

Alaska Ironworkers Pension Plan

Application for benefit suspension

History for 5% employers

Attachment to Item 25

The following summarizes the history requested in Appendix B of Revenue Procedure 2017-43 for 5% employers. This data is largely summarized from the

2015-2016 plan year 5% employers

Name	Contribution Base Units (Hours)	Average Contribution Rate		Total Contribution
			(\$/Hour)	
Whalen Construction	32,866	\$	13.75	\$ 451,901
Price Gregory International Inc.	23,702	\$	13.75	\$ 325,904
Swanson Steel	18,699	\$	13.75	\$ 257,116
Iron Inc.	17,491	\$	13.75	\$ 240,499
Azco Inc.	13,437	\$	13.75	\$ 184,752
Grifford Steel	9,694	\$	13.75	\$ 133,298

2014-2015 plan year 5% employers

Name	Average			
	Contribution Base	Contribution Rate		Total Contribution
	Units (Hours)	(\$/Hour)		
PCL Civil	35,576	\$	12.75	\$ 453,597
Whalen Construction	30,906	\$	13.75	\$ 424,953
Swanson Steel	27,973	\$	13.75	\$ 384,623
Iron Inc.	23,129	\$	13.75	\$ 318,022
North Pacific Erectors	16,602	\$	13.75	\$ 228,284
RPC Inc.	13,324	\$	13.75	\$ 183,201

2013-2014 plan year 5% employers

Name	Contribution Base Units (Hours)	Average Contribution Rate		Total Contribution
			(\$/Hour)	
Swanson Steel	44,476	\$	12.75	\$ 567,070
Haskell Corporation	29,669	\$	12.75	\$ 378,278
Whalen Construction	17,623	\$	12.75	\$ 224,688
Universal Welding	16,239	\$	12.75	\$ 207,053
Iron Inc.	13,288	\$	12.75	\$ 169,417
Griffard Steel	12,939	\$	12.75	\$ 164,970
Nothern Services	12,716	\$	12.75	\$ 162,128
Kiewit Infrastructure	12,542	\$	11.75	\$ 147,374

Alaska Ironworkers Pension Plan

Application for benefit suspension

History for 5% employers

Attachment to Item 25

2012-2013 plan year 5% employers

Name	Contribution Base	Average		Total Contribution
	Units (Hours)	Contribution Rate		
		(\$/Hour)		
Swanson Steel	11,009	\$ 12.75		\$ 140,361

2011-2012 plan year 5% employers

Name	Contribution Base Units (Hours)	Average		Total Contribution
		Contribution Rate (\$/Hour)		
Swanson Steel Erectors Inc	59,973	\$	10.75	\$ 644,711
ATEC Industries LTD	10,379	\$	10.75	\$ 111,577
North Pacific Erectors	16,134	\$	10.75	\$ 173,438
SNC - Lavalin Constructors	11,784	\$	10.75	\$ 126,683
Universal Welding	11,400	\$	10.75	\$ 122,551

2010-2011 plan year 5% employers

Name	Contribution Base	Average		Total Contribution
	Units (Hours)	Contribution Rate	(\$/Hour)	
Swanson Steel Erectors Inc	36,528	\$	9.75	\$ 356,149
Betchtel National Inc.	11,069	\$	9.75	\$ 107,924

2009-2010 plan year 5% employers

Name	Contribution Base Units (Hours)	Average		
		Contribution Rate (\$/Hour)	Total Contribution	
Universal Welding	51,970	\$ 8.75	\$	454,736
North Pacific Erectors	17,560	\$ 8.75	\$	153,653
Swanson Steel Corp	16,510	\$ 8.75	\$	144,461
Iron Inc.	15,749	\$ 8.75	\$	137,808
Stresscon Inc	15,191	\$ 8.75	\$	132,919
ATEC Industries LTD	14,131	\$ 8.75	\$	123,650
Griffard Steel	12,309	\$ 8.75	\$	107,708
Kiewit Building Group	15,676	\$ 6.75	\$	105,810

Alaska Ironworkers Pension Plan

Application for benefit suspension

PYE 2016 gain/loss analysis

Attachment to Item 25

The individual's prior year status is in column A and the individual's current year status is in row 6

(Gain)/Loss - Accrued liability

PY/CY	Active	Non-vested terminated, valued	Vested terminated	Non-vested, not valued	Death	Small cash out	QDRO AP	Disabled retiree	Retiree	In-pay beneficiary	Total
Not in Prior Year Data	5,877		13,683				572,430		63,027		655,017
Active	(138)	(31,140)	(50,137)						(27,000)		(108,415)
Non-vested terminated, valued	247	(24,354)	105,280	(327,131)		(3,281)			25,479		(223,760)
Vested terminated	7,392		(138,292)		(76,689)				(71,910)		(279,499)
Non-vested, not valued	2,551		3,766					4,825	66,947		78,089
QDRO AP							19,605				19,605
Disabled retiree								60,765			60,765
Retiree					(1,844,670)				569,807	(48,407)	(1,323,270)
In-pay beneficiary					(40,387)					81,751	41,364
Total	15,929	(55,494)	(65,700)	(327,131)	(1,961,746)	(3,281)	592,035	65,590	626,350	33,344	(1,080,104)

Alaska Ironworkers Pension Plan

Application for benefit suspension

PYE 2015 gain/loss analysis

Attachment to Item 25

The individual's prior year status is in column A and the individual's current year status is in row 6

(Gain)/Loss - Accrued liability

PY/CY	Active	Non-vested terminated, valued	Vested terminated	Non-vested, not valued	Death	Small cash out	QDRO AP	Disabled retiree	Retiree	In-pay beneficiary	Total
Not in Prior Year Data	13,153										13,153
Active	25,317	(13,680)	(35,158)						85		(23,436)
Non-vested terminated, valued	8,748	(70,384)	108,117	(368,727)		(5,227)					(327,473)
Vested terminated	21,147		38,926	(11,417)	(13,761)	1,200			(28,615)		7,480
Non-vested, not valued	4,869										4,869
QDRO AP							17,323				17,323
Disabled retiree					(16,407)			102,564			86,157
Retiree					(1,382,206)				1,175,536	(127,596)	(334,266)
In-pay beneficiary					(26,113)					73,913	47,800
Total	73,234	(84,064)	111,885	(380,144)	(1,438,487)	(4,027)	17,323	102,564	1,147,006	(53,683)	(508,393)

Alaska Ironworkers Pension Plan

Application for benefit suspension

PYE 2014 gain/loss analysis

Attachment to Item 25

The individual's prior year status is in column A and the individual's current year status is in row 6

(Gain)/Loss - Accrued liability

PY/CY	Active	Non-vested terminated, valued	Vested terminated	Non-vested, not valued	Death	Small cash out	QDRO AP	Disabled retiree	Retiree	In-pay beneficiary	Total
Not in Prior Year Data	6,187										6,187
Active	56,366	(11,605)	(97,082)						85,926	39,287	72,892
Non-vested terminated, valued	52,350	(86,032)	51,845	(257,464)	(2,242)	(1,524)			77,846		(165,221)
Vested terminated	70,043		(22,411)						(39,021)		8,611
Non-vested, not valued	12,118										12,118
QDRO AP							16,011			(149,223)	(133,212)
Disabled retiree					(23,994)			97,034			73,040
Retiree					(608,652)			(34,603)	959,047	(25,524)	290,268
In-pay beneficiary					(62,340)					68,151	5,811
Total	197,064	(97,637)	(67,648)	(257,464)	(697,228)	(1,524)	16,011	62,431	1,083,798	(67,309)	170,494

Alaska Ironworkers Pension Plan

Application for benefit suspension

PYE 2013 gain/loss analysis

Attachment to Item 25

The individual's prior year status is in column A and the individual's current year status is in row 6

(Gain)/Loss - Accrued liability

PY/CY	Active	Non-vested terminated, valued	Vested terminated	Non-vested, not valued	Death	QDRO AP	Disabled retiree	Retiree	In-pay beneficiary	Total
Not in Prior Year Data	29,168	113	0	0	0	255,623	0	7,657	0	292,561
Active	82,898	(62,662)	(61,906)	(671,305)	0	0	0	0	0	(712,975)
Non-vested terminated, valued	2,308	(99,026)	82,811	(249,449)	0	0	0	0	0	(263,356)
Vested terminated	(62,878)	0	(8,898)	(4,938)	0	0	(597)	(137,761)	(105,380)	(320,452)
Non-vested, not valued	88,531	0	0	0	0	0	0	0	12,367	100,898
QDRO AP	0	0	0	0	0	13,010	0	0	0	13,010
Disabled retiree	0	0	0	0	(4,942)	0	94,571	42,529	0	132,158
Retiree	0	0	0	(26,682)	(640,498)	0	0	1,083,533	52,948	469,301
In-pay beneficiary	0	0	0	0	(41,166)	0	0	0	76,235	35,069
Total	140,027	(161,575)	12,007	(952,374)	(686,606)	268,633	93,974	995,958	36,170	(253,786)

Alaska Ironworkers Pension Plan

Application for benefit suspension

PYE 2012 gain/loss analysis

Attachment to Item 25

The individual's prior year status is in column A and the individual's current year status is in row 6

(Gain)/Loss - Accrued liability

PY/CY	Active	Non-vested terminated, valued	Vested terminated	Non-vested, not valued	Death	Small cash out	QDRO AP	Disabled retiree	Retiree	In-pay beneficiary	Total
Not in Prior Year Data	44,378	29,714	17,857	0	0	0	0	0	0	0	91,949
Active	40,591	(14,215)	(10,939)	(201,137)	(686,664)	0	0	0	30,590	0	(841,774)
Non-vested terminated, valued	49,364	(102,261)	127,495	(400,623)	0	(4,083)	0	0	27,384	0	(302,724)
Vested terminated	1,816	0	(6,313)	0	(10,054)	341	0	0	4,292	0	(9,918)
Non-vested, not valued	9,029	1,673	0	0	0	0	0	0	57,999	0	68,701
Death	0	0	0	0	0	0	0	0	0	17,130	17,130
QDRO AP	0	0	0	0	(115,400)	0	13,326	0	0	0	(102,074)
Disabled retiree	0	0	0	0	(72,373)	0	0	100,490	0	0	28,117
Retiree	0	0	0	(4,819)	(400,633)	0	0	0	1,308,135	(359,783)	542,900
In-pay beneficiary	0	0	0	0	(96,214)	0	0	0	0	73,414	(22,800)
Total	145,178	(85,089)	128,100	(606,579)	(1,381,338)	(3,742)	13,326	100,490	1,428,400	(269,239)	(530,493)

Alaska Ironworkers Pension Plan

Application for benefit suspension

PYE 2011 gain/loss analysis

Attachment to Item 25

The individual's prior year status is in column A and the individual's current year status is in row 6

(Gain)/Loss - Accrued liability

PY/CY	Active	Non-vested terminated, valued	Vested terminated	Non-vested, not valued	Death	Small cash out	QDRO AP	Disabled retiree	Retiree	In-pay beneficiary	Total
Not in Prior Year Data	3,588						279,424				283,012
Active	(18,728)	(56,243)	(40,511)	0					206,944		91,462
Non-vested terminated, valued	63,737	(124,638)	15,366	(204,359)		(2,298)			18,486		(233,707)
Vested terminated	4,978		9,626	(4,234)	(63,655)	414			178,098		125,227
Non-vested, not valued	3,371			0					111,238		114,609
Death					0						0
Small cash out				-		-					0
QDRO AP					(111,069)		61,407				(49,663)
Disabled retiree					(63,722)			99,148	157,467		192,892
Retiree					(299,373)	13,919			921,190	(34,385)	601,352
In-pay beneficiary					(77,783)					78,373	590
Total	56,946	(180,881)	(15,519)	(208,593)	(615,603)	12,035	340,831	99,148	1,593,423	43,988	1,125,774

Alaska Ironworkers Pension Plan

Application for benefit suspension

PYE 2010 gain/loss analysis

Attachment to Item 25

The individual's prior year status is in column A and the individual's current year status is in row 6

(Gain)/Loss - Accrued liability

PY/CY	Active	Non-vested terminated, valued	Vested terminated	Non-vested, not valued	Death	Small cash out	QDRO AP	Disabled retiree	Retiree	In-pay beneficiary	Total
Not in Prior Year Data	17,091	0	17,519	0	0	0	201,768	0	58,771	0	295,149
Active	312,289	(280,459)	(187,466)	(269)	0	0	0	(42,357)	(342,937)	0	(541,199)
Non-vested terminated, valued	(8,889)	(102,629)	44,009	(217,348)	0	(3,713)	0	0	297,614	0	9,044
Vested terminated	73,352	0	(58,770)	0	0	(1,219)	0	(548)	8,198	0	21,013
Non-vested, not valued	1,369	0	0	0	0	0	0	0	0	0	1,369
QDRO AP	0	0	0	0	0	0	20,110	0	0	0	20,110
Disabled retiree	0	0	0	0	(35,739)	0	0	82,795	150,831	0	197,887
Retiree	0	0	0	0	(72,870)	(183,101)	0	0	415,146	(882,878)	(723,703)
In-pay beneficiary	0	0	0	0	(91,071)	0	0	0	0	55,962	(35,109)
Total	395,212	(383,088)	(184,708)	(217,617)	(199,680)	(188,033)	221,878	39,890	587,623	(826,916)	(755,439)

Alaska Ironworkers Pension Plan

Application for benefit suspension

Complete termination decrement table

Attachment to Item 25

Duration from hire	Termination decrement rate
0	0.2500
1	0.2500
2	0.1500
3	0.1200
4	0.1000
5	0.0933
6	0.0866
7	0.0800
8	0.0780
9	0.0760
10	0.0740
11	0.0720
12	0.0700
13	0.0700
14	0.0700
15	0.0700
16	0.0700
17	0.0700
18	0.0660
19	0.0620
20	0.0580
21	0.0540
22	0.0500
23	0.0460
24	0.0420
25	0.0380
26	0.0340
27+	0.0300



Alaska Ironworkers Pension Plan

Updated Demographic Assumptions Study

Prepared by:

Kelly S. Coffing

FSA, EA, MAAA

Mark C. Olleman

FSA, 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

Updated Demographic Assumptions Study for the Alaska Ironworkers Pension Plan

Purpose of the Study

The purpose of this study is to review demographic experience of the Alaska Ironworkers Pension Plan during the period from July 1, 2011 through June 30, 2015.

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. 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, without audit, on information (some oral and some in writing) supplied by the Plan's Administrator. 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 Updated Demographic Assumptions Study 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.

Certification

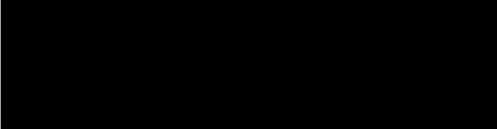
In our opinion, each assumption used (other than those assumptions mandated directly by the Internal Revenue Code and its regulations) is individually reasonable (taking into account the experience of the Plan and reasonable expectations) and, in combination, offer our best estimate of anticipated experience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

The assumptions developed in this report satisfy Actuarial Standards of Practice No. 35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations.


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.

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,



Kelly S. Coffing, FSA, EA, MAAA
Principal and Consulting Actuary
Enrolled Actuary Number 14-06596



Mark C. Olleman, FSA, EA, MAAA
Principal and Consulting Actuary
Enrolled Actuary Number 14-05636

April 1, 2016

Date

Table of Contents

1. Introduction	1
2. Methodology	4
3. Summary of Results	6
Termination Assumption for Active Participants	7
Retirement Assumption for Active Participants	8
Retirement Assumption for Vested Terminated Participants	8
Disability Assumption	8
Mortality Assumption for Healthy Retired Males	9
Mortality Assumption for Healthy Female Beneficiaries	10
Mortality Assumption for Active and Vested Terminated Participants	10
Mortality Assumption for Disabled Retired Participants	10
Other Demographic Assumptions	11
4. Liability and Funded Status Impact	12
5. Appendix	14
Updated Termination Rates	15
Updated Retirement Rates for Active and Vested Terminated Participants	16
Updated Disability Rates	16
Updated Mortality Assumptions	16
Current Mortality Assumptions	16

Introduction

Overview

We have performed a study to review the recent demographic experience for the Alaska Ironworkers Pension Plan generally during the period from July 1, 2011 through June 30, 2015.

The following demographic assumptions were reviewed:

- Rates of Termination
- Rates of Retirement
- Rates of Disability
- Rates of Mortality

The actual demographic experience for the study period was compared to the expected experience using current assumptions. Based on our findings, we have determined changes to some of the assumptions listed above. These changes will bring assumptions more closely in line with actual experience.

These assumptions are expected to be used for the following purposes:

- IRS pension funding requirements (except where prescribed by law)
- Withdrawal Liability calculations
- Plan accounting requirements under FASB 960

We plan to use the updated assumptions starting with the July 1, 2015 actuarial valuation.

Contents of Report

Throughout this report, we refer to “expected” and “updated” actuarial assumptions. The expected assumptions are those used for our July 1, 2014 actuarial valuation. They may also be referred to as the “current” or “old” assumptions. The updated assumptions are those we plan to use in the July 1, 2015 valuation.

The “Summary of Results” section of this report details the development of each demographic assumption. The graphs show the actual experience, the current assumption, and the updated assumption. The narrative below each graph discusses our findings and the basis for our assumption changes.

The Appendix to this report shows the updated rates by age or service for each demographic assumption.

Study Data

Male and female experience was aggregated for purposes of most demographic assumptions in this study. For mortality, male and female experience was studied separately. It is worth noting that the plan participants are 99% male. Accordingly, more attention was focused on male experience, except in the case of surviving beneficiaries, which are all female.

To the extent possible, the impact of any special events has been taken into account. The new assumptions reflect our estimate of smoothed experience that would have emerged if there had been no special events.

Note that retirement experience was likely impacted significantly by the rehabilitation plan, effective during 2010. The study period is after the primary effects the rehabilitation plan may have had on participant behavior. This would likely be most pronounced prior to July 2011, which we eliminated from our study, but this behavior may have extended into our study period. However, we don't believe this introduced any material bias.

Methodology

Valuation Principles and Actuarial Risk

Just as certain investment choices have an associated investment risk, choices in actuarial assumptions have an associated actuarial risk. This is the risk that future experience is different than the assumptions. Our responsibility is to assign pension benefit costs appropriately to ensure that contributions are sufficient to fund benefits and maintain the health of the Plan.

Our estimate of the liabilities and costs is dependent on the assumptions we use to project the future benefit payments and then to discount the value of future benefits to determine the present values.

- If actual experience shows that the assumptions overestimated the true cost of the benefits, decisions may be inappropriately made based on the higher estimated cost levels. This may also result in an overstatement of cost today and the longer term impact will not be realized until many years in the future.
- If actual experience shows that the assumptions underestimated the true cost of the program, decisions may be inappropriately made based on the lower estimated costs levels. This may result in an unexpected need to increase contributions in the future and may lead to negotiating difficulties.
- The valuation presents the costs as of only one date. Further analysis illustrating the potential volatility of the cost results may be needed to fully appreciate the actuarial risk associated with actuarial assumptions. These further studies are beyond the scope of this project.

Our Philosophy

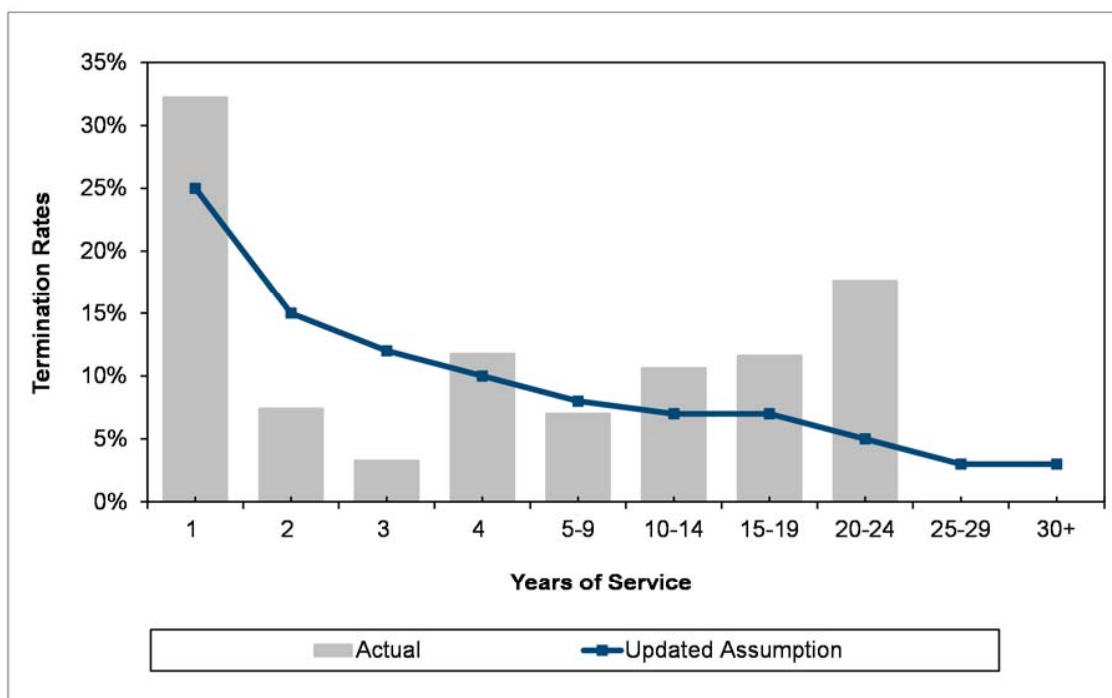
Similar to an actuarial valuation, the calculation of actual experience is a fairly mechanical process. From one actuary to another, you would expect to see very little difference. However, the setting of assumptions is a different story, as it requires actuarial judgment. In this report, we provide updated assumptions. To help you understand our thought process, here is a brief summary of our philosophy:

- **Don't Overreact:** When we see significant changes in experience, we generally do not adjust our rates to reflect the entire difference. We will generally recommend rates somewhere between the old rates and the new experience. If the experience during the next study shows the same result, we will probably recognize this trend at that point. On the other hand, if the experience returns closer to its prior level, we will not have overreacted, possibly causing unnecessary volatility in costs.
- **Anticipate Trends:** If there is an identified trend that is expected to continue, we believe that this should be recognized. An example of this is the mortality assumption. Due to historical and predicted future improvements in longevity, our recommended mortality assumption includes a projection scale.
- **Simplify:** Where there is no material difference in results, we attempt to simplify our assumptions and methods. There is no point in complexity that does not materially improve the accuracy of results.

Summary of Results

Termination Assumption for Active Participants

The assumption for termination of employment is used to estimate the probability that an active participant will leave the Plan before they are eligible to retire and commence their pension benefits, of particular importance for valuation purposes is whether a participant attains full vesting.



All Service Durations	Old Assumptions	Actual	Updated
Total Count	75	58	52
Actual / Expected	77%		112%

- Previously, our termination assumption was based on age as opposed to service. We believe years of service are a better indicator for termination rates. This is supported by the Plan's experience.
- We do not receive termination dates for participants. We approximated the date of termination based on the year a participant is no longer reported as active. As such, the experience for years 0-2, when rates are highest, may be imprecise. Our updated assumption is intended to smooth out the experience in these years. The approximated termination dates have less impact on study results in later years as termination rates stabilize.
- Actual rates appear to increase with years of service between 20 to 24 years, but this can be attributed to a low amount of experience for that group. In fact, only two participants in the service grouping terminated during the study.
- Rates at years two and three are lower than we would expect. This is inconsistent with general expected behavior and we chose to use rates that are more representative of expectations.
- In general, termination rates decline as service increases as long service participants are less likely to terminate employment prior to retirement. We believe that this pattern is likely to continue based on current and future economic conditions.

Retirement Assumption for Active Participants

The assumption for retirement from active employment is used to estimate the probability that an active participant will leave employment and receive a retirement benefit, provided they have met the age and service eligibility requirements.

- Retirement experience was very low during the study period (four retirements from active status). After reviewing our assumptions and gain/loss experience, we have opted to keep our current assumptions.

Retirement Assumption for Vested Terminated Participants

This assumption is used to estimate the probability that a vested terminated participant will elect to commence his or her retirement benefit, provided they have met the age and service eligibility requirements.

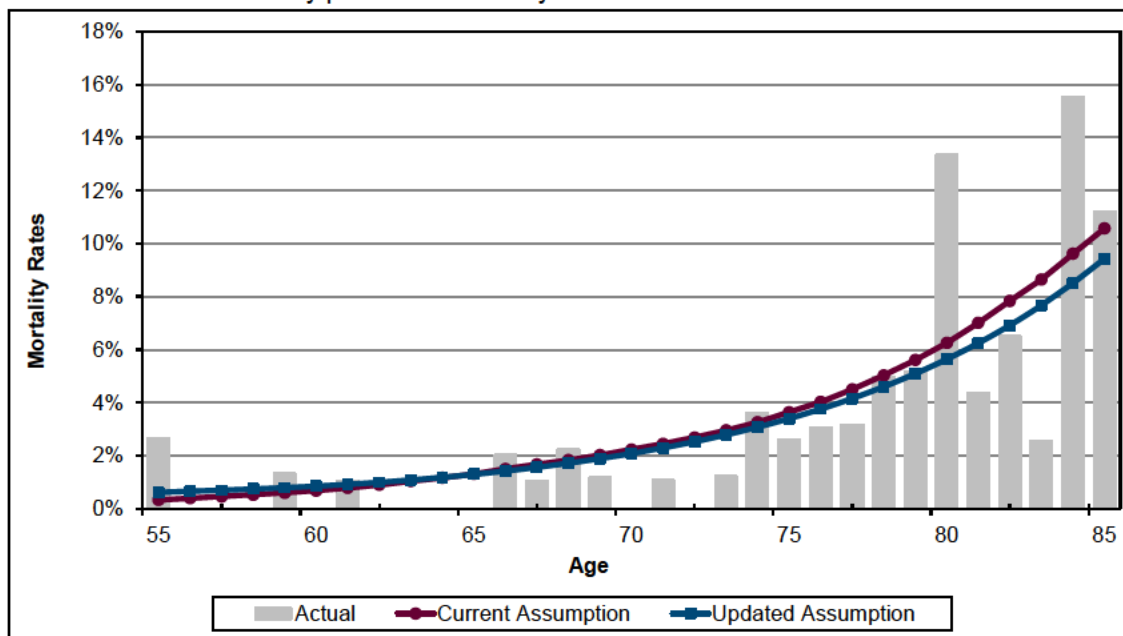
- The current assumption is that 50% of vested terminated participants retire at age 50 and 100% retire at age 60.
- We believe that the retirement behavior of actives and vested terminated participants was similar enough to justify the same assumption for both groups. Therefore, the terminated vested retirement assumption has been changed to match the active rates of retirement assumption.

Disability Assumption

We assume there is no disability decrement as disability provisions were removed with the Rehabilitation Plan effective August 30, 2010. This assumption is unchanged.

Mortality Assumption for Healthy Retired Males

The mortality assumption is used to estimate how long a healthy retired male participant will survive and continue to receive his pension benefit. It should be noted that experience from July 1, 2010 through June 30, 2015 was used for the mortality portion of this study.



All Ages	Old Assumptions	Actual	Updated
Total Count	72	68	68
Actual / Expected	94%		100%

- The current assumption is based on the RP-2000 Healthy Blue Collar Male Annuitant mortality, with full generational projection using Scale AA.
- Actual deaths were about 6% lower than expected, indicating that the RP-2000 Healthy Blue Collar Male Annuitant table was reasonably appropriate on a headcount basis.
- In October of 2014, the Society of Actuaries released new mortality tables called RP-2014 and new mortality improvement scales called MP-2014. These new tables reflected recent and anticipated improvement in mortality.
- In October of 2015, the Society of Actuaries released new mortality improvement scales called MP-2015. These revised the MP-2014 scale to incorporate updated mortality data prior to 2014 that was previously assumed in the construction of RP-2014.
- Under the Blue Collar RP-2014 Healthy Male Annuitant mortality table adjusted to factor out MP-2014 to 2006, then projected to 2012 with Scale MP-2015, the actual deaths during the study period matched the expected amount.
- Generally speaking, participants with larger benefits tend to live longer than participants with smaller benefits. This is supported with the Plan's experience. If we weight deaths based on monthly benefit amounts (rather than headcount), it becomes apparent that the mortality table should be updated.
- In addition to the base table, a mortality projection scale is also used to reflect future improvements in mortality. We propose using the Scale MP-2015 mortality improvement scale.
- Updated Assumption: Blue Collar RP-2014 Healthy Male Annuitant mortality tables adjusted to factor out MP-2014 to the 2006 base year, then projected forward using Scale MP-2015 on a generational basis.

Mortality Assumption for Healthy Female Beneficiaries

The mortality assumption is used to estimate how long a healthy retired female participant will survive and continue to receive her pension benefit. For this purpose, we looked exclusively at the experience of female surviving beneficiaries of plan participants.

- There was very little mortality experience for females over the study period (18 deaths).
- We believe using the female version of the male mortality table is appropriate in a case where experience is limited.
- Updated Assumption: Blue Collar RP-2014 Healthy Female Annuitant mortality tables adjusted to factor out MP-2014 to the 2006 base year, then projected forward using Scale MP-2015 on a generational basis.

Mortality Assumption for Active and Vested Terminated Participants

The mortality assumption for active and vested terminated participants is used to estimate the probability of participant deaths (either while still employed or after termination of employment) prior to benefit commencement.

- There were approximately five active and vested terminated participants who were reported as having died during the study period.
- Due to the relatively low number of observed deaths we do not believe that the experience, on its own, provides a credible basis for which to select an assumption.
- The retired population mortality experience provides a more credible base for setting the assumption.
- To maintain consistency with the retired mortality assumption, the updated assumptions will be the Blue Collar RP-2014 Employee mortality tables, adjusted to factor out Scale MP-2014 to the 2006 base year, then projected forward using Scale MP-2015 on a generational basis.

Mortality Assumption for Disabled Retired Participants

The disabled participant mortality assumption is used to estimate how long a disabled retired participant will survive and continue to receive his or her pension benefit.

- With only 31 current disabled retirees, we do not believe that there are enough disabled participants in the Plan to provide a credible experience base under which to set a mortality assumption.
- Due to the fact that all 31 of the Plan's disabled participants have been in-pay since at least 2010, it is our best estimate that their mortality is more similar to a healthy retiree than someone "disabled." The updated assumptions will be the same as healthy retirees, Blue Collar RP-2014 Healthy Annuitant mortality tables, adjusted to factor out Scale MP-2014 to the 2006 base year, then projected forward using Scale MP-2015 on a generational basis.

Other Demographic Assumptions

The other demographic assumptions that are used in our valuation work are listed below. In general, these assumptions do not have a material impact on the valuation results, nor do we have the necessary data available to study them in full.

- Probability of Marriage and spouse ages: used to estimate the likelihood that an active or vested terminated participant that dies prior to retirement will have a spouse that is entitled to a benefit.
 - The current assumption is 100% of participants are married and husbands are three years older than wives.
 - An analysis of spouse information provided for new retirees during the study period suggests the probability of marriage assumption may be somewhat high, and the spouse age difference assumption is relatively accurate.
 - Given the limitations of the data we had available, the relative immateriality of the assumption, and the desire to be slightly conservative, we believe the current assumption remains appropriate.
- Assumed form of payment: used to estimate the form of payment that a participant elects upon commencement of benefits.
 - The current assumption is that all participants elect a single life annuity.
 - The plan offers actuarially equivalent alternative forms of payment, with no significant subsidies relative to the valuation assumptions.
 - Accordingly, the current assumption remains appropriate.
 - Note that once a participant retires and elects a specific form of payment, we value that election and incorporate their spouse's date of birth, as appropriate.
- Participants of unknown gender: used to value the small number of participants (generally new hires) for whom gender was not provided by the plan administrator.
 - The current assumption is that such participants are male.
 - The overall plan demographics of 99% male support this assumption.
- Nonvested terminees becoming vested: we estimate the likelihood that a participant that terminates prior to being vested in some part of their accrued benefit will either return to active status and become vested or become vested through reciprocity with another plan.
 - The current assumption is 45% of nonvested benefits earned by participants that terminate prior to becoming fully vested will eventually become vested.
 - It is difficult to analyze this type of assumption. Currently we look at it on a year-to-year basis. Based on our review over the past few years, we have noticed that this assumption may be a bit conservative.
 - Given the limitations of the data we had available and the desire to be conservative, we believe the current assumption remains appropriate.

Liability and Funded Status Impact

Liability and Funded Status Impact

We have estimated the impact of the proposed assumptions on the July 1, 2015 liabilities and funded status of the Plan. The liability estimates below are based on the July 1, 2015 actuarial valuation with an assumed return of 6.25%. Note that the relative impact of the various assumption changes is somewhat dependent on the order in which they are evaluated.

	Actuarial Accrued Liability (in millions)	Market Value of Assets Funded Status
July 1, 2015 Valuation Results (Current Assumptions)	\$91.6	62.0%
Impact of Assumption Changes		
Mortality Assumption	2.9	(1.9)%
Other Demographic Assumptions	<u>0.4</u>	<u>(0.3)</u>
Total	3.3	(2.2)%
July 1, 2015 Valuation Results (Proposed Assumptions)	\$94.9	59.8%

- The liabilities are most heavily impacted by the mortality assumption change.
- The increase in the liability due to the change in the mortality assumptions is due to expecting participants to live longer and therefore receive benefits for a longer period of time.
- The combined impact of the other demographic assumptions is fairly minor.

Appendix

Updated Termination Rates

The following percentage of active participants (at the age or service shown), will leave within a year on account of termination:

Updated Rates

Duration from Hire	Termination Rate
0	25.00%
1	25.00
2	15.00
3	12.00
4	10.00
7	8.00
12	7.00
17	7.00
22	5.00
27+	3.00

Current Rates

Age	Termination Rate
20	10.23%
25	10.28
30	9.91
35	9.56
40	8.81
45	9.20
50	4.48
51	4.58
52	4.60
53	4.56
54	4.44
55	4.24
56	12.69
57	20.28
58	27.26
59	33.42
60	33.30
61	33.30
62	0.00

Updated Retirement Rates for Active and Vested Terminated Participants

The retirement rates are unchanged for active participants. Vested terminated participants were previously assumed to have a 50% probability of retirement at age 50 and 100% at age 60.

The following percentage of participants (at the age shown), will leave within a year on account of retirement:

Age	Retirement	
	Pre-July, 1 2011 Benefits	Post-July, 1 2011 Benefits
50	5.00%	5.00%
51	5.00	5.00
52	5.00	5.00
53	5.00	5.00
54	5.00	5.00
55	5.00	5.00
56	10.00	10.00
57	15.00	10.00
58	20.00	10.00
59	20.00	15.00
60	100.00	20.00
61	100.00	20.00
62	100.00	100.00

Updated Disability Rates

No changes to the current assumption.

Updated Mortality Assumptions

Healthy and Disabled Lives: Gender specific blue collar RP-2014 healthy annuitant mortality table, adjusted to factor out Scale MP-2014 to the 2006 base year, then projected forward using Scale MP-2015 on a generational basis (adopted July 1, 2015).

Active/Deferred Lives: Gender specific blue collar RP-2014 employee mortality table, adjusted to factor out Scale MP-2014 to the 2006 base year, then projected forward using Scale MP-2015 on a generational basis (adopted July 1, 2015).

Current Mortality Assumptions

Healthy Lives: RP-2000 sex distinct Blue Collar Employee and Blue Collar Annuitant Mortality Tables projected with Scale AA.

Disabled Lives: RP-2000 Disabled Mortality Table projected with Scale AA.

Alaska Ironworkers Pension Plan

Application for benefit suspension

Retirement rates by age for terminated vested participants (based on our Updated Demographic Assumption Study)

Attachment to Item 25

Age	Retirement Rate
50	23%
51	0%
52	4%
53	11%
54	10%
55	31%
56	0%
57	18%
58	15%
59	22%
60	31%
61	0%
62	31%