MINNEAPOLIS POLICE RELIEF ASSOCIATION SPECIAL FUND

Projected January 1, 2012 Actuarial Valuation Upon PERA Merger

May 18, 2011

Projected January 1, 2012 Actuarial Valuation upon PERA Merger

Actuarial Certification

We certify that we have made a good faith effort to comply with the May 15, 2011 Points of Agreement in all respects and in a manner intended to conform to Minnesota State law and generally accepted actuarial principles.

We are available to answer any questions on the material contained in this report, or to provide explanations or further details as may be appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

We believe the results are reasonable and fairly represent the actuarial status of this plan.

Respectfully submitted,

Mark D. Meyer, FSA, MAAA

Consulting Actuary

L/D/C/R: 4/GG/PC/MM

May 18, 2011

Peter J. Cullen, EA, MAAA Consulting Actuary

Projected January 1, 2012 Actuarial Valuation upon PERA Merger

Summary of Results

<u>A. Plan participant data</u>	December 31, 2010	January 1, 2012*
1. Number of participants		
a. Active employees	8	8
 b. Terminated vested employees 	0	0
c. Retirees	565	560
d. Disability	0	0
e. Survivng spouses	241	227
f. Surviving children	<u>0</u>	<u>0</u>
g. Total	814	795
B. Normal costs		
Total normal cost		
a. Amount	\$95,123	N/A
 b. Percentage of active payroll 	14.16%	0.00%
2. Employer normal cost		
a. Amount	41,395	N/A
b. Percentage of active payroll	6.16%	0.00%
C. Amortization payments		
1. Unfunded actuarial accrued liability	\$151,322,531	N/A
Unfunded present value of benefits	N/A	46,175,195
3. Amortization payment	20,652,446	4,846,319
D. Value of plan assets		
1. Market value	301,008,826	311,000,000
Actuarial value (for calculating contributions)	254,933,933	N/A
E. Benefit liabilities		
1. Present value of future benefits	406,351,587	357,175,195
2. Actuarial accrued liability	406,256,464	• •
·	700,230,707	N/A
F. Funded status	•	
 Market value of assets as a percent of liabilities 	74.1%	87.1%

^{*} The January 1, 2012 results are projected based on the December 31, 2010 census data used in the 12/31/2010 actuarial valuation report.

Projected January 1, 2012 Actuarial Valuation upon PERA Merger

Actuarial Values Used to Determine Contribution

A. Actuarial present value of projected benefits (the value of all future benefits to be paid to the current group of members) 1. Active members \$6,368,513 \$5,549,876 * 2. Vested terminated members 347,001,627 302,522,633 * 3. Retired members 347,001,627 302,522,633 * 4. Spouses and children receiving benefits 52,981,447 49,102,686 * 5. Disabled members receiving benefits 0 0 6. Total present value of projected benefits 406,351,587 357,175,195 * B. Amortization of unfunded actuarial accrued liability 1. Total actuarial accrued liability \$406,256,464 N/A 2. Actuarial value of assets 254,933,933 N/A 3. Unfunded actuarial accrued liability (1 2.) 151,322,531 N/A 4. Funded status (2. / 1.) 62.8% N/A 5. Years left in amortization period 9 N/A 6. Amortization of unfunded present value of benefits N/A 311,000,000 7. Projected market value of benefits (1 2.) N/A 311,000,000 9. Projected market value of benefits (1 2.) N/A 46,175,195 4. Funded status (2. / 1.) N/A 46,175,195		December 31, 2010	<u>January 1, 2012</u>
future benefits to be paid to the current group of members 1. Active members \$6,368,513 \$5,549,876 * 2. Vested terminated members 0 0 3. Retired members 347,001,627 302,522,633 * 4. Spouses and children receiving benefits 52,981,447 49,102,686 * 5. Disabled members receiving benefits 0 0 6. Total present value of projected benefits 406,351,587 357,175,195 * B. Amortization of unfunded actuarial accrued liability 1. Total actuarial accrued liability \$406,256,464 N/A 2. Actuarial value of assets 254,933,933 N/A 3. Unfunded actuarial accrued liability (1 2.) 151,322,531 N/A 4. Funded status (2. / 1.) 62.8% N/A 5. Years left in amortization period 9 N/A 6. Amortization payment (see page 4) 20,652,446 N/A 7. Amortization payment (see page 4) 20,652,446 N/A 8. Total present value of benefits (A.6.) N/A 311,000,000 9. Projected market value of assets** N/A 311,000,000	A. Actuarial present value of projected benefits (the value	e of all	
1. Active members 2. Vested terminated members 3. Retired members 3. Retired members 4. Spouses and children receiving benefits 5. Disabled members receiving benefits 5. Disabled members receiving benefits 6. Total present value of projected benefits 8. Amortization of unfunded actuarial accrued liability 1. Total actuarial accrued liability 2. Actuarial value of assets 3. Unfunded actuarial accrued liability (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 6. Amortization of unfunded present value of benefits 7. Amortization of unfunded present value of benefits 7. Total present value of benefits (A.6.) 7. Projected market value of assets* 7. N/A	future benefits to be paid to the current group of men	<u>ıbers)</u>	
2. Vested terminated members 3. Retired members 4. Spouses and children receiving benefits 5. Disabled members receiving benefits 6. Total present value of projected benefits 6. Total present value of projected benefits 6. Total actuarial accrued liability 7. Total actuarial accrued liability 8. Amortization of unfunded actuarial accrued liability 9. Actuarial value of assets 9. 254,933,933 9. N/A 9. Vears left in amortization period 9. N/A 9. Years left in amortization period 9. N/A 9. Amortization of unfunded present value of benefits 1. Total present value of benefits (A.6.) 9. N/A 9. Projected market value of assets** 9. N/A 9. Unfunded present value of benefits (1 2.) 9. N/A 9. Vears left in amortization period		\$6,368,513	\$5,549,876 *
3. Retired members 4. Spouses and children receiving benefits 5. Disabled members receiving benefits 6. Total present value of projected benefits 6. Total present value of projected benefits 6. Total actuarial accrued liability 7. Total actuarial accrued liability 8. Amortization of unfunded actuarial accrued liability 9. Actuarial value of assets 9. Sepansion of unfunded actuarial accrued liability 1. Total actuarial accrued liability 1. Total actuarial accrued liability 2. Actuarial value of assets 3. Unfunded actuarial accrued liability 4. Funded status (2. / 1.) 5. Years left in amortization period 6. Amortization payment (see page 4) 6. Amortization of unfunded present value of benefits 7. Total present value of benefits (A.6.) 7. Projected market value of benefits (A.6.) 7. Projected market value of benefits (1 2.) 7. Sunded status (2. / 1.) 7. Years left in amortization period 7. N/A 46,175,195 7. Funded status (2. / 1.) 7. Years left in amortization period 7. N/A 87.1% 7. Years left in amortization period 7. N/A 87.1% 7. Years left in amortization period 7. N/A 20	W / / W	0	•
4. Spouses and children receiving benefits 5. Disabled members receiving benefits 6. Total present value of projected benefits 6. Total present value of projected benefits 6. Total present value of projected benefits 6. Total present value of projected benefits 6. Total present value of projected benefits 6. Total present value of projected benefits 7. Total actuarial accrued liability 7. Actuarial value of assets 7. Disabled members receiving benefits 7. Total present value of accrued liability 8. Amortization of unfunded present value of benefits 9. N/A 9. N/A 9. N/A 9. Amortization payment (see page 4) 6. Amortization of unfunded present value of benefits 9. N/A 9. N/A 9. Amortization of unfunded present value of benefits 9. N/A 9. N/A 9. V/A 9.		347,001,627	
5. Disabled members receiving benefits 6. Total present value of projected benefits 8. Amortization of unfunded actuarial accrued liability 1. Total actuarial accrued liability 2. Actuarial value of assets 3. Unfunded actuarial accrued liability (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 6. Amortization of unfunded present value of benefits 1. Total present value of benefits (A.6.) 2. Projected market value of assets* 3. Unfunded present value of benefits (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 6. Amortization of unfunded present value of benefits 1. Total present value of benefits (A.6.) 2. Projected market value of benefits (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 87.1% 87.1% 9		52,981,447	49,102,686 *
6. Total present value of projected benefits 406,351,587 357,175,195 * B. Amortization of unfunded actuarial accrued liability 1. Total actuarial accrued liability 2. Actuarial value of assets 3. Unfunded actuarial accrued liability (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 6. Amortization payment (see page 4) C. Amortization of unfunded present value of benefits 1. Total present value of benefits (A.6.) 2. Projected market value of assets** 3. Unfunded present value of benefits (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period N/A 46,175,195 4. Funded status (2. / 1.) 5. Years left in amortization period		<u>0</u>	<u>0</u>
1. Total actuarial accrued liability 2. Actuarial value of assets 3. Unfunded actuarial accrued liability (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 6. Amortization of unfunded present value of benefits 1. Total present value of benefits (A.6.) 2. Projected market value of assets** 3. Unfunded present value of benefits (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 1. Total present value of benefits (A.6.) 3. Unfunded present value of benefits (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 1. Total present value of benefits (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 1. Total present value of benefits (1 2.) 5. Years left in amortization period		406,351,587	357,175,195 *
1. Total actuarial accrued liability 2. Actuarial value of assets 3. Unfunded actuarial accrued liability (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 6. Amortization of unfunded present value of benefits 1. Total present value of benefits (A.6.) 2. Projected market value of assets** 3. Unfunded present value of benefits (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 1. Total present value of benefits (A.6.) 3. Unfunded present value of benefits (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 1. Total present value of benefits (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 1. Total present value of benefits (1 2.) 5. Years left in amortization period	R Amortization of unfunded actuarial accrued liability		
2. Actuarial value of assets 3. Unfunded actuarial accrued liability (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 6. Amortization payment (see page 4) C. Amortization of unfunded present value of benefits 1. Total present value of benefits (A.6.) 2. Projected market value of assets** 3. Unfunded present value of benefits (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period N/A \$357,175,195 \$311,000,000 \$46,175,195 4. Funded status (2. / 1.) N/A \$7.1% 5. Years left in amortization period		\$406,256,464	N/A
3. Unfunded actuarial accrued liability (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 6. Amortization payment (see page 4) 6. Amortization of unfunded present value of benefits 7. Total present value of benefits (A.6.) 7. Projected market value of assets** 7. Unfunded present value of benefits (1 2.) 7. Projected market value of benefits (1 2.)			N/A
4. Funded status (2. / 1.) 5. Years left in amortization period 6. Amortization payment (see page 4) 6. Amortization of unfunded present value of benefits 1. Total present value of benefits (A.6.) 2. Projected market value of assets** 3. Unfunded present value of benefits (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 62.8% N/A 9 N/A 20,652,446 N/A \$357,175,195 311,000,000 A6,175,195 N/A 87.1% 87.1%		• •	
5. Years left in amortization period 6. Amortization payment (see page 4) 20,652,446 20,652,446 N/A C. Amortization of unfunded present value of benefits 1. Total present value of benefits (A.6.) 2. Projected market value of assets** 3. Unfunded present value of benefits (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period 9 N/A 20,652,446 N/A \$357,175,195 311,000,000 N/A 46,175,195 N/A 87.1%			· ·
6. Amortization payment (see page 4) 20,652,446 N/A C. Amortization of unfunded present value of benefits 1. Total present value of benefits (A.6.) 2. Projected market value of assets** 3. Unfunded present value of benefits (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period N/A 20,652,446 N/A \$357,175,195 311,000,000 N/A 46,175,195 N/A 87.1%		9	N/A
1. Total present value of benefits (A.6.) N/A \$357,175,195 2. Projected market value of assets** N/A 311,000,000 3. Unfunded present value of benefits (1 2.) N/A 46,175,195 4. Funded status (2. / 1.) N/A 87.1% 5. Years left in amortization period N/A 20		20,652,446	N/A
1. Total present value of benefits (A.6.) N/A \$357,175,195 2. Projected market value of assets** N/A 311,000,000 3. Unfunded present value of benefits (1 2.) N/A 46,175,195 4. Funded status (2. / 1.) N/A 87.1% 5. Years left in amortization period N/A 20	C Amortization of unfunded present value of benefits		
2. Projected market value of assets** 3. Unfunded present value of benefits (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period N/A 311,000,000 N/A 46,175,195 N/A 87.1%	1. Total precent value of henefits (A.6.)	N/A	\$357,175,195
3. Unfunded present value of benefits (1 2.) 4. Funded status (2. / 1.) 5. Years left in amortization period N/A 46,175,195 N/A 87.1% N/A 20		·	
4. Funded status (2. / 1.) N/A 87.1% N/A N/A 20		•	
5. Years left in amortization period N/A 20			
5, reals felt in amortization ported			20
	6. Amortization payment (see page 4)	N/A	4,846,319

^{*} This liability was determined using projected annual cash benefit payments. An adjustment factor of 0.5% was used to reflect that payments are made exactly on the first of the month rather than approximately middle of the year.

^{**} This assumes investment gains such that benefit payments less contributions will be met by investment earnings so that the 5/16/2011 value of assets will be maintained.

Projected January 1, 2012 Actuarial Valuation upon PERA Merger

<u> Amortization Schedule - Current</u>

Assumed	Amortization	Present Value as of	Amortization Based on Valuation
Payment Date	Payment*	12/31/2010	December 31
10/1/2011	\$17,636,212	\$16,879,346	2009
10/1/2012	20,652,446	18,647,300	2010
10/1/2013	20,652,446	17,591,792	2010
10/1/2014	20,652,446	16,596,030	2010
10/1/2015	20,652,446	15,656,632	2010
10/1/2016	20,652,446	14,770,408	2010
10/1/2017	20,652,446	13,934,347	2010
10/1/2018	20,652,446	13,145,610	2010
10/1/2019	20,652,446	12,401,519	2010
10/1/2020	20,652,446	11,699,546	2010
Total Present Value of Amortization Payments (at 6%) Unfunded Actuarial Accrued Liability as of 12/31/2010			151,322,531
Official dear Actual la	ii Accided Elability a	S OF 12/31/2010	151,322,531

Amortization Schedule - PERA

American	A	Present Value	Amortization Based on
Assumed	Amortization	as of	Valuation
Payment Date	<u>Payment</u>	<u>1/1/2012</u>	<u>January 1</u>
12/1/2012	\$4,846,319	\$4,497,122	2012
12/1/2013	4,846,319	4,144,813	2012
12/1/2014	4,846,319	3,820,104	2012
12/1/2015	4,846,319	3,520,834	2012
12/1/2016	4,846,319	3,245,008	2012
12/1/2017	4,846,319	2,990,791	2012
12/1/2018	4,846,319	2,756,489	2012
12/1/2019	4,846,319	2,540,543	2012
12/1/2020	4,846,319	2,341,514	2012
12/1/2021	4,846,319	2,158,078	2012
12/1/2022	4,846,319	1,989,012	2012
12/1/2023	4,846,319	1,833,190	2012
12/1/2024	4,846,319	1,689,576	2012
12/1/2025	4,846,319	1,557,213	2012
12/1/2026	4,846,319	1,435,220	2012
12/1/2027	4,846,319	1,322,783	2012
12/1/2028	4,846,319	1,219,155	2012
12/1/2029	4,846,319	1,123,645	2012
12/1/2030	4,846,319	1,035,618	2012
12/1/2031	4,846,319	954,486	2012
	7 7		2012
Total Present Value	e of Amortization Pa	avments (at 8.5%)	46,175,195
Unfunded Present	Value of Benefits as	s of 1/1/2012	46,175,195
		, -, -, noil	10/1/0/100

^{*} Minn. Stat. §356.216(a)(2) provides, in part, that the unfunded obligation is to be amortized on a level dollar basis by December 31, 2020.

Projected January 1, 2012 Actuarial Valuation upon PERA Merger

Historical Unit Values

		Current		PERA	
	Effective -	Contract	Annual	Proposed	Annual
	<u>Date</u>	<u>Unit Values</u>	Member Benefit*	<u>Unit Values</u>	Member Benefit*
2000	01/01/2000	68.36			
	10/15/2000	70.16			
2001	01/01/2001	73.16	•		
	10/15/2001	75.68			
2002	01/01/2002	77.74			
	10/15/2002	80.08			
2003	01/01/2003	80.08			
	10/15/2003	83.19			
2004	01/01/2004	83.19			
	10/15/2004	85.03	-		
2005	01/01/2005	85.03			
	03/01/2005	86.02			•
	10/15/2005	87.43			
2006	01/01/2006	87 .4 3	•		
	10/15/2006	89.27			
2007	01/01/2007	89.27			
	10/15/2007	91.74			
2008	01/01/2008	96.64			
	10/15/2008	96.64			
2009	01/01/2009	96.64			•
	12/01/2009	86.71			
2010	01/01/2010	86.71			
	08/01/2010	88.48			
2011	01/01/2011	88.48	*	-	
	07/01/2011	89.81		101651	AE 4 000
2012	01/01/2012	89.81	\$46,342	104.651	\$54,000
2013	01/01/2013	93.40	48,196	109.011	56,250
2014	01/01/2014	97.14	50,123	114.825	59,250
2015	01/01/2015	101.02	52,128	124.031	64,000
2016	01/01/2016	105.06	54,214	125.891	64,960

Contract Unit Values: MPRA has determined that the unit value under the November 20, 2009 order was 88.48 as of December 31, 2010. Based on the labor agreement effective through December 31, 2011, a 1.5% increase is expected July 1, 2011.

^{*}Annual benefit payable for retiree with 43 units.

Projected January 1, 2012 Actuarial Valuation upon PERA Merger

Actuarial Methods and Assumptions

	Current	PERA
 Mortality 	The 1983 GAM mortality table set	The RP-2000 annuitant fully
	back 2 years for males and set	generational mortality table with
	forward 1 year for females.	white collar adjustment.
		•
2. Retirement Age	Active members are assumed to retire	Active members are assumed to retire
J	in one year,	on January 1, 2012.
	· · · · · · · · · · · · · · · · · · ·	511 3diredity 1, 2012.
3. Interest Rate	6% compounded annually *	9 E0/, compounded annually
or arrest out made	· ·	8.5% compounded annually.
4. Unit value/Salary Scale	The unit value under the November	All unit values after January 1, 2015
	20, 2009 order is 88.48 as of	are assumed to increase 1.5% per
•	December 31, 2010. The unit value is	year,
	expected to increase 1.5% on July 1,	
	2011. That unit value is assumed to	
	remain in effect as of January 1,	
	2012. All unit values after January 1,	•
	2012 are assumed to increase 4% per	
	year.*	
	·	
5. Actuarial Cost Method	The Entry Age Normal Cost Method.	N/A
	Under this method, the normal cost	INT
•	for an individual member is the level	
· ·	percentage of pay required, beginning	· · · · · · · · · · · · · · · · · · ·
•	on the date of joining the association,	
	to accumulate the funds needed to	
	pay the member's accrued benefits by	
	their assumed retirement age. The	
	actuarial accrued liability is the	
	accumulated value of these annual	
	normal costs on a given date. The	
	normal cost and accrued liability for	•
	the plan is the total of these values	
	for all members.*	
6. Beneficiary Data	85% of active employees are	85% of active employees are
-	assumed to be married with wives 3	assumed to be married with wives 3
	years younger than husbands. Actual	years younger than husbands. Actual
	spouse data is available for retirees,	spouse data is available for retirees,
	so no assumption is needed.	
	oo no assampaon is needed.	so no assumption is needed.

^{*} The interest rate and unit value increase assumptions and the actuarial cost method are prescribed by Minnesota Statute §356.215. The remaining assumptions cannot be changed without approval by the Legislative Commission on Pensions and Retirement.

Minn. Stat. $\S69.77$ subd. 4(c)(2) requires that there be no explicit recognition of expenses. This may need to be revised as the plan matures.

Projected January 1, 2012 Actuarial Valuation upon PERA Merger

Summary of Plan Provisions

1. Normal Retirement Benefit

Annual benefit of 30.40/80 of base pay for first 19 years of service. An additional 4.60/80 units are awarded for the 20th year of service. For service years in excess of 20, an additional 1.60/80 is granted; to a maximum of 25 years of service and 43/80 of base pay. "Base pay" for this purpose means the maximum monthly salary of a first class patrolman. Members must be at least age 50 with 5 years of service to receive this benefit.

2. Surviving Spouse's Benefit

Annual benefit of 23/80 of base pay for the surviving spouse of an active or retired member.

3. Surviving Children's Benefit

Annual benefit of 8/80 of base pay for each surviving child of an active or retired member. Benefits continue to age 18 or if the child is a full-time student, to age 22. The total benefit for surviving children and spouse combined is limited to 41/80 of base pay.

4. Member Contributions

Members are required to contribute 8% of base pay. After 25 years of service, member contributions are paid to a separate health insurance account. In the event of death without survivorship, member contributions are refundable including 5% interest from the month the contribution is made.

5. Post-retirement Benefits

No liability was included for future 13th check or 110% bill payments because the amount, if any, is contingent upon future investment results and such amounts are generally not material.

Due to the advanced age and service of active members, the deferred vested and disability benefits are obsolete.