| <i>Anticipated contributions (beg. of yr.)</i> | 2,721,414          | 2,339,179          |
| <i>less: Normal cost (including expenses)</i>  | 862,312            | 806,183            |
|  | \$ 1,859,102       | \$ 1,532,996       |
| Funding period (years)                         | 10                 | 12                 |

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**CURRENT LIABILITY**

**Current Liability as of January 1, 2017**

|  |    |             |
|--|----|-------------|
| Vested current liability                         |    |             |
| <i>Participants currently receiving benefits</i> | \$ | 61,667,204  |
| <i>Inactive vested participants</i>              |    | 21,895,305  |
| <i>Active participants</i>                       |    | 47,778,214  |
|  |    | 131,340,723 |
| Nonvested current liability                      |    |             |
| <i>Inactive vested participants</i>              |    | 121,789     |
| <i>Active participants</i>                       |    | 2,315,591   |
|  |    | 2,437,380   |
| Total current liability                          | \$ | 133,778,103 |

**Projection of Current Liability to Year End**

|  |    |             |
|--|----|-------------|
| Current liability as of January 1, 2017            | \$ | 133,778,103 |
| Expected increase (decrease) due to:               |    |             |
| <i>Benefits accruing</i>                           |    | 3,175,029   |
| <i>Benefits paid</i>                               |    | (4,724,756) |
| <i>Interest on above</i>                           |    | 24,786      |
| <i>Interest on current liability</i>               |    | 4,080,232   |
| Net expected increase (decrease)                   |    | 2,555,291   |
| Expected current liability as of December 31, 2017 | \$ | 136,333,394 |

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**FUNDING STANDARD ACCOUNT**

| <i>Funding Standard Account<br/>Plan Year Ending December 31,</i> | <i>2017<br/>(Projected)</i> | <i>2016<br/>(Final)</i> |
|---|-----------------------------|-------------------------|
| <b>Charges</b>  |                             |                         |
| <i>Prior year funding deficiency</i>                              | \$ -                        | \$ -                    |
| <i>Normal cost (including expenses)</i>                           | 1,523,322                   | 1,283,441               |
| <i>Amortization charges (see Appendix C)</i>                      | 5,566,656                   | 5,187,189               |
| <i>Interest on above</i>  | 549,475                     | 501,476                 |
| <b>Total charges</b>  | <b>7,639,453</b>            | <b>6,972,106</b>        |
| <b>Credits</b>  |                             |                         |
| <i>Prior year credit balance</i>                                  | 13,161,453                  | 11,689,261              |
| <i>Employer contributions</i>                                     | 2,841,298                   | 3,301,405               |
| <i>Amortization credits (see Appendix C)</i>                      | 4,028,085                   | 3,813,499               |
| <i>Interest on above</i>  | 1,442,290                   | 1,329,394               |
| <i>ERISA full funding credit</i>                                  | -                           | -                       |
| <b>Total credits</b>  | <b>21,473,126</b>           | <b>20,133,559</b>       |
| <b>Credit balance (credits less charges)</b>                      | <b>\$ 13,833,673</b>        | <b>\$ 13,161,453</b>    |

**FUNDING STANDARD ACCOUNT WITHOUT AMORTIZATION EXTENSION**

The Funding Standard Account in Part I has been developed using an amortization extension approved by the IRS under §412(e) or §431(d) of the Code. We are required to report the dollar difference between the minimum required contribution with extension and without extension on the Schedule MB.

| <i>Funding Standard Account<br/>Plan Year Ending December 31,</i> | <i>2017<br/>(Projected)</i> | <i>2016<br/>(Final)</i> |
|---|-----------------------------|-------------------------|
| <b>Charges</b>  |                             |                         |
| <i>Prior year funding deficiency</i>                              | \$ -                        | \$ -                    |
| <i>Normal cost (including expenses)</i>                           | 1,523,322                   | 1,283,441               |
| <i>Amortization charges (see Appendix C)</i>                      | 5,602,507                   | 5,484,800               |
| <i>Interest on above</i>  | 552,249                     | 524,537                 |
| <b>Total charges</b>  | <b>7,678,078</b>            | <b>7,292,778</b>        |
| <b>Credits</b>  |                             |                         |
| <i>Prior year credit balance</i>                                  | 4,625,339                   | 4,064,722               |
| <i>Employer contributions</i>                                     | 2,841,298                   | 3,301,405               |
| <i>Amortization credits (see Appendix C)</i>                      | 4,028,085                   | 3,813,499               |
| <i>Interest on above</i>  | 780,741                     | 738,491                 |
| <i>ERISA full funding credit</i>                                  | -                           | -                       |
| <b>Total credits</b>  | <b>12,275,463</b>           | <b>11,918,117</b>       |
| <b>Credit balance (credits less charges)</b>                      | <b>\$ 4,597,385</b>         | <b>\$ 4,625,339</b>     |



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***FULL FUNDING LIMIT***

| <b><i>Projection of Assets<br/>for Full Funding Limit</i></b> | <b><i>Market<br/>Value</i></b> | <b><i>Actuarial<br/>Value</i></b> |
|---|--------------------------------|-----------------------------------|
| Asset value as of January 1, 2017                             | \$ 61,272,426                  | \$ 65,534,133                     |
| Expected increase (decrease) due to:                          |                                |                                   |
| <i>Investment income</i>                                      | 4,555,454                      | 4,885,736                         |
| <i>Benefits paid</i>  | (4,724,756)                    | (4,724,756)                       |
| <i>Expenses</i>   | (260,000)                      | (260,000)                         |
| Net expected increase (decrease)                              | (429,302)                      | (99,020)                          |
| Expected value as of December 31, 2017*                       | \$ 60,843,124                  | \$ 65,435,113                     |

\* Ignoring expected employer contributions (as required by regulation).

| <b><i>Full Funding Limit<br/>as of December 31, 2017</i></b>          | <b><i>For Minimum<br/>Required</i></b> | <b><i>For Maximum<br/>Deductible</i></b> |
|---|--|--|
| ERISA full funding limit (not less than 0)                            |  |  |
| <i>Actuarial liability</i>  | \$ 74,321,349                          | \$ 74,321,349                            |
| less: <i>Assets (lesser of market or actuarial)</i>                   | 60,843,124                             | 60,843,124                               |
| plus: <i>Credit balance (w/interest to year end)</i>                  | 14,181,466                             | n/a                                      |
|   | 27,659,691                             | 13,478,225                               |
| ERISA full funding limit without extension (not less than 0)          |  |  |
| <i>Actuarial liability</i>  | 74,321,349                             | n/a                                      |
| less: <i>Assets (lesser of market or actuarial)</i>                   | 60,843,124                             | n/a                                      |
| plus: <i>Credit bal. w/o ext. (w/int. to year end)</i>                | 4,983,803                              | n/a                                      |
|   | 18,462,028                             | n/a                                      |
| Full funding limit override<br>(not less than 0)                      |  |  |
| <i>90% of current liability</i>                                       | 122,700,055                            | 122,700,055                              |
| less: <i>Assets (actuarial value)</i>                                 | 65,435,113                             | 65,435,113                               |
|   | 57,264,942                             | 57,264,942                               |
| Full funding limit (greater of ERISA limit and full funding override) |  |  |
| <i>With amortization extension</i>                                    | \$ 57,264,942                          | \$ 57,264,942                            |
| <i>Without amortization extension</i>                                 | \$ 57,264,942                          | n/a                                      |

***MINIMUM REQUIRED CONTRIBUTION AND FULL FUNDING CREDIT***

| <b><i>Minimum Required Contribution<br/>Plan Year Beginning January 1, 2017</i></b> | <b><i>Without<br/>Extension</i></b> | <b><i>With<br/>Extension</i></b> |
|---|-------------------------------------|----------------------------------|
| Minimum funding cost  |                                     |                                  |
| <i>Normal cost (including expenses)</i>   | \$ 1,523,322                        | \$ 1,523,322                     |
| <i>Net amortization of unfunded liabilities</i>                                     | 1,574,422                           | 1,538,571                        |
| <i>Interest to end of plan year</i>   | 240,072                             | 237,298                          |
|   | 3,337,816                           | 3,299,191                        |
| Full funding limit  | 57,264,942                          | 57,264,942                       |
| Net charge to funding std. acct. (lesser of above)                                  | 3,337,816                           | 3,299,191                        |
| less: <i>Credit balance with interest to year end</i>                               | 4,983,803                           | 14,181,466                       |
| Minimum Required Contribution (not less than 0)                                     | \$ -                                | \$ -                             |
| Effect of extension   |                                     | \$ -                             |

| <b><i>Full Funding Credit to Funding Standard<br/>Account Plan Year Ending December 31,<br/>2017</i></b> | <b><i>Without<br/>Extension</i></b> | <b><i>With<br/>Extension</i></b> |
|--|-------------------------------------|----------------------------------|
| Full funding credit (not less than 0)  |                                     |                                  |
| <i>Minimum funding cost (n.c., amort., int.)</i>   | \$ 3,337,816                        | \$ 3,299,191                     |
| <i>less: full funding limit</i>  | 57,264,942                          | 57,264,942                       |
|  | \$ -                                | \$ -                             |

***MAXIMUM DEDUCTIBLE CONTRIBUTION***

The maximum amount of tax-deductible employer contributions made to a pension plan is determined in accordance with Section 404(a) of the Internal Revenue Code. For a multiemployer pension plan, Section 413(b)(7) of the Internal Revenue Code and IRS Announcement 98-1 provide that, if anticipated employer contributions are less than the deductible limit for a plan year, then all employer contributions paid during the year are guaranteed to be deductible. If anticipated employer contributions exceed the deductible limit, the Trustees have two years from the close of the plan year in question to retroactively improve benefits to alleviate the problem.

***Maximum Deductible Contribution  
Plan Year Beginning January 1, 2017***

|  |    |             |            |
|--|----|-------------|------------|
| Preliminary deductible limit   |    |             |            |
| <i>Normal cost (including expenses)</i>                                | \$ | 1,523,322   |            |
| <i>10-year limit adjustment (using "fresh start" alternative)</i>      |    | 919,460     |            |
| <i>Interest to end of plan year</i>                                    |    | 189,315     |            |
|  |    | 2,632,097   |            |
| <br>Full funding limit   |    |             | 57,264,942 |
| <br>Maximum deductible contribution override                           |    |             |            |
| <i>140% of vested current liability projected to December 31, 2017</i> |    | 187,389,241 |            |
| <i>less: Actuarial value of assets projected to December 31, 2017</i>  |    | 65,435,113  |            |
|  |    | 121,954,128 |            |
| <br>Maximum deductible contribution*                                   | \$ | 121,954,128 |            |
| <br>Anticipated employer contributions                                 | \$ | 2,826,869   |            |

\* Equals the lesser of the preliminary deductible limit and the full funding limit, but not less than the maximum deductible contribution override.

***HISTORY OF UNFUNDED VESTED BENEFITS***

***Presumptive Method***

| <i>December<br/>31,</i> | <i>Vested<br/>Benefits<br/>Interest Rate</i> | <i>Value of<br/>Vested<br/>Benefits</i> | <i>Asset Value*</i> | <i>Unfunded<br/>Vested<br/>Benefits</i> | <i>Unamortized<br/>Portion of<br/>VAB</i> |
|-------------------------|--|---|---------------------|---|---|
| 1997                    | 7.50%  | 20,019,567                              | 25,421,152          | (5,401,585)                             |   |
| 1998                    | 7.50%  | 25,348,921                              | 33,913,177          | (8,564,256)                             |   |
| 1999                    | 7.50%  | 26,263,536                              | 36,517,234          | (10,253,698)                            |   |
| 2000                    | 7.75%  | 30,412,402                              | 39,264,310          | (8,851,908)                             |   |
| 2001                    | 7.75%  | 35,711,260                              | 42,043,457          | (6,332,197)                             |   |
| 2002                    | 7.75%  | 41,469,062                              | 42,019,063          | (550,001)                               |   |
| 2003                    | 7.75%  | 44,155,894                              | 44,222,751          | (66,857)                                |   |
| 2004                    | 7.75%  | 46,823,836                              | 46,750,441          | 73,395                                  |   |
| 2005                    | 7.75%  | 49,771,921                              | 48,751,674          | 1,020,247                               |   |
| 2006                    | 7.75%  | 52,458,661                              | 51,652,635          | 806,026                                 |   |
| 2007                    | 7.75%  | 54,442,221                              | 56,252,948          | (1,810,727)                             |   |
| 2008                    | 7.75%  | 55,965,916                              | 52,505,644          | 3,460,272                               |   |
| 2009                    | 7.75%  | 58,437,048                              | 59,619,259          | (1,182,211)                             |   |
| 2010                    | 7.75%  | 60,298,308                              | 62,314,914          | (2,016,606)                             |   |
| 2011                    | 7.75%  | 62,119,705                              | 63,493,973          | (1,374,268)                             |   |
| 2012                    | 7.75%  | 64,442,727                              | 64,296,033          | 146,694                                 |   |
| 2013                    | 7.75%  | 66,810,445                              | 65,246,057          | 1,564,388                               |   |
| 2014                    | 7.75%  | 69,883,900                              | 65,444,610          | 4,439,290                               |   |
| 2015                    | 7.75%  | 71,846,693                              | 64,749,401          | 7,097,292                               |   |
| 2016                    | 7.75%  | 70,725,805                              | 65,534,133          | 5,191,672                               | 4,333,777                                 |

\* Actuarial value

***TERMINATION BY MASS WITHDRAWAL***

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If all employers were to cease to have an obligation to contribute to the plan, the plan would be considered "terminated due to mass withdrawal." In this event, the Trustees would have the option of distributing plan assets in satisfaction of all plan liabilities through the purchase of annuities from insurance carriers or payment of lump sums. If assets are insufficient to cover liabilities, a special actuarial valuation pursuant to Section 4281 of ERISA would be performed as of the end of the plan year in which the mass withdrawal occurred. If the Section 4281 valuation indicates the value of nonforfeitable benefits exceeds the value of plan assets, employer withdrawal liability would be assessed.

The ERISA Section 4281 valuation described above uses required actuarial assumptions that are typically more conservative than those used for valuing an on-going plan. In order to illustrate the impact of the mass withdrawal assumptions, we performed an illustrative Section 4281 valuation as if mass withdrawal had occurred during the prior plan year. The value of assets used below is market value without any adjustments for outstanding employer withdrawal liability claims.

As required by regulation, interest rates of 1.98% for the first 20 years and 2.67% for each year thereafter and the GAM 94 Basic Table projected to 2026 mortality table were used.

***Illustrative Section 4281 Valuation  
as of December 31, 2016***

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|   |    |             |
|---|----|-------------|
| Value of nonforfeitable benefits                                      |    |             |
| <i>Participants currently receiving benefits</i>                      | \$ | 69,341,728  |
| <i>Inactive vested participants</i>                                   |    | 26,116,305  |
| <i>Active participants</i>  |    | 61,242,780  |
| <i>Expenses (per Section 4281 of ERISA)</i>                           |    | 955,724     |
|   |    | 157,656,537 |
| <i>less: Fund assets (market value)</i>                               |    | 61,272,426  |
| Value of nonforfeitable benefits in excess of (less than) fund assets | \$ | 96,384,111  |

**ASC 960 INFORMATION**

The following displays are intended to assist the fund's auditor in complying with Accounting Standards Codification 960. The results shown are not necessarily indicative of the plan's potential liability upon termination.

***Present Value of Accumulated Benefits  
Actuarial Study as of January 1,***

|  | <i>2017</i>   | <i>2016</i>   |
|--|---------------|---------------|
| Present value of vested accumulated benefits     |               |               |
| <i>Participants currently receiving benefits</i> | \$ 40,124,125 | \$ 40,152,010 |
| <i>Other participants</i>                        | 30,601,680    | 26,493,365    |
|  | 70,725,805    | 66,645,375    |
| Nonvested accumulated benefits                   | 1,531,744     | 4,718,146     |
| Present value of all accumulated benefits        | \$ 72,257,549 | \$ 71,363,521 |
| Market value of plan assets                      | \$ 61,272,426 | \$ 57,422,211 |
| Interest rate used to value benefits             | 7.75%         | 7.75%         |

***Changes in Present Value of Accumulated Benefits***

|   |    |             |
|---|----|-------------|
| Present value of accumulated benefits as of January 1, 2016 | \$ | 71,363,521  |
| Increase (decrease) due to:                                 |    |             |
| <i>Plan amendment</i>                                       |    | (2,009,662) |
| <i>Change in actuarial assumptions</i>                      |    | 236,918     |
| <i>Benefits accumulated and experience gain or loss</i>     |    | 1,443,801   |
| <i>Interest due to decrease in discount period</i>          |    | 5,530,673   |
| <i>Benefits paid</i>  |    | (4,307,702) |
| Net increase (decrease)                                     |    | 894,028     |
| Present value of accumulated benefits as of January 1, 2017 | \$ | 72,257,549  |

## *APPENDICES*

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***PLAN HISTORY***

***Origins/Purpose***

The Outstate Michigan Trowel Trades Pension Plan was established January 1, 1972 as a result of a merger between the Pension Plans of the Outstate O.P.C.M.I.A. (which was established May 1, 1963) and the Michigan Highway Construction Industry Cement Masons' Pension Plan (which was established September 1, 1965).

The Pension Plan is managed under the provisions of the Labor Management Relations Act by a Board of Trustees consisting of an equal number of representatives from Labor and from Management.

The purpose of the Pension Plan is to provide Normal and Early Retirement Benefits, Joint and Survivor Benefits, Total and Permanent Disability Benefits, Vested Benefits and Death Benefits.

***Employer Contributions***

The Pension Plan is financed entirely by contributions from the employers as specified in the applicable Collective Bargaining Agreements. Following is a history of recent hourly contribution rates in effect for each local and craft.

| <i>Local</i>                | <i>Craft</i> | <i>Hourly<br/>Contribution Rate*</i> | <i>Effective Date</i> |
|-----------------------------|--------------|--------------------------------------|-----------------------|
| Benton Harbor/St. Joe       | D0           | \$ 6.92                              | June 1, 2016          |
| Big Rapids                  | E0           | \$ 6.42                              | June 1, 2016          |
| Flint                       | F0           | \$ 6.92                              | June 1, 2016          |
| Grand Rapids/Muskegon       | H1           | \$ 6.82                              | June 1, 2016          |
| Highway Construction Zone 1 | H0           | \$ 5.80                              | June 1, 2016          |
| Highway Construction Zone 2 | H0           | \$ 5.80                              | June 1, 2016          |
| Kalamazoo/Battle Creek      | I0           | \$ 6.87                              | June 1, 2016          |
| Lansing/Jackson             | J0           | \$ 6.92                              | June 1, 2016          |
| Lapeer                      | K0           | \$ 6.92                              | June 1, 2016          |
| Saginaw                     | M0           | \$ 6.42                              | June 1, 2016          |
| Traverse City               | N0           | \$ 6.42                              | June 1, 2016          |
| Upper Peninsula             | OO/P0        | \$ 4.17/\$ 6.92                      | June 1, 2016          |
| Southwest                   | P0           | \$ 6.47                              | June 1, 2016          |
| Lansing/Jackson             | P0           | \$ 6.57                              | June 1, 2016          |
| Flint                       | P0           | \$ 6.92                              | June 1, 2016          |
| Saginaw/Bay City            | P0           | \$ 6.92                              | June 1, 2016          |

\* These rates include \$2.22 of non-credited contribution.

***Reciprocity***

The Trustees have entered into Money Follows the Man Reciprocity Agreements with the Trustees of several other Pension Plans. The Trustees have also entered into a Pro-Rata Reciprocity Agreement with the Operative Plasterers' and Cement Masons International Association of the United States and Canada, the Michigan BAC Pension Plan, and the Michigan Laborers' Pension Plan.



**SUMMARY OF PLAN PROVISIONS**

|                                  |  |
|----------------------------------|--|
| <b>Plan year</b>                 | The 12-month period beginning January 1 and ending the following December 31.  |
| <b>Participation</b>             | 12 consecutive month period with 500 hours.  |
| <b>Year of service</b>           | Plan Year with at least 500 hours.   |
| <b>Break in service</b>          | Plan Year with less than 500 hours.  |
| <b>Active participant</b>        | A participant who has not become a retired, deceased or disabled participant and who has not suffered a permanent break in service and who <i>has</i> accrued at least one year of service in either the current plan year at the time of reference or in either of the two preceding plan years.  |
| <b>Inactive participant</b>      | A participant who has not become a retired, deceased or disabled participant and who has not suffered a permanent break in service and who has <i>not</i> accrued at least one year of service in either the current plan year at the time of reference or in either of the two preceding plan years.  |
| <b>Normal retirement benefit</b> |  |
| <i>Eligibility</i>               | Age 65 or 5 <sup>th</sup> anniversary of participation, if later.  |
| <i>Monthly amount</i>            | Accrued benefit as of January 1, 1976; plus 3.60% of contributions for the period January 1, 1976 through December 31, 2003; plus 1.70% of contributions for the period January 1, 2004 through May 31, 2008; plus 1.70% of credited contributions thereafter. Payable for life.<br><br>No future service credit is given for less than 300 hours of work in plan years 1976-2010. No future service credit is given for less than 500 hours of work in plan years 2011 and after. This requirement does not apply during participant's initial or last year of participation before retirement. |
| <b>Early retirement benefit</b>  |  |
| <i>Eligibility</i>               | Age 55 and 10 years of service. Retired from active status   |
| <i>Monthly amount</i>            | Normal, reduced by ½ of 1% for each month under age 62 (reduction is calculated from age 58 if participant has 25 or more years of service). Payable for life.   |

***SUMMARY OF PLAN PROVISIONS (CONT.)***

|  |   |
|--|---|
| <b>Total and permanent disability benefit</b>  |   |
| <i>Eligibility</i>                             | Disabled while active.  |
| <i>Monthly amount</i>                          | 10 + years of service: 75% of normal payable until the earlier of age 65, recovery or death. Normal at age 65.  |
| <i>or</i>                                      |   |
| <i>Single sum amount</i>                       | Less than 10 years of service: Greater of 75% of contributions for which participant received any special or future service credit or the single sum actuarial equivalent of the basic vested benefit.  |
| <b>Vested benefit</b>                          |   |
| <i>Eligibility</i>                             | Terminated. 5 years of service.   |
| <i>Monthly amount</i>                          | Deferred normal or early, if eligible. Payable for life.  |
| <b>Vested early benefit</b>                    |   |
| <i>Eligibility</i>                             | Terminated. 10 years of service.  |
| <i>Monthly amount</i>                          | Normal reduced by an actuarial equivalent factor for each month under age 65.   |
| <b>Optional forms of payment</b>               | <ul style="list-style-type: none"> <li>• Joint and 50% survivor (with popup)*</li> <li>• Joint and 75% survivor (with popup)*</li> <li>• Joint and 100% survivor (with popup)*</li> <li>• Life with 10 years guaranteed</li> </ul>  |
|  | * Effective June 1, 2016, inactive vested participants who retire will no longer receive the “pop up” feature.  |
| <b>Pre-retirement single sum death benefit</b> |   |
| <i>Eligibility</i>                             | Death of participant who is ineligible for surviving spouse benefit and who has not yet received any retirement benefits. Includes active, disabled or former participants entitled to a deferred vested benefit. Effective June 1, 2016, inactive vested participants are no longer eligible for this benefit. |
| <i>Single sum amount</i>                       | 75% of contributions payable to beneficiary.  |

***SUMMARY OF PLAN PROVISIONS (CONT.)***

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**Pre-retirement surviving spouse benefit**

*Eligibility*

Death of vested participant with eligible spouse.

*Monthly amount*

75% of participant's joint and 75% survivor. Payable to spouse for life beginning at earliest retirement age of participant. Spouse may elect single sum death benefit. Effective June 1, 2016, the monthly amount for surviving spouses of inactive vested participants who die will be 50% of the participants joint and 50% benefit.

**Post-retirement death benefit**

*Eligibility*

Death of participant receiving normal, early or vested benefits. Not eligible if receiving joint and survivor.

*Single sum amount*

Pre-retirement single sum death less benefits paid to participant. Payable to beneficiary.

***HISTORICAL PLAN MODIFICATIONS***

|   |   |
|---|---|
| <b>Special and future service credit/Retiree increase</b> |   |
| <i>Effective date</i>                                     | January 1, 1998   |
| <i>Adoption date</i>                                      | August 18, 1997   |
| <i>Provisions</i>   | The special and future service credit was increased from 3.30% to 3.45% and the lives receiving benefits received a 4½% increase.   |
| <b>Vesting eligibility</b>                                |   |
| <i>Effective date</i>                                     | January 1, 1998   |
| <i>Adoption date</i>                                      | August 18, 1997   |
| <i>Provisions</i>   | Eligibility for vesting changed from a 5/10 year graded scale to 100% after 5 years of vesting service for active participants who earn at least one hour of service on or after January 1, 1998. |
| <b>Special and future service credit/Retiree increase</b> |   |
| <i>Effective date</i>                                     | January 1, 1999   |
| <i>Adoption date</i>                                      | May 6, 1998   |
| <i>Provisions</i>   | The special and future service credit was increased from 3.45% to 3.55% and the lives receiving benefits received a 3% increase.  |
| <b>Special and future service credit/Retiree increase</b> |   |
| <i>Effective date</i>                                     | January 1, 2000   |
| <i>Adoption date</i>                                      | January 20, 2000  |
| <i>Provisions</i>   | The special and future service credit was increased from 3.55% to 3.60% and the lives receiving benefits received a 2% increase.  |

***HISTORICAL PLAN MODIFICATIONS (CONT.)***

|   |  |
|---|--|
| <b>Early retirement benefit</b>                           |  |
| <i>Effective date</i>                                     | January 1, 2000  |
| <i>Adoption date</i>                                      | January 20, 2000   |
| <i>Provisions</i>   | The early retirement benefit was improved by changing the plan so that the early retirement reduction factor is calculated from age 60 if the participant has 25 or more years of service. If the participant does not meet the 25-year requirement, the reduction factor is calculated from age 62. |
| <b>New optional forms</b>                                 |  |
| <i>Effective date</i>                                     | January 1, 2000  |
| <i>Adoption date</i>                                      | January 20, 2000   |
| <i>Provisions</i>   | Joint and 75% survivor, joint and 100% survivor and life with 10-years certain annuities were added as optional forms of payment under the plan.   |
| <b>Early retirement benefit</b>                           |  |
| <i>Effective date</i>                                     | January 1, 2001  |
| <i>Adoption date</i>                                      | January 23, 2001   |
| <i>Provisions</i>   | The early retirement benefit was improved by changing the plan so that the early retirement reduction factor is calculated from age 58 if the participant has 25 or more years of service. If the participant does not meet the 25-year requirement, the reduction factor is calculated from age 62. |
| <b>Special and future service credit/Retiree increase</b> |  |
| <i>Effective date</i>                                     | January 1, 2004  |
| <i>Adoption date</i>                                      | December 20, 2002  |
| <i>Provisions</i>   | The special and future service credit was changed from 3.60% to 1.70% for accruals on and after January 1, 2004.   |

***HISTORICAL PLAN MODIFICATIONS (CONT.)***

|  |  |
|--|--|
| <b>Pre-retirement surviving spouse benefit</b> |  |
| <i>Effective date</i>                          | January 1, 2007  |
| <i>Adoption date</i>                           | June 12, 2008  |
| <i>Provisions</i>                              | The Plan's Qualified Pre-Retirement Survivor Annuity Benefit (QPSA) was increased from 50% to 75%. Further, the age reduction has been eliminated.   |
| <b>Disability benefit</b>                      |  |
| <i>Effective date</i>                          | January 1, 2011  |
| <i>Adoption date</i>                           | October 27, 2010   |
| <i>Provisions</i>                              | Disability benefits retroactive to the date of disablement have been eliminated. The disability benefit has also been lowered from 100% to 75% of the participant's accrued benefit, for disabilities beginning on or after January 1, 2011. |
| <b>Benefit accrual and service year</b>        |  |
| <i>Effective date</i>                          | January 1, 2011  |
| <i>Adoption date</i>                           | October 27, 2010   |
| <i>Provisions</i>                              | The hours requirement for a year of service and benefit accrual was increased from 300 to 500 hours.   |
| <b>Early Retirement Reduction Factor</b>       |  |
| <i>Effective date</i>                          | June 1, 2016   |
| <i>Adoption date</i>                           | April 18, 2016   |
| <i>Provisions</i>                              | For inactive participants retiring on or after June 1, 2016, the early retirement factor was changed from ½ of 1% for each month before age 62 to an actuarial equivalent factor for each month before age 65.                               |

***HISTORICAL PLAN MODIFICATIONS (CONT.)***

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**Pre-Retirement Survivor Annuity**

|                       |   |
|-----------------------|---|
| <i>Effective date</i> | June 1, 2016  |
| <i>Adoption date</i>  | April 18, 2016  |
| <i>Provisions</i>     | The 75% Pre-Retirement Survivor Annuity for surviving spouses was replaced with a 50% Pre-Retirement survivor annuity for inactive vested participants. |

**Single sum death benefit**

|                       |   |
|-----------------------|---|
| <i>Effective date</i> | June 1, 2016  |
| <i>Adoption date</i>  | April 18, 2016  |
| <i>Provisions</i>     | The pre-retirement single sum death benefit payable following the death of an inactive participant was eliminated for inactive vested participants. |

**“Pop-Up” on Joint and Survivor**

|                       |  |
|-----------------------|--|
| <i>Effective date</i> | June 1, 2016   |
| <i>Adoption date</i>  | April 18, 2016   |
| <i>Provisions</i>     | The “Pop-Up” feature on Joint and Survivor Benefits was eliminated for inactive vested participants. |

**ACTUARIAL ASSUMPTIONS**

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The following assumptions are used throughout this report except as specifically noted herein.

|  |  |
|--|--|
| <b>Valuation date</b>  | January 1, 2017  |
| <b>Interest rates</b><br><i>ERISA rate of return used to value liabilities</i> | 7.75% per year net of investment expenses  |
| <i>Current liability</i>   | 3.05% (in accordance with Section 431(c)(6) of the Internal Revenue Code)  |
| <b>Operational expenses</b>  | \$260,000 per year excluding investment expenses   |
| <b>Loading for pop-up feature</b>  | Liabilities for non-retired active participants' benefits to be paid after retirement increased 0.5%; liabilities for retired participants receiving a joint and survivor form of benefit increased by 1.8%. |
| <b>Mortality</b><br><i>Assumed plan mortality</i>                              | 115% of the RP-2014 Blue Collar Mortality Tables for employees and healthy annuitants adjusted backward to 2006 with the MP-2014 projection scale and projected forward using the MP-2016 projection scale.  |
| <i>Current liability</i>   | Separate annuitant and non-annuitant rates based on the RP-2000 Mortality Tables Report developed for males and females as prescribed by Section 431(c)(6) of the Internal Revenue Code.                     |



**ACTUARIAL ASSUMPTIONS (CONT.)**

**Withdrawal**  
*First four years of  
employment*

According to the following schedule:

| <u>Year of<br/>Employment</u> | <u>Withdrawal<br/>Rate</u> |
|-------------------------------|----------------------------|
| First                         | .2500                      |
| Second                        | .2500                      |
| Third                         | .2500                      |
| Fourth                        | .2500                      |

*Ultimate*

Specimen rates shown below:

| <u>Age</u> | <u>Withdrawal<br/>Rate</u> |
|------------|----------------------------|
| 25         | .0527                      |
| 30         | .0483                      |
| 35         | .0447                      |
| 40         | .0384                      |
| 45         | .0321                      |
| 50         | .0152                      |
| 55         | .0033                      |

**Disability**

1964 OASDI Disability Table for males. Specimen rates shown below:

| <u>Age</u> | <u>Disability<br/>Rate</u> |
|------------|----------------------------|
| 25         | .0009                      |
| 30         | .0011                      |
| 35         | .0015                      |
| 40         | .0022                      |
| 45         | .0036                      |
| 50         | .0061                      |
| 55         | .0101                      |
| 60         | .0163                      |

**ACTUARIAL ASSUMPTIONS (CONT.)**

**Future retirement rates  
Active lives**

According to the following schedule:

| <u>Age</u> | <u>Retirement Rates:</u> |                    |
|------------|--------------------------|--------------------|
|            | <u>&lt;25 yrs svc</u>    | <u>25+ yrs svc</u> |
| 55-56      | .02                      | .15                |
| 57         | .10                      | .40                |
| 58         | .10                      | .70                |
| 59-61      | .10                      | .25                |
| 62-64      | .40                      | .25                |
| 65         | 1.00                     | 1.00               |

Resulting in an average expected retirement age of 59.8.

*Inactive vested lives*

Age 55, or the earliest eligible retirement age if later.

*Disabled lives*

Disability benefit assumed payable until the earlier of age 65, recovery or death. Then normal retirement benefit commences.

**Future hours worked**

*Vested lives*

1,450 hours per year, 0 after assumed retirement age

*Non-vested lives*

1,150 hours per year, 0 after assumed retirement age

**Future hourly contribution rate**

Individual's average credited rate contributed for the most recent plan year adjusted for any rate changes in the past year and for non-credited contributions. The credited rate cannot be lower than the lowest negotiated rate or higher than the highest negotiated rate.

**Age of participants with unrecorded birth dates**

Based on average entry age of participants with recorded birth dates and same vesting status.

**Marriage assumptions**

80% assumed married with the male spouse 3 years older than his wife

**Inactive vested lives over age 70**

Continuing inactive vested participants over age 70 are assumed deceased and are not valued.

**QDRO benefits**

Benefits to alternate payee included with participant's benefit until payment commences

**ACTUARIAL ASSUMPTIONS (CONT.)**

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|   |   |
|---|---|
| <b>Section 415 limit assumptions</b>                            |   |
| <i>Dollar limit</i>   | \$210,000 per year                        |
| <i>Assumed form of payment for those limited by Section 415</i> | Qualified joint and 100% survivor annuity |
| <b>Benefits not valued</b>                                      | None                                      |

***RATIONALE FOR SELECTION OF ACTUARIAL ASSUMPTIONS***

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The non prescribed actuarial assumptions were selected to provide a reasonable long term estimate of developing experience. The assumptions are reviewed annually, including a comparison to actual experience. The following describes our rationale for the selection of each non-prescribed assumption that has a significant effect on the valuation results.

|   |   |
|---|---|
| <b>ERISA rate of return used to value liabilities</b> | <p>Future rates of return were modeled based on the Plan's current investment policy asset allocation and composite, long-term capital market assumptions taken from Horizon Actuarial's 2016 survey of investment consultants.</p> <p>Based on this analysis, we selected a final assumed rate of 7.75%, which we feel is reasonable. This rate may not be appropriate for other purposes such as settlement of liabilities.</p>   |
| <b>Mortality</b>                                      | <p>The RP-2014 Blue Collar Mortality Tables for employees and healthy annuitants adjusted backward to 2006 with the MP-2014 projection scale and projected forward using the MP-2016 projection scale was chosen as the base table for this population.</p> <p>Based on the industry of plan participants, the blue collar adjustment was applied.</p> <p>Finally, a 115% multiplier was applied in order to more closely match projected deaths to actual post-retirement death experience. The period of actual data studied to develop this multiplier was from January 1, 2012 to December 31, 2016 for this plan, blended with a study of deaths for larger plans in similar industries.</p> |
| <b>Retirement</b>                                     | <p>Actual rates of retirement by age were studied for the period January 1, 2012 to December 31, 2016. The assumed future rates of retirement were selected based on the results of this study.</p>   |
| <b>Withdrawal</b>                                     | <p>Actual rates of withdrawal by age were last studied for this plan for the period January 1, 2011 to December 31, 2015. The assumed future rates of withdrawal were selected based on the results of this study. No further adjustments were deemed necessary at this time.</p>   |
| <b>Future hours worked</b>                            | <p>Based on review of recent plan experience.</p>   |

***ACTUARIAL ASSUMPTIONS USED FOR PROJECTIONS***

---

The assumptions used for the credit balance and funding ratio projections are the same as used throughout the report with the following exceptions.

|                                      |   |
|--------------------------------------|---|
| <b>Assumed return on fund assets</b> |   |
| <i>Current year projections</i>      | 7.25% for plan years ending 2017 through 2026<br>7.75% for plan years ending 2027 and thereafter                                  |
| <i>Prior year projections</i>        | 7.00% for plan year ending 2016<br>7.25% for plan year ending 2017 through 2024<br>7.75% for plan year ending 2025 and thereafter |
| <b>Future total hours worked</b>     |   |
| <i>Current year projections</i>      | 450,000 for the plan year ending 2017 and thereafter  |
| <i>Prior year projections</i>        | 450,000 for the plan year ending 2016 and thereafter  |
| <b>Contribution rate increases</b>   |   |
| <i>Current year projections</i>      | 25¢ credited effective June 1, 2017   |
| <i>Prior year projections</i>        | 10¢ credited/15¢ non-credited effective June 1, 2016<br>10¢ credited/15¢ non-credited effective June 1, 2017                      |

**ACTUARIAL METHODS**

|                                   |   |
|-----------------------------------|---|
| <b>Funding method</b>             |   |
| <i>Funding period</i>             | Individual entry age normal with costs spread as a level dollar amount over service   |
| <i>ERISA Funding</i>              | Traditional unit credit cost method, effective January 1, 2015.   |
| <b>Population valued</b>          |   |
| <i>Actives</i>                    | Participants in the plan who accrued a year of service during the preceding plan year and who had non-reciprocity hours during the preceding plan year  |
| <i>Inactive vested</i>            | Vested participants with no non-reciprocity hours during the preceding plan year or vested participants who had reciprocity hours during the preceding plan year  |
| <i>Retirees</i>                   | Participants and beneficiaries in pay status as of the valuation date.  |
| <b>Asset valuation method</b>     |   |
| <i>Actuarial value</i>            | Smoothed market value with phase-in effective January 1, 1999. Each year's gain (or loss) is spread over a period of 5 years. The actuarial value is limited to not less than 80% and not more than 120% of the actual market value of assets in any plan year. |
| <i>Unfunded vested benefits</i>   | For the presumptive method, actuarial value, as described above, is used  |
| <b>Pension Relief Act of 2010</b> | <ul style="list-style-type: none"> <li>• 10-year smoothing was elected with respect to the loss incurred during the plan year ended in 2008.</li> <li>• The 130% cap on actuarial value of assets was elected for the plan year beginning in 2009.</li> </ul>   |

**Appendix C - Minimum Funding Amortization Bases**  
**Outstate Michigan Trowel Trades Pension Plan**  
**January 1, 2017 Actuarial Valuation**  
**Bases Shown: With Extension**

| Date Established | Source of Change in Unfunded Liability | Original Amount | Original Period | Remaining Period |        | 1/1/2017 Outstanding Balance | 1/1/2017 Amortization Payment |
|------------------|--|-----------------|-----------------|------------------|--------|------------------------------|-------------------------------|
|                  |  |                 |                 | Years            | Months |                              |                               |
| <b>Charges</b>   |  |                 |                 |                  |        |                              |                               |
| 1/1/1978         | Initial Unfunded                       |                 | 45              | 6                | 0      | 264,592                      | 52,716                        |
| 1/1/1979         | Amendment                              |                 | 45              | 7                | 0      | 163,370                      | 28,874                        |
| 1/1/1980         | Amendment                              |                 | 45              | 8                | 0      | 137,253                      | 21,956                        |
| 1/1/1984         | Amendment                              |                 | 35              | 2                | 0      | 44,516                       | 23,091                        |
| 1/1/1985         | Amendment                              |                 | 35              | 3                | 0      | 52,805                       | 18,929                        |
| 1/1/1986         | Amendment                              |                 | 35              | 4                | 0      | 12,956                       | 3,610                         |
| 1/1/1986         | Assumption                             |                 | 35              | 4                | 0      | 126,536                      | 35,259                        |
| 1/1/1987         | Amendment                              |                 | 35              | 5                | 0      | 287,690                      | 66,433                        |
| 1/1/1988         | Amendment                              |                 | 35              | 6                | 0      | 123,142                      | 24,536                        |
| 1/1/1989         | Amendment                              |                 | 35              | 7                | 0      | 118,439                      | 20,932                        |
| 1/1/1989         | Method                                 |                 | 34              | 6                | 0      | 124,354                      | 24,777                        |
| 1/1/1990         | Amendment                              |                 | 35              | 8                | 0      | 538,217                      | 86,100                        |
| 1/1/1991         | Assumption                             |                 | 35              | 9                | 0      | 334,590                      | 49,192                        |
| 1/1/1993         | Amendment                              |                 | 35              | 11               | 0      | 332,262                      | 42,672                        |
| 1/1/1993         | Assumption                             |                 | 35              | 11               | 0      | 129,482                      | 16,630                        |
| 1/1/1995         | Assumption                             | 535,520         | 35              | 13               | 0      | 322,494                      | 37,349                        |
| 1/1/1996         | Assumption                             | 1,210,310       | 35              | 14               | 0      | 771,687                      | 85,614                        |
| 1/1/1997         | Amendment                              | 318,428         | 35              | 15               | 0      | 213,594                      | 22,808                        |
| 1/1/1997         | Assumption                             | 83,931          | 35              | 15               | 0      | 56,295                       | 6,011                         |
| 1/1/1998         | Amendment                              | 892,619         | 35              | 16               | 0      | 626,587                      | 64,651                        |
| 1/1/1998         | Experience Loss                        | 377,045         | 20              | 1                | 0      | 17,922                       | 17,922                        |
| 1/1/1999         | Amendment                              | 807,784         | 35              | 17               | 0      | 590,594                      | 59,090                        |
| 1/1/1999         | Assumption                             | 2,846,312       | 35              | 17               | 0      | 2,080,968                    | 208,208                       |
| 1/1/1999         | Experience Loss                        | 177,892         | 20              | 2                | 0      | 19,288                       | 10,007                        |
| 1/1/2000         | Assumption                             | 763,910         | 35              | 18               | 0      | 579,340                      | 56,379                        |
| 1/1/2001         | Amendment                              | 1,524,278       | 35              | 19               | 0      | 1,194,850                    | 113,399                       |
| 1/1/2001         | Assumption                             | 55,139          | 35              | 19               | 0      | 43,217                       | 4,102                         |
| 1/1/2001         | Experience Loss                        | 4,740,024       | 20              | 4                | 0      | 1,170,844                    | 326,250                       |
| 1/1/2002         | Assumptions                            | 1,518,437       | 35              | 20               | 0      | 1,225,921                    | 113,734                       |
| 1/1/2002         | Experience Loss                        | 1,645,461       | 20              | 5                | 0      | 523,332                      | 120,846                       |
| 1/1/2003         | Assumptions                            | 299,355         | 35              | 21               | 0      | 248,238                      | 22,559                        |
| 1/1/2003         | Experience Loss                        | 7,932,235       | 20              | 6                | 0      | 3,077,653                    | 613,183                       |
| 1/1/2005         | Experience Loss                        | 1,612,524       | 20              | 8                | 0      | 840,386                      | 134,437                       |
| 1/1/2006         | Experience Loss                        | 2,125,905       | 20              | 9                | 0      | 1,240,418                    | 182,372                       |
| 1/1/2007         | Experience Loss                        | 1,832,215       | 20              | 10               | 0      | 1,177,479                    | 161,026                       |

**Appendix C - Minimum Funding Amortization Bases**  
**Outstate Michigan Trowel Trades Pension Plan**  
**January 1, 2017 Actuarial Valuation**  
**Bases Shown: With Extension**

| Date Established      | Source of Change in Unfunded Liability | Original Amount | Original Period | Remaining Period |        | 1/1/2017 Outstanding Balance | 1/1/2017 Amortization Payment |
|-----------------------|--|-----------------|-----------------|------------------|--------|------------------------------|-------------------------------|
|                       |  |                 |                 | Years            | Months |                              |                               |
| 1/1/2008              | Assumptions                            | 34,081          | 20              | 11               | 0      | 23,808                       | 3,058                         |
| 1/1/2009              | Amendment                              | 146,878         | 20              | 12               | 0      | 110,368                      | 13,416                        |
| 1/1/2009              | Experience Loss                        | 7,556,829       | 20              | 12               | 0      | 5,678,347                    | 690,262                       |
| 1/1/2012              | Experience Loss                        | 1,912,754       | 15              | 10               | 0      | 1,493,466                    | 204,238                       |
| 1/1/2013              | Experience Loss                        | 2,106,787       | 15              | 11               | 0      | 1,751,606                    | 224,956                       |
| 1/1/2014              | Experience Loss                        | 2,056,465       | 15              | 12               | 0      | 1,806,371                    | 219,583                       |
| 1/1/2015              | Assumptions                            | 1,449,529       | 15              | 13               | 0      | 1,336,445                    | 154,776                       |
| 1/1/2015              | Experience Loss                        | 3,402,303       | 15              | 13               | 0      | 3,136,872                    | 363,288                       |
| 1/1/2016              | Experience Loss                        | 4,002,646       | 15              | 14               | 0      | 3,852,337                    | 427,391                       |
| 1/1/2017              | Assumptions                            | 236,918         | 15              | 15               | 0      | 236,918                      | 25,297                        |
| 1/1/2017              | Experience Loss                        | 3,415,873       | 15              | 15               | 0      | 3,415,873                    | 364,737                       |
| <b>Total Charges:</b> |  |                 |                 |                  |        | <b>41,653,722</b>            | <b>5,566,656</b>              |

**Credits**

|                       |                  |            |    |    |   |                   |                  |
|-----------------------|------------------|------------|----|----|---|-------------------|------------------|
| 1/1/2009              | Combined Credits | 17,613,296 | 14 | 6  | 0 | 9,807,812         | 1,954,075        |
| 1/1/2009              | Method Relief    | 4,375,470  | 10 | 2  | 0 | 1,153,699         | 598,367          |
| 1/1/2010              | Experience Gain  | 598,728    | 15 | 8  | 0 | 399,639           | 63,930           |
| 1/1/2011              | Amendment        | 976,701    | 15 | 9  | 0 | 709,334           | 104,289          |
| 1/1/2011              | Assumptions      | 197,776    | 15 | 9  | 0 | 143,633           | 21,118           |
| 1/1/2011              | Experience Gain  | 602,507    | 15 | 9  | 0 | 437,569           | 64,334           |
| 1/1/2012              | Assumptions      | 339,642    | 15 | 10 | 0 | 265,187           | 36,266           |
| 1/1/2015              | Method           | 5,058,551  | 10 | 8  | 0 | 4,324,454         | 691,781          |
| 1/1/2016              | Amendment        | 2,611,164  | 15 | 14 | 0 | 2,513,109         | 278,812          |
| 1/1/2016              | Assumptions      | 4,940      | 15 | 14 | 0 | 4,755             | 527              |
| 1/1/2017              | Amendment        | 2,009,662  | 15 | 15 | 0 | 2,009,662         | 214,586          |
| <b>Total Credits:</b> |                  |            |    |    |   | <b>21,768,853</b> | <b>4,028,085</b> |



**Appendix C - Minimum Funding Amortization Bases**  
**Outstate Michigan Trowel Trades Pension Plan**  
**January 1, 2017 Actuarial Valuation**  
**Bases Shown: With Extension**

| Date Established                     | Source of Change in Unfunded Liability | Original Amount | Original Period | Remaining Period |        | 1/1/2017 Outstanding Balance | 1/1/2017 Amortization Payment |
|--------------------------------------|--|-----------------|-----------------|------------------|--------|------------------------------|-------------------------------|
|                                      |  |                 |                 | Years            | Months |                              |                               |
| <b>Net Charges:</b>                  |  |                 |                 |                  |        | <b>19,884,869</b>            | <b>1,538,571</b>              |
| <b>Less Credit Balance:</b>          |  |                 |                 |                  |        | 13,161,453                   |                               |
| <b>Less Reconciliation Balance:</b>  |  |                 |                 |                  |        | 0                            |                               |
| <b>Unfunded Actuarial Liability:</b> |  |                 |                 |                  |        | <b>6,723,416</b>             |                               |

**Appendix C - Minimum Funding Amortization Bases**  
**Outstate Michigan Trowel Trades Pension Plan**  
**January 1, 2017 Actuarial Valuation**  
**Bases Shown: Without Extension**

| Date Established | Source of Change in Unfunded Liability | Original Amount | Original Period | Remaining Period |        | 1/1/2017 Outstanding Balance | 1/1/2017 Amortization Payment |
|------------------|--|-----------------|-----------------|------------------|--------|------------------------------|-------------------------------|
|                  |  |                 |                 | Years            | Months |                              |                               |
| <b>Charges</b>   |  |                 |                 |                  |        |                              |                               |
| 1/1/1978         | Initial Unfunded                       |                 | 40              | 1                | 0      | 72,814                       | 72,814                        |
| 1/1/1979         | Amendment                              |                 | 40              | 2                | 0      | 73,795                       | 38,263                        |
| 1/1/1980         | Amendment                              |                 | 40              | 3                | 0      | 78,438                       | 28,121                        |
| 1/1/1988         | Amendment                              |                 | 30              | 1                | 0      | 33,876                       | 33,876                        |
| 1/1/1989         | Amendment                              |                 | 30              | 2                | 0      | 53,473                       | 27,741                        |
| 1/1/1989         | Method                                 |                 | 29              | 1                | 0      | 34,197                       | 34,197                        |
| 1/1/1990         | Amendment                              |                 | 30              | 3                | 0      | 307,594                      | 110,272                       |
| 1/1/1991         | Assumption                             |                 | 30              | 4                | 0      | 219,745                      | 61,229                        |
| 1/1/1993         | Amendment                              |                 | 30              | 6                | 0      | 254,872                      | 50,783                        |
| 1/1/1993         | Assumption                             |                 | 30              | 6                | 0      | 99,330                       | 19,790                        |
| 1/1/1995         | Assumption                             | 535,520         | 30              | 8                | 0      | 268,727                      | 42,985                        |
| 1/1/1996         | Assumption                             | 1,210,310       | 30              | 9                | 0      | 661,125                      | 97,202                        |
| 1/1/1997         | Amendment                              | 318,428         | 30              | 10               | 0      | 187,083                      | 25,587                        |
| 1/1/1997         | Assumption                             | 83,931          | 30              | 10               | 0      | 49,300                       | 6,744                         |
| 1/1/1998         | Amendment                              | 892,619         | 30              | 11               | 0      | 558,758                      | 71,760                        |
| 1/1/1999         | Amendment                              | 807,784         | 30              | 12               | 0      | 534,491                      | 64,970                        |
| 1/1/1999         | Assumption                             | 2,846,312       | 30              | 12               | 0      | 1,883,259                    | 228,930                       |
| 1/1/2000         | Assumption                             | 763,910         | 30              | 13               | 0      | 530,769                      | 61,469                        |
| 1/1/2001         | Amendment                              | 1,524,278       | 30              | 14               | 0      | 1,106,035                    | 122,707                       |
| 1/1/2001         | Assumption                             | 55,139          | 30              | 14               | 0      | 40,003                       | 4,439                         |
| 1/1/2002         | Assumptions                            | 1,518,437       | 30              | 15               | 0      | 1,144,793                    | 122,237                       |
| 1/1/2003         | Assumptions                            | 299,355         | 30              | 16               | 0      | 233,540                      | 24,099                        |
| 1/1/2003         | Experience Loss                        | 7,932,235       | 15              | 1                | 0      | 846,991                      | 846,991                       |
| 1/1/2005         | Experience Loss                        | 1,612,524       | 15              | 3                | 0      | 480,272                      | 172,181                       |
| 1/1/2006         | Experience Loss                        | 2,125,905       | 15              | 4                | 0      | 814,644                      | 226,998                       |
| 1/1/2007         | Experience Loss                        | 1,832,215       | 15              | 5                | 0      | 847,247                      | 195,638                       |
| 1/1/2008         | Assumptions                            | 34,081          | 15              | 6                | 0      | 18,265                       | 3,639                         |
| 1/1/2009         | Amendment                              | 146,878         | 15              | 7                | 0      | 88,744                       | 15,683                        |
| 1/1/2009         | Experience Loss                        | 7,556,829       | 15              | 7                | 0      | 4,565,540                    | 806,896                       |
| 1/1/2012         | Experience Loss                        | 1,912,754       | 15              | 10               | 0      | 1,493,466                    | 204,238                       |
| 1/1/2013         | Experience Loss                        | 2,106,787       | 15              | 11               | 0      | 1,751,606                    | 224,956                       |
| 1/1/2014         | Experience Loss                        | 2,056,465       | 15              | 12               | 0      | 1,806,371                    | 219,583                       |
| 1/1/2015         | Assumptions                            | 1,449,529       | 15              | 13               | 0      | 1,336,445                    | 154,776                       |
| 1/1/2015         | Experience Loss                        | 3,402,303       | 15              | 13               | 0      | 3,136,872                    | 363,288                       |
| 1/1/2016         | Experience Loss                        | 4,002,646       | 15              | 14               | 0      | 3,852,337                    | 427,391                       |

**Appendix C - Minimum Funding Amortization Bases**  
**Outstate Michigan Trowel Trades Pension Plan**  
**January 1, 2017 Actuarial Valuation**  
**Bases Shown: Without Extension**

| Date Established                     | Source of Change in Unfunded Liability | Original Amount | Original Period | Remaining Period |        | 1/1/2017 Outstanding Balance | 1/1/2017 Amortization Payment |
|--------------------------------------|--|-----------------|-----------------|------------------|--------|------------------------------|-------------------------------|
|                                      |  |                 |                 | Years            | Months |                              |                               |
| 1/1/2017                             | Assumptions                            | 236,918         | 15              | 15               | 0      | 236,918                      | 25,297                        |
| 1/1/2017                             | Experience Loss                        | 3,415,873       | 15              | 15               | 0      | 3,415,873                    | 364,737                       |
| <b>Total Charges:</b>                |  |                 |                 |                  |        | <b>33,117,608</b>            | <b>5,602,507</b>              |
| <br>                                 |  |                 |                 |                  |        |                              |                               |
| <b>Credits</b>                       |  |                 |                 |                  |        |                              |                               |
| 1/1/2009                             | Combined Credits                       | 17,613,296      | 14              | 6                | 0      | 9,807,812                    | 1,954,075                     |
| 1/1/2009                             | Method Relief                          | 4,375,470       | 10              | 2                | 0      | 1,153,699                    | 598,367                       |
| 1/1/2010                             | Experience Gain                        | 598,728         | 15              | 8                | 0      | 399,639                      | 63,930                        |
| 1/1/2011                             | Amendment                              | 976,701         | 15              | 9                | 0      | 709,334                      | 104,289                       |
| 1/1/2011                             | Assumptions                            | 197,776         | 15              | 9                | 0      | 143,633                      | 21,118                        |
| 1/1/2011                             | Experience Gain                        | 602,507         | 15              | 9                | 0      | 437,569                      | 64,334                        |
| 1/1/2012                             | Assumptions                            | 339,642         | 15              | 10               | 0      | 265,187                      | 36,266                        |
| 1/1/2015                             | Method                                 | 5,058,551       | 10              | 8                | 0      | 4,324,454                    | 691,781                       |
| 1/1/2016                             | Amendment                              | 2,611,164       | 15              | 14               | 0      | 2,513,109                    | 278,812                       |
| 1/1/2016                             | Assumptions                            | 4,940           | 15              | 14               | 0      | 4,755                        | 527                           |
| 1/1/2017                             | Amendment                              | 2,009,662       | 15              | 15               | 0      | 2,009,662                    | 214,586                       |
| <b>Total Credits:</b>                |  |                 |                 |                  |        | <b>21,768,853</b>            | <b>4,028,085</b>              |
| <br>                                 |  |                 |                 |                  |        |                              |                               |
| <b>Net Charges:</b>                  |  |                 |                 |                  |        | <b>11,348,755</b>            | <b>1,574,422</b>              |
| <br>                                 |  |                 |                 |                  |        |                              |                               |
| <b>Less Credit Balance:</b>          |  |                 |                 |                  |        | 4,625,339                    |                               |
| <b>Less Reconciliation Balance:</b>  |  |                 |                 |                  |        | 0                            |                               |
| <b>Unfunded Actuarial Liability:</b> |  |                 |                 |                  |        | <b>6,723,416</b>             |                               |

***RULES FOR ENDANGERED AND CRITICAL STATUS***

***Background***

The Pension Protection Act of 2006 (“PPA”), enacted in August 2006, established special rules for plans in “Endangered” or “Critical” status. These rules become effective with the plan year beginning in 2008 and were originally scheduled to “sunset” in 2015.

The Multiemployer Pension Reform Act of 2014 (“MPRA”), enacted in December 2014, made the provisions contained in the PPA permanent. MPRA also made numerous changes to the PPA rules, including adding a new status for deeply troubled plans: Critical and Declining.

Informally, Critical Status is often referred to as “red zone” and Endangered Status as “yellow zone.” A plan that is neither Critical nor Endangered is said to be “green zone.”

***Criteria for Endangered and Critical***

The table below summarizes the criteria for these categorizations. Projected deficiencies are calculated as of the last day of each plan year and are based on contribution rates codified in bargaining agreements and, if applicable, wage allocations.

| <b><i>Critical Status (“Red Zone”)</i></b>  | <b><i>Endangered Status (“Yellow Zone”)</i></b>  |
|---|--|
| <b>GETTING IN:</b>  |  |
| <p>Plan is Critical if it is described in one or more of the following:</p> <ul style="list-style-type: none"> <li>• Funded percentage is less than 65%, <u>and</u>, inability to pay benefits and expenses for next 7 years, or</li> <li>• Projected funding deficiency (<u>not</u> recognizing extensions) in the current year or next 3 years (next 4 years if funded at less than 65%), or</li> <li>• (1) Contributions are less than current year costs (i.e. “normal cost”) plus interest on any unfunded past liabilities, <u>and</u>, (2) value of vested benefits for non-actives is greater than for actives, <u>and</u>, (3) projected funding deficiency (<u>not</u> recognizing extensions) in the current year or next 4 years, or</li> <li>• Inability to pay benefits and expenses for next 5 years.</li> </ul> | <p>Plan is Endangered if it is <u>not</u> Critical <u>and</u> it is described in one of the following:</p> <ul style="list-style-type: none"> <li>• Funded percentage is less than 80%, or</li> <li>• Projected funding deficiency in the current year or next 6 years.</li> </ul> <p>A non-critical plan that meets both of the preceding criteria is considered “<u>Seriously Endangered</u>”</p> <p>A plan that meets one of the two Endangered Status criteria above, but was not in Critical or Endangered for the preceding year, will remain not Critical or Endangered (i.e. it will be in “green zone”) provided it is not projected to meet either of the two Endangered Status criteria as of the end of the 10<sup>th</sup> plan year following the certification year</p> |

***RULES FOR ENDANGERED AND CRITICAL STATUS (CONT.)***

|  |   |
|--|---|
| <b><i>Critical Status (“Red Zone”)</i></b> | <b><i>Endangered Status (“Yellow Zone”)</i></b> |
|--|---|

| <b><i>GETTING IN (cont.):</i></b>   |  |
|---|--|
| <p>A plan with a 5-year amortization extension under IRC Section 431(d) that previously emerged from Critical Status in PYB 2015 or later will re-enter Critical Status <u>only</u> if it is described in one of the following:</p> <ul style="list-style-type: none"> <li>• Projected funding deficiency in the current year or next 9 years (<u>including</u> amortization extensions), or,</li> <li>• Projected insolvency within the next 30 years</li> </ul> |  |

| <b><i>GETTING OUT:</i></b>  |  |
|---|--|
| <p>Plan emerges from Critical Status when it meets all of the following:</p> <ul style="list-style-type: none"> <li>• No longer meets any of the Critical Status tests, <u>and</u>,</li> <li>• No projected funding deficiencies in the current year or next 9 years (<u>including</u> amortization extensions), <u>and</u>,</li> <li>• No projected insolvencies in the next 30 years</li> </ul> <p>A plan with a 5-year amortization extension under IRC Section 431(d) emerges from Critical Status when it meets all the following:</p> <ul style="list-style-type: none"> <li>• No projected funding deficiencies in the current year or next 9 years (<u>including</u> amortization extensions), <u>and</u>,</li> <li>• No projected insolvencies in the next 30 years</li> </ul> | <p>Plan emerges from Endangered Status when it no longer meets the requirements to be classified as Endangered or when it enters Critical Status</p> |

***RULES FOR ENDANGERED AND CRITICAL STATUS (CONT.)***

***Restrictions for Endangered and Critical Plans***

The Trustees of a plan that is in Endangered or Critical status face a number of restrictions in plan improvements that can be adopted and bargaining agreements that can be accepted.

| <i>Period</i>  | <i>Endangered/Critical Restrictions</i>   |
|--|---|
| Date of first certification through adoption of funding improvement/rehabilitation plan (“plan adoption period”)   | <ul style="list-style-type: none"> <li>• No reduction in level of contributions for any participants</li> <li>• No suspension of contributions</li> <li>• No exclusion of new or younger employees</li> <li>• No amendment that increases the <u>liabilities</u> of the plan by reason of any increase in benefits, change in accrual, or change in vesting unless required by law</li> </ul>                                     |
| After adoption of a funding improvement/rehabilitation plan until end of funding improvement/rehabilitation period | <ul style="list-style-type: none"> <li>• Cannot be amended so as to be inconsistent with funding improvement/rehabilitation plan</li> <li>• No amendment that increases benefits, including future accruals, unless actuary certifies as being paid for with contributions not contemplated in funding improvement/rehabilitation plan and still expected to meet applicable benchmark after considering the amendment</li> </ul> |

**Additionally, Critical status plans cannot pay benefits greater than the single life annuity once the initial red zone notice is sent unless the benefit is eligible for automatic cash-out.**

***Critical and Declining Plans***

Beginning in 2015, plans that are in Critical Status and are projecting insolvency within the next 15 years (20 years in some circumstances) are certified by the actuary as being in “Critical and Declining.” These plans may have access to new tools that will allow them to reduce many previously-untouchable benefits, including benefits for participants in pay status. However, these expanded benefit reductions require government approval, must not be rejected by a majority of all participants through a vote, and are subject to a number of other requirements and limitations.

***Selected Other MPRA Changes (effective with 2015 plan years)***

- Plans projected to be Critical within the next 5 years can elect to be in Critical Status immediately
- New contribution rate increases required by a funding improvement or rehabilitation plan are not considered in calculating an employer’s withdrawal liability or payment schedule
- If, upon the expiration of a collective bargaining agreement under a funding improvement or rehabilitation plan, bargaining parties do not adopt a new agreement consistent with an updated schedule, the Trustees must implement the update to the schedule previously adopted.
- PBGC premium doubled and indexed
- PBGC ability to facilitate mergers and partitions expanded

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## **GLOSSARY OF COMMON PENSION TERMS**

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### **Benefits**

**Accrued Benefit:** A benefit that an employee has earned (or accrued) through past participation in the plan. It is the amount payable at normal retirement age.

*Why it matters: Under the law, Accrued Benefits generally may not be reduced by plan amendment (note that special rules allowing for limited reduction and/or suspension of accrued benefits apply to critical status, critical and declining status and insolvent plans).*

**Actuarial Equivalence:** Given a set of actuarial assumptions, when two different sets of payment scenarios have an equal present value.

**Early Retirement Reduction Factor:** A retirement benefit that begins before normal retirement age may be reduced. The plan document defines the amount of the reduction by formula or a table of factors. This reduction may or may not be actuarially equivalent, but its present value can be no less than actuarially equivalent to the benefit payable at normal retirement age.

**Benefit Crediting (Accrual) Rate:** A general reference to the calculation of the amount of monthly retirement benefit earned per dollar contributed or per year or hour worked.

### **Assets**

**Market Value of Assets:** The market value of all assets in the fund including on an accrued, not cash basis (matching the plan audit).

**Actuarial Value of Assets:** The amount of assets recognized for actuarial valuation purposes. Recent changes in market value may be partially recognized (there are variations allowed on the exact recognition). Generally the actuarial value is limited to not be less than 80% or more than 120% of the market value.

*Why it matters: Many funding calculations use this “smoothed” asset value method to lessen the impact of volatility in the market value of plan assets.*

**Assumed Rate of Return:** Long term assumption of the rate of return on assets based upon the diversification mix of invested assets.

*Why it matters: This assumption is used in calculating the present values discussed in the Liabilities section below. The Assumed Rate of Return has an inverse relationship with plan liabilities. In other words, a lower Assumed Rate of Return increases liabilities, while a higher Assumed Rate of Return decreases plan Liabilities.*

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## **GLOSSARY OF COMMON PENSION TERMS (CONT.)**

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### **Liabilities**

**Present Value of Accrued Benefits:** The discounted value of benefit payments due in the future but based only on the current Accrued Benefits of each participant. The value is based on actuarial assumptions including an assumed rate of investment return.

*Why it matters: This liability is one of the primary factors in determining a plan's annual PPA funded status (see Funded Ratio).*

**Present Value of Vested Benefits:** The discounted value of Accrued Benefits that are considered vested (non-forfeitable). Benefits that are not vested include those of participants who have not satisfied the plan vesting requirement (usually five years of service). In addition under the law some death and temporary disability benefits are also considered non-vested regardless of service because they are not considered protected benefits.

*Why it matters: This liability is the primary driver of a plan's Employer Withdrawal Liability.*

**Actuarial (Accrued) Liability:** For inactive members this is the same as the Present Value of Accrued Benefits above. For active members this depends on the cost method selected by the actuary. Under the accrued benefit or traditional unit credit cost method this is also the same as the Present Value of Accrued Benefits. Under other cost methods (including most commonly entry age normal) this represents an alternate allocation of projected benefit cost over the working lifetime of active members. Under the entry age normal cost method, the active Actuarial Liability is larger than the Present Value of Accrued Benefits.

**Unfunded Actuarial Liability:** The Actuarial Liability less the Actuarial Value of Assets.

**Current Liability:** This is similar to the Present Value of Accrued Benefits, but uses a statutory, significantly lower, interest rate (equivalent to an expected rate of return on a bond only-type portfolio) and statutory mortality tables. The lower interest rate means that Current Liability tends to be significantly higher than the Present Value of Accrued Benefits. This number has very little impact on multiemployer plans.

**Normal Cost:** The present value of all benefits that are expected to accrue or to be earned under the plan during the plan year. The way in which a benefit is considered to be earned varies with the actuarial cost method.

**Risk:** The potential of future deviation of actual results from expectations derived from actuarial assumptions.



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**GLOSSARY OF COMMON PENSION TERMS (CONT.)**

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**Funding**

**Funded Ratio (Funded Percentage):** Actuarial Value of Assets divided by the Present Value of Accrued Benefits. This is one of two key measures used to determine a plan's annual PPA funded status. This may also be referred to as PPA Funded Ratio. This must be greater than 80% to avoid endangered status.

**Credit Balance:** The accumulated excess of actual contributions over legally required minimum contributions as maintained in the funding standard account. The funding standard account is maintained by the actuary in the valuation process and reported annually in schedule MB to the Form 5500 filing. A negative credit balance is known as an accumulated funding deficiency. Prior to PPA, an accumulated funding deficiency caused an immediate excise tax (waiver under PPA if certain conditions are met). After PPA, a current or projected funding deficiency is one of the key measures used in determining the annual PPA status. It can eventually trigger an excise tax levied on contributing employers.

**Withdrawal Liability**

**Unfunded Vested Benefits (UVB):** Present Value of Vested Benefits less the value of plan assets determined on either an actuarial or market value basis. The selection of asset measurement is part of the withdrawal liability method of the Plan.

**Employer Withdrawal Liability (EWL):** An employer that withdraws from a multiemployer plan is liable for its proportionate share of Unfunded Vested Benefits, determined as of the date of withdrawal.

*Why it matters: If a contributing employer leaves the plan while it has Unfunded Vested Benefits liability, that employer's allocated share of Employer Withdrawal Liability is either assessed, as applicable, or reallocated among the plan's remaining active employers if the presumptive method is used. A construction employer withdrawing from a construction industry plan will not be assessed unless they continue performing work within the jurisdiction of the CBA or restart such work within a period of 5 years. Small amounts (under \$150,000) are generally reduced or eliminated pursuant to the "de minimis rule."*