Milliman Additional Information

Alaska Ironworkers Pension Plan

Additional Information for Proposed Benefit Suspensions as of July 1, 2018

Prepared by:

Mark C. Olleman

FSA, EA, MAAA

Josh Goodwin

ASA, EA, MAAA

Milliman, Inc.
1301 Fifth Avenue, Suite 3800
Seattle WA 98101-2605

Tel +1 206 624 7940
Fax +1 206 623 3485
milliman.com

Issued December 6, 2017

Additional Information for Proposed Benefit Suspensions as of July 1, 2018 of the Alaska Ironworkers Pension Plan

This report for the Alaska Ironworkers Pension Plan (the "Plan") has been completed in accordance with our understanding of IRC §432(e)(9)(C)(i) (including §1.432(e)(9)-1 and Revenue Procedure 2017-43). The additional information required for the application to suspended benefits is contained in this report.

Purpose of the Report

The Plan was certified as "critical and declining" for the plan year beginning July 1, 2017. The Trustees have chosen to pursue benefit suspensions which are allowed for such plans under §432. This report includes additional information required for the application to suspended benefits. Specifically, this report contains the materials required in checklist items 26, 27 and 28 included in Revenue Procedure 2017-43.

Limited Distribution

Milliman's work is prepared solely for the internal business use of the Trustees of the Plan, and may not be provided to third parties without our prior written consent. We understand this will be provided to Treasury and posted on their website. 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 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 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.

Third party recipients of Milliman's work product should engage their own qualified professionals for advice appropriate to their specific needs.

Reliance

In preparing the report, we relied on our July 1, 2016 Actuarial Valuation, our Actuarial Certification of Plan Solvency of Proposed Benefit Suspensions as of July 1, 2018, and, without audit, information (some oral and some in writing) supplied by the Plan's administrator and auditor. This information includes, but is not limited to, plan documents and provisions, participant data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The 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 presented here were prepared to meet the requirement set forth in IRC §432(e)(9) (taking into account §1.432(e)(9)-1 and Revenue Procedure 2017-43).

Determinations for other purposes may be significantly different than the results in this report. Other calculations may be needed for other purposes, such as judging benefit security at termination.

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 the Plan's 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 measurement.

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 its regulations) is individually reasonable (taking into account the experience of the Plan and reasonable expectations).

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 Public Statements of Actuarial Opinion of the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Respectfully submitted,

[redacted]

Principal and Consulting Actuary
Enrolled Actuary Number [redacted]

December 6, 2017
Date

Consulting Actuary
Enrolled Actuary Number [redacted]

Table of Contents

A. Past Experience with Certain Critical Assumptions

The following table summarizes the plan experience with certain critical assumptions for the last 10 years. We have broken down the contribution base units into "Pension Hours" and "Reciprocity Hours."

Plan Year Beginning July 1	Total Employer Contributions*	Pension Hours	Reciprocity Hours	Average Contribution Rate	Withdrawal Liabiliaty Payments	Market Value Return on Assets
2016	$ 2,147,339	151,676	0	$ 14.16	$ 0	12.26%
2015	2,276,515	186,759	11,543	12.19	0	-2.92%
2014	3,123,859	238,039	32,433	13.12	0	0.91%
2013	2,663,353	204,616	37,150	13.02	0	16.26%
2012	2,166,310	185,055	28,825	11.71	0	12.84%
2011	1,810,073	166,922	31,901	10.84	0	-2.86%
2010	1,570,732	163,184	25,302	9.63	362,991	22.26%
2009	1,749,934	219,681	33,099	7.97	0	7.95%
2008	1,607,445	290,399	34,888	5.54	0	-18.53%
2007	1,607,470	323,913	32,606	4.96	0	-1.29%
Average Trend from 2007 to 2016		-8.08%				

**Total employer contributions include reciprocal hours and lower rates and exclude withdrawal liability payments*

B. Development of Projected June 30, 2018 Market Value of Assets

The table below shows the actual change in the market value of assets from July 1, 2016 through September 30, 2017 and projected market value of assets from October 1, 2017 through June 30, 2018. The calculations are based on the following information:

- The market value of assets as of July 1, 2016 is based on June 30, 2016 financial statements from the Plan's auditor.
- The market value of assets as of July 1, 2017 is based on preliminary June 30, 2017 financial statements from the Plan's auditor.
- Employer contributions benefit payments and administrative expenses through September 30, 2017 and market value of assets as of as of September 30, 2017 are based on unaudited financial statements provided by the Plan administrator.
- Estimated employer contributions from October 1, 2017 through June 30, 2018 are based on 9/12ths of the assumed contribution of $2,687,750 (based on an hours assumption of 165,000 and bargained contribution rate of $13.75/hours) for the 2017/2018 plan year.
- Estimated benefit payments from October 1, 2017 through June 30, 2018 are based on 9/12ths of the expected benefit payments produced for the 2017/2018 plan year during the July 1, 2016 actuarial valuation.
- The administrative expenses from October 1, 2017 through June 30, 2018 are based on the $520,000 administrative expense assumption disclosed in the July 1, 2016 actuarial valuation, increased by a cost of living adjustment of 2.5% (to get from the 2016/2017 plan year to the 2017/2018 plan year) and multiplied by 9/12ths.
- Investment returns through September 30, 2017 were forced to make the market value of assets on September 30, 2017 match the administrator's unaudited financial statements.
- Investment returns from October 1, 2017 through June 30, 2018 are based on an assumed return of 3.08% during that period.

		From July 1, 2016 through June 30, 2017	From July 1, 2017 through September 30, 2017	Projection from October 1, 2017 through June 30, 2018	Total for 2017/2018 Plan Year
1.	Market value of assets (beginning of year)	$ 49,524,313	$ 49,259,700	$ 49,312,981	$ 49,259,700
2.	Employer contributions	2,147,339	544,047	1,701,563	2,245,610
3.	Withdrawal liability payments	0	0	0	0
4.	Benefit payments				
	a. Current retirees and beneficiaries	n/a	1,700,505	5,293,118	6,993,623
	b. Terminated vested participants	n/a	66,844	200,531	267,375
	c. Current actives	n/a	13,649	40,946	54,595
	d. New entrants	0	0	0	0
	e. Total	7,405,265	1,780,998	5,534,596	7,315,594
5.	Administrative expenses	713,440	174,036	399,750	573,786
6.	Investment returns	5,706,753	1,464,268	1,451,788	2,916,056
7.	Market value of assets (end of year) (1) + (2) + (3) - (4e) - (5) + (6)	$ 49,259,700	$ 49,312,981	$ 46,531,985	$ 46,531,985

C. Projections of Plan's Solvency Ratio Assuming the Annual Rate of Return is 1.00% Lower than Used in the Actuarial Certification of Solvency

The table shows the plan-year-by-plan-year market value of assets projection as required under regulation 1.432(e)(9)-1(d)(5)(vi)(B)(1) and revenue procedure 2017-43 6.05(1).

	Plan year beginning July 1	2017*	2018	2019	2020	2021	2022	2023	2024	2025
1.	Market value of assets (beginning of year)	$ 49,312,981	$ 46,059,752	$ 43,730,097	$ 41,835,817	$ 40,030,588	$ 38,624,006	$ 37,224,306	$ 35,743,002	$ 34,194,670
2.	Employer contributions	1,701,563	2,268,750	2,268,750	2,268,750	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500
3.	Withdrawal liability payments	0	0	0	0	0	0	0	0	0
4.	Benefit payments									
	a. Current re irees and beneficiaries	5,293,118	5,418,653	5,245,341	5,089,580	4,932,164	4,773,111	4,612,480	4,450,382	4,286,940
	b. Terminated vested participants	200,531	282,406	350,768	443,038	520,024	568,525	649,976	732,069	760,457
	c. Current actives	40,946	108,073	131,783	167,648	211,580	254,801	315,447	357,617	385,410
	d. New entrants	0	0	0	0	0	1,936	3,898	5,916	8,141
	e. Total	5,534,596	5,809,132	5,727,892	5,700,266	5,663,768	5,598,373	5,581,801	5,545,984	5,440,948
5.	Administrative expenses	399,750	546,325	559,983	573,983	588,332	603,041	618,117	633,570	649,409
6.	Investment returns	979,555	1,757,052	2,124,845	2,200,270	2,233,018	2,189,213	2,106,114	2,018,721	1,929,361
7.	Market value of assets (end of year) (1) + (2) + (3) - (4e) - (5) + (6)	$ 46,059,752	$ 43,730,097	$ 41,835,817	$ 40,030,588	$ 38,624,006	$ 37,224,306	$ 35,743,002	$ 34,194,670	$ 32,646,174
8.	Available resources (1) + (2) + (3) - (5) + (6)	$ 51,594,348	$ 49,539,229	$ 47,563,709	$ 45,730,854	$ 44,287,774	$ 42,822,679	$ 41,324,803	$ 39,740,654	$ 38,087,122
	Solvency ratio (8) / (4e)	9.32	8.53	8.30	8.02	7.82	7.65	7.40	7.17	7.00

** This column is comprised of the 9 months between October 1, 2017 and June, 30 2018. The value in "Market value of assets (BOY)" is as of September 30, 2017 and all cashflows are for 9 months.*

	Plan year beginning July 1	2026	2027	2028	2029	2030	2031	2032	2033	2034
1.	Market value of assets (beginning of year)	$ 32,646,174	$ 31,083,925	$ 29,609,005	$ 28,124,599	$ 26,643,353	$ 25,159,948	$ 23,658,226	$ 22,190,072	$ 20,747,701
2.	Employer contributions	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500
3.	Withdrawal liability payments	0	0	0	0	0	0	0	0	0
4.	Benefit payments									
	a. Current re irees and beneficiaries	4,122,329	3,956,702	3,790,172	3,622,878	3,455,012	3,286,788	3,118,465	2,950,334	2,782,701
	b. Terminated vested participants	788,130	803,781	824,040	848,625	876,002	912,184	914,681	919,861	918,918
	c. Current actives	425,387	448,484	494,252	522,876	553,731	590,023	607,370	630,542	657,265
	d. New entrants	12,864	16,847	21,041	25,549	30,520	36,711	43,721	51,129	59,180
	e. Total	5,348,710	5,225,814	5,129,505	5,019,928	4,915,265	4,825,706	4,684,237	4,551,866	4,418,064
5.	Administrative expenses	665,644	682,285	699,342	716,826	734,746	753,115	771,943	791,241	811,023
6.	Investment returns	1,839,605	1,820,679	1,731,941	1,643,008	1,554,107	1,464,599	1,375,526	1,288,236	1,202,567
7.	Market value of assets (end of year) (1) + (2) + (3) - (4e) - (5) + (6)	$ 31,083,925	$ 29,609,005	$ 28,124,599	$ 26,643,353	$ 25,159,948	$ 23,658,226	$ 22,190,072	$ 20,747,701	$ 19,333,681
8.	Available resources (1) + (2) + (3) - (5) + (6)	$ 36,432,635	$ 34,834,819	$ 33,254,104	$ 31,663,281	$ 30,075,213	$ 28,483,932	$ 26,874,309	$ 25,299,567	$ 23,751,745
	Solvency ratio (8) / (4e)	6.81	6.67	6.48	6.31	6.12	5.90	5.74	5.56	5.38

	Plan year beginning July 1	2035	2036	2037	2038	2039	2040	2041	2042	2043
1.	Market value of assets (beginning of year)	$ 19,333,681	$ 17,934,012	$ 16,549,289	$ 15,173,890	$ 13,814,631	$ 12,468,661	$ 11,134,547	$ 9,816,381	$ 8,529,135
2.	Employer contributions	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500
3.	Withdrawal liability payments	0	0	0	0	0	0	0	0	0
4.	Benefit payments									
	a. Current retirees and beneficiaries	2,615,870	2,450,206	2,286,134	2,124,080	1,964,494	1,807,910	1,654,962	1,506,362	1,362,856
	b. Terminated vested participants	925,141	924,300	927,804	916,364	903,810	888,254	868,797	846,253	821,487
	c. Current actives	689,757	725,796	758,976	798,111	838,271	878,935	911,804	929,381	944,004
	d. New entrants	68,289	79,524	93,512	107,885	123,068	139,373	159,906	180,309	201,366
	e. Total	4,299,057	4,179,826	4,066,426	3,946,440	3,829,643	3,714,472	3,595,469	3,462,305	3,329,713
5.	Administrative expenses	831,298	852,081	873,383	895,217	917,598	940,537	964,051	988,152	1,012,856
6.	Investment returns	1,118,186	1,034,683	951,910	869,898	788,770	708,396	628,854	550,711	474,443
7.	Market value of assets (end of year) (1) + (2) + (3) - (4e) - (5) + (6)	$ 17,934,012	$ 16,549,289	$ 15,173,890	$ 13,814,631	$ 12,468,661	$ 11,134,547	$ 9,816,381	$ 8,529,135	$ 7,273,509
8.	Available resources (1) + (2) + (3) - (5) + (6)	$ 22,233,069	$ 20,729,115	$ 19,240,316	$ 17,761,071	$ 16,298,304	$ 14,849,019	$ 13,411,850	$ 11,991,440	$ 10,603,222
	Solvency ratio (8) / (4e)	5.17	4.96	4.73	4 50	4.26	4.00	3.73	3.46	3.18

	Plan year beginning July 1	2044	2045	2046	2047
1.	Market value of assets (beginning of year)	$ 7,273,509	$ 6,045,913	$ 4,847,045	$ 3,663,552
2.	Employer contributions	2,612,500	2,612,500	2,612,500	2,612,500
3.	Withdrawal liability payments	0	0	0	0
4.	Benefit payments				
	a. Current retirees and beneficiaries	1,225,226	1,094,262	970,638	854,874
	b. Terminated vested participants	796,696	768,060	739,381	711,455
	c. Current actives	956,327	964,504	975,638	988,876
	d. New entrants	223,634	247,600	275,342	306,295
	e. Total	3,201,883	3,074,426	2,960,999	2,861,500
5.	Administrative expenses	1,038,177	1,064,132	1,090,735	1,118,004
6.	Investment returns	399,965	327,189	255,742	184,800
7.	Market value of assets (end of year) (1) + (2) + (3) - (4e) - (5) + (6)	$ 6,045,913	$ 4,847,045	$ 3,663,552	$ 2,481,349
8.	Available resources (1) + (2) + (3) - (5) + (6)	$ 9,247,796	$ 7,921,471	$ 6,624,551	$ 5,342,849
	Solvency ratio (8) / (4e)	2.89	2.58	2.24	1.87

D. Projections of Plan's Solvency Ratio Assuming the Annual Rate of Return is 2.00% Lower than Used in the Actuarial Certification of Solvency

The table shows the plan-year-by-plan-year market value of assets projection as required under regulation 1.432(e)(9)-1(d)(5)(vi)(B)(2) and revenue procedure 2017-43 6.05(2).

	Plan year beginning July 1	2017*	2018	2019	2020	2021	2022	2023	2024	2025
1.	Market value of assets (beginning of year)	$ 49,312,981	$ 45,587,621	$ 42,803,338	$ 40,453,502	$ 38,186,977	$ 36,308,589	$ 34,425,743	$ 32,451,416	$ 30,400,419
2.	Employer contributions	1,701,563	2,268,750	2,268,750	2,268,750	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500
3.	Withdrawal liability payments	0	0	0	0	0	0	0	0	0
4.	Benefit payments									
	a. Current re irees and beneficiaries	5,293,118	5,418,653	5,245,341	5,089,580	4,932,164	4,773,111	4,612,480	4,450,382	4,286,940
	b. Terminated vested participants	200,531	282,406	350,768	443,038	520,024	568,525	649,976	732,069	760,457
	c. Current actives	40,946	108,073	131,783	167,648	211,580	254,801	315,447	357,617	385,410
	d. New entrants	0	0	0	0	0	1,936	3,898	5,916	8,141
	e. Total	5,534,596	5,809,132	5,727,892	5,700,266	5,663,768	5,598,373	5,581,801	5,545,984	5,440,948
5.	Administrative expenses	399,750	546,325	559,983	573,983	588,332	603,041	618,117	633,570	649,409
6.	Investment returns	507,424	1,302,424	1,669,289	1,738,974	1,761,212	1,706,067	1,613,091	1,516,056	1,416,913
7.	Market value of assets (end of year) (1) + (2) + (3) - (4e) - (5) + (6)	$ 45,587,621	$ 42,803,338	$ 40,453,502	$ 38,186,977	$ 36,308,589	$ 34,425,743	$ 32,451,416	$ 30,400,419	$ 28,339,475
8.	Available resources (1) + (2) + (3) - (5) + (6)	$ 51,122,217	$ 48,612,470	$ 46,181,394	$ 43,887,243	$ 41,972,357	$ 40,024,116	$ 38,033,217	$ 35,946,403	$ 33,780,423
	Solvency ratio (8) / (4e)	9.24	8.37	8.06	7.70	7.41	7.15	6.81	6.48	6.21

** This column is comprised of the 9 months between October 1, 2017 and June, 30 2018. The value in "Market value of assets (BOY)" is as of September 30, 2017 and all cashflows are for 9 months.*

	Plan year beginning July 1	2026	2027	2028	2029	2030	2031	2032	2033	2034
1.	Market value of assets (beginning of year)	$ 28,339,475	$ 26,254,578	$ 24,234,688	$ 22,191,446	$ 20,136,812	$ 18,064,709	$ 15,958,282	$ 13,868,520	$ 11,786,473
2.	Employer contributions	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500
3.	Withdrawal liability payments	0	0	0	0	0	0	0	0	0
4.	Benefit payments									
	a. Current re irees and beneficiaries	4,122,329	3,956,702	3,790,172	3,622,878	3,455,012	3,286,788	3,118,465	2,950,334	2,782,701
	b. Terminated vested participants	788,130	803,781	824,040	848,625	876,002	912,184	914,681	919,861	918,918
	c. Current actives	425,387	448,484	494,252	522,876	553,731	590,023	607,370	630,542	657,265
	d. New entrants	12,864	16,847	21,041	25,549	30,520	36,711	43,721	51,129	59,180
	e. Total	5,348,710	5,225,814	5,129,505	5,019,928	4,915,265	4,825,706	4,684,237	4,551,866	4,418,064
5.	Administrative expenses	665,644	682,285	699,342	716,826	734,746	753,115	771,943	791,241	811,023
6.	Investment returns	1,316,957	1,275,709	1,173,105	1,069,620	965,409	859,894	753,918	648,560	543,625
7.	Market value of assets (end of year) (1) + (2) + (3) - (4e) - (5) + (6)	$ 26,254,578	$ 24,234,688	$ 22,191,446	$ 20,136,812	$ 18,064,709	$ 15,958,282	$ 13,868,520	$ 11,786,473	$ 9,713,511
8.	Available resources (1) + (2) + (3) - (5) + (6)	$ 31,603,288	$ 29,460,502	$ 27,320,951	$ 25,156,740	$ 22,979,974	$ 20,783,988	$ 18,552,757	$ 16,338,339	$ 14,131,575
	Solvency ratio (8) / (4e)	5.91	5.64	5.33	5 01	4.68	4.31	3.96	3.59	3.20

Milliman Additional Information

	Plan year beginning July 1	2035	2036	2037	2038	2039
1.	Market value of assets (beginning of year)	$ 9,713,511	$ 7,634,427	$ 5,548,613	$ 3,449,206	$ 1,341,712
2.	Employer contributions	2,612,500	2,612,500	2,612,500	2,612,500	2,612,500
3.	Withdrawal liability payments	0	0	0	0	0
4.	Benefit payments					
	a. Current retirees and beneficiaries	2,615,870	2,450,206	2,286,134	2,124,080	1,964,494
	b. Terminated vested participants	925,141	924,300	927,804	916,364	903,810
	c. Current actives	689,757	725,796	758,976	798,111	838,271
	d. New entrants	68,289	79,524	93,512	107,885	123,068
	e. Total	4,299,057	4,179,826	4,066,426	3,946,440	3,829,643
5.	Administrative expenses	831,298	852,081	873,383	895,217	917,598
6.	Investment returns	438,771	333,592	227,902	121,663	14,909
7.	Market value of assets (end of year) (1) + (2) + (3) - (4e) - (5) + (6)	$ 7,634,427	$ 5,548,613	$ 3,449,206	$ 1,341,712	Insolvent
8.	Available resources (1) + (2) + (3) - (5) + (6)	$ 11,933,484	$ 9,728,439	$ 7,515,632	$ 5,288,152	n/a
	Solvency ratio (8) / (4e)	2.78	2.33	1 85	1.34	n/a

E. Projections of Plan's Solvency Ratio Assuming the Activity Assumption Continues Under the Same Trend as the Plan Experienced Over the Last 10 Years (-8.08% per year)

The table shows the plan-year-by-plan-year market value of assets projection as required under regulation 1.432(e)(9)-1(d)(5)(vi)(C)(1) and revenue procedure 2017-43 6.05(3).

	Plan year beginning July 1	2017*	2018	2019	2020	2021	2022	2023	2024	2025
1.	Market value of assets (beginning of year)	$ 49,312,981	$ 46,531,985	$ 44,478,669	$ 42,685,349	$ 40,811,453	$ 38,814,719	$ 36,635,065	$ 34,181,290	$ 31,463,935
2.	Employer contributions	1,701,563	2,085,435	1,916,932	1,762,044	1,619,671	1,488,802	1,368,507	1,257,932	1,156,291
3.	Withdrawal liability payments	0	0	0	0	0	0	0	0	0
4.	Benefit payments									
	a. Current re irees and beneficiaries	5,293,118	5,418,653	5,245,341	5,089,580	4,932,164	4,773,111	4,612,480	4,450,382	4,286,940
	b. Terminated vested participants	200,531	282,406	350,768	443,038	520,024	568,525	649,976	732,069	760,457
	c. Current actives	40,946	108,073	131,783	167,648	211,580	254,801	315,447	357,617	385,410
	d. New entrants	0	0	0	0	0	1,936	3,898	5,916	8,141
	e. Total	5,534,596	5,809,132	5,727,892	5,700,266	5,663,768	5,598,373	5,581,801	5,545,984	5,440,948
5.	Administrative expenses	399,750	546,325	559,983	573,983	588,332	603,041	618,117	633,570	649,409
6.	Investment returns	1,451,788	2,216,706	2,577,623	2,638,309	2,635,695	2,532,957	2,377,636	2,204,266	2,015,257
7.	Market value of assets (end of year) (1) + (2) + (3) - (4e) - (5) + (6)	$ 46,531,985	$ 44,478,669	$ 42,685,349	$ 40,811,453	$ 38,814,719	$ 36,635,065	$ 34,181,290	$ 31,463,935	$ 28,545,126
8.	Available resources (1) + (2) + (3) - (5) + (6)	$ 52,066,581	$ 50,287,801	$ 48,413,241	$ 46,511,719	$ 44,478,487	$ 42,233,438	$ 39,763,091	$ 37,009,919	$ 33,986,074
	Solvency ratio (8) / (4e)	9.41	8.66	8.45	8.16	7.85	7.54	7.12	6.67	6.25

** This column is comprised of the 9 months between October 1, 2017 and June, 30 2018. The value in "Market value of assets (BOY)" is as of September 30, 2017 and all cashflows are for 9 months.*

	Plan year beginning July 1	2026	2027	2028	2029	2030	2031	2032	2033
1.	Market value of assets (beginning of year)	$ 28,545,126	$ 25,405,732	$ 22,124,790	$ 18,608,599	$ 14,860,166	$ 10,863,345	$ 6,589,782	$ 2,078,001
2.	Employer contributions	1,062,863	976,984	898,044	825,482	758,783	697,473	641,117	589,315
3.	Withdrawal liability payments	0	0	0	0	0	0	0	0
4.	Benefit payments								
	a. Current re irees and beneficiaries	4,122,329	3,956,702	3,790,172	3,622,878	3,455,012	3,286,788	3,118,465	2,950,334
	b. Terminated vested participants	788,130	803,781	824,040	848,625	876,002	912,184	914,681	919,861
	c. Current actives	425,387	448,484	494,252	522,876	553,731	590,023	607,370	630,542
	d. New entrants	12,864	16,847	21,041	25,549	30,520	36,711	43,721	51,129
	e. Total	5,348,710	5,225,814	5,129,505	5,019,928	4,915,265	4,825,706	4,684,237	4,551,866
5.	Administrative expenses	665,644	682,285	699,342	716,826	734,746	753,115	771,943	791,241
6.	Investment returns	1,812,097	1,650,173	1,414,612	1,162,839	894,408	607,785	303,282	(18,503)
7.	Market value of assets (end of year) (1) + (2) + (3) - (4e) - (5) + (6)	$ 25,405,732	$ 22,124,790	$ 18,608,599	$ 14,860,166	$ 10,863,345	$ 6,589,782	$ 2,078,001	Insolvent
8.	Available resources (1) + (2) + (3) - (5) + (6)	$ 30,754,442	$ 27,350,604	$ 23,738,104	$ 19,880,094	$ 15,778,610	$ 11,415,488	$ 6,762,238	n/a
	Solvency ratio (8) / (4e)	5.75	5.23	4.63	3.96	3.21	2.37	1.44	n/a

F. Projections of Plan's Solvency Ratio Assuming the Activity Assumption Continues Under the Same Trend as the Plan Experienced Over the Last 10 Years, Reduced by 1.00% (-9.08% per year)

The table shows the plan-year-by-plan-year market value of assets projection as required under regulation 1.432(e)(9)-1(d)(5)(vi)(C)(2) and revenue procedure 2017-43 6.05(4).

	Plan year beginning July 1	2017*	2018	2019	2020	2021	2022	2023	2024	2025
1.	Market value of assets (beginning of year)	$ 49,312,981	$ 46,531,985	$ 44,455,423	$ 42,617,961	$ 40,680,962	$ 38,603,630	$ 36,327,382	$ 33,762,353	$ 30,920,034
2.	Employer contributions	1,701,563	2,062,748	1,875,450	1,705,159	1,550,331	1,409,561	1,281,573	1,165,206	1,059,405
3.	Withdrawal liability payments	0	0	0	0	0	0	0	0	0
4.	Benefit payments									
	a. Current re irees and beneficiaries	5,293,118	5,418,653	5,245,341	5,089,580	4,932,164	4,773,111	4,612,480	4,450,382	4,286,940
	b. Terminated vested participants	200,531	282,406	350,768	443,038	520,024	568,525	649,976	732,069	760,457
	c. Current actives	40,946	108,073	131,783	167,648	211,580	254,801	315,447	357,617	385,410
	d. New entrants	0	0	0	0	0	1,936	3,898	5,916	8,141
	e. Total	5,534,596	5,809,132	5,727,892	5,700,266	5,663,768	5,598,373	5,581,801	5,545,984	5,440,948
5.	Administrative expenses	399,750	546,325	559,983	573,983	588,332	603,041	618,117	633,570	649,409
6.	Investment returns	1,451,788	2,216,147	2,574,963	2,632,091	2,624,437	2,515,604	2,353,316	2,172,028	1,974,204
7.	Market value of assets (end of year) (1) + (2) + (3) - (4e) - (5) + (6)	$ 46,531,985	$ 44,455,423	$ 42,617,961	$ 40,680,962	$ 38,603,630	$ 36,327,382	$ 33,762,353	$ 30,920,034	$ 27,863,286
8.	Available resources (1) + (2) + (3) - (5) + (6)	$ 52,066,581	$ 50,264,555	$ 48,345,853	$ 46,381,228	$ 44,267,398	$ 41,925,755	$ 39,344,154	$ 36,466,018	$ 33,304,234
	Solvency ratio (8) / (4e)	9.41	8.65	8.44	8.14	7.82	7.49	7.05	6.58	6.12

** This column is comprised of the 9 months between October 1, 2017 and June, 30 2018. The value in "Market value of assets (BOY)" is as of September 30, 2017 and all cashflows are for 9 months.*

	Plan year beginning July 1	2026	2027	2028	2029	2030	2031	2032	2033
1.	Market value of assets (beginning of year)	$ 27,863,286	$ 24,573,520	$ 21,128,021	$ 17,434,860	$ 13,497,023	$ 9,298,199	$ 4,809,729	$ 69,699
2.	Employer contributions	963,211	875,751	796,233	723,935	658,202	598,437	544,099	494,695
3.	Withdrawal liability payments	0	0	0	0	0	0	0	1
4.	Benefit payments								
	a. Current re irees and beneficiaries	4,122,329	3,956,702	3,790,172	3,622,878	3,455,012	3,286,788	3,118,465	2,950,334
	b. Terminated vested participants	788,130	803,781	824,040	848,625	876,002	912,184	914,681	919,861
	c. Current actives	425,387	448,484	494,252	522,876	553,731	590,023	607,370	630,542
	d. New entrants	12,864	16,847	21,041	25,549	30,520	36,711	43,721	51,129
	e. Total	5,348,710	5,225,814	5,129,505	5,019,928	4,915,265	4,825,706	4,684,237	4,551,866
5.	Administrative expenses	665,644	682,285	699,342	716,826	734,746	753,115	771,943	791,241
6.	Investment returns	1,761,377	1,586,849	1,339,453	1,074,982	792,986	491,914	172,051	(2,055,567)
7.	Market value of assets (end of year) (1) + (2) + (3) - (4e) - (5) + (6)	$ 24,573,520	$ 21,128,021	$ 17,434,860	$ 13,497,023	$ 9,298,199	$ 4,809,729	$ 69,699	Insolvent
8.	Available resources (1) + (2) + (3) - (5) + (6)	$ 29,922,230	$ 26,353,835	$ 22,564,365	$ 18,516,951	$ 14,213,464	$ 9,635,435	$ 4,753,936	n/a
	Solvency ratio (8) / (4e)	5.59	5.04	4.40	3.69	2.89	2.00	1.01	n/a

G. Projection of Funded Percentage

The table shows the projected market value of assets, plan liability and funded percentage for the plan years ending June 30, 2017 through June 30, 2048 as required under regulation 1.432(e)(9)-1(d)(5)(vi)(D) and revenue procedure 2017-43 6.06.

	Plan year beginning July 1	2016	2017	2018	2019	2020	2021	2022	2023	2024
1.	Value of plan assets	$ 49,524,313	$ 49,259,700	$ 46,531,985	$ 44,666,502	$ 43,246,993	$ 41,932,680	$ 41,038,860	$ 40,175,597	$ 39,253,970
2.	Unit credit accrued liability	$ 94,638,324	$ 92,920,631	$ 71,244,115	$ 69,803,793	$ 68,367,856	$ 66,871,198	$ 65,343,418	$ 63,802,836	$ 62,189,794
3.	Funded percentage: (1) / (2)	52.3%	53.0%	65.3%	64.0%	63.3%	62.7%	62.8%	63.0%	63.1%

	Plan year beginning July 1	2025	2026	2027	2028	2029	2030	2031	2032	2033
1.	Value of plan assets	$ 38,289,442	$ 37,350,215	$ 36,424,402	$ 35,627,814	$ 34,856,079	$ 34,124,275	$ 33,429,729	$ 32,759,017	$ 32,167,116
2.	Unit credit accrued liability	$ 60,520,741	$ 58,863,550	$ 57,204,180	$ 55,576,977	$ 53,955,907	$ 52,354,583	$ 50,766,160	$ 49,179,004	$ 47,649,918
3.	Funded percentage: (1) / (2)	63.3%	63.5%	63.7%	64.1%	64.6%	65.2%	65.9%	66.6%	67.5%

	Plan year beginning July 1	2034	2035	2036	2037	2038	2039	2040	2041	2042
1.	Value of plan assets	$ 31,649,778	$ 31,213,338	$ 30,847,776	$ 30,557,889	$ 30,342,534	$ 30,213,331	$ 30,172,599	$ 30,224,426	$ 30,378,833
2.	Unit credit accrued liability	$ 46,169,649	$ 44,745,464	$ 43,364,212	$ 42,022,139	$ 40,718,396	$ 39,462,589	$ 38,251,436	$ 37,082,579	$ 35,964,075
3.	Funded percentage: (1) / (2)	68.6%	69.8%	71.1%	72.7%	74.5%	76.6%	78.9%	81.5%	84.5%

	Plan year beginning July 1	2043	2044	2045	2046	2047	2048
1.	Value of plan assets	$ 30,657,237	$ 31,067,325	$ 31,612,981	$ 32,302,900	$ 33,132,240	$ 34,095,907
2.	Unit credit accrued liability	$ 34,917,343	$ 33,946,566	$ 33,051,740	$ 32,238,000	$ 31,493,039	$ 30,805,596
3.	Funded percentage: (1) / (2)	87.8%	91.5%	95.6%	100.2%	105.2%	110.7%

H. Response to Revenue Procedure 2017-43 Section 6.03 and Appendix B

The following is a response to Section 6.03 and Appendix B of the Revenue Procedure 2017-43. In many cases, we have referenced other materials that are included in this application. Between this response, the July 1, 2016 actuarial valuation (included in item #5), the July 1, 2017 PPA actuarial certification (included in item #5), the supplemental information to actuarial certification for the plan year beginning July 1, 2017 (included with item #5) and the actuarial certification of plan solvency of proposed benefit suspensions as of July 1, 2018 (included in item #6) all assumptions used in the projections required under sections 3.01, 3.02, 4.02(1) and 4.03 of revenue procedure 2017-43 have been described. This section responds to the items in Revenue Procedure 2017-43 Appendix B in the same order laid out in Appendix B.

Part 1 – Actuarial assumptions and methods used for projections

Investment Returns

Plan Year Beginning July 1	Return
2017*	3.08%
2018	4.99%
2019	6.09%
2020	6.52%
2021	6.84%
2022-2026	6.94%
2027+	7.18%

** The 2017 entry is the return for the 9 months from October 1, 2017 through June 30, 2018. 3.08% is 9/12th of 4.10% which was the amount derived for the entire year.*

Mortality assumption

- A description of the mortality tables used can be found in the July 1, 2016 actuarial valuation included with item #5 of this application. The following table is used for both healthy and disabled, RP-2014 Mortality Table with Blue Collar adjustment, adjusted to factor out Scale MP-2014 from the 2006 base year, then projected forward using Scale MP-2015 on a generational basis, with gender-specific Healthy Annuitant rates.

Other demographic assumptions

- The complete decrement tables for termination are included with this item #25. The full tables for the other decrements tables used can be found in the July 1, 2016 actuarial valuation included with item #5 of this application.

Assumptions regarding form and commencement age of benefits

- All future retirees are assumed to elect a single life form of payment
- Terminated participants with vested benefits are assumed to retire at the same rates as active participants. This assumption is summarized in the July 1, 2016 actuarial valuation included with item #5 of this application.
- The Plan has no disability benefit provision so no assumption is made for future disability. The Plan's disability provisions were removed when the rehabilitation plan was created in 2010.

Assumptions regarding missing or incomplete data

- Regarding terminated vested participants beyond normal retirement age, we value all terminated vested participants that are provided to us by the plan administrator.
- Regarding assumptions used for missing data, we assume that:
  - New records with no birth date are assumed to be 41 years old. Records that are not new and have no birth date used the same birth date as the prior year's valuation,
  - Wives are 3 years younger than husbands,
  - 100% of participants are assumed to be married.

New entrant profile

- Exhibit G of the report titled "Actuarial Certification of Plan Solvency of Proposed Benefit Suspensions as of July 1, 2018" included with item #6 of this application includes a detailed description of the new entrant profile.

Contribution rates

- A contribution rate of $13.75/hour is assumed for all hours worked in the future. This is the bargained contribution rate for all employers.

Contribution base units

- A detailed description of the assumed contribution base units can be found in Exhibit F and Exhibit G (under activity assumption) of the "Actuarial Certification of Plan Solvency of Proposed Benefit Suspensions as of July 1, 2018" included with item #6 of this application.
- Each active participant is assumed to work 1,078 hours per year. This is the assumed hours assumption of 165,000 divided by the 153 active participants. When the hours assumption increases to 190,000 beginning with the plan year beginning July 1, 2021, the additional hours are assumed to come from an increase in the active workforce.

Withdrawal liability payments

- No future withdrawal liability payments are assumed.

Administrative expenses

- The administrative expense assumption is summarized in the July 1, 2016 actuarial valuation included with item #5 of this application and the "Actuarial Certification of Plan Solvency of Proposed Benefit Suspensions as of July 1, 2018" included with item #6 of this application.

Projection methodology

- No data grouping techniques were used to produce projections.
- No changes were made to cash flow projections produced by our valuation software.

Part 2 - Supporting documentation for selection of certain assumptions

Investment Returns

The components of the target portfolio used in the projections, expressed in terms of the asset classes used for setting the plan's investment policy are:

Asset Class	Allocation
US Large Cap Equity	30%
US Small Cap Equity	5%
International Developed Equity	15%
Emerging Market Equity	5%
Core Plus Fixed Income	20%
Core Real Estate	10%
Risk Parity	15%

The components of the target portfolio were allocated as follows among the asset classes provided in Appendix B of Revenue Procedure 2017-43:

Asset Class	Allocation
US Equity - Large Cap	34.05% (includes 27% of Risk Parity)
US Equity – Small/Mid Cap	5.00%
Non-US Equity - Developed	19.05% (includes 27% of Risk Parity)
Non-US Equity - Emerging	5.90% (includes 6% of Risk Parity)
US Corporate Bonds – Core	26.00% (includes 40% of Risk Parity)
Real Estate	10.00%

The 10 and 20 year median returns shown on Exhibits 17 and 18 of the 2017 edition of the Horizon Survey of Capital Market Assumptions were used. The associated standard deviations and correlation coefficients from Exhibit 15 the same survey were also used.

This process produced 6.32% expected returns using the 10 year capital market assumptions and 7.18% using the 20 year capital market assumptions. We further graded the returns for the first 10 years to reflect the underlying term structure and maintain consistency with a 6.32% overall return for the first 10 years.

Demographic experience

- The “Updated Demographic Assumption Study” completed in April 2016 is included with item #25.
- Liability gain and loss analysis by source for the last 7 years is attached with item #25. The ‘by source’ analysis is based on a status change grid. Our ‘by source’ results are not readily available for earlier years. The total gains and losses for the three years are as follows:
  - 2009: Actuarial loss of $761,167
  - 2008: Actuarial loss of $262,451
  - 2007: Actuarial gain of $951,233
- Regarding the percentage of the population that is married, we do not receive data on the percentage of the active or retired population that is married, but we do know how many retiring members choose joint and survivor benefits and have reviewed that information. Specifically regarding our marriage probability assumption, we discuss this assumption on page 11 of the attached Updated Demographic Assumption Study (included with item #25). Additionally, at the time of the study we determined that approximately 70% of current retirees were receiving a single life form of payment.
- The following is the distribution of benefit form elections for the last five years is as follows. It is worth noting that the majority of these retirements retired from terminated vested status.

Form of Payment	% elected
Single life	82%
100% Joint and Survivor w/ Pop-up Feature	6%
100% Joint and Survivor	10%
50% Joint and Survivor	2%

- Regarding retirement rates over the last 5 years, we discuss this assumption on page 8 of our Updated Demographic Assumption Study (included with item #25). Given the small sample size of the retirement group we did not show the rates in the report. As mentioned in the report, only 4 participants retired from active status during the study period. All of those individuals retired at age 62. Note that a large number of members retired in 2010 when the rehabilitation plan went into effect. Therefore it is not surprising there have been very few recent retirements and recent retirement experience is not expected to be an accurate indication of the future. The retirement rates by age for the vested terminated population are included with item #25.

Mortality assumptions

- The Updated Demographic Assumption Study (included with item #25) was used to justify using the RP-2014 Mortality Table with Blue Collar adjustment, adjusted to factor out Scale MP-2014 from the 2006 base year, then projected forward using Scale MP-2015 on a generational basis, with gender-specific Healthy Annuitant rates.

New entrant profile

- Exhibit G of the report titled “Actuarial Certification of Plan Solvency of Proposed Benefit Suspensions as of July 1, 2018” included with item #6 of this application includes a detailed description of the new entrant profile.

Contribution base units and employer withdrawals

- The requested information regarding employers that contributed 5% or more of the annual contribution to the plan is included with item #25.
- The historical trends experienced by the plan with respect to hours have been heavily influenced by the amount of publicly funded jobs as discussed in the "Actuarial Certification of Plan Solvency of Proposed Benefit Suspensions as of July 1, 2018" included with item #6 of this application. The historical increase in contribution rates since 2005 reflects first, a concerted effort by the bargaining parties to overcome the difficult investment markets of 2000-2002, and later the bargaining parties' obligation to follow the rehabilitation plan.
- The rationale for the assumptions for contribution base units is in the "Actuarial Certification of Plan Solvency of Proposed Benefit Suspensions as of July 1, 2018" included with item #6 of this application.
- The rationale for the assumptions for contribution rates is that the current level of $13.75 per hour can no longer be increased without decreasing the number of hours of contributions. This rationale is discussed in more detail in response to item #31 describing the reasons the plan is in critical and declining status.
- The Plan experienced 1 withdrawal in the last 5 years. As of now this employer has not paid anything, but the plan is pursuing the employer to collect some if not all of the assessed withdrawal liability.

Take-up rate with respect to selection of benefit/contribution schedules

- The rehabilitation plan had a single schedule, the default schedule. All employers are in the same rehabilitation schedule.

Projection methodology

- No approximation techniques aside from the approximations inherent in actuarial assumptions were used when developing projections.
- No modification were made to the cash flow projections produced by our actuarial software.

Part 3 – Additional disclosures relating to use of different assumptions

The following assumptions differed between the projections produced under section 4.02(1) and 3.01. An explanation for why they were different is included.

- Investment return assumption – For the purpose of the projections included in 3.01, we used the investment return assumption used in the July 1, 2016 valuation of 6.0%. This is a single rate long term assumption developed using Milliman's Capital Market Assumptions. The investment return assumption used to develop the projections described in section 4.02(1) was developed using short term and long term assumptions to reflect different return expectations over different periods based on the 2017 Horizon Survey of Capital Market Assumptions which is a widely used survey that has been deemed reasonable in similar circumstances.
- Administrative expense – Projections produced for both sections 3.01 and 4.02(1) use the same base administrative expenses assumption of $520,000 for the plan year beginning July 1, 2016, but the projections produced for section 4.02(1) uses an annual increase of 2.5% while the

projections produced for section 3.01 assume no annual increase. We believe that solvency projections like those produced for section 4.02(1) should reflect our best guess for increases in administrative expenses.

- New entrants – For the purpose of the projections included in 3.01, no new entrant assumption was used. These projections assumed a level normal cost each year, but did not include additional benefit payments for new entrants. The projections produced for 4.02(1) use the new entrant assumption described in the report titled “Actuarial Certification of Plan Solvency of Proposed Benefit Suspensions as of July 1, 2018” included with item #6. This is a more robust assumption developed to meet the requirements of MPRA.