REPORT ON ACTUARIAL VALUATION AS OF JANUARY 1, 2009

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I. INTRODUCTION

This report summarizes the results of our actuarial valuation of the State of Wyoming Retirement System (the System) as of January 1, 2009. The contribution requirements presented in Section VI of the report are based on the following:

- 1. The benefit provisions of the System as of January 1, 2009.
- 2. The characteristics of covered active employees, inactive nonretired members, and pensioners and beneficiaries as of January 1, 2009.
- 3. The assets of the System as of December 31, 2008.
- 4. Economic actuarial assumptions regarding future salary increases and investment earnings.
- 5. Other actuarial assumptions regarding employee termination, retirement disability, death, etc.

One purpose of the actuarial valuation is to determine the contribution sufficient to meet the long-term obligations to the members covered by the System in accordance with the benefit provisions of the Wyoming Retirement Act.

If each of the actuarial assumptions were to be exactly fulfilled, the true actuarial cost of the System would equal the cost projected by the actuarial calculations. However, because of the length of time for which projections are made, and because of the great number of variables which can affect the emerging costs, the actual experience of the System will not match the assumptions. The annual required contribution under the maximum COLA scenario will increase if the System experiences net actuarial losses and will decrease if the System experiences net actuarial gains during the year.



II. SUMMARY OF VALUATION RESULTS

This section summarizes financial results for the System based upon actuarial valuations as of January 1, 2009 and January 1, 2008.

Results of the 2009 actuarial valuation are presented in three ways. The first set of results assumes that no future COLA will be granted, the second set assumes only the currently affordable breakeven COLA will be granted in each future year, while the third set is calculated assuming the maximum COLA of 3.00% compounded annually is granted in each future year.

	January 1, 2009 No COLA	January 1, 2009 Break-even No COLA	January 1, 2009 Maximum 3.0% COLA	January 1, 2008 Maximum 3.0% COLA
Contribution Requirements (as % of pay)				
Total Normal Cost	10.10%	10.10%	12.54%	11.00%
Employee Contributions	(5.57%)	(5.57%)	(5.57%)	(5.57%)
Employer Share	4.53%	4.53%	6.97%	5.43%
Amortization of Unfunded Liability	4.45%	4.45%	9.96%	5.19%
Administrative Expenses	0.17%	0.17%	<u> </u>	<u>0.15%</u>
Total Employer Cost	9.15%	9.15%	17.10%	10.77%
Statutory Contribution Rate	(5.68%)	(5.68%)	(5.68%)	(5.68%)
Shortfall/(Surplus)	3.47%	3.47%	11.42%	5.09%
Funded Status				
Actuarial Value of Assets (AV)	\$ 4,835,875,000	\$ 4,835,875,000	\$ 4,835,875,000	\$ 5,654,023,000
Actuarial Accrued Liability (AAL)	6,152,122,000	6,152,122,000	7,781,095,000	6,991,425,000
Unfunded Actuarial Accrued Liability (UAAL)	1,316,247,000	1,316,247,000	2,945,220,000	1,337,402,000
AAL Funded Percentage (AV ÷ AAL)	78.6%	78.6%	62.1%	80.9%
Market Value of Assets (MV)	\$ 4,029,896,000	\$ 4,029,896,000	\$ 4,029,896,000	\$ 5,768,482,000
AAL Funded Percentage on MV Basis (MV ÷ AAL)	65.5%	65.5%	51.8%	82.5%

As you can see from the table above, the total employer cost assuming No COLA is greater than the statutorily required contribution. This means that no break-even COLA is affordable under the System. This result is due primarily to large asset losses. Even though the asset losses are being smoothed, the asset method prevents the actuarial value from being more than 20% higher or lower than the market value so the full effect of the smoothing is dampened. It is unlikely that a COLA will be payable for several years unless there is a significant market recovery.



III. MEMBERSHIP CHARACTERISTICS

As of January 1, 2009, there were 35,021 employees in active service covered under the provisions of the System. The significant age, service, salary and accumulated contribution information for these employees is summarized below, along with comparative figures from the last actuarial valuation one year earlier.

	January 1, 2009	January 1, 2008
Number of active employees	35,021	34,482
Average age	46.5	46.6
Average years of service	10.2	10.4
Average entry age	36.3	36.2
Total annual valuation salary*	\$1,585,727,706	\$1,462,473,682
Average annual salary	\$ 45,279	\$ 42,413
Total accumulated contributions	\$1,036,443,231	\$ 991,443,640
Average accumulated contributions	\$ 29,595	\$ 28,752

^{*} Projected salary for the upcoming valuation year.

The number of active employees increased by 1.6% from the previous valuation. The average age of the active employees decreased by 0.1 years, and the average service decreased by 0.2 years. The average entry age of the active employees increased by 0.1 years. The total annual valuation salary increased by 8.4%. The average salary increased by 6.8% from the previous valuation. The primary reason the annual valuation salary increased is because the salary scale table was changed during the experience analysis. The average salary increase assumption increased from 5.0% to 5.5%.

Distributions of active employees by age, gender, service, and salary are given in Tables 1 through 4 on pages 5 through 8.

For Table 4 on page 8, the salaries shown for active employees are the actual annualized 2008 salaries reported. For calculating active employee liabilities, the actual 2008 salaries reported were increased by the salary scale to approximate a pay rate for 2009.

A reconciliation of the population is given in Table 8 on page 12.



III. MEMBERSHIP CHARACTERISTICS (continued)

In addition to the active members, there were 5,583 inactive vested nonretired members who did not elect to receive their accumulated contributions when they left covered employment. The significant age, service (on date of termination) and accumulated contribution information for these inactive members is summarized below with comparative figures from the last actuarial valuation one year earlier.

	January 1, 2009	January 1, 2008
Number of inactive members	5,583	5,350
Average age	51.7	51.4
Average years of service	9.6	9.6
Total accumulated contributions	\$ 147,721,452	\$ 140,202,264
Average accumulated contributions	\$ 26,459	\$ 26,206

The number of inactive vested members increased by 4.4% from the previous valuation. The average age of the inactive vested members increased by 0.3 years and the average service remained the same. The total accumulated contributions for these members increased by 5.4% from the previous valuation.

Distributions of inactive members by age, gender, and service are given in Tables 5 through 7 on page 9 through 11.

There were 19,395 inactive nonvested nonretired members who are due a refund of their accumulated contributions with interest of \$27,124,763.



EMPLOYEES IN ACTIVE SERVICE ON JANUARY 1, 2009

MALES

				Years of	Service				
Age Last Birthday	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
15-19	43	0	0	0	0	0	0	0	43
20-24	313	5	0	0	0	0	0	0	318
25-29	785	99	2	0	0	0	0	0	886
30-34	698	345	55	0	0	0	0	0	1,098
35-39	586	342	269	57	0	0	0	0	1,254
40-44	542	295	240	270	72	5	0	0	1,424
45-49	582	302	238	261	244	149	7	0	1,783
50-54	531	315	223	257	272	363	105	0	2,066
55-59	466	282	205	249	265	318	238	41	2,064
60-64	297	177	124	159	128	158	110	46	1,199
Over 64	155	105	61	28	42	20	16	21	448
Total	4,998	2,267	1,417	1,281	1,023	1,013	476	108	12,583

Average Age = 47.2

EMPLOYEES IN ACTIVE SERVICE ON JANUARY 1, 2009

FEMALES

				Years of	Service				
Age Last Birthday	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
15-19	46	0	0	0	0	0	0	0	46
20-24	760	5	0	0	0	0	0	0	765
25-29	1,526	210	1	0	0	0	0	0	1,737
30-34	1,302	600	90	1	0	0	0	0	1,993
35-39	1,290	627	357	81	2	0	0	0	2,357
40-44	1,106	651	340	302	69	8	0	0	2,476
45-49	1,157	779	552	429	320	194	10	0	3,441
50-54	966	685	643	529	431	498	177	9	3,938
55-59	660	532	483	517	515	484	267	49	3,507
60-64	306	280	217	254	254	212	135	63	1,721
Over 64	114	100	54	64	49	41	25	10	457
Total	9,233	4,469	2,737	2,177	1,640	1,437	614	131	22,438

Average Age = 46.1

EMPLOYEES IN ACTIVE SERVICE ON JANUARY 1, 2009

MALES AND FEMALES COMBINED

				Years of	Service	_		_	
Age Last Birthday	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
15-19	89	0	0	0	0	0	0	0	89
20-24	1,073	10	0	0	0	0	0	0	1,083
25-29	2,311	309	3	0	0	0	0	0	2,623
30-34	2,000	945	145	1	0	0	0	0	3,091
35-39	1,876	969	626	138	2	0	0	0	3,611
40-44	1,648	946	580	572	141	13	0	0	3,900
45-49	1,739	1,081	790	690	564	343	17	0	5,224
50-54	1,497	1,000	866	786	703	861	282	9	6,004
55-59	1,126	814	688	766	780	802	505	90	5,571
60-64	603	457	341	413	382	370	245	109	2,920
Over 64	269	205	115	92	91	61	41	31	905
Total	14,231	6,736	4,154	3,458	2,663	2,450	1,090	239	35,021

Average Age = 46.5

SALARY OF EMPLOYEES IN ACTIVE SERVICE ON JANUARY 1, 2009 ALL MEMBERS

Age	Last				Years of \$					
Birtl	hday	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
15-19	Number	89	0	0	0	0	0	0	0	89
	Tot Salary	\$1,261,105	\$0	\$0	\$0	\$0	\$0	\$0		\$1,261,105
	Avg. Salary	\$14,170	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$14,170
20-24	Number	1,073	10	0	0	0	0	0	0	1,083
	Tot. Salary	\$28,630,922	\$371,222	\$0	\$0	\$0	\$0	\$0	\$0	\$29,002,144
	Avg. Salary	\$26,683	\$37,122	\$0	\$0	\$0	\$0	\$0	\$0	\$26,779
25-29	Number	2,311	309	3	0	0	0	0	0	2,623
	Tot. Salary	\$81,555,430	\$12,759,159	\$120,988	\$0	\$0	\$0	\$0	\$0	\$94,435,577
	Avg. Salary	\$35,290	\$41,292	\$40,329	\$0	\$0	\$0	\$0	\$0	\$36,003
30-34	Number	2,000	945	145	1	0	0	0	0	3,091
	Tot. Salary	\$70,415,800	\$44,451,202	\$7,066,538	\$48,648	\$0		\$0		\$121,982,188
	Avg. Salary	\$35,208	\$47,038	\$48,735	\$48,648	\$0	\$0	\$0	\$0	\$39,464
35-39	Number	1,876	969	626	138	2	0	0	0	3,611
	Tot. Salary	\$64,529,457	\$44,347,416	\$34,179,283	\$7,452,357	\$77,698	\$0	\$0	\$0	\$150,586,211
	Avg. Salary	\$34,397	\$45,766	\$54,599	\$54,003	\$38,849	\$0	\$0	\$0	\$41,702
40-44	Number	1,648	946	580	572	141	13	0	0	3,900
	Tot. Salary	57,800,695	\$39,674,004	\$30,053,900	\$33,877,852	\$7,421,250	\$635,081	\$0	\$0	\$169,462,782
	Avg. Salary	\$35,073	\$41,939	\$51,817	\$59,227	\$52,633	\$48,852	\$0	\$0	\$43,452
45-49	Number	1,739	1,081	790	690	564	343	17	0	5,224
	Tot. Salary	58,631,208	\$41,942,826	\$36,131,438		\$33,535,549	\$20,333,001	\$834,281	\$0	\$228,303,435
	Avg. Salary	\$33,715	\$38,800	\$45,736	\$53,471	\$59,460	\$59,280	\$49,075	\$0	\$43,703
50-54	Number	1,497	1,000	866	786	703	861	282	9	6,004
	Tot. Salary	\$52,452,822	39,858,226	37,676,127	\$39,086,252	\$39,345,570	\$54,707,287	\$16,994,307	\$559,909	\$280,680,500
	Avg. Salary	\$35,039	\$39,858	\$43,506	\$49,728	\$55,968	\$63,539	\$60,264	\$62,212	\$46,749
55-59	Number	1,126	814	688	766	780	802	505	90	5,571
	Tot. Salary	\$39,218,038	\$31,419,860	29,955,619	\$37,683,601	41,176,358	\$48,716,788	33,635,341	5,935,003	\$267,740,608
	Avg. Salary	\$34,830	\$38,599	\$43,540	\$49,195	\$52,790	\$60,744	\$66,605	\$65,944	\$48,060
60-64	Number	603	457	341	413	382	370	245	109	2,920
	Tot. Salary	\$19,481,241	\$17,969,796	\$14,735,722	\$19,788,965	\$19,754,705	\$20,861,984	\$14,541,308	\$7,136,868	\$134,270,589
	Avg. Salary	\$32,307	\$39,321	\$43,213		\$51,714	\$56,384	\$59,352	\$65,476	\$45,983
Over 64	Number	269	205	115	92	91	61	41	31	905
	Tot. Salary	\$6,433,210	\$6,063,013	\$4,083,197	\$3,553,143	\$4,013,842	3,006,043	\$2,015,802	\$2,049,293	\$31,217,543
	Avg. Salary	\$23,915	\$29,576	\$35,506		\$44,108	\$49,279	\$49,166	\$66,106	\$34,495
Total	Number	14,231	6,736	4,154	3,458	2,663	2,450	1,090	239	35,021
	Tot. Salary	\$480,409,928	\$278,856,724	\$194,002,812				\$68,021,039	\$15,681,073	\$1,508,942,682
	Avg. Salary	\$33,758	\$41,398	\$46,703	\$51,586	\$54,572	\$60,514	\$62,405	\$65,611	\$43,087

Average Age = 46.5



DEFERRED VESTED MEMBERS ON JANUARY 1, 2009

MALES

				Years of	Service				
Age Last Birthday	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
15-19	0	0	0	0	0	0	0	0	0
20-24	0	1	0	0	0	0	0	0	1
25-29	12	9	0	0	0	0	0	0	21
30-34	16	43	3	0	0	0	0	0	62
35-39	36	67	14	1	0	0	0	0	118
40-44	31	102	36	12	1	0	0	0	182
45-49	46	134	67	42	14	4	0	0	307
50-54	40	154	98	72	26	10	1	0	401
55-59	64	190	86	57	34	14	1	0	446
60-64	34	63	36	17	9	2	0	1	162
Over 64	19	39	7	4	1	0	0	0	70
Total	298	802	347	205	85	30	2	1	1,770

Average Age = 51.6

DEFERRED VESTED MEMBERS ON JANUARY 1, 2009

FEMALES

				Years of	Service				
Age Last Birthday	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
15-19	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0
25-29	23	19	0	0	0	0	0	0	42
30-34	53	84	2	0	0	0	0	0	139
35-39	77	150	26	1	0	0	0	0	254
40-44	77	195	68	15	1	0	0	0	356
45-49	122	302	151	42	13	3	0	0	633
50-54	119	399	236	97	47	22	1	0	921
55-59	108	395	221	128	79	23	2	0	956
60-64	63	155	69	32	16	8	1	0	344
Over 64	43	88	25	9	1	1	1	0	168
Total	685	1,787	798	324	157	57	5	0	3,813

Average Age = 51.7

DEFERRED VESTED MEMBERS ON JANUARY 1, 2009

MALES AND FEMALES COMBINED

				Years of	Service				
Age Last Birthday	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
15-19	0	0	0	0	0	0	0	0	0
20-24	0	1	0	0	0	0	0	0	1
25-29	35	28	0	0	0	0	0	0	63
30-34	69	127	5	0	0	0	0	0	201
35-39	113	217	40	2	0	0	0	0	372
40-44	108	297	104	27	2	0	0	0	538
45-49	168	436	218	84	27	7	0	0	940
50-54	159	553	334	169	73	32	2	0	1,322
55-59	172	585	307	185	113	37	3	0	1,402
60-64	97	218	105	49	25	10	1	1	506
Over 64	62	127	32	13	2	1	1	0	238
Total	983	2,589	1,145	529	242	87	7	1	5,583

Average Age = 51.7

POPULATION RECONCILIATION

		Inact	ives		Pensi	oners		
	Actives	Non-vested	Vested	Retired	Rehired Retirees	Disabled	Beneficiary	Total
Total as of January 1, 2008	34,482	18,408	5,350	15,589	29	249	1,728	75,835
Retired	(881)	(5)	(245)	1,131	0	0	0	0
Disabled	(9)	0	(1)	0	0	10	0	0
Non-vested Termination	(1,500)	1,500	0	0	0	0	0	0
Vested Termination	(853)	0	853	0	0	0	0	0
Deceased, No Beneficiary	(27)	(14)	(11)	(318)	0	(12)	(86)	(468)
Deceased, with Beneficiary	(9)	0	(1)	(122)	0	(3)	(1)	(136)
Refunded	(785)	(506)	(135)	0	0	0	0	(1,426)
Certain Period Expired	0	0	0	0	0	0	(4)	(4)
Suspended/Rehired Retirees	5	0	0	(5)	5	0	0	5
New Entrant	3,967	394	0	2	0	0	136	4,499
Data Adjustment	47	(22)	(3)	(2)	0	0	7	27
Return to Active	584	(360)	(224)	0	0	0	0	0
Total as of January 1, 2009	35,021	19,395	5,583	16,275	34	244	1,780	78,332

IV. BENEFIT EXPERIENCE

During the year ending December 31, 2008, the Board approved 1,143 pension awards. Of that total, approximately 14% commenced before becoming eligible for unreduced benefits. 35% of new retirees have unreduced benefits due solely to reaching age 60 while 19% of new retirees have attained the rule of 85 without reaching age 60. The remaining 32% of new retirees have reached both age 60 and rule of 85.

On January 1, 2009, a total of 16,553 pensioners were receiving retirement benefits from the System compared to 15,867 receiving benefits one year earlier. The average monthly benefit for the pensioners was \$1,249 compared to \$1,187 one year earlier. In addition, 1,780 beneficiaries were receiving monthly payments at January 1, 2009.

Tables 9 through 17 on pages 14 through 22 show distributions of all retirement benefits in pay status as of January 1, 2009, by monthly benefit, age, gender, and optional form. The information presented may be summarized as follows:

- ♦ Total annual benefits in force as of January 1, 2009 for the 18,333 pensioners and beneficiaries were \$268.9 million.
- ♦ Of the 18,333 pensioners and beneficiaries, approximately 28% are under age 65, 40% are 65 through 74 and 32% are 75 or older.
- ♦ Approximately 48% of the 16,553 pensioners are receiving benefits in either a 50% or 100% joint and survivor annuity, including those with a pop-up feature (options 2, 3, 6 or 7).
- ♦ Approximately 35% of the 18,333 pensioners and beneficiaries were receiving monthly benefits of less than \$600 and 46% were receiving at least \$1,000 per month.
- For members retiring from active service during 2008, the average age of early and normal retirements was 62.
- Benefit payments from System assets in 2008 totaled \$268,232,301, including refund payments of \$9,401,431. In 2007, benefit payments were \$249,765,088, including refund payments of \$9,909,304.

Table 18 on page 23 provides the schedule of pension benefit recipients added to and removed from rolls.



RETIREES AS OF JANUARY 1, 2009

		NUMBER MONTHLY AMOUNT				
	Male	Female	Total	Male	Female	Total
<u>Pensioners</u>						
Option 1	1,664	4,785	6,449	\$2,280,795	\$4,782,789	\$7,063,584
Option 2	3,256	1,738	4,994	5,099,545	1,805,991	6,905,536
Option 3	504	329	833	992,553	413,635	1,406,188
Option 4	292	476	768	367,597	426,877	794,474
Option 5	350	1,101	1,451	463,877	1,003,696	1,467,573
Option 6	762	837	1,599	1,156,468	1,062,934	2,219,402
Option 7	184	275	459	380,211	432,195	812,406
Total	7,012	9,541	16,553	\$10,741,046	\$9,928,117	\$20,669,163
Beneficiaries	302	1,478	1,780	257,134	1,482,151	1,739,285
Grand Total	7,314	11,019	18,333	\$10,998,180	\$11,410,268	\$22,408,448

RETIREE BENEFITS IN FORCE BY AMOUNT AND OPTION TYPE

		F	PENSION O	PTION		PENSION OPTION										
	1	2	3	4	5	6	7	Total								
Males																
Under \$200	113	159	4	33	76	48	2	435								
\$200-\$399	207	322	17	32	103	79	14	774								
\$400-\$599	199	315	36	41	85	88	10	774								
\$600-\$799	169	266	36	31	67	63	13	645								
\$800-\$999	147	244	31	23	46	59	8	558								
\$1,000-\$1,499	244	462	92	52	75	105	22	1,052								
\$1,500-\$1,999	180	413	61	32	42	70	19	817								
\$2,000-\$2,499	151	380	70	18	47	104	31	801								
\$2,500 & Over	275	700	158	42	72	146	65	1,458								
Total	1,685	3,261	505	304	613	762	184	7,314								
Females		<u> </u>														
Under \$200	496	190	10	58	280	61	8	1,103								
\$200-\$399	812	305	41	104	418	121	14	1,815								
\$400-\$599	736	237	34	81	368	94	24	1,574								
\$600-\$799	596	162	44	63	315	84	27	1,291								
\$800-\$999	415	154	25	43	208	76	27	948								
\$1,000-\$1,499	730	297	65	58	358	118	51	1,677								
\$1,500-\$1,999	428	152	50	24	206	85	40	985								
\$2,000-\$2,499	272	119	35	32	133	86	35	712								
\$2,500 & Over	373	149	28	33	163	116	52	914								
Total	4,858	1,765	332	496	2,449	841	278	11,019								
Males & Females																
Under \$200	609	349	14	91	356	109	10	1,538								
\$200-\$399	1,019	627	58	136	521	200	28	2,589								
\$400-\$599	935	552	70	122	453	182	34	2,348								
\$600-\$799	765	428	80	94	382	147	40	1,936								
\$800-\$999	562	398	56	66	254	135	35	1,506								
\$1,000-\$1,499	974	759	157	110	433	223	73	2,729								
\$1,500-\$1,999	608	565	111	56	248	155	59	1,802								
\$2,000-\$2,499	423	499	105	50	180	190	66	1,513								
\$2,500 & Over	648	849	186	75	235	262	117	2,372								
Total	6,543	5,026	837	800	3,062	1,603	462	18,333								

PENSIONS IN FORCE ON JANUARY 1, 2009 BY OPTION AND NEAREST AGE

MALES

Age Last				Pensior	Option			
Birthday	1	2	3	4	5	6	7	Total
0-49	3	5	0	4	7	1	0	20
50-54	30	50	2	6	6	9	0	103
55-59	119	195	21	25	40	80	18	498
60-64	287	641	59	58	96	237	51	1,429
65-69	378	740	93	71	121	228	58	1,689
70-74	293	665	115	49	117	129	35	1,403
75-79	250	470	90	38	87	63	18	1,016
80-84	184	310	80	34	82	14	4	708
Over 84	141	185	45	19	57	1	0	448
Total	1,685	3,261	505	304	613	762	184	7,314

Average Age = 70.6



PENSIONS IN FORCE ON JANUARY 1, 2009 BY OPTION AND NEAREST AGE

FEMALES

Age Last				Pensior	Option			
Birthday	1	2	3	4	5	6	7	Total
0-49	4	6	0	5	19	1	0	35
50-54	67	43	2	5	28	14	5	164
55-59	309	188	23	45	89	142	33	829
60-64	735	411	70	114	284	334	85	2,033
65-69	988	421	73	106	381	220	92	2,281
70-74	896	277	53	88	438	97	46	1,895
75-79	717	195	56	75	433	27	14	1,517
80-84	574	139	31	40	415	5	2	1,206
Over 84	568	85	24	18	362	1	1	1,059
Total	4,858	1,765	332	496	2,449	841	278	11,019

Average Age = 71.5

PENSIONS IN FORCE ON JANUARY 1, 2009 BY OPTION AND NEAREST AGE

MALES & FEMALES COMBINED

Age Last				Pensior	Option			
Birthday	1	2	3	4	5	6	7	Total
0-49	7	11	0	9	26	2	0	55
50-54	97	93	4	11	34	23	5	267
55-59	428	383	44	70	129	222	51	1,327
60-64	1,022	1,052	129	172	380	571	136	3,462
65-69	1,366	1,161	166	177	502	448	150	3,970
70-74	1,189	942	168	137	555	226	81	3,298
75-79	967	665	146	113	520	90	32	2,533
80-84	758	449	111	74	497	19	6	1,914
Over 84	709	270	69	37	419	2	1	1,507
Total	6,543	5,026	837	800	3,062	1,603	462	18,333

Average Age = 71.2

PENSIONS AWARDED IN 2008 BY OPTION AND MONTHLY AMOUNT MALES & FEMALES COMBINED

Monthly	Pension Option										
Amount	1	2	3	4	5	6	7	Total			
Under \$200	24	14	1	5	11	8	3	66			
\$200-\$399	37	29	2	7	10	23	2	110			
\$400-\$599	35	24	0	5	8	15	1	88			
\$600-\$799	24	22	3	2	2	13	2	68			
\$800-\$999	31	26	2	1	7	13	4	84			
\$1,000-\$1,499	46	46	7	5	10	28	7	149			
\$1,500-\$1,999	43	29	6	3	4	28	5	118			
\$2,000-\$2,499	23	43	7	2	6	22	2	105			
Over \$2,499	95	133	14	10	23	62	18	355			
Total	358	366	42	40	81	212	44	1,143			

PENSIONS AWARDED IN 2008 BY OPTION AND NEAREST AGE

MALES & FEMALES COMBINED

Age Last				Pensior	Option			
Birthday	1	2	3	4	5	6	7	Total
0-49	2	3	0	0	0	1	0	6
50-54	30	28	1	3	4	4	4	74
55-59	93	90	8	12	12	68	11	294
60-64	137	182	23	14	50	104	23	533
65-69	79	50	9	6	9	30	6	189
70-74	11	11	1	1	4	3	0	31
75-79	1	2	0	4	1	1	0	9
80-84	4	0	0	0	1	1	0	6
Over 84	1	0	0	0	0	0	0	1
Total	358	366	42	40	81	212	44	1,143

Average Age = 61.5

AVERAGE MONTHLY BENEFIT OF RETIREES AS OF JANUARY 1, 2009 BY YEARS ELAPSED SINCE RETIREMENT AND BY YEARS OF SERVICE AT RETIREMENT

			Years Elapsed Since Retirement									
Service at Retirement		0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total		
0-4	Number	208	169	164	167	150	86	22	7	973		
	Avg. Benefit	\$221.26	\$198.72	\$204.19	\$158.02	\$194.99	\$181.78	\$136.86	\$269.60	\$194.51		
5-9	Number	670	601	530	509	449	220	135	42	3,156		
	Avg. Benefit	\$408.49	\$362.10	\$333.37	\$322.71	\$329.72	\$290.46	\$272.10	\$290.44	\$346.37		
10-14	Number	630	632	681	598	372	191	100	19	3,223		
	Avg. Benefit	\$711.28	\$624.45	\$619.32	\$582.81	\$563.57	\$452.88	\$449.98	\$366.92	\$608.49		
15-19	Number	694	672	717	437	369	150	64	21	3,124		
	Avg. Benefit	\$1,090.00	\$974.17	\$934.92	\$909.68	\$871.97	\$672.04	\$623.54	\$609.99	\$945.66		
20-24	Number	712	598	534	326	293	97	55	6	2,621		
	Avg. Benefit	\$1,552.49	\$1,370.81	\$1,333.86	\$1,271.11	\$1,249.03	\$884.20	\$831.03	\$811.41	\$1,356.00		
25-29	Number	897	622	480	249	266	75	23	6	2,618		
	Avg. Benefit	\$2,301.24	\$2,055.34	\$1,879.39	\$1,819.89	\$1,598.46	\$1,093.88	\$975.06	\$1,029.78	\$1,999.13		
30-34	Number	694	469	395	238	224	23	5	0	2,048		
	Avg. Benefit	\$3,039.72	\$2,629.86	\$2,638.77	\$2,608.52	\$2,140.95	\$1,485.94	\$1,182.96	\$0.00	\$2,698.13		
35-39	Number	180	93	96	94	30	2	3	2	500		
	Avg. Benefit	\$3,703.03	\$3,226.84	\$3,068.68	\$3,146.59	\$2,494.76	\$1,952.40	\$1,123.32	\$1,373.20	\$3,283.76		
40 and over	Number	33	10	14	4	3	3	3	0	70		
	Avg. Benefit	\$4,327.90	\$3,303.77	\$3,542.48	\$3,223.03	\$2,364.87	\$1,895.10	\$1,349.06	\$0.00	\$3,645.32		
Total	Number	4,718	3,866	3,611	2,622	2,156	847	410	103	18,333		
	Avg. Benefit	\$1,613.56	\$1,284.33	\$1,191.68	\$1,042.61	\$956.11	\$564.83	\$502.72	\$462.72	\$1,222.30		

Average Service at Retirement = 18.5 Average Years Since Retirement = 11.9

DISTRIBUTION OF RETIRED MEMBERS BY DATE OF RETIREMENT BASED ON CALENDAR YEAR

Year of Retirement	<u>Counts</u>	Year of Retirement	<u>Counts</u>
1963	1	1986	398
1964	1	1987	619
1965	0	1988	497
1966	0	1989	461
1967	1	1990	463
1968	0	1991	495
1969	0	1992	614
1970	2	1993	574
1971	35	1994	619
1972	23	1995	1,001
1973	37	1996	651
1974	55	1997	664
1975	57	1998	683
1976	75	1999	711
1977	100	2000	697
1978	120	2001	782
1979	133	2002	773
1980	141	2003	866
1981	188	2004	928
1982	176	2005	875
1983	202	2006	904
1984	284	2007	975
1985	351	2008	1,101

Total: 18,333

SCHEDULE OF PENSION BENEFIT RECIPIENTS ADDED TO AND REMOVED FROM ROLLS

	Add	ded to Rolls	Remov	ed fro	m Rolls*	Rolls	Rolls – End of Year			
Year Ended	No.	Annual Pension Benefits	No.		Annual Pension Benefits	No.	Annual Pension Benefits	 Percent Increase in Annual Pension Benefits 	P	verage Annual ension Benefit
December 31, 2008	1,290	\$ 26,985,322	552	\$	3,650,746	18,333	\$ 268,901,376	9.50%	\$	14,668

^{*} Cost-of-living increases included here.

V. ASSETS

As shown in the auditor's report as of December 31, 2008, net assets totaled \$4,029,895,818 at market value, compared to a value of \$5,768,482,476 as of December 31, 2007. However, a different asset value is used for the actuarial valuation. Effective January 1, 2001, we use a method that adjusts to market value gradually as follows:

Appreciation and depreciation in excess of the expected appreciation, whether realized or unrealized, is spread over five years beginning with the year of occurrence. Interest, dividends, and other income are recognized immediately. The procedure results in recognition of all changes in market value after five years. If the actuarial value is less than 80% or more than 120% of market value, an adjustment will be made to bring it within that range.

The procedure is applied to all investments. The determination of the actuarial value of investments is shown in Table 19 on page 26. Table 20 on page 27 develops the actuarial value of all System assets, including receivables and payables. The asset value on this basis is \$4,835,874,981, which represents a (12.9%) return on the value of \$5,654,022,877 as of December 31, 2007. There is \$1,623 million of deferred losses that will be recognized in future years.

The amount of write-up or write-down (which reflects changing market values) is considered part of the investment income for the year. This procedure treats realized and unrealized capital gains or losses equally. In other words, the sale of a security – either at a gain or loss – has no effect on the value of assets for actuarial purposes. If the market value has gone up, the increase is gradually reflected in the value of the fund's assets; it does not have to be sold for the appreciation to be realized. This automatic reflection of market value appreciation or depreciation should eliminate any need for making investment decisions for the explicit purpose of meeting the investment return assumption.

Chart 1 on page 28 is a graph showing the historical asset values on both actuarial and market value bases. This graph illustrates that the growth of the market value of assets has also been reflected in the actuarial value of assets with less volatility.

The investment portfolio is summarized in Table 21 on page 29. On December 31, 2008, about 53.7% of the assets at market value consisted of equities.

Income and disbursements for 2008 and 2007 on the actuarial value basis are given in Table 22 on page 30. The progress of the fund for the last twenty-three years is provided in Table 23 on page 31. Benefit payments have increased due to the annual COLA increase and the increase in the number of retired members.

Table 24 on page 32 shows the components of investment earnings over the last twenty-three years. Over the full period, the earnings of \$4,856,721,000 on an actuarial value basis represent an average annual return of 8.8% or \$410,412,000 less than anticipated by the assumptions.

These investment results are used to determine whether investment experience is meeting the System's actuarially assumed return.



Market Value Results

The estimated investment returns for the last nineteen years on a *market value basis* as reported by your investment advisors are as follows:

<u>Year</u>	Rate of Return	<u>Year</u>	Rate of Return
1990	5.30%	2000	(0.99%)
1991	20.30%	2001	(4.47%)
1992	8.57%	2002	(9.29%)
1993	10.24%	2003	21.00%
1994	(2.78%)	2004	11.54%
1995	25.90%	2005	8.22%
1996	11.73%	2006	12.63%
1997	20.92%	2007	7.44%
1998	19.02%	2008	(29.63%)
1999	13.88%		

Chart 2 on page 33 provides an illustration of investment returns for the last twenty-two years based on actuarial value and market value versus the expected return. This chart illustrates the smoothing effect that results from using an actuarial value of assets. By using an actuarial value that reduces the year-to-year variations in return, the year-to-year fluctuations in cost are reduced.

The difference between the investment return rates at market value, when compared to similar return rates on the actuarial valuation basis, stems from the inclusion in the market value figures of all capital appreciation or depreciation whereas the results based on the actuarial valuation basis reflect only the write-up/down in accordance with the adopted valuation procedure.



DETERMINATION OF WRITE-UP (DOWN) AMOUNT AND ACTUARIAL VALUE OF INVESTMENTS AS OF DECEMBER 31, 2008 AND 2007

PORTION OF TOTAL APPRECIATION/(DEPRECIATION)

				Dece	mber 31, 2008	Decem	nber 31, 2007
Year Ending	Total Appreciation (Depreciation)	Expected Appreciation	Difference From Expected	% Deferred	\$ Deferred	% Deferred	\$ Deferred
12/31/2004	\$ 377,711,695	\$ 243,214,738	\$ 134,496,957	0%	\$ -	20%	\$ 26,899,391
12/31/2005	261,304,998	266,550,447	(5,245,449)	20%	(1,049,090)	40%	(2,098,180)
12/31/2006	474,959,242	269,097,299	205,861,943	40%	82,344,777	60%	123,517,166
12/31/2007	242,674,199	284,997,672	(42,323,473)	60%	(25,394,084)	80%	(33,858,778)
12/31/2008	(1,785,929,653)	312,555,373	(2,098,485,026)	80%	(1,678,788,021)	0%	<u>-</u>
(b) Sum of E	(b) Sum of Difference From Expected for Last Five Plan Years				\$ (1,622,886,418) (1,805,695,048) (361,139,009)		\$ 114,459,599 748,576,910 149,715,382
					January 1, 2009		<u>January 1, 2008</u>
Market Value	e of Investments				\$ 4,058,985,026		\$5,871,916,032
Less: Deferr	red Appreciation/(De	preciation)			(1,622,886,418)		114,459,599
Preliminary A	Actuarial Value of Inv	estments			\$ 5,681,871,444		\$ 5,757,456,433
Adjustment f	or 20% Corridor				(816,907,255)		0
Actuarial Val	ue of Investments*				\$ 4,864,964,189		\$ 5,757,456,433

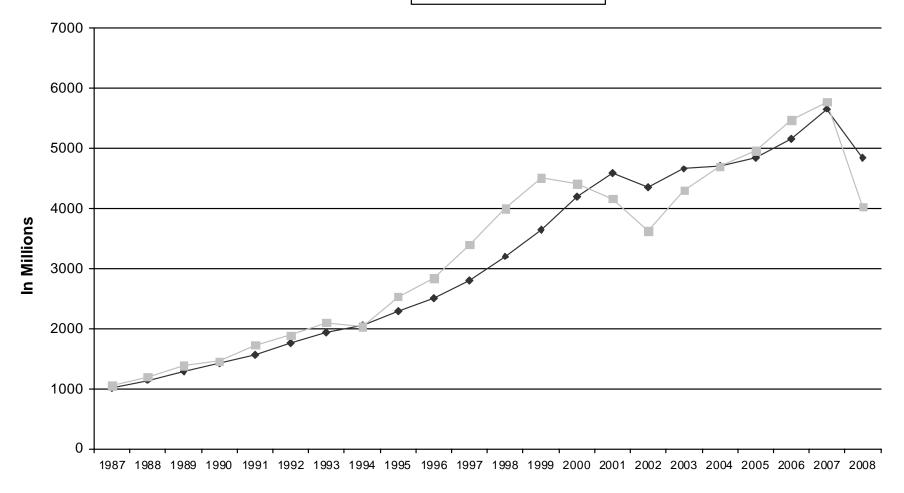
^{*} See Table 20 for actuarial value of assets.

ASSETS OF THE FUND AS OF DECEMBER 31, 2008 AND 2007 (ACTUARIAL VALUE BASIS)

	2	800	2007	
Net Accounts Receivable/(Payable)	\$ (29,0	089,208)	\$ (103,433,556)	
Preliminary Actuarial Value of Investments	5,681,8	871,444	5,757,456,433	
Net Assets	\$ 5,652,	782,236	\$ 5,654,022,877	_
Market Value of Assets	4,029,8	895,818	5,768,482,476	
80% Minimum Actuarial Value	3,223,9	916,655	4,614,785,981	
120% Maximum Actuarial Value	4,835,8	874,981	6,922,178,971	
Adjustment for 20% Corridor	(816,	907,255)	0	
Actuarial Value of Assets	\$ 4,835,8	874,981	\$ 5,654,022,877	

Value of Assets





Year Ended December 31



INVESTMENT PORTFOLIO

December 31, 2008 December 31, 2007 Market Value Market Value Percentage Percentage Type of Investment Distribution Distribution **Amount Amount** 160,779,570 Cash Investments \$ 206,608,124 5.1% 2.7% Fixed Income Investments 1,216,278,818 30.0% 31.4% 1,843,123,984 Real Estate and Alternative Investments 454,335,769 11.2% 345,664,399 5.9% 53.7% 60.0% **Equity Investments** 2,181,762,315 3,522,348,079 Total Investments* 4,058,985,026 100.0% \$ 5,871,916,032 100.0%

^{*} Total market value of assets (after adjusting for accruals) is \$4,029,895,818 and \$5,768,482,476 as of December 31, 2008 and December 31, 2007, respectively.

SUMMARY STATEMENT OF INCOME AND DISBURSEMENTS FOR THE YEARS ENDED DECEMBER 31, 2008 AND 2007 (ACTUARIAL VALUE BASIS)

	Decembe	er 31, 2008	December 31, 2007					
Contribution Income:								
Employer Contributions	\$ 85,938,379		\$ 79,900,428					
Employee Contributions	84,814,014		78,495,298					
Other Contributions	2,513,276		3,248,808					
Total Contribution Income	\$ 173,265,669	-	\$ 161,644,534					
Less: Administrative Expenses	(2,778,990)		(2,005,783)					
Net Contribution Income	-	\$ 170,486,679		\$ 159,638,751				
Investment Income:								
Interest and Dividends	\$ 154,597,557		\$ 160,071,960					
Less: Investment Expenses	(13,578,563)		(13,507,529)					
Net Interest and Dividends	\$ 141,018,994	_	\$ 146,564,431					
Write-Up of Assets	(361,139,009)		149,715,382					
Expected Increase in Asset Value	312,555,373		284,997,672					
Adjustment for 20% Corridor	(816,907,255)		0					
Net Investment Income Before Securities Lending		\$ (724,471,897)		\$ 581,277,485				
Gross Income from Securities Lending	\$ 13,525,887		\$ 28,510,379					
Securities Lending Deductions	(9,456,264)		(26,240,183)					
Net Income from Securities Lending		\$ 4,069,623		\$ 2,270,196				
Total Income Available for Benefit Payments and Reserves		\$ (549,915,595)		\$ 743,186,432				
Benefit Payments:								
Pension Benefits	\$ (258,830,870)		\$ (239,855,784)					
Refunds	(9,401,431)		(9,909,304)					
Total Benefit Payments		\$ (268,232,301)		\$ (249,765,088)				
Addition to Reserve for Future Benefit Payments		\$ (818,147,896)		\$ 493,421,344				
Actuarial Value of Assets, Beginning of Year		5,654,022,877		5,160,601,533				
Actuarial Value of Assets, End of Year		\$ 4,835,874,981	,	\$ 5,654,022,877				

PROGRESS OF THE FUND THROUGH DECEMBER 31, 2008 (ACTUARIAL VALUE BASIS)

Plan Year	Employer Employee Administrative Net Investmer Contributions* Contributions Expenses Income**		et Investment Income**	Benefit Payments			Transfers Out	Fund at Year End			
23 Years Through December 31, 2008	\$	1,176,996,428	\$ 1,163,362,836	\$ (27,652,696)	\$	4,856,721,222	\$	(2,984,132,911)	\$	(115,653,895)	\$ 4,835,874,981
As of											
December 31, 1985	\$		\$ 	\$ 	\$		\$		\$		\$ 766,233,997***
December 31, 1986		41,364,465	36,365,804	(782,000)		98,998,090		(42,082,765)			900,097,591
December 31, 1987		39,901,834	36,039,418	(808,023)		91,374,783		(50,604,364)			1,016,001,239
December 31, 1988		38,414,939	33,222,264	(444,343)		103,025,282		(48,627,479)			1,141,591,902
December 31, 1989		36,139,394	36,231,108	(424,136)		128,370,680		(55,459,353)			1,286,449,595
December 31, 1990		38,668,634	38,960,372	(850,148)		114,218,588		(61,154,261)			1,416,292,780
December 31, 1991		38,903,350	39,288,267	(863,301)		148,064,188		(69,348,501)			1,572,336,783
December 31, 1992		42,354,843	42,883,874	(909,653)		175,246,400		(75,211,430)			1,756,700,817
December 31, 1993		41,596,571	42,266,219	(801,026)		189,281,426		(82,480,713)			1,946,563,294
December 31, 1994		42,791,243	43,415,880	(888,518)		136,210,578		(89,707,717)			2,078,384,760
December 31, 1995		43,714,263	44,435,762	(937,480)		230,731,781		(99,689,985)			2,296,639,101
December 31, 1996		43,495,146	44,761,611	(1,028,163)		233,212,720		(108,536,621)			2,508,543,794
December 31, 1997		44,958,544	46,152,691	(1,147,818)		314,340,179		(117,126,096)			2,795,721,294
December 31, 1998		46,183,091	47,366,181	(1,074,562)		436,098,461		(123,858,991)	58,991)		3,200,435,474
December 31, 1999		48,681,209	50,106,535	(1,182,899)		475,758,627		(132,428,572)			3,641,370,374
December 31, 2000		50,539,675	51,868,059	(1,096,747)		592,379,739		(144,620,949)			4,190,440,151
December 31, 2001		56,517,377	53,792,429	(1,387,930)		439,286,379		(156,189,100)			4,582,462,306
December 31, 2002		57,377,428	58,234,324	(1,281,554)		(66,209,697)		(171,160,286)		(106,978,719)	4,352,423,802
December 31, 2003		55,363,788	60,848,296	(1,435,922)		376,524,142		(185,826,481)			4,657,897,625
December 31, 2004		60,573,670	61,412,824	(1,644,382)		127,831,761		(201,772,174)			4,704,299,324
December 31, 2005		65,191,670	63,381,309	(1,930,627)		238,882,774		(217,308,520)		(8,655,176)	4,843,861,114
December 31, 2006		72,664,403	69,020,297	(1,949,051)		409,948,934		(232,944,164)		,	5,160,601,533
December 31, 2007		83,149,236	78,495,298	(2,005,783)		583,547,681		(249,765,088)			5,654,022,877
December 31, 2008		88,451,655	84,814,014	(2,778,990)		(720,402,274)		(268,232,301)			4,835,874,981

Includes other State funding sources.



^{**} Net of investment expenses.

^{***} Includes contributions and investment income net of expenses and benefit payments through December 31, 1985.

SUMMARY OF INVESTMENT RESULTS (ACTUARIAL VALUE BASIS)

Assumed Investment Income					(ACTUARIAL VALUE BASIS)					Total Investment	_		
Plan Year	Average Amount of Assets in Fund		Amount	%		et Dividends & terest Income*		Appreciation Recognized**		Amount	%		Investment Gain/ (Loss)
1986	\$ 783,667,000	\$	58,775,000	7.50%	\$	75,380,000	\$	23,618,000	\$	98,998,000	12.6%	\$	40,223,000
1987	912,362,000		68,427,000	7.50		76,183,000		15,192,000		91,375,000	10.0		22,948,000
1988	1,027,284,000		77,046,000	7.50		86,933,000		16,092,000		103,025,000	10.0		25,979,000
1989	1,149,835,000		86,238,000	7.50		88,865,000		39,506,000		128,371,000	11.7		42,133,000
1990	1,294,112,000		103,529,000	8.00		94,715,000		19,504,000		114,219,000	8.9		10,690,000
1991	1,420,283,000		113,623,000	8.00		99,550,000		48,514,000		148,064,000	10.4		34,441,000
1992	1,576,896,000		126,152,000	8.00		104,559,000		70,687,000		175,246,000	11.2		49,094,000
1993	1,757,392,000		140,591,000	8.00		106,022,000		83,259,000		189,281,000	10.8		48,690,000
1994	1,944,813,000		155,585,000	8.00		110,883,000		25,327,000		136,210,000	7.0		(19,375,000)
1995	2,072,615,000		165,809,000	8.00		117,721,000		113,011,000		230,732,000	11.1		64,923,000
1996	2,286,238,000		182,899,000	8.00		125,022,000		108,191,000		233,213,000	10.2		50,314,000
1997	2,495,225,000		199,618,000	8.00		123,671,000		190,669,000		314,340,000	12.6		114,722,000
1998	2,780,566,000		222,445,000	8.00		98,831,000		337,268,000		436,098,000	15.7		213,654,000
1999	3,183,615,000		254,689,000	8.00		133,493,000		342,266,000		475,759,000	14.9		221,070,000
2000	3,620,264,000		289,621,000	8.00		124,283,000		468,097,000		592,380,000	16.4		302,759,000***
2001	4,167,502,000		333,400,000	8.00		123,241,000		316,045,000		439,286,000	10.5		105,886,000
2002	4,501,189,000		360,095,000	8.00		112,650,000		(178,860,000)		(66,210,000)	(1.5)		(426,305,000)
2003	4,317,617,000		345,409,000	8.00		109,207,000		267,317,000		376,524,000	8.7		31,115,000
2004	4,617,183,000		369,375,000	8.00		97,587,000		30,245,000		127,832,000	2.8		(241,543,000)
2005	4,654,639,000		372,371,000	8.00		105,399,000		133,484,000		238,883,000	5.1		(133,488,000)
2006	4,797,257,000		383,781,000	8.00		124,143,000		285,806,000		409,949,000	8.5		26,168,000
2007	5,115,538,000		409,243,000	8.00		148,835,000		434,713,000		583,548,000	11.4		174,305,000
2008	5,605,150,000		448,412,000	8.00		145,089,000		(865,491,000)		(720,402,000)	(12.9)		(1,168,814,000)
Total A	mount	\$	5,267,133,000		\$	2,532,262,000	\$	2,324,459,000	\$	4,856,721,000		\$	(410,412,000)
Average Rate of Investment Income Over Period 8.8%													

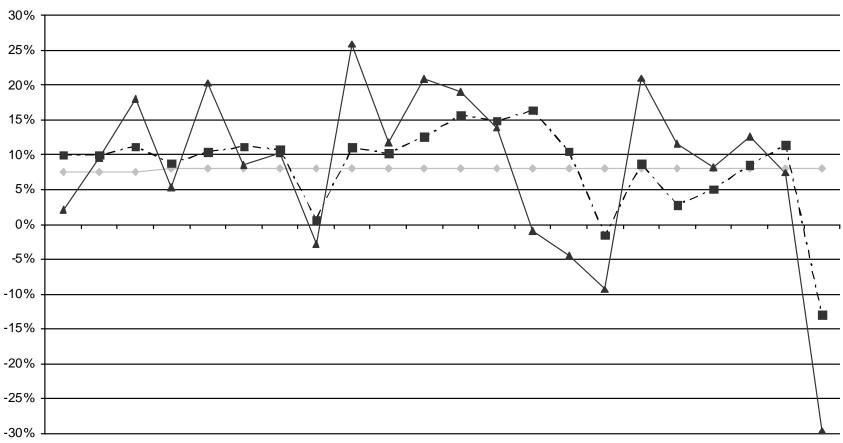
Includes securities lending income and net of rebates, fees, and investment expenses.



^{**} Recognizes write-up of assets on an actuarial value basis, expected increase in asset value, and 20% corridor.
*** Includes effect of change in actuarial asset method.

Investment Return





1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008

Year Ended December 31

VI. CONTRIBUTION REQUIREMENTS

We have utilized the Individual Entry Age Normal Actuarial Cost Method for funding all benefits. This method is used in situations where a cost is desired that will relatively remain level as a percentage of the participating payroll.

Under the Individual Entry Age Normal Actuarial Cost Method, the total contribution requirement has three components: an annual normal cost, an administrative expense requirement and a payment with respect to the unfunded actuarial accrued liability over a scheduled period of years.

The annual normal cost is calculated as the level percentage of pay required over each employee's period of covered employment to fund the total expected benefits. If the average entry age remains stable, the total normal cost rate should remain a level percentage of payroll.

The normal cost payments are not sufficient to finance the benefit program when there is an unfunded actuarial liability. An unfunded actuarial liability may be created by changes in the benefits, actuarial assumptions, or funding method and by experience which differs from that projected by the actuarial assumptions. When plan assets exceed the actuarial liability, there is a negative unfunded liability indicating that past changes and experience have been favorable.

We have calculated the cost of funding (or amortizing) the unfunded actuarial accrued liability (UAAL) over an open period of 30 years. The amortization method uses payments that are assumed to increase at 4.5% per annum, the rate at which the covered payroll is assumed to grow. This amortization is added to the normal cost with administrative expenses to determine the total cost.



VI. CONTRIBUTION REQUIREMENTS (continued)

The contribution requirements are shown below.

Contribution Requirements

	Maximum 3.0% COLA	2009 Cost as a % of Salaries	2009 Dollar Cost*	2008 Cost as a % of Salaries
1.	Entry Age Normal Cost			
	a. Total employee and employer	12.54%	\$ 198,878,000	11.00%
	b. Employee share	<u>(5.57%)</u>	(88,325,000)	<u>(5.57%)</u>
	c. Employer share equals (a) + (b)	6.97%	\$ 110,553,000	5.43%
2.	Cost to Amortize Unfunded Actuarial Accrued Liability	9.96%	157,998,000	5.19%
3.	Administrative Expenses	0.17%	2,617,000	0.15%
4.	Total Employer Cost	17.10%	\$ 271,168,000	10.77%
5.	Total Cost (Employee + Employer)	22.67%	\$ 359,493,000	16.34%
		2009 Cost as a		
	Break-even No COLA	% of Salaries	2009 Dollar Cost*	
1.	Entry Age Normal Cost			
	a. Total employee and employer	10.10%	\$ 160,112,000	
	b. Employee share	(5.57%)	(88,325,000)	
	c. Employer share equals (a) + (b)	4.53%	\$ 71,787,000	
2.	Cost to Amortize Unfunded Actuarial Accrued Liability	4.45%	70,611,000	
3.	Administrative Expenses	0.17%	2,617,000	
4.	Total Employer Cost	9.15%	\$ 145,015,000	
5.	Total Cost (Employee + Employer)	14.72%	\$ 233,340,000	

^{*} Dollar costs based on 2009 estimated payroll of \$1,585,728,000.

The detailed results of our valuation are shown in Exhibit 1.

The total employer cost based on the maximum COLA is \$271,168,000, or 17.10% of payroll. This is more than the statutory contribution rate of 5.68% of covered payroll. Hence, the current contribution rate does not meet the contribution requirements based upon the actuarial assumptions, actuarial method and financing objectives accepted by the Board.

The cost-of-living adjustment has been set to less than the maximum since the statutory contribution rate is less than the employer cost for the maximum COLA.



VI. CONTRIBUTION REQUIREMENTS (continued)

The employer cost requirement of 17.10% as of January 1, 2009, represents an increase from 10.77% calculated one year ago. An explanation of the change since the previous actuarial valuation is as follows:

Employer Cost Rate as of January 1, 2008	10.77%
Increase due to Experience Analysis changes	2.22%
Employer Cost Rate as of January 1, 2008 after Experience Analysis	12.99%
Actual investment return lower than assumed	3.95%
Contributions below the actuarially determined rate	0.36%
Other experience factors*	(0.20%)
Employer Cost Rate as of January 1, 2009	17.10%

^{*} Other experience factors include liability gains and losses on retirement, termination, death, disability and salary increases.

These costs are based on the maximum allowable COLA of 3.0%.

VII. ANALYSIS OF FINANCIAL EXPERIENCE

Gains & Losses in Accrued Liabilities During the Year Ended 12/31/2008 Resulting From Differences Between Assumed Experience & Actual Experience

Type of Activity	Gain/(Loss) For Year 2008
Age & Service Retirements. If members retire at older ages or with lower final average pay than assumed, there is a gain. If younger ages or higher average pays, a loss.	\$ (59,903,144)
<u>Disability Retirements</u> . If disability claims are less than assumed, there is a gain. If more claims, a loss.	(1,339,050)
<u>Death-In-Service Benefits.</u> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	2,078,678
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	(5,738,132)
New Entrants. New employees entering the plan will create a loss.	(34,086,148)
<u>Pay Increases</u> . If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	(36,959,722)
Break-even COLA Being Granted. If benefits increase less than the maximum 3.00% COLA, there is a gain.	48,421,025
<u>Contribution Income.</u> If more contributions are received than expected, there is a gain. If less, a loss.	(106,108,350)
Investment Income. If there is greater investment income than assumed, there is a gain. If less income, a loss.	(1,062,781,146)
<u>Death After Retirement.</u> If retirees live longer than assumed, there is a loss. If not as long, a gain.	689,465
Other. Miscellaneous gains and losses resulting from data adjustments, timing of financial transactions, valuation methods, etc.	49,334,604
Gain/(Loss) During Year From Financial Experience	(1,206,391,920)
Non-Recurring Items. Assumption changes.	(304,339,655)
Composite Gain/(Loss) During Year	\$ (1,510,731,575)

Based on maximum COLA basis.



VIII. FUNDING STATUS

One measure of the progress of funding a retirement plan is by comparing benefit security ratios on a historic basis. The benefit security ratio is the ratio of plan assets to plan liabilities. The greater the ratio, the better funded the retirement plan. This ratio can be calculated using different measures of the retirement plan's liabilities.

Chart 3 on page 39 shows the funded status of the Plan graphically.

Funding Basis - Actuarial Accrued Liability

This measure of liabilities is used in calculating pension costs. It uses the Individual Entry Age Normal Actuarial Cost Method that spreads costs as a level percentage of payroll over a member's working career.

For determining Plan costs, a smoothed value of assets (called actuarial value) is used. Hence, for the benefit security ratio, the actuarial value of assets was used.

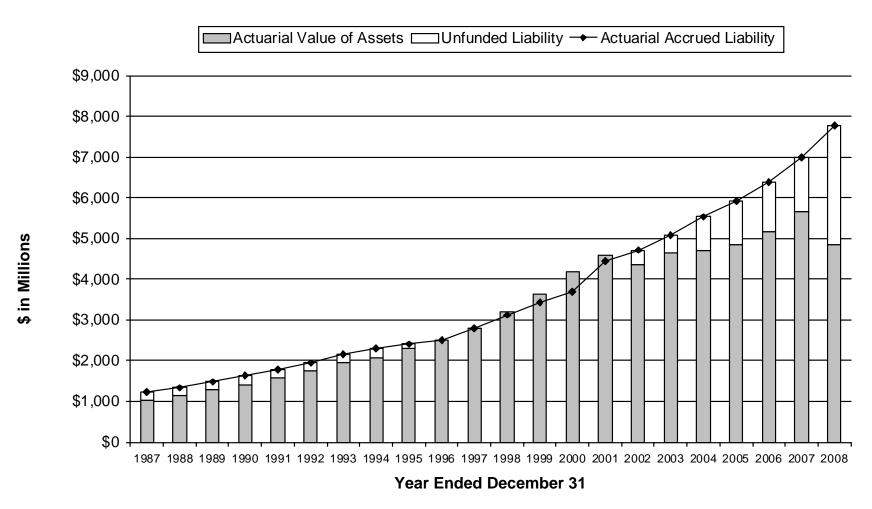
Historical Results

The benefit security ratio for the last twenty-three actuarial valuations are developed in Table 25 on page 40. The graph shows that on a funding basis, the benefit security ratio has steadily improved until 2001. The benefit ratio has decreased since then due to benefit improvements and investment return lower than expected in 2001, 2002 and 2008.

Funding ratios change over time due to several factors. These factors include the level of contributions, actual experience (including investment returns), Plan amendments and changes in assumptions.



Funded Status



This chart is on a maximum COLA basis.

BENEFIT SECURITY RATIOS

As of January 1	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability (UAAL)	Benefit Security Ratio	Covered Payroll	UAAL as % of Covered Payroll
1987	\$ 1,119,666,000	\$ 900,098,000	\$ 219,568,000	80.4%	\$ 700,527,000	31.3%
1988	1,225,515,000	1,016,001,000	209,514,000	82.9	679,401,000	30.8
1989	1,334,110,000	1,141,592,000	192,518,000	85.6	681,101,000	28.3
1990	1,482,235,000	1,286,450,000	195,785,000	86.8	712,693,000	27.5
1991	1,627,934,000	1,416,293,000	211,641,000	87.0	712,860,000	29.7
1992	1,777,417,000	1,572,337,000	205,080,000	88.5	743,632,000	27.6
1993	1,944,477,000	1,756,701,000	187,776,000	90.3	756,248,000	24.8
1994	2,151,784,000	1,946,563,000	205,221,000	90.5	760,859,000	27.0
1995	2,310,624,000	2,078,385,000	232,239,000	90.0	793,782,000	29.3
1996	2,408,980,000	2,296,639,000	112,341,000	95.3	789,639,000	14.2
1997	2,500,667,000	2,508,544,000	(7,877,000)	100.3	803,239,000	(1.0)
1998	2,799,891,000	2,795,721,000	4,170,000	99.9	827,991,000	0.5
1999	3,125,121,000	3,200,435,000	(75,314,000)	102.4	873,530,000	(8.6)
2000	3,440,152,000	3,641,370,000	(201,218,000)	105.8	862,512,000	(23.3)
2001	3,683,174,000	4,190,440,000	(507,266,000)	113.8	897,641,000	(56.5)
2002	4,442,033,000	4,582,462,000	(140,429,000)	103.2	964,121,000	(14.6)
2003	4,718,618,000	4,352,424,000	366,194,000	92.2	988,135,000	37.1
2004	5,077,443,000	4,657,898,000	419,545,000	91.7	1,032,259,000	40.6
2005*	4,902,322,000	4,704,299,000	198,023,000	96.0	1,086,736,000	18.2
2006*	5,091,763,000	4,843,861,000	247,902,000	95.1	1,156,400,000	21.4
2007*	5,468,229,000	5,160,602,000	307,627,000	94.4	1,285,096,000	23.9
2008*	6,015,985,000	5,654,023,000	361,962,000	94.0	1,462,474,000	24.7
2009*	6,152,122,000	4,835,875,000	1,316,247,000	78.6	1,585,728,000	83.0

^{*} Beginning in 2005, results are based on the actuarially sound COLA benefit determined by the Board in accordance with a change in State statutes.



IX. ACTUARIAL ASSUMPTIONS AND METHODS

The actuarial assumptions and methods applied in this actuarial valuation are the result of an experience study performed as of December 31, 2007.

The assumptions and methods applied within the valuation are described below.

Investment Return

The actuarial calculations are based on the assumption that the effective return on the assets of the System will be 8.0% per year net of investment expenses. This includes 3.5% for inflation and 4.5% real rate of return.

Salary Increases and Inflation

A salary scale is used in an actuarial valuation to estimate the salary progression of employees in the future. The weighted average salary increase assumption is 5.5% per year. The long-term salary increase assumption is 5.0% per year. It includes 3.5% for inflation, as assumed in the investment yield. There is an allowance for 1.0% for standard-of-living growth (productivity) per year and 0.5% annually for merit, promotion and longevity.

The salary scale used in this actuarial valuation does not necessarily take full account of general across-the-board increases in salaries resulting from inflation and other factors under short-term current conditions. This is because actuarial assumptions are meant to be reasonable over the long-term and should not be unduly influenced by short-term economic conditions.

The following is a summary of the long-term economic assumptions applied in this valuation:

Investment yield	8.00%
Salary increases	5.00% - 9.50%
Inflation	3.50%

Demographic Assumptions

Assumptions as to retirement incidence, withdrawal, disability and mortality are specified in Exhibit III of the actuarial certification.



IX. ACTUARIAL ASSUMPTIONS AND METHODS (continued)

Actuarial Cost Method

For purposes of determining pension costs, we have applied the actuarial cost method known as the Individual Entry Age Normal Actuarial Cost Method. It is used in situations where a cost is desired that will remain relatively level as a percentage of the participating payroll.

Under the Individual Entry Age Normal Actuarial Cost Method, the total contribution requirement has three components: an annual normal cost, an administrative expense requirement and a payment with respect to the unfunded actuarial accrued liability.

The annual normal cost is calculated for each individual employee as the level percentage of pay required over the employee's period of covered employment to pay the total expected benefits. If the actuarial assumptions remain unchanged and actual experience matches the actuarial assumptions, the normal cost rate for each employee will remain a level percentage of payroll.

Unfunded actuarial accrued liability amounts are created by Plan implementation with prior benefit credit, actuarial losses, changes in the actuarial assumptions, actuarial cost method and improvements in the benefit provisions. To determine the amount necessary to provide for the unfunded liability, we applied an open amortization period of 30 years as of the valuation date. We assumed future unfunded liability payments would increase in dollar amount but remain a level percentage of aggregate covered salaries. It has been assumed that the aggregate covered payroll will increase at the combined assumed long-term inflation rate and the standard-of-living improvement rate of 4.5%.

Asset Valuation Method

The assets are valued on a moving market-related basis for actuarial purposes. The actuarial value includes the difference between expected appreciation and actual appreciation or depreciation, whether realized or not, spread over five years beginning with the year of occurrence. Interest, dividends, and other income are recognized immediately. This procedure results in recognition of all changes in market value after five years. If the actuarial asset value is less than 80% or more than 120% of market value, an adjustment will be made to bring it within that range.





April 10, 2009

STATE OF WYOMING RETIREMENT SYSTEM

Actuarial Valuation Certificate

This is to certify that we have prepared an Actuarial Valuation of the Plan as of January 1, 2009, in accordance with generally accepted actuarial principles and practices.

The certificate contains the following attached exhibits:

- I. Actuarial Valuation Results
- II. Changes in Actuarial Assumptions and Methods
- III. Actuarial Assumptions and Methods
- IV. Changes in Plan Provisions
- V. Summary of Plan Provisions

The valuation is based on information supplied by the Retirement Office (as of January 1, 2009) with respect to members and financial data. We have not verified, and customarily would not verify, such information, but we have had no reason to doubt its substantial accuracy.

The most recent actuarial experience analysis was completed in August 2008 using experience from January 1, 2002 through December 31, 2007. Revised actuarial assumptions were approved and implemented for the January 1, 2009 actuarial valuation. In our opinion, the assumptions used in the aggregate: (a) are reasonably related to the experience of the Plan and to reasonable expectations; and (b) represent our best estimate of anticipated experience under the Plan.

The undersigned are members of the American Academy of Actuaries and the Society of Actuaries, are fully qualified to provide actuarial services to the State of Wyoming, and are available to answer questions regarding this report.

We believe that the assumptions and methods used for funding purposes and for the disclosures presented in this report satisfy the parameter requirements set forth in the Government Accounting Standards Board (GASB) Statement Nos. 25.

Michelle Reding DeLange, FSA, EA, MAAA

Director, Consulting Actuary

David H. Slashinsky, ASA, EA, MAAA

Principal, Consulting Actuary

ACTUARIAL VALUATION RESULTS

The valuation was made with respect to the data for 78,332 members as of January 1, 2009:

- a. 35,021 active members
- b. 16,553 retired members and 1,780 beneficiaries
- c. 5,583 inactive vested members and 19,395 inactive nonvested members

			Maximum 3.0% COLA		Break-even No COLA
1.	Actuarial Accrued Liability on January 1, 2009:				
	a. Active membersb. Retired members and beneficiariesc. Inactive nonretired membersd. Total	\$ _ \$	4,238,487,000 3,206,745,000 335,863,000 7,781,095,000	\$ 	3,355,814,000 2,515,102,000 281,206,000 6,152,122,000
2.	Assets at actuarial value on	*	, , ,	·	, , ,
	December 31, 2008*	\$_	4,835,875,000	\$	4,835,875,000
3.	Unfunded actuarial accrued liability equals (1) - (2)	\$	2,945,220,000	\$	1,316,247,000
4.	Employee and employer normal cost for ensuing year	\$	198,878,000	\$	160,112,000
5.	Estimated annual salaries of covered employees	\$	1,585,728,000	\$	1,585,728,000
6.	Employee contributions equals 5.57% of (5)	\$	(88,325,000)	\$	(88,325,000)
7.	Employer normal cost for ensuing year equals (4) + (6)	\$	110,553,000	\$	71,787,000
8.	Amortization payment equals 30-year amortization of item (3) as a level percentage of payroll	\$	157,998,000	\$	70,611,000
_					
9.	Administrative expenses	\$_	2,617,000	\$	2,617,000
10.	Total employer cost for ensuing year equals (7) + (8) + (9)	\$	271,168,000	\$	145,015,000
11.	Total employer cost as percentage of payroll equals (10) \div (5)		17.10%		9.15%

^{* \$4,029,895,818} at market value, adjusted for net accounts payable.

The current statutory contribution rate is not sufficient to fund an annual cost-of-living adjustment (COLA) on an actuarially sound basis. When liabilities are measured with no COLA, the funded ratio on an Actuarial Value of Assets basis is 78.6%, while on a Market Value of Assets basis it is 65.5%.







CHANGES IN ACTUARIAL ASSUMPTIONS AND METHODS

	December 31, 2007	December 31, 2008
Inflation	3.0% per annum	3.5% per annum
Salary Scale	5.0% per annum	Rates adjusted based on actual experience from 2002 – 2007 using an age-based table
Payroll Growth	4.0% per annum	4.5% per annum
Healthy Mortality	1994 Group Annuity Table	1994 Group Annuity Table, projected to 2008
Withdrawal	Based on actual experience from 1997 – 2001	Implemented "select and ultimate" table and adjusted rates based on actual experience from 2002 – 2007
Disability	Based on actual experience from 1997 – 2001	Decreased rates for ages 43 and above and stopped rates at unreduced retirement
Retirement	Based on actual experience from 1997 – 2001	Rates adjusted for unreduced and reduced retirement based on actual experience from 2002 – 2007
Contribution Refunds	0%	25% of actives who terminate with a vested benefit
Administrative Expense Increase	5.0% per annum	6.5% per annum
Adjustment Factor for Liability	195% for maximum COLA	209% for maximum COLA
for Vested Inactive Members due to Change in Healthy Mortality	160% for no COLA	172% for no COLA

ACTUARIAL ASSUMPTIONS AND METHODS

Unless noted otherwise below, these assumptions and methods were adopted in 2008 and first effective for the January 1, 2009 valuation.

Mortality Rates:

Healthy Lives: 1994 Group Annuity Mortality Table (with margins) projected to 2008

Disabled Lives: 1979 PBGC Disabled Lives Receiving Social Security

Rates Before Retirement (sample rates):

RATE						
	<u>Death</u> <u>Disability</u>					
<u>Age</u>	<u>Male</u>	<u>Female</u>				
25	.06%	.02%	.01%			
30	.07%	.03%	.01%			
35	.08%	.04%	.01%			
40	.10%	.06%	.01%			
45	.13%	.08%	.03%			
50	.20%	.11%	.08%			
55	.34%	.21%	.20%			
60	.64%	.41%	.20%			

WITHDRAWAL

Select Withdrawal Rates During the First 5 Years of Employment				nate Withdrawa First 5 Years of	
Years of		_			
Employment	<u>Male</u>	<u>Female</u>	<u>Age</u>	<u>Male</u>	<u>Female</u>
1	25%	28%	25	10.00%	11.00%
2	18%	22%	30	10.00%	11.00%
3	12%	15%	35	4.83%	5.83%
4	10%	13%	40	4.44%	5.44%
5	10%	12%	45	4.22%	5.22%
			50	4.10%	5.10%
			55	4.03%	5.03%
			60	4.00%	5.00%

Retirement Rates (sample rates):

<u>Age</u>	Reduced	<u>Unreduced</u>
50	3%	10%
55	6%	10%
60	N/A	15%
62	N/A	25%
65	N/A	35%
70	N/A	100%



ACTUARIAL ASSUMPTIONS AND METHODS (continued)

Interest Rate: 8.0% per annum, net of investment expenses

Salary Scale (sample rates):

Age	Rate
25	8.30%
30	6.90%
35	6.05%
40	5.60%
45	5.35%
50	5.00%
55	5.00%
60	5.00%

Payroll Growth: 4.5% per annum

Inflation: 3.5% per annum

Increase in Section 415
Maximum Pension and
Section 401(a)(17) Limit

on Compensation: 3.5% per annum

Spouse Assumptions: 85% of members were married at time of death. It is

assumed that males are, on average, three years older than

their spouse.

Interest on Member Contributions: 5.5% per annum

Cost Method: Individual Entry Age Normal Actuarial Cost Method

Liability for Vested Inactive Non Retired Members:

No data is available for members entitled to deferred benefits. The present value of benefits expected to be paid to vested inactive nonretired members is approximated as (a) 209% of accumulated member contribution balances for benefits valued with a 3% COLA, and (b) 172% of accumulated member contribution balances for benefits valued with no (0%) COLA.

Actuarial Value of Assets:

Adjusted market value that immediately recognizes interest and dividends. The procedure recognizes 20% of each plan year's total appreciation (depreciation) in excess of the expected return on a market value basis beginning with the year of occurrence. After five years, the appreciation (depreciation) is fully recognized. If the adjusted market value is less than 80% of market value, or more than 120%, an adjustment will be made to bring it within that range.



ACTUARIAL ASSUMPTIONS AND METHODS (continued)

Administrative Expenses:

Annual administrative expenses are assumed to increase 6.5% per year. Expenses for the valuation year are projected at this rate based on the prior two years' average adjusted expenses.

Cost-of-Living Adjustments:

It is assumed that the maximum 3.0% COLA will be awarded every year. In addition, results are presented assuming no future COLAs are granted. Whenever the maximum COLA cannot be provided, we include the COLA level that can be provided on an actuarially sound basis.

Benefit Commencement Age:

It is assumed that members who terminate with a vested deferred benefit will commence payment at age 60.

Contribution Refunds:

It is assumed that 25% of active members who terminate with a vested deferred benefit will elect to have their contributions refunded.

Amortization Method:

The unfunded liability is amortized over an open period of 30 years as a level percentage of payroll assumed to increase by the payroll growth assumption each year.



CHANGE IN PLAN PROVISIONS

There have been no changes to System provisions since the previous valuation.

SUMMARY OF PLAN PROVISIONS

Following are the major benefit provisions of the State of Wyoming Retirement System. This summary is not intended to be a complete statement of all provisions of the Retirement System.

1. Service Retirement

Eligibility Members may retire from active service at age 60 with at least four years of service or a combined age plus service of 85 or more points and receive full benefits. Members may take early retirement at age 50 with at least four years of service, or any age with at least 25 years of service, with benefits reduced by 5.0% per year for retirement prior to 60.

Benefit Calculated in two parts, (A) plus (B)

- A. **Pre-1975 Benefits.** The larger of the monthly benefits calculated under the following two formulas (1) and (2):
 - 1. The amount of employee and matching employer contributions, with interest (currently 5.5%), is used to *purchase* an annuity based upon a unisex actuarial factor. The monthly benefit thus obtained is increased as approved by the 1967, 1973 and 1975 legislature as follows:
 - 1967 increase -- 25% (but not more than \$25 per month)
 - 1973 increase -- 40%
 - 1975 increase -- 20%
 - 2. Calculate pre-1975 benefits as 2.125% of the average earnings for the three highest years of service, times years of service prior to July 1, 1975, for the first 15 years of service credit, plus 2.25% of the average earnings for the three highest years of service for any years of service credit exceeding 15 years. This amount is reduced by 5.0% per year for retirement prior to age 60. However, members retiring with a combined age and service of 85 receive an unreduced benefit prior to age 60.
- B. **Post-1975 Benefits.** The larger of the monthly benefits calculated under the following two formulas (1) and (2):
 - 1. The same formula as for 1953-1975 benefits, except that the 20% increase does not apply.



2. 2.125% of the average earnings for the three highest years of service, times years of service after July 1, 1975, for the first 15 years of service credit, plus 2.25% of the average earnings for the three highest years of service for any years of service credit exceeding 15 years. This amount is reduced by 5.0% per year for retirement prior to age 60. However, members retiring with a combined age and service of 85 receive an unreduced benefit prior to age 60.

NOTE: Employees hired on and after July 1, 1981 will only be entitled to the benefit described under B.2. above.

2. Optional Forms of Payment

- Option 1 Monthly benefit for life, with a lump-sum death benefit equal to the excess (if any) of the employee contributions with interest over the total monthly benefits received.
- Option 2 Monthly benefit for life, with 100% of the benefit continuing for the life of the beneficiary.
- Option 3 Monthly benefit for life, with 50% of the benefit continuing for the life of the beneficiary.
- Option 4 Monthly benefit for life, with a guarantee of 120 monthly payments.
- Option 5 Monthly benefit for life, with no death benefit.
- Option 6 Monthly benefit for life, with 100% of the benefit continuing for the life of the beneficiary. Benefit reverts to Option 1 amount but without cash refund feature at beneficiary's death.
- Option 7 Monthly benefit for life, with 50% of the benefit continuing for the life of the beneficiary.

 Benefit reverts to Option 1 amount but without cash refund feature at beneficiary's death.

3. Disability Retirement

- Eligibility Disability prior to age 60, after 10 or more years of service.
- Benefit 100% of the service retirement benefit, calculated using Option 1 as if the employee were 60 years of age and using service as of date of disability.



4. Vesting

An employee who terminates after at least 48 months of service can elect either to leave his contributions in the Retirement System and receive a service retirement benefit as described above, or to receive a lump-sum return of his contributions (including employer subsidies) with interest. An employee who terminates with less than 48 months of service is eligible only for the lump-sum benefit.

5. Pre-retirement Death Benefit

The beneficiary of a vested employee can elect either to receive a monthly benefit based on the beneficiary's age and the calculation method described above for service retirement, or to receive a lump-sum payment of two times the employee contributions with interest. The beneficiary of an employee who dies prior to achieving vested status is eligible for the lump-sum benefit only.

6. Contributions

Currently 5.57% of salary by employee and 5.68% of salary by employer. The employer may subsidize all or part of the employee contributions. Interest is currently being credited at the rate of 5.50% on accumulated contributions.

7. Ad Hoc Benefit Increases to Retirees

Ad hoc adjustments have been made to benefit payments. The most recent one was effective July 2001, for all retirees and beneficiaries. This increased pensions by \$3 monthly per year of service.

8. Cost-of-Living Improvements

Benefits may increase by the lesser of 3.0% per year, or the increase in the Wyoming cost-of-living index. The Board may elect not to grant the full cost-of-living increase in any given year if the System's actuary determines such increases would not be actuarially sound. If the increase in the Wyoming cost-of-living index exceeds the actual COLA granted in any year, the excess increase will be set aside and applied toward any future year in which the Wyoming cost-of-living index increase is less than 3.0%. Cost-of-living adjustments are given on July 1 following the two-year anniversary of retirement. The first adjustments occurred in 1991.

The following table shows the historical adopted values since they have been calculated on a break-even basis beginning in 2004.

	Adopted	
Year	Break-even COLA	
2004	2.16%	
2005	1.40%	
2006	1.05%	
2007	1.00%	
2008	1.03%	
2009	0.00% (recommended)	

9. Benefits Reflected in Valuation

All benefits were valued, including expected future cost-of-living increase.

