



Arizona State Retirement System

Actuarial Report on the

Valuation of the LTD Program

As of June 30, 2013



January 17, 2014

Retirement Board
Arizona State Retirement System
3300 North Central Avenue
14th Floor
Phoenix, AZ 85012

Valuation of the ASRS Long Term Disability Program as of June 30, 2013

Dear Retirement Board Members:

We certify that the information contained in the attached 2013 actuarial valuation report is accurate and fairly presents the actuarial position of the Arizona State Retirement System (ASRS) Long Term Disability Program (the LTD Program) as of June 30, 2013.

We have made all calculations for this report in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, the report's results comply with our understanding of the requirements of the Arizona Constitution and statutes and, where applicable, the Internal Revenue Code, the Employee Retirement Income Security Act of 1974 (ERISA), and the Statements of the Governmental Accounting Standards Board. The undersigned actuaries are independent. Two of them are Enrolled Actuaries, they are all members of the American Academy of Actuaries, two are Fellows and one is an Associate of the Society of Actuaries, and they jointly meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. They are experienced in performing valuations for large public retirement systems and long term disability valuations and are qualified to provide actuarial services to the State of Arizona. The undersigned actuaries are not qualified as attorneys or accountants, so their views on such matters are subject to opinion of counsel and auditors.

Actuarial Valuations

The primary purpose of the valuation report is to determine the required member and employer contribution rates, to describe the current financial condition of the LTD Program, and to analyze changes in the LTD Program's condition. In addition, the report provides information that ASRS requires for its Comprehensive Annual Financial Report. The report also summarizes census data. Use of this report for any other purposes or by anyone other than ASRS and its auditors may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. The attached pages should not be provided without a copy of this cover memorandum. No one may make any representations or warranties based on any statements or conclusions contained in this report without Buck Consultants' written consent.

Valuations are performed annually as of June 30 which is the last day of both the LTD Program year and ASRS' fiscal year.

Funding Objectives

The actuarial valuation calculates the contribution rates payable by members and participating employers. These rates, when applied to payroll, yield contribution amounts sufficient to fund the normal cost plus the amortization of unfunded actuarial accrued liability over a closed 15-year period. Contribution rates are set annually, based on the valuation of the preceding year. The rate calculated in this report (0.24% in total) will apply in the fiscal year beginning July 1, 2014. The LTD program is meeting its funding objectives.

Experience Studies

Most of the assumptions of the LTD program are also assumptions of the ASRS defined benefit plan (the Plan). The actuary performs experience studies for ASRS every five years. The most recent experience study was completed in 2013 using experience from July 1, 2007 to June 30, 2012. Revised actuarial assumptions were approved and implemented for the June 30, 2013 valuation.

Benefit Provisions

The provisions of the LTD program valued in the report reflect our understanding of the long term disability provisions specified in Section 38-797 of the Arizona Revised Statutes.

There have been no changes in benefit provisions since the last valuation.

The terms of the LTD Program are summarized on pages 13 to 15 of this report. There is no provision for LTD benefits to increase for cost-of-living adjustments.

Assumptions and Methods

As a result of the recent experience study conducted on actual plan experience from July 1, 2007 to June 30, 2012, revised mortality rates, rates of retirement, rates of withdrawal, rates of disability, rates of termination of claims in LTD payment due to death or disability, rates of salary increase, and offsets for disabled and active members were adopted for the June 30, 2013 valuation. Furthermore, as the revised assumptions were adopted based on experience under the current pre-existing condition period, the adjustment for the change in the pre-existing condition period was removed. In addition, assumptions for incurred but not reported (IBNR) claims, alternate contribution rate payments and mid-year contributions were added. All are effective beginning with the June 30, 2013 valuation. The change in assumptions due to the experience analysis resulted in a decrease of \$97 million in liabilities and an increase of 19.42 percentage points in the funded status.

The actuary originates the assumptions, in consultation with the ASRS Director and other ASRS staff members, and recommends the assumptions to the Board which makes the ultimate decision on which assumptions and methods to use.

The Board elected to use the projected unit credit method. Under this method, actuarial gains (or losses) are subtracted from (or added to) the unfunded actuarial accrued liability. The Board also adopted a new 15-year closed amortization method as of June 30, 2013. Statutes previously defined the amortization method as an amortization of unfunded actuarial accrued liability over a rolling 15-year period. Under the new amortization method, the unfunded actuarial accrued liability as of June 30, 2012 will be fully amortized over the next 15 years.

The assumptions represent a reasonable estimate of the plan's future economic and demographic experience. While the actuary believes that the assumptions are reasonable for financial reporting purposes, it should be understood that there is a range of assumptions that could be deemed reasonable that would yield different results. It should be understood that future plan experience may differ considerably from what has been assumed.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for the measurements, and changes in plan provisions or applicable law. Due to the limited scope of this report, Buck performed no analysis of the potential range of such future measurements.

Data

ASRS staff and Sedgwick (the administrator of the LTD program) supplied census data for participants as of June 30, 2013. We have not audited these data, but have examined them for reasonableness and consistency with the prior year's data. ASRS staff also supplied asset information. The results of the valuation are dependent on the accuracy of the data. Data on disabled members is complete and, to the best of our knowledge, correct.

Trend Data and Supporting Schedules

ASRS prepared all trend data schedules in the financial section of ASRS' Comprehensive Annual Financial Report (CAFR). ASRS also prepared all supporting schedules in the actuarial section of the CAFR.

We look forward to discussing this report with you at your convenience.

Sincerely,



Charles E. Chittenden, FSA, EA, MAAA
Principal and Consulting Actuary



Douglas J. Fiddler, ASA, EA, MAAA
Director, Retirement Actuary



Reza Vahid, FSA, MAAA
Director, Health & Productivity

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EXECUTIVE SUMMARY

The following table summarizes the key results of the June 30, 2013 actuarial valuation of the Arizona State Retirement System (ASRS) Long Term Disability (LTD) Program.

	<u>2012</u>	<u>2013</u>
Normal Cost	\$ 25,723,092	\$ 15,312,600
Interest to Middle of Year	N/A	\$ 612,504
Total Normal Cost	\$ 25,723,092	\$ 15,925,104
Actuarial Accrued Liability	\$ 439,706,059	\$ 332,596,817
Valuation Assets	\$ 295,785,765	\$ 285,018,061
Funded Status on Valuation Assets	67.27%	85.69%
Market Value of Assets	\$ 257,324,263	\$ 262,620,722
Funded Status on Market Value of Assets	58.52%	78.96%
Unfunded Actuarial Accrued Liability (UAAL)	\$ 143,920,294	\$ 47,578,756
Base Amortization of UAAL	\$ 15,568,722	\$ 5,146,880
Expected Alternate Contribution at Beginning of Year	N/A	\$ (461,138)
Interest to Middle of Year	N/A	\$ 187,430
Total Amortization of UAAL	\$ 15,568,722	\$ 4,873,172
Annual Required Contribution (ARC)	\$ 41,291,814	\$ 20,798,276
Payroll	\$ 8,868,678,184	\$ 8,752,783,004
Total ARC as % of Payroll	0.47%	0.24%
- Employee ARC as a % of Payroll	0.24%	0.12%
- Employer ARC as a % of Payroll	0.24%	0.12%
UAAL as % of Payroll	1.6%	0.5%
Normal Cost as % of Payroll	0.29%	0.18%
Past Service Cost as % of Payroll	0.18%	0.06%

Reconciliation of the Contribution Rate

	<u>Rate</u>	<u>Change</u>
Total Contribution Rate at June 30, 2012	0.47%	-
Expected Experience	0.45%	-0.02%
Contribution (Gain)/Loss	0.45%	+0.00%
2012/2013 Liability Experience	0.46%	+0.01%
2012/2013 Asset Experience	0.47%	+0.01%
Assumption Changes	0.24%	-0.23%

Flow of Lives

LTD Retirees as of June 30, 2012	4,440
Recovered	(284)
Retired	(504)
Deceased	(80)
Total Decreases during the Year	(868)
LTD Retirees Remaining as of June 30, 2013	3,572
Active Members Who Became Disabled during Fiscal 2013	735
LTD Retirees as of June 30, 2013	4,307

EXPERIENCE ANALYSIS

1. Change in Open Claims Reserves

The increase in the reserves for payments not yet due on disabled lives may be summarized as follows:

	<u>Lives</u>	<u>Reserves</u>
(a) Open Claims Reserve Liability on July 1, 2012	4,440	\$ 217,902,714
(b) Change in reserve on 3,572 Continuing Disabled Lives	N/A	(28,493,782)
(c) Reserves Released on Terminated Lives	(868)	(24,373,090)
(d) Reserves Added on New Lives	735	44,637,749
(e) Change in Assumptions	N/A	(7,968,764)
(f) Open Claims Reserve Liability on June 30, 2013 = (a) + (b) + (c) + (d) + (e)	4,307	\$ 201,704,827

For historical relationships, please see LTD Open Claims Statistics on page 17.

2. Development of Liability (Gain)/Loss

(a) Actuarial Accrued Liability as of July 1, 2012	\$ 439,706,059
(b) Normal Cost for 2012/2013	25,723,092
(c) Expected Benefit Payments for 2012/2013	66,427,000
(d) Expected Actuarial Accrued Liability on June 30, 2013 = ((a) + (b)) x 1.08 – (c) x (1 + .08 x 13/24)	433,357,980
(e) Change in Plan Terms	N/A
(f) Change in Assumptions	(97,474,730)
(g) Liability (Gain)/Loss	(3,286,433)
(h) Actual Actuarial Accrued Liability on June 30, 2013 = (d) + (e) + (f) + (g)	\$ 332,596,817

3. Sources of Liability (Gain)/Loss

(a) Offset (Gain)/Loss	\$ (3,695,934)
(b) Liability for Members Who Were Not Active in Last Year's Valuation	8,209,233
(c) More Terminations than Expected	(1,391,374)
(d) Fewer LTD Retirees than Expected	(7,491,854)
(e) Salary Gain on Continuing Actives	(2,440,533)
(f) New Active Entrants	5,478,967
(g) Other (Gain)/Loss	(1,954,938)
(h) Liability (Gain)/Loss = (a) + (b) + (c) + (d) + (e) + (f) + (g)	\$ (3,286,433)

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4. Development of Actuarial Value of Assets

(a)	Excess (Shortfall) of Investment Income:		
	(i) Current Year	\$	9,913,473
	(ii) Current Year – 1		(18,922,274)
	(iii) Current Year – 2		36,999,159
	(iv) Current Year – 3		10,543,678
	(v) Current Year – 4		(68,696,736)
	(vi) Current Year – 5		(44,661,134)
	(vii) Current Year – 6		11,421,699
	(viii) Current Year – 7		1,895,241
(b)	Deferral of Excess (Shortfall):		
	(i) Current Year (90% Deferral)		8,922,126
	(ii) Current Year – 1 (80% Deferral)		(15,137,819)
	(iii) Current Year – 2 (70% Deferral)		25,899,411
	(iv) Current Year – 3 (60% Deferral)		6,326,207
	(v) Current Year – 4 (50% Deferral)		(34,348,368)
	(vi) Current Year – 5 (40% Deferral)		(17,864,454)
	(vii) Current Year – 6 (30% Deferral)		3,426,510
	(viii) Current Year – 7 (20% Deferral)		379,048
	(ix) Total Deferred for the Year	\$	(22,397,339)
(c)	Market Value of Assets as of June 30, 2013		262,620,722
(d)	Actuarial Value of Assets as of June 30, 2013 = (c) – (b)(ix)	\$	285,018,061

5. History of Asset Values and Ratios

Year Ending 06/30	Actuarial Value of Assets	Market Value of Assets	AVA/MVA Ratio
2013	\$ 285,018,061	\$ 262,620,722	108.5%
2012	295,785,765	257,324,263	114.9%
2011	307,536,890	280,855,626	109.5%
2010	319,308,050	250,377,817	127.5%
2009	311,231,629	222,807,994	139.7%
2008	274,902,088	245,171,095	112.1%
2007	231,685,240	243,480,962	95.2%
2006	194,296,619	196,002,336	99.1%

**Arizona State Retirement System
LTD Program Valuation – June 30, 2013**

6. Development of Asset (Gain)/Loss

(a)	Actuarial Value of Assets as of July 1, 2012	\$	295,785,765
(b)	Contributions		42,216,900
(c)	Actual Benefit Payments for 2012/2013		63,612,703
(d)	Administrative Expenses		2,739,277
	Expected Investment Income at 8% Return		
(e)	= ((a) x .08) + ((b) x .08 x 1/2) – ((c) x .08 x 13/24)		<u>22,594,987</u>
	Expected Actuarial Assets as of June 30, 2013		
(f)	= (a) + (b) - (c) - (d) + (e)	\$	294,245,672
(g)	(Gain)/Loss on Actuarial Assets		<u>9,227,611</u>
	Actuarial Assets as of June 30, 2013		
(h)	= (f) - (g)	\$	285,018,061

The asset loss occurred because investment earnings on actuarial assets were less than expected. The actual net return on actuarial assets was 4.73%, compared to the assumption of 8.00%. The actual net return on market value of assets was 12.06%, compared to the assumption of 8.00%.

7. Analysis of Offsets

As of June 30, 2013			Average
Description of Offset	Total Amount of	Number	Amount of
from Sedgwick	Monthly Offsets	of Offsets	Monthly Offsets
Social Security Disability	\$ 2,721,067	3,178	\$ 856
Social Security Retirement	93,201	102	914
Other	<u>483,420</u>	<u>971</u>	<u>498</u>
Total	\$ 3,297,688	4,251	\$ 776

As of June 30, 2012			Average
Description of Offset	Total Amount of	Number	Amount of
from Sedgwick	Monthly Offsets	of Offsets	Monthly Offsets
Social Security Disability	\$ 2,677,627	3,312	\$ 808
Social Security Retirement	119,230	128	931
Other	<u>472,513</u>	<u>1,002</u>	<u>472</u>
Total	\$ 3,269,370	4,442	\$ 736

SCHEDULE OF FUNDING PROGRESS

(Dollar Amounts in Thousands)

Valuation as of June 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b – a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as % of Covered Payroll ((b – a) / c)
2004*	\$ 137,861	\$ 544,205	\$ 406,344	25.33%	\$ 7,458,590	5.4%
2005	\$ 164,834	\$ 577,405	\$ 412,572	28.55%	\$ 8,032,458	5.1%
2006	\$ 194,297	\$ 574,701	\$ 380,404	33.81%	\$ 8,311,870	4.6%
2007	\$ 231,685	\$ 604,486	\$ 372,800	38.33%	\$ 9,161,804	4.1%
2008	\$ 274,902	\$ 553,185	\$ 278,283	49.69%	\$ 9,708,353	2.9%
2009	\$ 311,232	\$ 476,276	\$ 165,044	65.35%	\$ 9,834,810	1.7%
2010	\$ 319,308	\$ 477,266	\$ 157,958	66.90%	\$ 9,419,952	1.7%
2011	\$ 307,537	\$ 455,695	\$ 148,158	67.49%	\$ 9,060,631	1.6%
2012	\$ 295,786	\$ 439,706	\$ 143,920	62.27%	\$ 8,868,678	1.6%
2013	\$ 285,018	\$ 332,597	\$ 47,579	85.69%	\$ 8,752,783	0.5%

* The 2004 valuation results are from a study of the effects of adopting GASB #43. The formal 2004 valuation report did not use the GASB methodology.

**Arizona State Retirement System
LTD Program Valuation – June 30, 2013**

SCHEDULE OF BENEFIT RECIPIENTS ADDED TO AND REMOVED FROM ROLLS

Valuation as of June 30	Added to Rolls		Removed from Rolls		Rolls – End of Year		Percent Increase in Annual Allowances	Average Annual Allowances
	Number	Annual* Allowances	Number	Annual** Allowances	Number	Annual* Allowances		
2002	N/A	N/A	N/A	N/A	4,290	\$ 55,341,168	N/A	\$ 12,900
2003	1,001	\$ 13,286,461	730	\$ 12,430,021	4,561	\$ 56,197,608	1.5%	\$ 12,321
2004	865	\$ 14,403,292	742	\$ 9,301,684	4,684	\$ 61,299,216	9.1%	\$ 13,087
2005	926	\$ 15,285,111	671	\$ 11,000,763	4,939	\$ 65,583,564	7.0%	\$ 13,279
2006	840	\$ 16,021,268	761	\$ 12,191,399	5,018	\$ 69,413,433	5.8%	\$ 13,833
2007	800	\$ 15,958,305	747	\$ 13,060,111	5,071	\$ 72,311,627	4.2%	\$ 14,260
2008	640	\$ 12,610,021	829	\$ 16,270,484	4,882	\$ 68,651,164	(5.1%)	\$ 14,062
2009	723	\$ 15,966,067	893	\$ 13,502,776	4,712	\$ 71,114,455	3.6%	\$ 15,092
2010	789	\$ 17,200,407	777	\$ 15,066,829	4,724	\$ 73,248,033	3.0%	\$ 15,506
2011	752	\$ 15,000,150	867	\$ 18,071,429	4,609	\$ 70,176,754	(4.2%)	\$ 15,226
2012	709	\$ 14,394,030	878	\$ 16,419,214	4,440	\$ 68,151,570	(2.9%)	\$ 15,349
2013	735	\$ 15,094,316	868	\$ 17,168,470	4,307	\$ 66,077,416	(3.0%)	\$ 15,342

* Reflects actual, but not assumed, benefit offsets. Does not include overpayment offsets.

** Includes changes in benefit amounts.

SOLVENCY TEST

(Dollar Amounts in Thousands)

Valuation as of June 30	Aggregate Accrued Liability for:			Net Assets Available for Benefits	Portion of Accrued Liabilities Covered by Net Assets Available for Benefits		
	Active Member Contributions (1)	Retirees and Beneficiaries (2)	Active Members (Employer-Financed Portion) (3)		(1)	(2)	(3)
2004 *	0	\$ 243,713	\$ 300,492	\$ 137,861	100%	57%	0%
2005	0	\$ 258,735	\$ 318,670	\$ 164,834	100%	64%	0%
2006	0	\$ 247,577	\$ 327,124	\$ 194,297	100%	78%	0%
2007	0	\$ 274,947	\$ 329,539	\$ 231,685	100%	84%	0%
2008	0	\$ 233,871	\$ 319,315	\$ 274,902	100%	100%	13%
2009	0	\$ 235,921	\$ 240,355	\$ 311,232	100%	100%	31%
2010	0	\$ 242,098	\$ 235,168	\$ 319,308	100%	100%	33%
2011	0	\$ 234,155	\$ 221,540	\$ 307,537	100%	100%	33%
2012	0	\$ 224,090	\$ 215,616	\$ 295,786	100%	100%	33%
2013	0	\$ 207,331	\$ 125,265	\$ 285,018	100%	100%	62%

* The 2004 valuation results are from a study of the effects of adopting GASB No. 43. The formal 2004 valuation report did not use the GASB methodology.

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ANALYSIS OF FINANCIAL EXPERIENCE

(Dollar Amounts in Thousands)

Valuation as of June 30	Unfunded Actuarial Liability (UAAL) Prior Year	Normal Cost for the Year	Contributions for the Year	Interest at 8% on UAAL	Interest at 8% on Normal Cost	Interest at 8% on Contributions	Total Interest	Expected UAAL	Actual UAAL	Gain (Loss) for the Year*
2005	\$ 406,344	\$ 41,395	\$ (77,963)	\$ 32,508	\$ 3,312	\$ (3,119)	\$ 32,701	\$ 402,477	\$ 412,572	\$ (10,095)
2006	\$ 412,572	\$ 44,870	\$ (82,377)	\$ 33,006	\$ 3,590	\$ (3,295)	\$ 33,301	\$ 408,366	\$ 380,404	\$ 27,962
2007	\$ 380,404	\$ 45,907	\$ (89,037)	\$ 30,432	\$ 3,673	\$ (3,561)	\$ 30,544	\$ 367,818	\$ 372,800	\$ (4,982)
2008	\$ 372,800	\$ 47,774	\$ (94,342)	\$ 29,824	\$ 3,822	\$ (3,774)	\$ 29,872	\$ 356,104	\$ 278,283	\$ 77,821
2009	\$ 278,283	\$ 46,424	\$ (94,425)	\$ 22,263	\$ 3,714	\$ (3,777)	\$ 22,200	\$ 252,482	\$ 165,044	\$ 87,438
2010	\$ 165,044	\$ 33,520	\$ (71,877)	\$ 13,204	\$ 2,682	\$ (2,875)	\$ 13,011	\$ 139,698	\$ 157,958	\$ (18,260)
2011	\$ 157,958	\$ 30,456	\$ (43,379)	\$ 12,637	\$ 2,437	\$ (1,735)	\$ 13,339	\$ 158,374	\$ 148,158	\$ 10,216
2012	\$ 148,158	\$ 28,165	\$ (41,997)	\$ 11,853	\$ 2,253	\$ (1,680)	\$ 12,426	\$ 146,752	\$ 143,920	\$ 2,832
2013	\$ 143,920	\$ 25,723	\$ (42,217)	\$ 11,514	\$ 2,058	\$ (1,689)	\$ 11,883	\$ 139,309	\$ 47,579	\$ 91,730

* Includes plan or assumption changes as well as the gain/(loss) due to the difference between the expected and actual benefit payments. The cumulative net gain since July 1, 2004 is \$264,662,000.

STATEMENT OF ACTUARIAL METHODS AND ASSUMPTIONS

We have prepared this report on our actuarial valuation of the assets and liabilities of the Arizona State Retirement System LTD Program as of June 30, 2013 in accordance with generally accepted actuarial principles and with the requirements of GASB #43.

The actuarial assumptions and methods on which our valuation has been based are, in our opinion, appropriate for the purpose of our current valuation. The ASRS Board adopted the assumptions used in this valuation in its meeting on May 24, 2013.

We have not audited the data or the asset information used in this valuation but believe them to be complete and accurate. Refer to Section 10.1 of the Arizona State Retirement System Actuarial Report of the Plan as of June 30, 2013 for information on missing data assumptions used for active members.

SUMMARY OF ACTUARIAL METHODS

Cost Method

The actuarial cost method is the projected unit credit method. Benefits are attributed from hire to expected date of disability.

Asset Valuation Method

Assets are valued at market less (or plus) an adjustment to reflect investment gains (or losses) over a 10-year period starting as of June 30, 2006.

Amortization Method

The unfunded actuarial accrued liability is amortized over a closed 15-year period using a level dollar amortization method. This is a change of method that the ASRS Board approved in its November 23, 2013 meeting. Previously, the amortization period was a rolling 15-year period.

SUMMARY OF ACTUARIAL ASSUMPTIONS

The assumptions used in our valuation are as follows:

- Discount Rate** 8% per annum net of investment expenses
- Rates of Termination of Claims in Payment due to Death or Recovery** Prior Assumption: 1987 Commissioners Group Long Term Disability Valuation Table (1987 CGDT) applicable to plans with a six-month elimination period.
- Adopted Assumption: 150% of the Rates in the 1987 Commissioners’ Group Long Term Disability Valuation Table (1987 CGDT) applicable to plans with a six-month elimination period.
- Disability Incidence Rates for Active Members** New rates adopted based on actual disability experience from July 1, 2007 through June 30, 2012. Age-based unisex rates as developed for the Plan. Rates at representative ages are given below:

Prior Assumption:

Age	Males	Females
20	0.04%	0.06%
30	0.05%	0.08%
40	0.16%	0.16%
50	0.38%	0.36%
60	0.90%	0.82%

Adopted Assumption:

Age	Unisex
20	0.05%
30	0.07%
40	0.16%
50	0.36%
60	0.47%

Offsets for Disabled Members

We are assuming that the amounts that Sedgwick reports as offsets (other than overpayment offsets) will continue to apply to each member's benefit until that benefit expires. For members within three years of receipt of LTD benefits, we have adjusted benefit amounts to reflect future offsets, assuming 90% of members will have offsets after 3 years.

We assume that these offsets reduce the gross benefits by 45%. We previously assumed offsets would reduce the gross benefits by 40%. We also assume that the weighted average months of overpayment is equal to 19 months.

These assumptions are reviewed annually.

Offsets for Active Members

We assume that LTD Program benefits, after all applicable offsets are 55% (previously 60%) of the benefits before the offsets. This is the percentage that applies for currently disabled members and is based on the experience study as of June 30, 2012.

Liability Adjustment for Prior Pre-Existing Condition Period

The previously assumed 3% reduction in liabilities is no longer applied as of June 30, 2013.

Incurred But Not Reported (IBNR)

The liability for new LTD recipients was loaded by 20% to reflect IBNR. Previously, there was no load for IBNR.

Alternate Contribution Rate

We have adjusted the past service contribution rate to consider alternate contribution rate payments. Previously, there was no adjustment made for alternate contribution rate payments.

Mid-Year Timing

We have adjusted the contribution rates to anticipate contributions being made throughout the year. Previously, these payments were not adjusted for mid-year payment.

All other assumptions are the same as those used in the valuation of the Plan. Refer to *Section 9 - Summary of Actuarial Methods and Assumptions* of the Arizona State Retirement System Actuarial Report on the Valuation of the Plan as of June 30, 2013 for more information on the actuarial assumptions.

SUMMARY OF LTD PROVISIONS

The Arizona State Retirement System (ASRS) Long Term Disability (LTD) Program began on July 1, 1995. The program covers ASRS LTD Program participants who become disabled on or after July 1, 1995. ASRS members who were receiving LTD benefits prior to July 1, 1995, were transferred to the program on October 1, 1995. Contributions began July 1, 1995, and are now paid 50% by employers and 50% by active members.

Below we have summarized the main provisions of the LTD Program.

Effective Date	The plan was established effective July 1, 1995.
Participation	To be eligible, members must be actively at work and engaged to work at least 20 weeks in a fiscal year and at least 20 hours each week. Coverage is contingent on payment of premiums.
Contributions	<p>Members are required to contribute to the LTD Program in accordance with the schedule ratified each year by the Board. The FY15 rate is 0.12% of payroll.</p> <p>Employers have equal contributions and the Board allocates all contributions to the LTD Program's depository.</p>
Qualifications for Benefit	<p>Monthly benefits are not payable until a member has been totally disabled for a period of six consecutive months.</p> <p>Monthly benefits are not payable to a member whose disability is due to the following:</p> <ol style="list-style-type: none">1. an intentionally self-inflicted injury;2. war, whether declared or not;3. an injury incurred while engaged in a felonious criminal act or enterprise;4. for employees hired on or after July 1, 1988, any injury, sickness, or pregnancy for which you received medical treatment within three months prior to the effective date coverage began under the LTD Income Plan. Except for any employee who becomes an active contributing member on or after July 1, 2008 and receives medical treatment within six months prior to the date coverage begins under the LTD Income Plan. This exclusion does not apply to a disability commencing after a person has been an active contributing member of a participating employer for twelve continuous months. <p>Monthly benefits are not payable to a member who is receiving retirement benefits from ASRS.</p>

Totally Disabled

A member is considered totally disabled if:

1. during the first thirty months of a period of disability, the member is unable to perform all duties of the position held by the member when the member became totally disabled; and
2. for a member who has received monthly benefits for 24 or more total months, that a member is unable to perform any work for compensation or gain for which the member is reasonably qualified by education, training, or experience.

Benefit Amount

Benefits payable from the plan equal two-thirds of a member's monthly compensation at the time of disability. Benefits are offset by:

1. 85% of Social Security disability benefits that the member or the member's dependents are eligible to receive;
2. 85% of Social Security retirement benefits that the member is eligible to receive;
3. all of any worker's compensation benefits;
4. all of any payments for a veteran's disability if both of the following apply:
 - a) the veteran's disability payment is for the same condition or a condition related to the condition currently causing the member's total disability;
 - b) the veteran's disability is due to service in the armed forces of the United States;
5. all of any other benefits by reason of employment that are financed partly or wholly by an employer including payments for sick leave; and
6. 50% of any salary, wages, commissions, or similar pay that the member receives or is entitled to receive from any gainful employment in which the member engages.

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Benefit Period

Monthly benefits cease to be payable to a member at the earliest of the following:

1. the date the member ceases to be totally disabled;
2. the date the member ceases to be under the direct care of a doctor or refuses to undergo any medical examination requested by the company selected by the Board to administer the LTD Program;
3. the date the member withdraws employee contributions with interest from the Plan and ceases to be a member; and
4. the later of following:
 - a) the member's normal retirement date;
 - b) the month following 60 months of payments if disability occurs before age 65;
 - c) the month following attainment of age 70 if disability occurs at age 65 or after but before age 69;
 - d) the month following twelve-months of payments if disability occurs at or after age 69.

Expenses

Expenses associated with the operation of the LTD Program are payable by the LTD Program. The fee schedule is as follows:

Administrative:	\$13,000/month
New Claims Fee:	\$420/claim
Claims Management:	\$29/claim/month

**Change in LTD Terms
Since the Prior Valuation**

No changes have been made since the last valuation on June 30, 2012.

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DATA

The June 30, 2013 Actuarial Valuation of the ASRS LTD Program was based on the following data. For comparison, we also show a summary of the June 30, 2012 data.

Summary of LTD Open Claim Members

	<u>June 30, 2012</u>	<u>June 30, 2013</u>	<u>Percentage Increase</u> <u>During the Period</u>
Number	4,440	4,307	(3.0%)
Average age	54.4	54.5	0.2%
Average monthly benefit before Offset Assumption	\$ 1,279	\$ 1,278	(0.1%)
Total monthly benefit before Offset Assumption	\$ 5,679,000	\$ 5,506,000	(3.0%)
Average Offset Assumption	\$ 107	\$ 128	19.6%
Total Offset Assumption	\$ 476,000	\$ 555,000	16.6%
Average monthly benefit	\$ 1,172	\$ 1,150	(1.9%)
Total monthly benefit	\$ 5,203,000	\$ 4,951,000	(4.8%)

LTD Open Claim Statistics

(1) Year Ended June 30	(2) Number of Open Claims	(3) Number of Active Members	(4) Disabled Ratio [(2)÷(3)]	(5) Open Claims Reserve Liability (\$ Millions)	(6) Active Payroll (\$ Millions)	(7) Ratio [(5)÷(6)]
2002	4,290	198,870	2.16%	\$208.8	\$6,989.3	2.99%
2003	4,561	202,398	2.25%	\$222.7	\$7,296.8	3.05%
2004	4,684	205,482	2.28%	\$237.7	\$7,485.6	3.18%
2005	4,939	212,202	2.33%	\$252.4	\$8,032.5	3.14%
2006	5,018	217,676	2.31%	\$241.3	\$8,311.9	2.90%
2007	5,071	224,001	2.26%	\$267.6	\$9,161.8	2.92%
2008	4,882	226,415	2.16%	\$226.9	\$9,708.4	2.34%
2009	4,712	222,515	2.12%	\$229.4	\$9,834.8	2.33%
2010	4,724	213,530	2.21%	\$235.5	\$9,420.0	2.50%
2011	4,609	208,939	2.21%	\$227.7	\$9,060.6	2.51%
2012	4,440	203,994	2.18%	\$217.9	\$8,868.7	2.46%
2013	4,307	202,693	2.12%	\$201.7	\$8,752.8	2.30%

Summary of Active Members

The active member data used for the LTD program valuation is the same as the active member data used in the valuation of the Plan. There were 202,693 active members as of June 30, 2013 and their payroll was \$8,752,783,004. Refer to *Section 10 – Member Data* of the Arizona State Retirement System Actuarial Report on the Valuation of the Plan as of June 30, 2013 for more information on the active member data.

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Data from Sedgwick details the offsets applied to the LTD benefits, as summarized below:

<u>DESCRIPTION OF OFFSET FROM SEDGWICK</u>	<u>Total Amount of Monthly Offsets</u>	<u>Number of Offsets</u>
Third Party Administrator	\$ 495	2
Ending Payout	380	1
Estimated Social Security	7,405	9
Family Social Security	157,438	407
Overpayment - Miscellaneous	1,202	4
Overpayment - Social Security	4,908	26
Overpayment - Workers' Compensation	7	1
Pension Disability Payment	2,988	2
Post Tax Overpayment - Miscellaneous	13,702	36
Post Tax Overpayment - Social Security	99,292	240
Post Tax Overpayment - Workers' Compensation	3,875	11
Post Tax Overpayment - Retirement	134	1
Short Term Disability Payment	6,083	4
Simultaneous Coverage By State	3,120	3
Sick Pay Received	2,210	4
Social Security - Retirement	93,201	102
Social Security - Disability	2,721,067	3,178
State Disability Payment	200	1
Veterans Admin Disability	18,723	20
Wages - 2nd Employer	433	3
Wages - RTW Different Employer	10,359	26
Wages - RTW Same Employer	26,962	20
Workers' Compensation Temporary Disability	54,446	40
Workers' Compensation Lump Sum Award	3,631	5
Workers' Compensation Permanent Disability	<u>65,427</u>	<u>105</u>
Total	\$ 3,297,688	4,251

**Arizona State Retirement System
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SUMMARY OF COUNTS AND PAYMENTS BY DURATION AND AGE

The following tables illustrate the counts and net monthly payment by duration and age as of June 30, 2013.

Duration in Years

Age at Disability	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8+	Total
<30	0	8	3	9	8	9	10	5	72	124
	\$ 0	\$ 11,233	\$ 5,008	\$ 7,845	\$ 8,966	\$ 12,980	\$ 9,591	\$ 3,234	\$ 60,721	\$ 119,578
30-39	25	32	31	40	37	29	30	34	439	697
	\$ 47,075	\$ 51,122	\$ 36,527	\$ 53,686	\$ 44,368	\$ 39,374	\$ 38,283	\$ 32,969	\$ 410,707	\$ 754,111
40-49	67	131	135	118	120	86	92	98	600	1,447
	\$ 124,613	\$ 202,703	\$ 188,257	\$ 141,480	\$ 134,940	\$ 127,364	\$ 118,427	\$ 121,568	\$ 585,520	\$ 1,744,872
50-59	125	279	279	284	219	171	74	73	74	1,578
	\$ 285,819	\$ 452,626	\$ 361,195	\$ 373,939	\$ 261,993	\$ 242,333	\$ 102,863	\$ 75,117	\$ 84,781	\$ 2,240,666
>59	66	108	85	91	77	34	0	0	0	461
	\$ 112,709	\$ 153,571	\$ 123,722	\$ 103,841	\$ 102,386	\$ 50,995	\$ 0	\$ 0	\$ 0	\$ 647,224
Total	283	558	533	542	461	329	206	210	1,185	4,307
	\$ 570,216	\$ 871,255	\$ 714,709	\$ 680,791	\$ 552,653	\$ 473,046	\$ 269,164	\$ 232,888	\$ 1,141,729	\$ 5,506,451