SHEET METAL WORKERS LOCAL PENSION FUND
REHABILITATION PLAN ADOPTED JULY 1, 2009
Update for the Plan Year Beginning May 1, 2018
Rehabilitation Period: May 1, 2011 – April 30, 2024

This rehabilitation plan document, which federal law requires, includes important information about the funding level of the Sheet Metal Workers Local Pension Fund, Plan Number 001, Employer Identification Number 34-6666753 (Plan and Plan Sponsor).

Background

In 2006 the Pension Protection Act ("PPA") was enacted. Beginning with the 2008 plan year, the law requires the annual certification of the Plan's funding status as critical, endangered or neither. The Multiemployer Pension Reform Act of 2014 ("MPRA") added critical and declining status as a status for plan's projected to become insolvent.

On July 1, 2009 the Plan's actuary certified the Plan's funding status as critical for the 2009 plan year. The Plan was considered to be in critical status because the funded percentage was 47.2% and there were projected funding deficiencies starting at the end of the 2009-2010 plan year. The funded percentage is the percentage of earned benefits that could be funded with existing Plan assets. A projected funding deficiency is a sign that the anticipated liabilities of the Plan are outpacing its assets.

For 2011, the Plan continued to be in critical status based on a funded percentage of 61.8% and the first projected funding deficiency at the end of the 2011-2012 plan year.

For 2012, the Plan continued to be in critical status based on a funded percentage of 53.7% and the first projected funding deficiency at the end of the 2012-2013 plan year.

For 2013, the Plan continued to be in critical status based on a funded percentage of 56.3% and the first projected funding deficiency at the end of the 2013-2014 plan year.

For 2014, the Plan continued to be in critical status based on a funded percentage of 58.7% and the first projected funding deficiency at the end of the 2014-2015 plan year.

For 2015, the Plan continued to be in critical status based on a funded percentage of 56.8% and the first projected funding deficiency at the end of the 2015-2016 plan year.

For 2016, the Plan was certified to be in critical and declining status based on a projected insolvency in the 2033-2034 plan year and a funded percentage of 53.6%.

For 2017, the Plan continued to be in critical and declining status based on a projected insolvency in the 2031-2032 plan year and a funded percentage of 43.0%.

For 2018, the Plan continued to be in critical and declining status based on a projected insolvency in the 2033-2034 plan year and a funded percentage of 41.4%.

The updated projections to the original rehabilitation plan are based on the May 1, 2017 Actuarial Valuation and the May 1, 2018 PPA Actuarial Status Certification, unless otherwise noted.

The decline in funding is largely a result of the Great Recession and the reduction in work hours due to that event. Federal law requires pension plan in critical or critical and declining status to adopt a rehabilitation plan aimed at restoring the financial health of the plan.

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Goals and Requirements of the Rehabilitation Plan

The goals of a rehabilitation plan are to emerge from critical or critical and declining status by the end of the rehabilitation period and to have no projected funding deficiencies for the 10-year period following the rehabilitation period. The Plan has 13 years in which to accomplish this goal. The Plan can no longer accomplish this goal and has elected to adopt the election of all reasonable measures to forestall insolvency.

All bargaining parties elected the Preferred Schedule of the original rehabilitation plan, therefore this updated rehabilitation plan includes only Preferred Schedule.

Preferred Schedule

Benefit Changes effective August 1, 2009	For all benefits: • Change the normal form of benefit payment from a 5-year certain and life annuity to life-only annuity. Amounts payable under optional payment forms will be actuarially adjusted to reflect their value relative to a life-only annuity. • Increase early retirement reduction factors from 3% per year prior to normal retirement age to actuarially equivalent reductions for the number of years prior normal retirement age. • Eliminate the fully subsidized pop-up feature on joint & survivor payment forms. Participants who wish to elect a pop-up feature as part of a joint & survivor payment form will pay for the feature with an actuarial reduction to their benefit. • Eliminate the single lump-sum and 60-payment pre-retirement death benefits. The only pre-retirement death benefit offered will be the 50% survivor annuity payable to a surviving spouse of a deceased vested participant (payable beginning when the participant would have reached retirement age).
Benefit Changes effective August 1, 2013	Benefit accruals for contributions on or after August 1, 2013 are suspended subject to annual review.
Benefit Changes effective Sept. 1, 2013	Temporary Disability Benefits are eliminated for applications received on or after September 1, 2013.
Funding Changes	• Cumulative annual contribution rate increases of 10.0% in 2009, 2010, 2011. • A 14.0% contribution rate increases of 14.0% in 2012. • No future additional contribution rate increases are currently affordable.

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Critical and Declining Status Limitations

Benefit Increase – No plan amendments can increase the liabilities of the Plan by reason of any increase in benefits, any change in the accrual of benefits, or any change in the rate at which benefits become vested unless the Plan actuary certifies that the increase is paid for out of additional contributions not contemplated by the rehabilitation plan to accomplish the previously noted funding goal. Such restrictions continue until the end of the rehabilitation plan period or potentially earlier if the Plan emerges from critical and declining status at an earlier point.

Lump-Sum Payments – The Plan is generally not permitted to pay lump sum benefits while it is in critical and declining status. Exceptions to this restriction are that lump sum payments are still permitted for:

- Small benefits (benefits with an actuarial present value less than $1,000) which may be immediately distributed without the consent of the participant, or
- Make up payments in the case of a retroactive annuity starting date or any similar payment of benefits owed with respect to a prior period.

Other Details Regarding the Rehabilitation Plan

Details Applicable to the Preferred Schedule

Assumed Return on Assets	6.64% for plan years ending April 30, 2019 through April 30, 2027; and 7.40% for each plan year thereafter
Assumed Future Work	1,100,000 hours for plan year ending April 30, 2019; 1,000,000 hours for plan years ending April 30, 2020 through April 30, 2022; and 950,000 hours for each plan year thereafter
2018 PPA Status	Critical and declining
Length of Rehabilitation Period	13 years (Section 205 of WRERA elected)
Projected PPA Status at End of Rehabilitation Period	Critical and declining. Plan must make use of the "exhaustion of all reasonable measures" clause of IRC 432(e)(3)(A)(ii).
Projected Year of Insolvency	2033-2034 plan year

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Exhaustion of All Reasonable Measures Under IRC 432(e)(3)(A)(ii)

The benefit reductions in the above Preferred Schedule include all adjustable benefit reductions, including a suspension of future accruals.

The required contribution rate increases in the original rehabilitation plan has resulted in significant wage deferments to the Plan by members of the Union. The Trustees believe that additional contribution rate increases will result in a loss of members by the Union and will make it extremely difficult for the Union to attract new members. This would result in a decrease in contributions to the Plan and inevitably would cause a net decrease in future funding of the Plan.

The Trustees continue to monitor the situation annually.

The Trustees reasonably believe, based upon the information and projections received from the Plan's actuary, that the Plan meets the criteria for forestalling insolvency.

IN WITNESS WHEREOF, we have approved and adopted this Rehabilitation Plan this 7th day March, 2019.

Approved:

MANAGEMENT TRUSTEES: UNION TRUSTEES:

[redacted]

Sheet Metal Workers Local Pension Plan

May 1, 2017 Actuarial Valuation

Prepared by:

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Principal and Consulting Actuary

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Consulting Actuary

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Issued March 22, 2018

May 1, 2017 Actuarial Valuation of the Sheet Metal Workers Local Pension Plan

The actuarial valuation of the Sheet Metal Workers Local Pension Plan (the "Plan") for the plan year beginning May 1, 2017 has been completed in accordance with our understanding of the minimum funding requirements under ERISA and the Pension Protection Act of 2006 as well as the applicable sections of the Internal Revenue Code (IRC), including all regulations and guidance issued to date. It also has been completed in accordance with our understanding of FASB ASC Topic 960 for determining plan accounting requirements. The valuation results contained in this report are based on the actuarial methods (Appendix A), actuarial assumptions (Appendix B), and principal plan provisions (Appendix C) summarized in the appendices.

Purpose of the Valuation

In general, the actuarial valuation determines the current level of employer contributions that, taking into account prior funding, will accumulate assets sufficient to meet benefit payments and administrative expenses when due under the terms of the Plan. This report has been prepared for the Sheet Metal Workers Local Pension Plan as of May 1, 2017 to:

- Calculate the Minimum Required Contribution for the plan year beginning May 1, 2017.
- Calculate the Maximum Deductible Contribution for the 2017 fiscal year.
- Determine the actuarial Present Value of Accumulated Plan Benefits as of April 30, 2017 for purposes of disclosing the Plan's liabilities under FASB ASC Topic 960.
- Determine the Plan's unfunded vested benefit liability as of April 30, 2017 for withdrawal liability purposes calculated in accordance with the requirements of the Multiemployer Pension Plan Amendments Act of 1980.
- Review the Plan's funded status.
- Review the experience for the plan year ending April 30, 2017, including the performance of the Plan's assets during the year and changes in the Plan's participant demographics that impact liabilities.
- Provide operational information required for governmental agencies and other interested parties.

Limited Distribution

Milliman's work is prepared solely for the internal business use of Board of Trustees (the "Plan Sponsor") and the Plan's Trustees and may not be provided to third parties without our prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a release, subject to the following exceptions:

- The Plan Sponsor may provide a copy of Milliman's work, in its entirety, to the Plan's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Plan.
- The Plan Sponsor may distribute certain work product that Milliman and the Plan Sponsor mutually agree is appropriate as may be required by the Pension Protection Act of 2006.

Any third party recipient of this work product who desires professional guidance should not rely upon Milliman's work product, but should engage qualified professionals for advice appropriate to its own specific needs.

Reliance

In preparing this report, we relied, without audit, on information (both written and oral) supplied by the Plan Sponsor and the Plan's Trustees. This information includes, but is not limited to, plan documents and summaries, participant data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is incomplete or inaccurate, our results may be different and our calculations may need to be revised.

Limited Use

Actuarial computations for purposes other than determining the contribution requirements for an ongoing plan (such as for assessing benefit security upon potential plan termination) may yield significantly different results from those shown in this report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, 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 plan funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuarial assignment, we did not perform an analysis of the potential range of such future measurements.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

Certification

In our opinion, each assumption used, other than those assumptions mandated directly by the Internal Revenue Code and regulations thereon, is individually reasonable (taking into account the experience of the Plan and reasonable expectations) and, in combination, such other assumptions offer our best estimate of anticipated experience under the Plan.

On the basis of the foregoing, we hereby certify that to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the Code of Professional Conduct and Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States promulgated by the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet its Qualification Standards to render the actuarial opinion contained herein.

Respectfully submitted,

[redacted]

Kevin M. Campe, EA, MAAA
Principal and Consulting Actuary
Enrolled Actuary Number 17-05356

[redacted]

Therese A. Marske, ASA, EA, MAAA
Consulting Actuary
Enrolled Actuary Number 17-05155

March 22, 2018

Date

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Summary of Results

A. Overview

	Actuarial Valuation for Plan Year Beginning	
	5/1/2016	5/1/2017
Assets		
Market Value of Assets (MVA)	$39,751,795	$41,435,167
Investment yield in prior plan year (MVA)	0.07%	9.06%
Actuarial Value of Assets (AVA)	$45,566,573	$44,766,006
Investment yield in prior plan year (AVA)	(0.36%)	2.32%
Valuation Liabilities		
Valuation interest rate	8.00%	6.50%
Normal Cost	$259,615	$484,502
Present value of benefits	84,852,149	103,036,617
Actuarial Accrued Liability	84,852,149	103,036,617
Unfunded Actuarial Accrued Liability	39,285,576	58,270,611
Present Value of Accrued Benefits	84,852,149	103,036,617
Funded percentage		
▪ Based on Market Value of Assets	46.85%	40.21%
▪ Based on Actuarial Value of Assets	53.70%	43.45%
Present Value of Vested Benefits	$83,407,813	101,489,142
Funded percentage		
▪ Based on Market Value of Assets	47.66%	40.83%
▪ Based on Actuarial Value of Assets	54.63%	44.11%
Credit Balance and Contribution Information		
Credit Balance at end of prior plan year	($2,148,983)	($2,091,037)
Minimum Required Contribution	6,139,842	7,415,539
Maximum Deductible Contribution	173,641,330	178,166,340
Withdrawal Liability		
Present Value of Vested Benefits for withdrawal liability	$83,407,813	$101,489,142
Value of assets used for withdrawal liability	45,566,573	44,766,006
Unfunded Present Value of Vested Benefits	37,841,240	56,723,136
Withdrawal liability interest rate	8.00%	6.50%
Participant Data		
Active participants	634	655
Terminated vested participants	379	378
Retired participants	415	419
Disabled participants	6	5
Beneficiaries	101	106
Total participants	1,535	1,563
Certification Status	Critical and Declining	Critical and Declining

B. Purpose of this Report

This report has been prepared for the Sheet Metal Workers Local Pension Plan as of May 1, 2017 to:

- Calculate the Minimum Required Contribution for the plan year beginning May 1, 2017.
- Calculate the Maximum Deductible Contribution for the 2017 fiscal year.
- Determine the actuarial present value of accumulated plan benefits as of April 30, 2017 for purposes of disclosing the Plan's liabilities under FASB ASC Topic 960.
- Determine the Plan’s unfunded vested benefit liability as of April 30, 2017 for withdrawal liability purposes calculated in accordance with the requirements of the Multiemployer Pension Plan Amendments Act of 1980.
- Review the Plan’s funded status.
- Review the experience for the plan year ending April 30, 2017 including the performance of the Plan’s assets during the year and changes in the Plan’s participant demographics that impact liabilities.
- Provide operational information required for governmental agencies and other interested parties.

C. Actuarial Methods and Assumptions

The methods and assumptions used in this valuation are the same as those used in the prior valuation except as follows:

- For minimum funding, FASB ASC Topic 960 plan accounting, and withdrawal liability, the interest rate assumption was changed from 8.0% to 6.5% per year net of investment-related expenses.
- For Current Liability purposes, the interest rate was changed from 3.22% to 3.05% in accordance with IRS guidance. (The statutory mortality tables also have been updated as required by law).
- For minimum funding, FASB ASC Topic 960 plan accounting and withdrawal liability, the mortality assumption was changed from RP-2000 Combined Healthy Generational Mortality Table using scale AA with blue collar adjustment, set forward 1 year for males and females to RP- 2014 Blue Collar Employee and Annuitant Mortality Tables adjusted to 2006 and projected forward using MP-2016 on a generational basis.
- The administrative expense assumption was changed from $270,000 to $500,000, payable mid-year.

Please see Appendix A and Appendix B for a complete summary of all methods and assumptions used in this valuation.

D. Plan Provisions

This valuation reflects the plan provisions in effect on May 1, 2017, which are the same provisions that were valued in the May 1, 2016 actuarial valuation report.

Please see Appendix C for a detailed summary of plan provisions.

Exhibits

Exhibit 1

Summary of Income and Disbursements

The change in the Market Value of Assets from May 1, 2016 to May 1, 2017 is shown below.

1.	Market Value of Assets as of May 1, 2016	$39,751,795
2.	Income	
	a. Employer contribution for plan year	3,896,375
	b. Dividends and Interest	432,013
	c. Net appreciation / (depreciation) in fair value of investments	3,214,940
	d. Insurance company experience credit and other income	57,032
	e. Total	7,600,360
3.	Disbursements	
	a. Benefit payments to participants	5,349,550
	b. Investment expenses	185,138
	c. Administrative expenses (other)	382,300
	d. Total	5,916,988
4.	Net increase / decrease [(2e) - (3d)]	1,683,372
5.	Market Value of Assets as of May 1, 2017 [(1) + (4)]	41,435,167

Exhibit 2

Asset (Gain) / Loss for Prior Plan Year on Market Value of Assets

The Asset (Gain) / Loss is the difference between the expected and actual values of the Market Value of Assets. An asset gain is negative because it represents a decrease from the expected unfunded Actuarial Accrued Liability. The Asset (Gain) / Loss for the plan year ending April 30, 2017 is determined below.

1.	Expected Market Value of Assets	
	a. Market Value of Assets as of April 30, 2016	$39,751,795
	b. Employer contributions for plan year	3,896,375
	c. Benefit payments	5,349,550
	d. Administrative expenses	382,300
	e. Expected investment return based on 8.0% interest rate	3,107,711
	f. Expected Market Value of Assets as of April 30, 2017 [(a) + (b) - (c) - (d) + (e)]	41,024,031
2.	Market Value of Assets as of April 30, 2017	41,435,167
3.	Asset (Gain) / Loss [(1f) - (2)]	(411,136)
4.	Estimated investment return on Market Value of Assets	9.06%

Exhibit 3

Actuarial Value of Assets

The Actuarial Value of Assets is the Market Value of Assets less a weighted average of asset gains / (losses) over a four-year period (five-year smoothing), but it must be within 80% to 120% of the Market Value of Assets. The investment loss for the plan year ending April 30, 2009 is being recognized over 10 years as elected under the Pension Relief Act of 2010. The Actuarial Value of Assets as of May 1, 2017 is determined below.

1.	Market Value of Assets as of April 30, 2017			$41,435,167
2.	Unrecognized asset gains / (losses) for the plan years ending			
	Plan Year Ending	Gain / (Loss) for Year	Percent Unrecognized	Amount Unrecognized
	a. April 30, 2017	$411,136	80%	$328,909
	b. April 30, 2016	(3,226,744)	60%	(1,936,046)
	c. April 30, 2015	(254,824)	40%	(101,930)
	d. April 30, 2014	969,977	20%	193,995
	e. April 30, 2009	(18,157,673)	10%	(1,815,767)
	f. Total			(3,330,839)
3.	Preliminary Actuarial Value of Assets as of May 1, 2017 [(1) - (2f)]			44,766,006
4.	Actuarial Value of Assets as of May 1, 2017 [(3), but not < 80% x (1), nor > 120% x (1)]			44,766,006

Exhibit 4

Actuarial Balance Sheet

The total plan requirements compared to the total value of plan resources as of May 1, 2017 is shown below.

Plan Requirements	
1. Present value of active participant benefits	
a. Retirement	$29,780,086
b. Termination	1,651,685
c. Death	419,936
d. Disability	0
e. Total	31,851,707
2. Present value of inactive participant benefits	
a. Retired participants	48,536,512
b. Terminated vested participants	17,650,989
c. Beneficiaries	4,489,487
d. Disabled participants	507,922
e. Total	71,184,910
3. Total plan requirements [(1e) + (2e)]	103,036,617
Plan Resources	
4. Actuarial Value of Assets	$44,766,006
5. Unfunded Actuarial Accrued Liability	58,270,611
6. Total plan resources	103,036,617

Exhibit 5

Normal Cost and Unfunded Actuarial Accrued Liability

The Normal Cost is the amount allocated to the current plan year under the Plan's actuarial cost method. The Actuarial Accrued Liability is the accumulation of all prior Normal Costs. The unfunded Actuarial Accrued Liability is the excess (deficiency) of the Actuarial Accrued Liability over the Actuarial Value of Assets. The employer Normal Cost and the unfunded Actuarial Accrued Liability as of May 1, 2016 and May 1, 2017 are determined below.

	5/1/2016	5/1/2017
1. Normal Cost		
a. Beginning of year Normal Cost	$0	$0
b. Beginning of year loading for administrative expenses	259,615	484,502
c. Total	259,615	484,502
2. Actuarial Accrued Liability		
a. Active participants	25,570,426	31,851,707
b. Retired participants	41,422,160	48,536,512
c. Terminated vested participants	13,713,977	17,650,989
d. Beneficiaries	3,485,589	4,489,487
e. Disabled participants	659,997	507,922
f. Total	84,852,149	103,036,617
3. Actuarial Value of Assets	45,566,573	44,766,006
4. Unfunded Actuarial Accrued Liability [(2f) - (3)]	39,285,576	58,270,611

Exhibit 6

Current Annual Cost and Minimum Required Contribution

The Current Annual Cost is the Plan's cost under the minimum funding requirements prior to the recognition of the full funding limitation and any Credit Balance. The Minimum Required Contribution is the amount needed to avoid a funding deficiency in the Funding Standard Account. These amounts for the plan year beginning May 1, 2017 are determined below.

1. Charges for plan year	
a. Funding deficiency as of May 1, 2017	$2,091,037
b. Normal Cost	484,502
c. Amortization charges (on $73,167,370)	9,821,861
d. Interest on (a), (b), and (c) to end of plan year	805,831
e. Additional funding charge	0
f. Total	13,203,231
2. Credits for plan year	
a. Amortization credits (on $16,987,796)	5,434,453
b. Other credits	0
c. Interest on (a) and (b) to end of plan year	353,239
d. Total	5,787,692
3. Current Annual Cost for plan year [(1f) - (2d)]	7,415,539
4. Full funding credit for plan year	
a. Full funding limitation	99,859,704
b. Full funding credit [(3) - (4a), but not < $0]	0
5. Credit Balance for plan year	
a. Credit Balance as of May 1, 2017	0
b. Interest on (a) to end of plan year	0
c. Total	0
6. Minimum Required Contribution for plan year [(3) - (4b) - (5c), but not < $0]	7,415,539

Exhibit 7

Actuarial (Gain) / Loss for Prior Plan Year

The Actuarial (Gain) / Loss for the prior plan year is the difference between the expected and actual unfunded Actuarial Accrued Liability as of the beginning of the current plan year. The Actuarial (Gain) / Loss for the plan year ending April 30, 2017 is determined below.

1.	Unfunded Actuarial Accrued Liability as of May 1, 2016	$39,285,576
2.	Normal Cost as of May 1, 2016	259,615
3.	Interest on (1) and (2) to end of plan year	3,163,615
4.	Subtotal [(1) + (2) + (3)]	42,708,806
5.	Employer contributions for plan year	3,896,375
6.	Interest on (5) to end of plan year	152,430
7.	Subtotal [(5) + (6)]	4,048,805
8.	Changes in Actuarial Accrued Liability	
	a. Plan amendments	0
	b. Changes in actuarial assumptions	17,759,604
	c. Changes in cost method	0
	d. Total	17,759,604
9.	Expected unfunded Actuarial Accrued Liability as of May 1, 2017 [(4) - (7) + (8d)]	56,419,605
10.	Actual unfunded Actuarial Accrued Liability as of May 1, 2017	58,270,611
11.	Actuarial (Gain) / Loss on Actuarial Value of Assets	2,537,985
12.	Actuarial (Gain) / Loss on Actuarial Accrued Liability [(10) - (9) - (11)]	(686,979)
13.	Total Actuarial (Gain) / Loss for prior plan year [(11) + (12)]	1,851,006

Exhibit 8

Charges and Credits for Funding Standard Account

The amortization charges and credits for the Funding Standard Account for the plan year beginning May 1, 2017 are determined below.

1. Charges as of May 1, 2017

	Date Established	Description	Amortization Amount	Years Remaining	Outstanding Balance
a.	5/01/1978	Initial UAL	$188,608	1	$188,608
b.	5/01/1979	Plan Amendment	29,368	2	56,943
c.	5/01/1988	Assumption Change	23,815	1	23,815
d.	5/01/1990	Plan Amendment	235,380	3	663,919
e.	5/01/1991	Assumption Change	30,063	4	109,683
f.	5/01/1992	Assumption Change	60,677	5	268,544
g.	5/01/1994	Assumption Change	83,080	7	485,271
h.	5/01/1994	Plan Amendment	39,493	7	230,682
i.	5/01/1995	Assumption Change	68,631	8	445,040
j.	5/01/1996	Assumption Change	383,209	9	2,716,474
k.	5/01/1997	Assumption Change	112,868	10	864,131
l.	5/01/1997	Plan Amendment	82,245	10	629,675
m.	5/01/1998	Assumption Change	212,184	11	1,737,535
n.	5/01/1998	Plan Amendment	58,804	11	481,535
o.	5/01/1999	Assumption Change	173,427	12	1,506,914
p.	5/01/1999	Plan Amendment	82,769	12	719,182
q.	5/01/2001	Assumption Change	94,848	14	910,521
r.	5/01/2002	Assumption Change	23,771	15	238,044
s.	5/01/2002	EGGTRA	721	15	7,219
t.	5/01/2003	Actuarial Loss	686,109	1	686,109
u.	5/01/2003	Assumption Change	278,801	16	2,900,277
v.	5/01/2004	Actuarial Loss	429,371	2	832,537
w.	5/01/2004	Assumption Change	123,400	17	1,328,737
x.	5/01/2005	Actuarial Loss	320,706	3	904,591
y.	5/01/2006	Actuarial Loss	256,866	4	937,171
z.	5/01/2007	Actuarial Loss	110,602	5	489,501
aa.	5/01/2008	Actuarial Loss	214,146	6	1,104,070
bb.	5/01/2008	Assumption Change	495,270	6	2,553,452
cc.	5/01/2009	Actuarial Loss	169,541	7	990,289
dd.	5/01/2009	Funding Relief	1,098,426	21	13,201,442
ee.	5/01/2010	Assumption Change	3,726	8	24,160
ff.	5/01/2010	Funding Relief	25,398	21	305,252

	Date Established	Description	Amortization Amount	Years Remaining	Outstanding Balance
gg.	5/01/2011	Assumption Change	36,200	9	256,614
hh.	5/01/2011	Funding Relief	44,028	21	529,154
ii.	5/01/2012	Actuarial Loss	679,165	10	5,199,755
jj.	5/01/2012	Assumption Change	10,457	10	80,059
kk.	5/01/2012	Funding Relief	24,274	21	291,737
ll.	5/01/2013	Funding Relief	120,660	21	1,450,151
mm.	5/01/2014	Funding Relief	53,591	21	644,083
nn.	5/01/2015	Actuarial Loss	322,584	13	2,954,460
oo.	5/01/2015	Assumption Change	5,176	13	47,410
pp.	5/01/2016	Actuarial Loss	371,053	14	3,562,014
qq.	5/01/2017	Actuarial Loss	184,845	15	1,851,006
rr.	5/01/2017	Assumption Change	1,773,505	15	17,759,604
ss.	Total		9,821,861		73,167,370

2. Credits as of May 1, 2017

	Date Established	Description	Amortization Amount	Years Remaining	Outstanding Balance
a.	5/01/2009	Combined Bases	$3,424,469	1	$3,424,469
b.	8/01/2009	Plan Amendment	693,060	7.25	4,162,315
c.	5/01/2010	Actuarial Gain	662,237	8	4,294,291
d.	5/01/2011	Actuarial Gain	303,228	9	2,149,507
e.	5/01/2013	Actuarial Gain	172,896	11	1,415,820
f.	5/01/2013	Plan Amendment	20,282	11	166,082
g.	5/01/2014	Actuarial Gain	146,859	12	1,276,068
h.	5/01/2014	Assumption Change	526	12	4,571
i.	5/01/2014	Plan Amendment	10,896	12	94,673
j.	Total		5,434,453		16,987,796

3.	Net outstanding balance [(1ss) - (2j)]	56,179,574
4.	Credit Balance as of May 1, 2017	(2,091,037)
5.	Waived funding deficiency	0
6.	Balance test result [(3) - (4) - ()]	58,270,611
7.	Unfunded Actuarial Accrued Liability as of May 1, 2017	58,270,611

Exhibit 9

Current Liability

In accordance with IRS requirements, the Current Liability has been calculated at 3.05%. The Current Liability as of May 1, 2017 is determined below.

		Count	Vested Benefits	All Benefits
1.	Current Liability			
	a. Active participants	655	$55,075,853	$56,841,215
	b. Terminated vested participants	378	29,997,218	30,146,495
	c. Retirees, beneficiaries, and disabled participants	530	70,787,231	70,787,231
	d. Total	1,563	155,860,302	157,774,941
2.	Expected increase in Current Liability for benefit accruals during year			0
3.	Expected release from “RPA 94” Current Liability			5,884,737
4.	Expected distributions during year			6,384,737
5.	Market Value of Assets			41,435,167
6.	Current Liability funded percentage [(5) ÷ (1d)]			26.26%

Exhibit 10

Full Funding Limitation

The full funding limitation (FFL) for the plan year ending April 30, 2018 and the tax year ending April 30, 2018 is determined below.

	Minimum Required Contribution	Maximum Deductible Contribution
1. 100% Actuarial Accrued Liability (AAL) FFL		
a. AAL as of 5/1/2017	$103,036,617	$103,036,617
b. Normal Cost to end of year	481,125	481,125
c. Value of assets as of 5/1/2017		
i. Lesser of actuarial and market value	41,435,167	41,435,167
ii. Credit Balance	0	n/a
iii. Undeducted employer contributions	n/a	0
iv. Plan assets [(i) - (ii) - (iii)]	41,435,167	41,435,167
d. Interest to 4/30/2018 at 6.50% on (a), (b), & (civ)	4,035,367	4,035,367
e. 100% AAL FFL [(a) + (b) - (civ) + (d), but not <$0]	66,117,942	66,117,942
2. Estimated Current Liability as of 4/30/2018		
a. Current Liability as of 5/1/2017	157,774,941	157,774,941
b. Expected increase due to benefit accruals during year	0	0
c. Estimated benefit disbursements to 4/30/2018	5,884,737	5,884,737
d. Interest to 4/30/2018 at 3.05% on (a), (b), & (c)	4,723,068	4,723,068
e. Estimated EOY Current Liability [(a) + (b) - (c) + (d)]	156,613,272	156,613,272
3. Estimated assets for Current Liability FFL		
a. Actuarial Value of Assets as of 5/1/2017	44,766,006	44,766,006
b. Estimated employee contributions to 4/30/2018	0	0
c. Estimated benefit disbursements to 4/30/2018	5,879,486	5,879,486
d. Estimated expenses to 4/30/2018	484,502	484,502
e. Estimated return to 4/30/2018 at 6.50% on (3a), (1ciii), (3b), (3c), & (3d)	2,690,223	2,690,223
f. Estimated assets as of 4/30/2018 [(3a) - (1ciii) + (3b) - (3c) - (3d) +(3e)]	41,092,241	41,092,241
4. 90% Current Liability minimum funding limitation		
a. 90% EOY RPA Current Liability [90% x (2e)]	140,951,945	140,951,945
b. 90% Current Liability FFL [(a) - (3f), but not < $0]	99,859,704	99,859,704
5. Full funding limitation [maximum of (1e) and (4b)]	99,859,704	99,859,704

Exhibit 11

Maximum Deductible Contribution under IRC Section 404

The Maximum Deductible Contribution under IRC Section 404 for the tax year beginning May 1, 2017 is determined below.

1.	Minimum Required Contribution for plan year beginning May 1, 2017	$7,415,539
2.	Preliminary Maximum Deductible Contribution under IRC Section 404 for tax year	
	a. Normal Cost	484,502
	b. 10-year amortization of unfunded Actuarial Accrued Liability	7,611,000
	c. Interest to earlier of tax year end or plan year end	526,208
	d. Total	8,621,710
3.	Full funding limitation for tax year	99,859,704
4.	Unfunded 140% of Current Liability as of April 30, 2018	
	a. Current Liability (for IRC Section 404 purposes) projected to end of year	156,613,272
	b. Actuarial Value of Assets (for IRC Section 404 purposes) projected to end of year	41,092,241
	c. Unfunded 140% of Current Liability [140% × (a) - (b), but not < $0]	178,166,340
5.	Maximum Deductible Contribution under IRC Section 404 for tax year [maximum of (1) and (2d), but not > (3), nor < (4c)]	178,166,340

There are alternative calculations of the Maximum Deductible Contribution under IRC Section 404 that may produce a different amount than illustrated above. Additionally, deductibility of contributions to a defined contribution plan maintained for the same employees may be affected by the 25% of pay limitation for defined benefit and defined contribution plans combined. Employers should consult their tax advisors regarding the deductibility of contributions.

Exhibit 12

Present Value of Accumulated Plan Benefits

Accumulated Plan Benefits are benefits earned to date, based on pay history and service rendered to date, expected to be paid in the future to retired, terminated vested, and active participants, and beneficiaries of active or former participants. The Present Value of Accumulated Plan Benefits (determined on a plan continuation basis in accordance with FASB ASC Topic 960) valued at a discount rate of 8.00% as of the prior year and 6.50% as of the current plan year, are shown below.

	5/1/2016	5/1/2017
1. Present Value of vested Accumulated Plan Benefits		
a. Participants currently receiving benefits	$45,567,746	$53,533,921
b. Other participants	37,840,067	47,955,221
c. Total	83,407,813	101,489,142
2. Present Value of non-vested Accumulated Plan Benefits	1,444,336	1,547,475
3. Present Value of all Accumulated Plan Benefits [(1c) + (2)]	84,852,149	103,036,617
4. Market Value of Assets	39,751,795	41,435,167
5. Funded percentage on Market Value of Assets		
a. Vested benefits [(4) ÷ (1c)]	47.66%	40.83%
b. All benefits [(4) ÷ (3)]	46.85%	40.21%
6. Actuarial Value of Assets	$45,566,573	$44,766,006
7. Funded percentage on Actuarial Value of Assets		
a. Vested benefits [(6) ÷ (1c)]	54.63%	44.11%
b. All benefits [(6) ÷ (3)]	53.70%	43.45%

Exhibit 13

Change in Present Value of Accumulated Plan Benefits

The change in the Present Value of Accumulated Plan Benefits (determined on a plan continuation basis in accordance with FASB ASC Topic 960) from May 1, 2016 to May 1, 2017 is shown below.

1.	Present Value of all Accumulated Plan Benefits as of May 1, 2016		$84,852,149
2.	Changes		
	a.	Reduction in discount period	6,578,306
	b.	Benefits accumulated plus Actuarial (Gain) / Loss	(803,892)
	c.	Benefit payments	(5,349,550)
	d.	Plan amendments	0
	e.	Change in assumptions (interest rate and mortality)	17,759,604
	f.	Total	18,184,468
3.	Present Value of all Accumulated Plan Benefits as of May 1, 2017 [(1) + (2f)]		$103,036,617

Exhibit 14

Unfunded Vested Benefit Liability for Withdrawal Liability Calculations

Withdrawal liability payments are based on unfunded vested benefit liability. Vested benefit liability is the present value of benefits earned to date, excluding benefits for non-vested participants and certain benefits such as death and disability benefits which are not considered vested. These liabilities determined a discount rate of 8.00% as of April 30, 2016 and 6.50% as of April 30, 2017 are shown below. However, if there is a termination by mass withdrawal during the year, a separate calculation has to be performed.

	4/30/2016	4/30/2017
1. Present Value of Vested Benefits		
a. Participants currently receiving benefits	$45,567,746	$53,533,921
b. Other participants	37,840,067	47,955,221
c. Total vested benefits	83,407,813	101,489,142
2. Actuarial Value of Assets	45,566,573	44,766,006
3. Funded ratio [(2) ÷ (1c)]	54.63%	44.11%
4. Unfunded vested benefit liability [(1c) - (2), but not < $0]	$37,841,240	$56,723,136
5. Unamortized Portion of Value of Affected Benefits Disregarded under Code Section 432(e)(9)(A)*	2,340,612	2,153,177
6. Total Effective unfunded vested benefit liability for Withdrawal Liability Calculations [(4) + (5)]	40,181,852	58,876,313

* Pursuant to PBGC Technical Update 10-3 under the “simplified method,” the initial amount of $3,207,104 is subject to a 15-year amortization as of April 30, 2010 at 8% interest rate and annual payments of $346,930.

Exhibit 15

Summary of Participant Data

A summary of participant data for the plan years beginning May 1, 2016 and May 1, 2017 is shown below.

	5/1/2016	5/1/2017
1. Active participants		
a. Count	634	655
b. Average age	43.2	42.8
c. Average vesting service	13.1	12.7
d. Prior year hours	1,070,884	1,109,915
e. Average prior year hours	1,689	1,695
2. Retired participants		
a. Count	415	419
b. Average age	71.2	71.4
c. Total annual benefits	$4,845,288	$4,911,176
d. Average annual benefit	11,675	11,721
3. Terminated vested participants		
a. Count	379	378
b. Average age	49.9	50.1
c. Total annual benefits	$2,514,710	$2,478,979
d. Average annual benefit	6,635	6,558
4. Beneficiaries		
a. Count	101	106
b. Average age	72.6	73.1
c. Total annual benefits	$439,193	$487,999
d. Average annual benefit	4,348	4,604
5. Disabled participants		
a. Count	6	5
b. Average age	56.5	57.9
c. Total annual benefits	$61,824	$40,987
d. Average annual benefit	10,304	8,197

Exhibit 16

Change in Participant Counts

The change in participant counts from May 1, 2016 to May 1, 2017 is shown below.

	Active	Terminated Vested	Retired	Beneficiary	Disabled	Total
As of 5/1/2016	634	379	415	101	6	1,535
Retired	(13)	(10)	23	0	0	0
Received lump sum distribution	0	0	0	0	0	0
Terminated non-vested	(16)	0	0	0	0	(16)
Terminated vested	(18)	19	0	0	(1)	0
Disabled	0	0	0	0	0	0
Died with beneficiary	0	0	(9)	9	0	0
Died without beneficiary	0	(3)	(10)	(5)	0	(18)
Rehired	8	(8)	0	0	0	0
New during plan year	60	0	0	0	0	60
Net data adjustments	0	1	0	1	0	2
As of 5/1/2017	655	378	419	106	5	1,563

The above participant counts include 17 alternate payees entitled to benefits under Qualified Domestic Relations Orders.

Exhibit 17

Active Participants by Age and Service

The number of active participants summarized by attained age and years of credited service as of May 1, 2017 is shown below.

	Years of Credited Service										
Age	**<1**	**1–4**	**5–9**	**10–14**	**15–19**	**20–24**	**25–29**	**30–34**	**35–39**	**40+**	**Total**
<25	0	41	1	0	0	0	0	0	0	0	42
25–29	0	44	19	3	0	0	0	0	0	0	66
30–34	0	24	22	16	1	0	0	0	0	0	63
35–39	0	20	22	28	18	0	0	0	0	0	88
40–44	0	19	19	20	29	12	0	0	0	0	99
45–49	0	10	10	11	20	32	15	2	0	0	100
50–54	0	3	3	8	22	23	21	14	0	0	94
55–59	0	5	6	6	11	7	11	12	21	0	79
60–64	0	1	4	2	3	2	2	0	5	2	21
65–69	0	0	0	0	0	0	1	0	1	0	2
70+	0	0	0	0	0	0	0	0	0	1	1
Total	0	167	106	94	104	76	50	28	27	3	655

Appendices

Appendix A – Summary of Actuarial Methods

The ultimate cost of a pension plan is the excess of actual benefits and administrative expenses paid over actual net investment return on plan assets during the plan's existence until the last payment has been made to the last participant. The plan's "actuarial cost method" determines the expected incidence of actuarial costs by allocating portions of the ultimate cost to each plan year. The cost method is thus a budgeting tool to help ensure that the plan will be adequately and systematically funded and accounted for. There are several commonly-used cost methods which differ in how much of the ultimate cost is assigned to each prior and future year.

Actuarial Cost Method

The actuarial cost method used for determining the plan's ERISA funding requirements is the unit credit cost method. Under this method, an accrued benefit is determined for each participant. The plan's normal cost is the sum of the present value of the accruals that each active participant is expected to earn during the year. The plan's accrued liability is the sum of the present value of the accrued benefit for each participant.

The actuarial cost method used for determining the plan sponsor's FASB ASC Topic 960 accounting requirements and for current liability purposes (RPA '94) is the unit credit method.

Asset Valuation Method

Five-year smoothing method. The actuarial value of assets is equal to the market value of assets adjusted to recognize differences between the expected value of assets and the actual market value of assets over 5 years at a rate of 20% per year. The expected value of assets for the year is the market value of assets at the valuation date for the prior year brought forward with interest at the valuation rate to the current year plus contributions minus administrative expenses and benefit payments, all adjusted with interest at the valuation rate to the valuation date for the current year. The actuarial value of assets cannot be less than 80% or more than 120% of the market value of assets.

Appendix B – Summary of Actuarial Assumptions

Interest

- **Minimum funding:** 6.5% per year net of investment-related expenses.
- **FASB ASC Topic 960 plan accounting:** Same as minimum funding.
- **Withdrawal liability:** Same as minimum funding.

  Rationale: In setting the the above interest rate, the plan's historical investment performance along with expected returns for each asset class is considered based on forward-looking data, including projections of inflation and total return growth.

- **Current liability (RPA '94):** 3.05% per year.

Mortality

- **Minimum funding:** RP- 2014 Blue Collar Employee and Annuitant Mortality Tables adjusted to 2006 and projected forward using MP-2016 on a generational basis.
- **FASB ASC Topic 960 plan accounting and withdrawal liability:** Same as minimum funding.

  Rationale: The plan is not large enough to develop a credible mortality table based exclusively on plan experience. We have relied on the above mentioned published mortality tables in which credible mortality experience was analyzed. We believe the assumption selected is reasonable for the contingency being measured and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

- **Current liability (RPA '94):** IRS RP-2000 Annuitant and Non-Annuitant Mortality Tables (male and female rates) with projection for mortality improvement, updated annually, as mandated by the IRS.

Termination

Sample rates used are shown below. Rates are based on a select rates of 30% for the first two years of service then 15% for the next two years of service, and an ultimate rates based on age after four years of service. Ultimate rates are based on the T-5 Table.

Age	4 or More Years of Service: Ultimate Rates
20	7.88%
30	7.11
40	4.93
50	2.41
60	0.00

Rationale: The assumption selected is reasonable for the contingency it is measuring, and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Retirement from Active Service

Rates as shown below:

Age	Active Service Rates
55 – 60	10%
61	20
62 – 64	50
65 and over	100

The weighted average retirement age using the retirement rates above is 60.5.

Rationale: We believe the retirement assumption is reasonable for the contingency it is measuring, and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period**.**

Commencement of Deferred Benefits

If a participant terminated before May 1, 1999, assumed to retire at 62. If a participant terminated on or after May 1, 1999, assumed to retire at 60.

Rationale: The assumption selected is reasonable for the contingency it is measuring, and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period. The Normal Retirement Age for the Plan was reduced from age 62 to 61 effective May 1, 1999.

Disability

None assumed.

Rationale: We believe the disability assumption is reasonable for the contingency it is measuring, and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period**.** There are no longer disability benefits provided under the Plan to participants for those participants who became disabled on and after September 1, 2013.

Form of Payment

Single life annuity

Rationale: The optional forms of payment are all actuarially equivalent to the single life annuity.The assumption selected is reasonable for the contingency it is measuring, and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Load for Pop-up

Liabilities for retired participants with a joint and survivor pop-up option are increased 1.40%.

Rationale: The assumption selected is reasonable for the contingency it is measuring, and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Marital Status

100% of non-retired participants are assumed to be married. Males are assumed to be three years older than females.

Rationale: The assumption selected is reasonable for the contingency it is measuring, and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Administrative Expenses

$500,000 payable mid-year. Expected administrative expenses payable from the trust are explicitly loaded to the normal cost.

Rationale: The assumption selected is based on past and projected experience and is reasonable for the contingency it is measuring, and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period. The significant increase in administrative expenses from the prior year relates to the MPRA benefit suspension application.

Future Hours and Service

Active participants are assumed to work at least 435 hours and earn year of service each year.

Rationale: The assumption selected is based on past and projected experience and is reasonable for the contingency it is measuring, and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Terminated Vested

Terminated vested participants over age 70 at the valuation date are assumed to be deceased with no benefit payable.

Rationale: The assumption selected is based on past and projected experience and is reasonable for the contingency it is measuring, and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Changes in Assumptions from prior Valuation

- For minimum funding, FASB ASC Topic 960 plan accounting, and withdrawal liability, the interest rate assumption was changed from 8.0% to 6.5% per year net of investment-related expenses.
- For Current Liability purposes, the interest rate was changed from 3.22% to 3.05% in accordance with IRS guidance. (The statutory mortality tables also have been updated as required by law).
- For minimum funding, FASB ASC Topic 960 plan accounting and withdrawal liability, the mortality assumption was changed from RP-2000 Combined Healthy Generational Mortality Table using scale AA with blue collar adjustment, set forward 1 year for males and females to RP- 2014 Blue Collar Employee and Annuitant Mortality Tables adjusted to 2006 and projected forward using MP-2016 on a generational basis.
- The administrative expense assumption was changed from $270,000 to $500,000, payable mid-year.

Appendix C – Summary of Principal Plan Provisions

This summary of plan provisions is intended to only describe the essential features of the plan. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself.

Definitions

Effective Date: January 1, 1961. The plan was last restated as of May 1, 2010.

Plan Year: Twelve month period beginning May 1st and ending the following April 30th.

Union: The Sheet Metal Workers Union No. 33 of Northern Ohio and West Virginia

Employers Included:

- The Akron-Canton-Mansfield Sheet Metal and Roofing Contractors Association
- The Wheeling/Stuebenville Area Sheet Metal and Roofing Contractors Association.
- Any employer that is performing work in the sheet metal trade and has entered into a collective bargaining agreement with the Union.
- Any employer that makes contributions on former collectively bargained employees and has entered into a collective bargaining agreement with the Trustees.

Employees Included: Any person covered by collective bargaining agreements between the Employer and the Union who is engaged in employment with respect to which the Employer is obligated to make contributions to the Pension Fund.

All Employees shall become participants when they first perform an hour of work while employed by an Employer for which the Employer is obligated to make contributions to the Pension Fund.

Years of Service

Service prior to May 1, 1976:

- *Past Service* is earned for each Plan Year from May 1, 1946 to May 1, 1961 that the employee worked in the jurisdiction of the Union.
- *Future Service* is earned for each Plan Year after May 1, 1961 during which an Employer contributes to the Fund on the participant's behalf.

Service from and after May 1, 1976: One year of service shall be granted for each Plan Year during which an Employee has at least 435 hours worked.

Accrued Benefit

The accrued benefit is the monthly benefit equal to the sum of the Past Service Benefit and Future Service Benefit defined as follows:

- Past Service Benefit is equal to the Years of Service during May 1, 1946 to May 1, 1961 multiplied by:
  - $3.50 if the Participant is not eligible for pension benefits under the Sheet Metal Workers National Pension Plan
  - $2.00 if the Participant is eligible for pension benefits under the Sheet Metal Workers National Pension Plan

- Future Service Benefit is equal to a percentage of the Employer contributions on the Participant's behalf after May 1, 1961 according to the following schedule:

Retirement Date	Percentage of Employer Contributions
Prior to May 1, 1982	2.20%
May 1, 1982 through April 30, 1983	2.40
May 1, 1983 through April 30, 1984	2.60
May 1, 1984 through April 30, 1987	2.80
May 1, 1987 through April 30, 1990	3.00
May 1, 1990 through April 30, 1994	3.50
May 1, 1994 through April 30, 2003	3.65

Notwithstanding the above, an active participant that retires on or after May 1, 2003, the Future Service Benefit shall be equal to 3.65% of Employer contributions made on the Participant's behalf for hours worked prior to May 1, 2003, plus 2.20% of Employer contributions made on the Participant's behalf for hours worked between May 1, 2003 and April 30, 2006, plus 0.36% of Employer contributions made on the Participant's behalf for hours after May 1, 2006.

Effective August 1, 2013, accruals were suspended as part of the Rehabilitation Plan.

Effective May 1, 1998 each retired Participant, Beneficiary, spouse of a deceased retired Participant, or disabled Participant in pay status at May 1, 1998 received a 6% increase in monthly benefit.

Employer contributions were required to be raised 10% in 2009, 2010, and 2011, and 14% in 2012 as part of the Rehabilitation Plan.

Normal Retirement

Eligibility for Normal Retirement occurs at the earlier of:

(1) The attainment of age 62 with at least 5 years of Vesting Service, or
(2) The later of age 65 or the age of the participant as of the 5th anniversary of participant in the Plan.

Eligibility for Normal Retirement for Active participants who retire on or after January 1, 1999 occurs at the earlier of:

(1) The attainment of age 61 with at least 5 years of Vesting Service, or
(2) The later of age 65 or the age of the participant as of the 5th anniversary of participant in the Plan.

Participants who retire after Normal Retirement eligibility will receive the greater of the accrued benefit earned at the time of retirement or the actuarial equivalent of the accrued benefit earned at Normal Retirement age.

Normal Form of Annuity and Options

Before August 1, 2009, the normal form was a 5-year certain and life annuity.

Effective August 1, 2009, the normal form was changed to a single life annuity without a certain period as part of the Rehabilitation Plan.

The other available optional forms of payment are: 50% joint and survivor annuity with and without pop-up feature, 75% joint and survivor annuity with and without pop-up feature, and a 10-year certain and life annuity. A mandatory lump sum will be paid for lump sum values not in excess of $5,000.

Effective August 1, 2009, the pop-up subsidy was eliminated as part of the Rehabilitation Plan.

Early Retirement

Eligibility occurs upon termination after five or more years of service and attainment of age 55.

A participant's Early Retirement benefit is based on a single-life annuity computed in the same manner as for Normal Retirement reduced by 3% for each year the commencement date precedes Normal Retirement.

Effective August 1, 2009, the early retirement subsidy was eliminated as part of the Rehabilitation Plan.

Total and Permanent Disability Benefit

Eligibility occurs upon total and permanent disability at any age prior to 55, after ten or more years of benefit eligibility service, has at least one year of service in the prior three Plan Years, and is eligible for a Social Security disability benefit.

A participant's Disability Retirement benefit is equal to 80% of the Accrued Benefit. The benefit is payable beginning on the first day of the month following receipt of disability application by the Trustees and ending on the earlier of death, recovery, or age 55.

Effective September 1, 2013, the disability benefit was eliminated as part of the Rehabiliation Plan.

Vested Benefit

Eligibility occurs upon termination after five or more Years of Service and the participant has ceased to be employed by an Employer within the same geographic area covered by the Fund as when such benefits commence.

A participant's Vested Benefit is equal to either the Normal Retirement or Early Retirement benefit depending on the age of the participant on the date of retirement and payable in any of the optional forms.

Death Benefit

Eligibility occurs upon being eligible for a Vested Benefit and death prior to the first month of receiving a pension benefit.

<u>Death Prior to Age 55</u>

> <u>Married Participant</u> – The monthly benefit will be equal to the benefit if the participant had terminated employment on the earlier of the date of death or actual date of termination, retired upon reaching age 55 with a 50% joint and survivor benefit, then died on the last day of the month in which age 55 was reached. The benefit will be payable for the spouse's lifetime. The spouse may also elect to receive the benefit for unmarried participants under age 55.

Unmarried Participant – If the participant was not receiving the Disability Benefit at the time of death, the beneficiary will receive an amount equal to the Normal Retirement Benefit for 60 months payable the first of the month following death.

Death At or After Age 55

Married Participant – The monthly benefit will be equal to the benefit if the participant had retired on the day prior to death with a 50% joint and survivor benefit. The benefit will be payable for the spouse's lifetime. The spouse may also elect to receive the benefit for unmarried participants under age 55.

Unmarried Participant – The beneficiary will receive an amount equal to the Normal Retirement Benefit for 60 months payable the first of the month following death.

Effective August 1, 2009, the 60 month pre-retirement benefit was eliminated as part of the Rehabilitation Plan.

Changes in Plan Provisions During Year

There were no plan changes that affected the liability during the year.

Significant Events

To the best of our knowledge, no significant events occurred during the year.

Milliman

Sheet Metal Workers Local Pension Plan

May 1, 2016 Actuarial Valuation

Prepared by:

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May 1, 2016 Actuarial Valuation of the Sheet Metal Workers Local Pension Plan

The actuarial valuation of the Sheet Metal Workers Local Pension Plan (the "Plan") for the plan year beginning May 1, 2016 has been completed in accordance with our understanding of the minimum funding requirements under ERISA and the Pension Protection Act of 2006 as well as the applicable sections of the Internal Revenue Code (IRC), including all regulations and guidance issued to date. It also has been completed in accordance with our understanding of FASB ASC Topic 960 for determining plan accounting requirements. The valuation results contained in this report are based on the actuarial methods (Appendix A), actuarial assumptions (Appendix B), and principal plan provisions (Appendix C) summarized in the appendices.

Purpose of the Valuation

In general, the actuarial valuation determines the current level of employer contributions that, taking into account prior funding, will accumulate assets sufficient to meet benefit payments and administrative expenses when due under the terms of the Plan. This report has been prepared for the Sheet Metal Workers Local Pension Plan as of May 1, 2016 to:

- Calculate the Minimum Required Contribution for the plan year beginning May 1, 2016.
- Calculate the Maximum Deductible Contribution for the 2016 fiscal year.
- Determine the actuarial Present Value of Accumulated Plan Benefits as of April 30, 2016 for purposes of disclosing the Plan's liabilities under FASB ASC Topic 960.
- Determine the Plan's unfunded vested benefit liability as of April 30, 2016 for withdrawal liability purposes calculated in accordance with the requirements of the Multiemployer Pension Plan Amendments Act of 1980.
- Review the Plan's funded status.
- Review the experience for the plan year ending April 30, 2016, including the performance of the Plan's assets during the year and changes in the Plan's participant demographics that impact liabilities.
- Provide operational information required for governmental agencies and other interested parties.

Limited Distribution

Milliman's work is prepared solely for the internal business use of the Board of Trustees Sheet Metal Workers Local Pension Plan (the "Plan Sponsor") and the Plan's Trustees and may not be provided to third parties without our prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a release, subject to the following exceptions:

- The Plan Sponsor may provide a copy of Milliman's work, in its entirety, to the Plan's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Plan.
- The Plan Sponsor may distribute certain work product that Milliman and the Plan Sponsor mutually agree is appropriate as may be required by the Pension Protection Act of 2006.

Any third party recipient of this work product who desires professional guidance should not rely upon Milliman's work product, but should engage qualified professionals for advice appropriate to its own specific needs.

Reliance

In preparing this report, we relied, without audit, on information (both written and oral) supplied by the Plan Sponsor and the Plan's Trustees. This information includes, but is not limited to, plan documents and summaries, participant data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is incomplete or inaccurate, our results may be different and our calculations may need to be revised.

Limited Use

Actuarial computations for purposes other than determining the contribution requirements for an ongoing plan (such as for assessing benefit security upon potential plan termination) may yield significantly different results from those shown in this report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, 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 plan funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuarial assignment, we did not perform an analysis of the potential range of such future measurements.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

Certification

In our opinion, each assumption used, other than those assumptions mandated directly by the Internal Revenue Code and regulations thereon, is individually reasonable (taking into account the experience of the Plan and reasonable expectations) and, in combination, such other assumptions offer our best estimate of anticipated experience under the Plan.

On the basis of the foregoing, we hereby certify that to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the Code of Professional Conduct and Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States promulgated by the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet its Qualification Standards to render the actuarial opinion contained herein.

Respectfully submitted,

[redacted]

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August 17, 2017
Date

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Summary of Results

A. Overview

	Actuarial Valuation for Plan Year Beginning	
	5/1/2015	5/1/2016
Assets		
Market Value of Assets (MVA)	$41,508,264	$39,751,795
Investment yield in prior plan year (MVA)	7.35%	0.07%
Actuarial Value of Assets (AVA)	$47,518,829	$45,566,573
Investment yield in prior plan year (AVA)	1.82%	(0.36%)
Valuation Liabilities		
Valuation interest rate	8.00%	8.00%
Normal Cost	$259,615	$259,615
Present value of benefits (PVB)	83,884,650	84,852,149
Actuarial Accrued Liability (AAL)	83,884,650	84,852,149
Unfunded Actuarial Accrued Liability (AAL - AVA)	36,365,821	39,285,576
Present Value of Accrued Benefits (PVAB)	83,884,650	84,852,149
Funded percentage (PVAB)		
▪ Based on Market Value of Assets (PVAB ÷ MVA)	49.48%	46.85%
▪ Based on Actuarial Value of Assets (PVAB ÷ AVA)	56.65%	53.70%
Present Value of Vested Benefits (PVVB)	$82,614,505	$83,407,813
Funded percentage (PVVB)		
▪ Based on Market Value of Assets (PVVB ÷ MVA)	50.24%	47.66%
▪ Based on Actuarial Value of Assets (PVVB ÷ AVA)	57.52%	54.63%
Credit Balance and Contribution Information		
Credit Balance at end of prior plan year	($2,245,624)	($2,148,983)
Minimum Required Contribution	6,117,091	6,139,842
Maximum Deductible Contribution	161,374,247	173,641,330
Withdrawal Liability		
Present Value of Vested Benefits for withdrawal liability	$82,614,505	$83,407,813
Value of assets used for withdrawal liability	47,518,829	45,566,573
Unfunded Present Value of Vested Benefits	35,095,676	37,841,240
Withdrawal liability interest rate	8.00%	8.00%
Participant Data		
Active participants	648	634
Terminated vested participants	373	379
Retired participants	418	415
Disabled participants	5	6
Beneficiaries	101	101
Total participants	1,545	1,535
Certification Status	Critical & Declining	Critical & Declining

B. Purpose of this Report

This report has been prepared for the Sheet Metal Workers Local Pension Plan as of May 1, 2016 to:

- Calculate the Minimum Required Contribution for the plan year beginning May 1, 2016.
- Calculate the Maximum Deductible Contribution for the 2016 fiscal year.
- Determine the actuarial present value of accumulated plan benefits as of April 30, 2016 for purposes of disclosing the Plan's liabilities under FASB ASC Topic 960.
- Determine the Plan's unfunded vested benefit liability as of April 30, 2016 for withdrawal liability purposes calculated in accordance with the requirements of the Multiemployer Pension Plan Amendments Act of 1980.
- Review the Plan's funded status.
- Review the experience for the plan year ending April 30, 2016 including the performance of the Plan's assets during the year and changes in the Plan's participant demographics that impact liabilities.
- Provide operational information required for governmental agencies and other interested parties.

C. Actuarial Methods and Assumptions

The methods and assumptions used in this valuation are the same as those used in the prior valuation except as follows:

- For Current Liability purposes, the interest rate was changed from 3.37% to 3.22% in accordance with IRS guidance. (The statutory mortality tables also have been updated as required by law).

Please see Appendix A and Appendix B for a complete summary of all methods and assumptions used in this valuation.

D. Plan Provisions

This valuation reflects the plan provisions in effect on May 1, 2016, which are the same provisions that were valued in the May 1, 2015 actuarial valuation report.

Please see Appendix C for a detailed summary of plan provisions.

Exhibits

Exhibit 1

Summary of Income and Disbursements

The change in the Market Value of Assets from May 1, 2015 to May 1, 2016 is shown below.

1.	Market Value of Assets as of May 1, 2015	$41,508,264
2.	Income	
	a. Employer contribution for plan year	3,815,488
	b. Dividends and interest	502,687
	c. Net appreciation / (depreciation) in fair value of investments	(357,806)
	d. Insurance company experience credit and other income	30,370
	e. Total	3,990,739
3.	Disbursements	
	a. Benefit payments to participants	5,265,389
	b. Investment expenses	148,360
	c. Administrative expenses	333,459
	d. Total	5,747,208
4.	Net increase / decrease [(2e) - (3d)]	(1,756,469)
5.	Market Value of Assets as of May 1, 2016 [(1) + (4)]	39,751,795

Exhibit 2

Asset (Gain) / Loss for Prior Plan Year on Market Value of Assets

The Asset (Gain) / Loss is the difference between the expected and actual values of the Market Value of Assets. An asset gain is negative because it represents a decrease from the expected unfunded Actuarial Accrued Liability. The Asset (Gain) / Loss for the plan year ending April 30, 2016 is determined below.

1. Expected Market Value of Assets	
a. Market Value of Assets as of April 30, 2015	$41,508,264
b. Employer contributions for plan year	3,815,488
c. Benefit payments	5,265,389
d. Administrative expenses	333,459
e. Expected investment return based on 8.00% interest rate	3,253,635
f. Expected Market Value of Assets as of April 30, 2016 [(a) + (b) - (c) - (d) + (e)]	42,978,539
2. Market Value of Assets as of April 30, 2016	39,751,795
3. Asset (Gain) / Loss [(1f) - (2)]	3,226,744
4. Estimated investment return on Market Value of Assets	0.07%

Exhibit 3

Actuarial Value of Assets

The Actuarial Value of Assets is the Market Value of Assets less a weighted average of asset gains / (losses) over a four-year period (five-year smoothing), but it must be within 80% to 120% of the Market Value of Assets. The investment loss for the plan year ending May 1, 2009 is being recognized over 10 years as elected under the Pension Relief Act of 2010. The Actuarial Value of Assets as of May 1, 2016 is determined below.

1. Market Value of Assets as of April 30, 2016				$39,751,795
2. Unrecognized asset gains / (losses) for the plan years ending				
	Plan Year Ending	Gain / (Loss) for Year	Percent Unrecognized	Amount Unrecognized
a.	April 30, 2016	($3,226,744)	80%	(2,581,395)
a.	April 30, 2015	(254,824)	60%	(152,894)
b.	April 30, 2014	969,977	40%	387,991
c.	April 30, 2013	815,275	20%	163,055
d.	April 30, 2009	(18,157,673)	20%	(3,631,535)
e.	Total			(5,814,778)
3. Preliminary Actuarial Value of Assets as of May 1, 2016 [(1) - (2e)]				45,566,573
4. Actuarial Value of Assets as of May 1, 2016 [(3), but not < 80% x (1), nor > 120% x (1)]				45,566,573

Exhibit 4

Actuarial Balance Sheet

The total plan requirements compared to the total value of plan resources as of May 1, 2016 is shown below.

Plan Requirements	
1. Present value of active participant benefits	
a. Retirement	$23,843,902
b. Termination	1,354,948
c. Death	371,576
d. Disability	0
e. Total	25,570,426
2. Present value of inactive participant benefits	
a. Retired participants	41,422,160
b. Terminated vested participants	13,713,977
c. Beneficiaries	3,485,589
d. Disabled participants	659,997
e. Total	59,281,723
3. Total plan requirements [(1e) + (2e) + (3)]	84,852,149
Plan Resources	
4. Actuarial Value of Assets	$45,566,573
5. Unfunded Actuarial Accrued Liability	39,285,576
6. Total plan resources	84,852,149

Exhibit 5

Normal Cost and Unfunded Actuarial Accrued Liability

The Normal Cost is the amount allocated to the current plan year under the Plan's actuarial cost method. The Actuarial Accrued Liability is the accumulation of all prior Normal Costs. The unfunded Actuarial Accrued Liability is the excess (deficiency) of the Actuarial Accrued Liability over the Actuarial Value of Assets. The employer Normal Cost and the unfunded Actuarial Accrued Liability as of May 1, 2015 and May 1, 2016 are determined below.

	5/1/2015	5/1/2016
1. Normal Cost		
a. Beginning of year Normal Cost	$0	$0
b. Beginning of year loading for administrative expenses	259,615	259,615
c. Total	259,615	259,615
2. Actuarial Accrued Liability		
a. Active participants	24,548,489	25,570,426
b. Terminated vested participants	13,340,432	13,713,977
c. Participants in pay status	45,995,729	45,567,746
d. Total	83,884,650	84,852,149
3. Actuarial Value of Assets	47,518,829	45,566,573
4. Unfunded Actuarial Accrued Liability [(2f) - (3)]	36,365,821	39,285,576

Exhibit 6

Current Annual Cost and Minimum Required Contribution

The Current Annual Cost is the Plan's cost under the minimum funding requirements prior to the recognition of the full funding limitation and any Credit Balance. The Minimum Required Contribution is the amount needed to avoid a funding deficiency in the Funding Standard Account. These amounts for the plan year beginning May 1, 2016 are determined below.

1. Charges for plan year	
a. Funding deficiency as of May 1, 2016	$2,148,983
b. Normal Cost	259,615
c. Amortization charges (on $58,393,499)	8,803,908
d. Interest on (a), (b), and (c) to end of plan year	897,000
e. Additional funding charge	0
f. Total	12,109,506
2. Credits for plan year	
a. Amortization credits (on $21,256,906)	5,527,467
b. Other credits	0
c. Interest on (a) and (b) to end of plan year	442,197
d. Total	5,969,664
3. Current Annual Cost for plan year [(1f) - (2d)]	6,139,842
4. Full funding credit for plan year	
a. Full funding limitation	96,183,290
b. Full funding credit [(3) - (4a), but not < $0]	0
5. Credit Balance for plan year	
a. Credit Balance as of May 1, 2016	0
b. Interest on (a) to end of plan year	0
c. Total	0
6. Minimum Required Contribution for plan year [(3) - (4b) - (5c), but not < $0]	6,139,842

Exhibit 7

Actuarial (Gain) / Loss for Prior Plan Year

The Actuarial (Gain) / Loss for the prior plan year is the difference between the expected and actual unfunded Actuarial Accrued Liability as of the beginning of the current plan year. The Actuarial (Gain) / Loss for the plan year ending April 30, 2016 is determined below.

1. Unfunded Actuarial Accrued Liability as of May 1, 2015	$36,365,821
2. Normal Cost as of May 1, 2015	259,615
3. Interest on (1) and (2) to end of plan year	2,930,031
4. Subtotal [(1) + (2) + (3)]	39,555,467
5. Employer contributions for plan year	3,815,488
6. Interest on (5) to end of plan year	152,620
7. Subtotal [(5) + (6)]	3,968,108
8. Changes in Actuarial Accrued Liability	
a. Plan amendments	0
b. Changes in actuarial assumptions	0
c. Changes in cost method	0
d. Total	0
9. Expected unfunded Actuarial Accrued Liability as of May 1, 2016 [(4) - (7) + (8d)]	35,587,359
10. Actual unfunded Actuarial Accrued Liability as of May 1, 2016	39,285,576
11. Actuarial (Gain) / Loss on Actuarial Value of Assets	3,903,376
12. Actuarial (Gain) / Loss on Actuarial Accrued Liability [(10) - (9) - (11)]	(205,159)
13. Total Actuarial (Gain) / Loss for prior plan year [(11) + (12)]	3,698,217

Exhibit 8

Charges and Credits for Funding Standard Account

The amortization charges and credits for the Funding Standard Account for the plan year beginning May 1, 2016 are determined below.

1. Charges as of May 1, 2016

	Date Established	Description	Amortization Amount	Years Remaining	Outstanding Balance
a.	5/1/1978	Initial UAL	$188,600	2.00	$363,237
b.	5/1/1979	1979 Plan Amendment	29,566	3.00	82,291
c.	5/1/1987	1987 Plan Amendment	179,024	1.00	179,024
d.	5/1/1988	1988 Assumption Change	23,793	2.00	45,844
e.	5/1/1990	1990 Plan Amendment	238,529	4.00	853,269
f.	5/1/1991	1991 Assumption Change	30,663	5.00	132,221
g.	5/1/1992	1992 Assumption Change	62,278	6.00	310,930
h.	5/1/1994	1994 Assumption Change	86,304	8.00	535,629
i.	5/1/1994	1994 Plan Amendment	41,025	8.00	254,619
j.	5/1/1995	1995 Assumption Change	71,707	9.00	483,781
k.	5/1/1996	1996 Assumption Change	402,641	10.00	2,917,895
l.	5/1/1997	1997 Assumption Change	119,240	11.00	919,361
m.	5/1/1997	1997 Plan Amendment	86,887	11.00	669,919
n.	5/1/1998	1998 Assumption Change	225,355	12.00	1,834,184
o.	5/1/1998	1998 Plan Amendment	62,455	12.00	508,321
p.	5/1/1999	1999 Assumption Change	185,150	13.00	1,580,441
q.	5/1/1999	1999 Plan Amendment	88,361	13.00	754,270
r.	5/1/2001	2001 Assumption Change	102,262	15.00	945,337
s.	5/1/2002	2002 Actuarial Loss	347,477	1.00	347,477
t.	5/1/2002	2002 Assumption Change	25,749	16.00	246,160
u.	5/1/2002	EGGTRA	782	16.00	7,466
v.	5/1/2003	2003 Actuarial Loss	686,105	2.00	1,321,391
w.	5/1/2003	2003 Assumption Change	303,392	17.00	2,988,834
x.	5/1/2004	2004 Actuarial Loss	432,275	3.00	1,203,143
y.	5/1/2004	2004 Assumption Change	134,879	18.00	1,365,191
z.	5/1/2005	2005 Actuarial Loss	325,005	4.00	1,162,589
aa.	5/1/2006	2006 Actuarial Loss	261,989	5.00	1,129,740
bb.	5/1/2007	2007 Actuarial Loss	113,519	6.00	566,761
cc.	5/1/2008	2008 Actuarial Loss	221,137	7.00	1,243,424
dd.	5/1/2008	2008 Assumption Change	511,436	7.00	2,875,743
ee.	5/1/2009	2009 Actuarial Loss	176,119	8.00	1,093,053
ff.	5/1/2009	2009 Funding Relief	1,220,305	22.00	13,443,862

	Date Established	Description	Amortization Amount	Years Remaining	Outstanding Balance
gg.	5/1/2010	2010 Assumption Change	3,893	9.00	26,263
hh.	5/1/2010	2010 Funding Relief	28,216	22.00	310,857
ii.	5/1/2011	2011 Assumption Change	38,035	10.00	275,641
jj.	5/1/2011	2011 Funding Relief	48,914	22.00	538,871
kk.	5/1/2012	2012 Actuarial Loss	717,515	11.00	5,532,103
ll.	5/1/2012	2012 Assumption Change	11,048	11.00	85,177
mm.	5/1/2012	2012 Funding Relief	26,968	22.00	297,095
nn.	5/1/2013	2013 Funding Relief	134,048	22.00	1,476,780
oo.	5/1/2014	2014 Funding Relief	59,537	22.00	655,910
pp.	5/1/2015	2015 Actuarial Loss	346,115	14.00	3,081,726
qq.	5/1/2015	2015 Assumption Change	5,554	14.00	49,452
rr.	5/1/2016	2016 Actuarial Loss	400,056	15.00	3,698,217
ss.	Total		8,803,908		58,393,499

2. Credits as of May 1, 2016

	Date Established	Description	Amortization Amount	Years Remaining	Outstanding Balance
a.	5/1/2009	2009 Combined Bases	$3,424,466	2.00	$6,595,271
b.	8/1/2009	2009 Plan Amendment	718,328	8.25	4,572,323
c.	5/1/2010	2010 Actuarial Gain	691,917	9.00	4,668,112
d.	5/1/2011	2011 Actuarial Gain	318,604	10.00	2,308,888
e.	5/1/2013	2013 Actuarial Gain	183,632	12.00	1,494,576
f.	5/1/2013	2013 Plan Amendment	21,541	12.00	175,321
g.	5/1/2014	2014 Actuarial Gain	156,785	13.00	1,338,329
h.	5/1/2014	2014 Assumption Change	562	13.00	4,794
i.	5/1/2014	2014 Plan Amendment	11,632	13.00	99,292
j.	Total		5,527,467		21,256,906

2.	Net outstanding balance [(1ss) - (2j)]	37,136,593
3.	Credit Balance as of May 1, 2016	(2,148,983)
4.	Waived funding deficiency	0
5.	Balance test result [(3) - (4) - (5)]	39,285,576
6.	Unfunded Actuarial Accrued Liability as of May 1, 2016	39,285,576

Exhibit 9

Current Liability

In accordance with IRS requirements, the Current Liability has been calculated at 3.22%. The Current Liability as of May 1, 2016 is determined below.

	Count	Vested Benefits	All Benefits
1. Current Liability			
a. Active participants	634	$55,351,886	$57,250,529
b. Terminated vested participants	379	28,914,493	28,914,493
c. Retirees, beneficiaries, and disabled participants	522	69,325,487	69,325,487
d. Total	1,535	153,591,866	155,490,509
2. Expected increase in Current Liability for benefit accruals during year			259,615
3. Expected release from "RPA 94" Current Liability			5,747,611
4. Expected distributions during year			5,745,325
5. Market Value of Assets			39,751,795
6. Current Liability funded percentage [(5) ÷ (1d)]			25.57%

Exhibit 10

Full Funding Limitation

The full funding limitation (FFL) for the plan year ending April 30, 2017 and the tax year ending April 30, 2017 is determined below.

	Minimum Required Contribution	Maximum Deductible Contribution
1. 100% Actuarial Accrued Liability (AAL) FFL		
a. AAL as of 05/1/2016	$84,852,149	$84,852,149
b. Normal Cost to end of year	259,615	259,615
c. Value of assets as of 05/1/2016		
i. Lesser of actuarial and market value	39,751,795	39,751,795
ii. Credit Balance	0	n/a
iii. Undeducted employer contributions	n/a	0
iv. Plan assets [(i) - (ii) - (iii)]	39,751,795	39,751,795
d. Interest to 04/30/2017 at 8.00% on (a), (b), & (civ)	3,628,797	3,628,797
e. 100% AAL FFL [(a) + (b) - (civ) + (d), but not <$0]	48,988,766	48,988,766
2. Estimated Current Liability as of 04/30/2017		
a. Current Liability as of 05/1/2016	155,490,509	155,490,509
b. Normal Cost to end of plan year	259,615	259,615
c. Estimated benefit disbursements to 04/30/2017	5,757,241	5,757,241
d. Interest to 04/30/2017 at 3.22% on (a), (b), & (c)	4,923,197	4,923,197
e. Estimated EOY Current Liability [(a) + (b) - (c) + (d)]	154,916,080	154,916,080
3. Estimated assets for Current Liability FFL		
a. Actuarial Value of Assets as of 05/1/2016	45,566,573	45,566,573
b. Estimated employee contributions to 04/30/2017	0	0
c. Estimated return to 04/30/2017 at 8.00% on (3a), (1ciii), (2c), & (3b)	3,645,326	3,645,326
d. Estimated assets as of 04/30/2017 [(3a) - (1ciii) - (2c) + (3b) + (3c)]	43,241,182	43,241,182
4. 90% Current Liability minimum funding limitation		
a. 90% EOY RPA Current Liability [90% x (2e)]	139,424,472	139,424,472
b. 90% Current Liability FFL [(a) - (3f), but not < $0]	96,183,290	96,183,290
5. Full funding limitation [maximum of (1e) and (4b)]	96,183,290	96,183,290

Exhibit 11

Maximum Deductible Contribution under IRC Section 404

The Maximum Deductible Contribution under IRC Section 404 for the tax year beginning May 1, 2016 is determined below.

1.	Minimum Required Contribution for plan year beginning May 1, 2016	$6,139,842
2.	Preliminary Maximum Deductible Contribution under IRC Section 404 for tax year	
	a. Normal Cost	259,615
	b. 10-year amortization of unfunded Actuarial Accrued Liability	5,421,027
	c. Interest to earlier of tax year end or plan year end	454,451
	d. Total	6,135,093
3.	Full funding limitation for tax year	96,183,290
4.	Unfunded 140% of Current Liability as of April 30, 2017	
	a. Current Liability (for IRC Section 404 purposes) projected to end of year	154,916,080
	b. Actuarial Value of Assets (for IRC Section 404 purposes) projected to end of year	43,241,182
	c. Unfunded 140% of Current Liability [140% × (a) - (b), but not < $0]	173,641,330
5.	Maximum Deductible Contribution under IRC Section 404 for tax year [maximum of (1) and (2d), but not > (3), nor < (4c)]	173,641,330

There are alternative calculations of the Maximum Deductible Contribution under IRC Section 404 that may produce a different amount than illustrated above. Additionally, deductibility of contributions to a defined contribution plan maintained for the same employees may be affected by the 25% of pay limitation for defined benefit and defined contribution plans combined. Employers should consult their tax advisors regarding the deductibility of contributions.

Exhibit 12

Present Value of Accumulated Plan Benefits

Accumulated Plan Benefits are benefits earned to date, based on pay history and service rendered to date, expected to be paid in the future to retired, terminated vested, and active participants, and beneficiaries of active or former participants. The Present Value of Accumulated Plan Benefits (determined on a plan continuation basis in accordance with FASB ASC Topic 960) as of May 1, 2015 and May 1, 2016 is shown below.

	5/1/2015	5/1/2016
1. Present Value of vested Accumulated Plan Benefits		
a. Participants currently receiving benefits	$45,995,729	$45,567,746
b. Other participants	36,618,776	37,840,067
c. Total	82,614,505	83,407,813
2. Present Value of non-vested Accumulated Plan Benefits	1,270,145	1,444,336
3. Present Value of all Accumulated Plan Benefits [(1f) + (2)]	83,884,650	84,852,149
4. Market Value of Assets	$41,508,264	$39,751,795
5. Funded percentage on Market Value of Assets		
a. Vested benefits [(4) ÷ (1f)]	50.24%	47.66%
b. All benefits [(4) ÷ (3)]	49.48%	46.85%
6. Actuarial Value of Assets	$47,518,829	$45,566,573
7. Funded percentage on Actuarial Value of Assets		
a. Vested benefits [(6) ÷ (1f)]	57.52%	54.63%
b. All benefits [(6) ÷ (3)]	56.65%	53.70%

Exhibit 13

Change in Present Value of Accumulated Plan Benefits

The change in the Present Value of Accumulated Plan Benefits (determined on a plan continuation basis in accordance with FASB ASC Topic 960) from May 1, 2015 to May 1, 2016 is shown below.

1.	Present Value of all Accumulated Plan Benefits as of May 1, 2015	$83,884,650
2.	Changes	
	a. Reduction in discount period	6,504,208
	b. Benefits accumulated plus Actuarial (Gain) / Loss	(271,320)
	c. Benefit payments	(5,265,389)
	d. Plan amendments	0
	e. Change in assumptions	0
	f. Total	967,499
3.	Present Value of all Accumulated Plan Benefits as of May 1, 2016 [(1) + (2f)]	$84,852,149

Exhibit 14

Unfunded Vested Benefit Liability for Withdrawal Liability Calculations

Withdrawal liability payments are based on unfunded vested benefit liability. Vested benefit liability is the present value of benefits earned to date, excluding benefits for non-vested participants and certain benefits such as death and disability benefits which are not considered vested. These liabilities have been determined as of April 30, 2015 and April 30, 2016. However, if there is a termination by mass withdrawal during the year, a separate calculation has to be performed.

	4/30/2015	4/30/2016
1. Present Value of Vested Benefits		
a. Participants currently receiving benefits	$45,995,729	$45,567,746
b. Other participants	36,618,776	37,840,067
c. Total vested benefits	82,614,505	83,407,813
2. Actuarial Value of Assets	$47,518,829	$45,566,573
3. Funded ratio [(2) ÷ (1f)]	57.52%	54.63%
4. Unfunded vested benefit liability [(1f) - (2), but not < $0]	$35,095,676	$37,841,240
5. Unamortized Portion of Value of Affected Benefits Disregarded under Code Section 432(e)(9)(A)*	$2,514,163	$2,340,612
6. Total Effective unfunded vested benefit liability for Withdrawal Liability Calculations [(4) + (5)]	$37,609,839	$40,181,852

* Initial amount subject to amortization as of April 30, 2010 under "simplified method" pursuant to PBGC Technical Update 10-3 is $3,207,104.

Exhibit 15

Summary of Participant Data

A summary of participant data for the plan years beginning May 1, 2015 and May 1, 2016 is shown below.

	5/1/2015	5/1/2016
1. Active participants		
a. Count	648	634
b. Average age	42.8	43.2
c. Average years of service	13.2	13.1
d. Prior year hours	1,050,190	1,070,884
e. Average prior year hours	1,621	1,689
2. Retired participants		
a. Count	418	415
b. Average age	71.0	71.2
c. Total annual benefits	$4,812,480	$4,845,288
d. Average annual benefit	11,513	11,675
3. Terminated vested participants		
a. Count	373	379
b. Average age	49.5	49.9
c. Total annual benefits	$2,498,314	$2,514,710
d. Average annual benefit	6,698	6,635
4. Beneficiaries		
a. Count	101	101
b. Average age	72.2	72.6
c. Total annual benefits	$415,983	$439,193
d. Average annual benefit	4,119	4,348
5. Disabled participants		
a. Count	5	6
b. Average age	54.6	56.5
c. Total annual benefits	$62,844	$61,824
d. Average annual benefit	12,569	10,304

Exhibit 16

Change in Participant Counts

The change in participant counts from May 1, 2015 to May 1, 2016 is shown below.

	Active	Terminated Vested	Retired	Beneficiary	Disabled	Total
As of 5/1/2015	648	373	418	101	5	1,545
Retired	(5)	(12)	17	0	0	0
Received lump sum distribution	0	0	0	0	0	0
Terminated non-vested	(32)	0	0	0	0	(32)
Terminated vested	(24)	24	0	0	0	0
Disabled	0	0	0	0	0	0
Died with beneficiary	0	(2)	(7)	9	0	0
Died without beneficiary	0	(1)	(13)	(11)	0	(25)
Rehired	3	(3)	0	0	0	0
New during plan year	44	0	0	0	0	44
Net data adjustments	0	0	0	2	1	3
As of 5/1/2016	634	379	415	101	6	1,535

The above participant counts include 16 alternate payees entitled to benefits under Qualified Domestic Relations Orders.

Exhibit 17

Active Participants by Age and Service

The number of active participants summarized by attained age and years of credited service as of May 1, 2016 is shown below.

	Years of Credited Service										
Age	**0**	**1–4**	**5–9**	**10–14**	**15–19**	**20–24**	**25–29**	**30–34**	**35–39**	**40+**	**Total**
0–24	0	29	3	0	0	0	0	0	0	0	32
25–29	0	29	23	3	0	0	0	0	0	0	55
30–34	0	33	26	14	2	0	0	0	0	0	75
35–39	0	16	18	32	17	0	0	0	0	0	83
40–44	0	16	19	17	23	17	0	0	0	0	92
45–49	0	12	8	13	18	25	22	0	0	0	98
50–54	0	5	3	15	21	19	21	16	1	0	101
55–59	0	6	7	2	14	5	11	9	22	0	76
60–64	0	1	3	2	3	1	3	1	4	2	20
65–69	0	0	0	0	0	0	1	0	0	1	2
70+	0	0	0	0	0	0	0	0	0	0	0
Total	0	147	110	98	98	67	58	26	27	3	634

Appendices

Appendix A – Summary of Actuarial Methods

The ultimate cost of a pension plan is the excess of actual benefits and administrative expenses paid over actual net investment return on plan assets during the plan's existence until the last payment has been made to the last participant. The plan's "actuarial cost method" determines the expected incidence of actuarial costs by allocating portions of the ultimate cost to each plan year. The cost method is thus a budgeting tool to help ensure that the plan will be adequately and systematically funded and accounted for. There are several commonly-used cost methods which differ in how much of the ultimate cost is assigned to each prior and future year.

Actuarial Cost Method

The actuarial cost method used for determining the plan's ERISA funding requirements is the unit credit cost method. Under this method, an accrued benefit is determined for each participant. The plan's normal cost is the sum of the present value of the accruals that each active participant is expected to earn during the year. The plan's accrued liability is the sum of the present value of the accrued benefit for each participant.

The actuarial cost method used for determining the plan sponsor's FASB ASC Topic 960 accounting requirements and for current liability purposes (RPA '94) is the unit credit method.

Asset Valuation Method

Five-year smoothing method. The actuarial value of assets is equal to the market value of assets adjusted to recognize differences between the expected value of assets and the actual market value of assets over 5 years at a rate of 20% per year. The expected value of assets for the year is the market value of assets at the valuation date for the prior year brought forward with interest at the valuation rate to the current year plus contributions minus administrative expenses and benefit payments, all adjusted with interest at the valuation rate to the valuation date for the current year. The actuarial value of assets cannot be less than 80% or more than 120% of the market value of assets.

Appendix B – Summary of Actuarial Assumptions

- **Minimum funding:** 8.00% per year net of investment-related expenses.
- **FASB ASC Topic 960 plan accounting:** Same as minimum funding.
- **Withdrawal liability:** Same as minimum funding.
- **Current liability (RPA '94):** 3.22% per year.

Mortality

- **Minimum funding:** RP 2000 Combined Healthy Generational Mortality Table using scale AA with blue collar adjustment, set forward 1 year for males and females.
- **FASB ASC Topic 960 plan accounting and withdrawal liability:** Same as minimum funding.
- **Current liability (RPA '94):** IRS RP-2000 annuitant and non-annuitant mortality tables (male and female rates) with projection for mortality improvement, updated annually, as mandated by the IRS.

Termination

Sample rates used are shown below. Rates are based on a select rates of 30% for the first two years of service then 15% for the next two years of service, and an ultimate rates based on age after four years of service. Ultimate rates are based on the T-5 Table.

Age	4 or More Years of Service: Ultimate Rates
20	7.88%
30	7.11
40	4.93
50	2.41
60	0.00

Retirement from Active Service

Rates as shown below:

Age	Active Service Rates
55 – 60	10%
61	20
62 – 64	50
65 and over	100

The weighted average retirement age using the retirement rates above is 60.5.

Commencement of Deferred Benefits

If a participant terminated before May 1, 1999, assumed to retire at 62. If a participant terminated on or after May 1, 1999, assumed to retire at 60.

Disability

None assumed.

Form of Payment

Single life annuity

Load for Pop-up

Liabilities for retired participants with a joint and survivor pop-up option are increased 1.40%.

Marital Status

100% of non-retired participants are assumed to be married. Males are assumed to be three years older than females.

Administrative Expenses

$270,000 payable mid-year.

Future Hours

Vested active participants are assumed to work 1,650 hours per year. Non-vested active participants are assumed to work 1,250 hours per year.

Terminated Vested

Termianted vested participants over age 70 at the valuation date are assumed to be deceased with no beneficiary payable.

Changes in Assumptions from prior Valuation

- For current liability purposes, the interest rate was changed from 3.37% to 3.22% in accordance with IRS guidance. (The statutory mortality tables also have been updated as required by law).

Appendix C – Summary of Principal Plan Provisions

This summary of plan provisions is intended to only describe the essential features of the plan. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself.

Definitions

Effective Date: January 1, 1961. The plan was last restated as of May 1, 2010.

Plan Year: Twelve month period beginning May 1st and ending the following April 30th.

Union: The Sheet Metal Workers Union No. 33 of Northern Ohio and West Virginia

Employers Included:

- The Akron-Canton-Mansfield Sheet Metal and Roofing Contractors Association
- The Wheeling/Stuebenville Area Sheet Metal and Roofing Contractors Association.
- Any employer that is performing work in the sheet metal trade and has entered into a collective bargaining agreement with the Union.
- Any employer that makes contributions on former collectively bargained employees and has entered into a collective bargaining agreement with the Trustees.

Employees Included: Any person covered by collective bargaining agreements between the Employer and the Union who is engaged in employment with respect to which the Employer is obligated to make contributions to the Pension Fund.

All Employees shall become participants when they first perform an hour of work while employed by an Employer for which the Employer is obligated to make contributions to the Pension Fund.

Years of Service

Service prior to May 1, 1976:

- *Past Service* is earned for each Plan Year from May 1, 1946 to May 1, 1961 that the employee worked in the jurisdiction of the Union.
- *Future Service* is earned for each Plan Year after May 1, 1961 during which an Employer contributes to the Fund on the participant's behalf.

Service from and after May 1, 1976: One year of service shall be granted for each Plan Year during which an Employee has at least 435 hours worked.

Accrued Benefit

The accrued benefit is the monthly benefit equal to the sum of the Past Service Benefit and Future Service Benefit defined as follows:

- Past Service Benefit is equal to the Years of Service during May 1, 1946 to May 1, 1961 multiplied by:
  - $3.50 if the Participant is not eligible for pension benefits under the Sheet Metal Workers National Pension Plan
  - $2.00 if the Participant is eligible for pension benefits under the Sheet Metal Workers National Pension Plan

- Future Service Benefit is equal to a percentage of the Employer contributions on the Participant's behalf after May 1, 1961 according to the following schedule:

Retirement Date	Percentage of Employer Contributions
Prior to May 1, 1982	2.20%
May 1, 1982 through April 30, 1983	2.40
May 1, 1983 through April 30, 1984	2.60
May 1, 1984 through April 30, 1987	2.80
May 1, 1987 through April 30, 1990	3.00
May 1, 1990 through April 30, 1994	3.50
May 1, 1994 through April 30, 2003	3.65
May 1, 2003 through April 30, 2006	2.20
May 1, 2006 and after	0.36

Notwithstanding the above, an active participant that retires on or after May 1, 2006, the Future Service Benefit shall be equal to 3.65% of Employer contributions made on the Participant's behalf for hours worked prior to May 1, 2003, plus 2.20% of Employer contributions made on the Participant's behalf for hours worked between May 1, 2003 and April 30, 2006, plus 0.36% of Employer contributions made on the Participant's behalf for hours after May 1, 2006.

Effective August 1, 2013, accruals were suspended as part of the Rehabilitation Plan.

Effective May 1, 1998 each retired Participant, Beneficiary, spouse of a deceased retired Participant, or disabled Participant in pay status at May 1, 1998 received a 6% increase in monthly benefit.

Employer contributions were required to be raised 10% in 2009, 2010, and 2011, and 14% in 2012 as part of the Rehabilitation Plan.

Normal Retirement

Eligibility for Normal Retirement occurs at the earlier of:

(1) The attainment of age 62 with at least 5 years of Vesting Service, or
(2) The later of age 65 or the age of the participant as of the 5th anniversary of participant in the Plan.

Eligibility for Normal Retirement for Active participants who retire on or after January 1, 1999 occurs at the earlier of:

(1) The attainment of age 61 with at least 5 years of Vesting Service, or
(2) The later of age 65 or the age of the participant as of the 5th anniversary of participant in the Plan.

Participants who retire after Normal Retirement eligibility will receive the greater of the accrued benefit earned at the time of retirement or the actuarial equivalent of the accrued benefit earned at Normal Retirement age.

Normal Form of Annuity and Options

The normal form is a 5-year certain and life annuity.

Effective August 1, 2009, the normal form was changed to a single life annuity without a certain period as part of the Rehabilitation Plan.

The other available optional forms of payment are: 50% joint and survivor annuity with and without pop-up feature, 75% joint and survivor annuity with and without pop-up feature, and a 10-year certain and life annuity. A mandatory lump sum will be paid for lump sum values not in excess of $5,000.

Effective August 1, 2009, the pop-up subsidy was eliminated as part of the Rehabilitation Plan.

Early Retirement

Eligibility occurs upon termination after five or more years of service and attainment of age 55.

A participant's Early Retirement benefit is based on a single-life annuity computed in the same manner as for Normal Retirement reduced by 3% for each year the commencement date precedes Normal Retirement.

Effective August 1, 2009, the early retirement subsidy was eliminated as part of the Rehabilitation Plan.

Total and Permanent Disability Benefit

Eligibility occurs upon total and permanent disability at any age prior to 55, after ten or more years of benefit eligibility service, has at least one year of service in the prior three Plan Years, and is eligible for a Social Security disability benefit.

A participant's Disability Retirement benefit is equal to 80% of the Accrued Benefit. The benefit is payable beginning on the first day of the month following receipt of disability application by the Trustees and ending on the earlier of death, recovery, or age 55.

Effective September 1, 2013, the disability benefit was eliminated as part of the Rehabiliation Plan.

Vested Benefit

Eligibility occurs upon termination after five or more Years of Service and the participant has ceased to be employed by an Employer within the same geographic area covered by the Fund as when such benefits commence.

A participant's Vested Benefit is equal to either the Normal Retirement or Early Retirement benefit depending on the age of the participant on the date of retirement and payable in any of the optional forms.

Death Benefit

Eligibility occurs upon being eligible for a Vested Benefit and death prior to the first month of receiving a pension benefit.

Death Prior to Age 55

Married Participant – The monthly benefit will be equal to the benefit if the participant had terminated employment on the earlier of the date of death or actual date of termination, retired upon reaching age 55 with a 50% joint and survivor benefit, then died on the last day of the month in which age 55 was reached. The benefit will be payable for the spouse's lifetime. The spouse may also elect to receive the benefit for unmarried participants under age 55.

Unmarried Participant – If the participant was not receiving the Disability Benefit at the time of death, the beneficiary will receive an amount equal to the Normal Retirement Benefit for 60 months payable the first of the month following death.

Death At or After Age 55

Married Participant – The monthly benefit will be equal to the benefit if the participant had retired on the day prior to death with a 50% joint and survivor benefit. The benefit will be payable for the spouse's lifetime. The spouse may also elect to receive the benefit for unmarried participants under age 55.

Unmarried Participant – The beneficiary will receive an amount equal to the Normal Retirement Benefit for 60 months payable the first of the month following death.

Effective August 1, 2009, the 60 month pre-retirement benefit was eliminated as part of the Rehabilitation Plan.

Changes in Plan Provisions During Year

There were no plan changes that affected the liability during the year.

Significant Events

To the best of our knowledge, no significant events occurred during the year.