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January 1, 2007 Actuarial Valuation

Revised August 10, 2007

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VAN IWAARDEN

January 1, 2007 Actuarial Valuation

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VAN IWAARDEN

January 1, 2007 Actuarial Valuation

Introduction

<u>Purpose</u>

This report presents the results of the January 1, 2007 actuarial valuation for the Spring Lake Park Firefighters' Relief Association. Its primary purposes are:

- to determine the required annual contribution and estimated municipal contribution, and
- to determine the plan's actuarial accrued liability under General Accounting Standards Board Statement No. 25 (GASB 25) as of January 1, 2007.

Sources of data

The Relief Association supplied January 1, 2007 data for all active and inactive members, and asset data for the Special Fund. While we have reviewed the information for reasonableness and consistency, we have not audited the information. We have relied on this data in preparing this report.

Changes from the previous valuation

The prior actuarial valuation of the plan was prepared as of January 1, 2005. The actuarial assumptions and methods used to prepare this report are the same as those used in the 2005 report.

The Association By-Laws were amended since the last valuation date to replace the monthly pension benefit of \$29 per year of good service with \$31 per year of good service. The benefit increase has been reflected in this report.

Summary of valuation results

The actuarial accrued liability used for determining the minimum required contribution increased from \$6,932,619 as of January 1, 2005 to \$7,780,885 as of January 1, 2007. This represents a 12% increase in actuarial accrued liabilities. About 4% of the increase is an expected increase due to normal operation of the plan. About 7% is a result of the benefit increase. Less than 1% is due to an unexpected increase in liabilities.

Special Fund assets increased from \$7,184,166 to \$8,971,954 from January 1, 2005 to December 31, 2006. Over the 2 year period this represents about an 8.5% annualized rate of return. This is higher than the 5% assumption required by statute.

As a result mainly of the favorable investment return, the fund has gone from a surplus of \$251,547 to \$1,191,069 in assets over liabilities, or from about 104% to about 115% funded. over liabilities. This is good news but it must be pointed out that this valuation is a "snapshot" of the current situation.

The municipal contribution based on the results of this report before any offset for State Aid is \$38,680, down from \$142,789 as of the January 1, 2005 report, largely due to the gain in assets. If the State Aid amount remains consistent, the required municipal obligation for 2008 and 2009 would be \$0.

January 1, 2007 Actuarial Valuation

Introduction (continued)

Financial disclosure

The actuarial accrued liability used for financial accounting purposes under Government Accounting Standards Board Statement No. 25 (GASB 25) is determined using the same actuarial assumptions used for determining the required contribution, except for the interest rate - for contribution purposes, Minnesota Statutes require use of 5%. Financial accounting standards, however, require use of a rate consistent with high-grade corporate bonds. For this report, we have used a discount rate of 6.00%.

Actuarial certification

We certify that the actuarial valuation and benefit study have been prepared in accordance with Minnesota Statutes §§356.20-.23 and §69.773 as they relate to volunteer fire department relief associations. We have not audited the results of the prior actuary, but we have compared the results of this valuation to the prior report. To the best of our knowledge, the actuarial assumptions and methods used in this report are the same as used by the prior actuary, except to the extent explicitly noted above.

The actuarial assumptions and methods used to develop the financial disclosure amounts in this report were selected in accordance with the requirements of Government Accounting Standards Board Statement No. 25 (GASB 25).

Respectfully submitted,

Paul D. Krueger, JD, EA Consulting Actuary

August, 2007



Sandra Bruns, FSA, MAAA Consulting Actuary

January 1, 2007 Actuarial Valuation

Reconciliation of Plan Assets

	2005	<u>2006</u>
1. Value of assets on January 1	\$7,184,166	\$ 7 ,851,466
 2. Contributions for the year a. Municipal contributions b. State contributions c. Total contributions 	226,000 <u>380,209</u> 606,209	185,000 <u>404,954</u> 589,954
3. Benefits paid during the year	(323,388)	(349,656)
4. Expenses (non-investment) paid from plan assets	(29,924)	(19,944)
5. Investment earnings for the year	414,403	900,134
6. Asset value on December 31 (sum of 1. thru 5.)	7,851,466	8,971,954

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January 1, 2007 Actuarial Valuation

Valuation of the Current Plan

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References and References

	<u>2005</u>	<u>2007</u>
<u>A. Actuarial accrued liability (AAL)</u>		
1. Active members	\$ <u>2,374,712</u>	\$2,191,428
2. Vested terminated members	694,151	1,099,044
3. Retired members	3,463,789	4,113,681
4. Spouses receiving benefits	399,967	376,732
5. Children receiving benefits	. 0	0
6. Disabled members receiving benefits	<u>0</u>	<u>0</u>
7. Total actuarial accrued liability	6,932,619	7,780,885
<u>B. Special fund assets</u>	7,184,166	8,971,954
	· ·	
C. Unfunded actuarial accrued liability	(251,547)	(1,191,069)
<u>e, omanded detamar decrued nabinty</u>	(251,517)	(1,191,009)
D. Cure dite for an and the		(110,107)
<u>D. Credit for surplus</u>	(25,155)	(119,107)
<u>E. Amortization payment</u>		
1. Amortization period	N/A	N/A
2. Payment	N/A	N/A
<u>F. Normal cost</u>	145,816	137,145
		•
G. Annual contribution payable:	2006, 2007	<u>2008, 2009</u>
1. Preliminary contribution 1 (D. + E. + F.)	120,661	18,038
2. Administrative expense (previous year x 1.035)	22,127	<u>20,642</u>
3. Annual contribution $(1.+2.)$	142,789	38,680
4. Estimated State Aid	(385,216)	(404,954)
5. Estimated municipal contribution (3.+4., not less than zero)	\$0	\$0
of Estimated manipul contribution (of any not loss than 2010)	40	40

January 1, 2007 Actuarial Valuation

Changes in the Unfunded Actuarial Accrued Liability

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<u>A. Liability gain or loss</u>	
1. Expected actuarial accrued liability (AAL)	
a. AAL as of January 1, 2005	6,932,619
b. Normal cost 2005	137,145
c. Normal cost 2006	137,145
d. Benefit payments 2005	(323,388)
e. Benefit payments 2006	(349,656)
f. Interest to December 31, 2006 on a. thru e.	<u>698,212</u>
g. Expected AAL on December 31, 2006 (sum of a. thru f.)	7,232,077
2. Actual AAL on January 1, 2006	
a. Before any assumption, method or plan changes	7,281,083
 b. After assumption, method changes, but before plan changes 	7,281,083
c. After assumption, method and plan changes	7,780,885
3. Difference from the expected AAL	
a. (Gain) or loss due to plan experience diff from that expected (2a 1e.)	49,006
b. Due to changes in actuarial assumptions and methods (2b 2a.)	· 0
c. Due to plan changes	<u>499,802</u>
d. Total (a. + b. + c.)	548,808
3. Asset gain or loss	
1. Expected value of assets	
a. Value of assets on January 1, 2005	7,184,166
b. Benefit payments	(673,044)
c. Contributions	1,196,163
d. Interest to December 31, 2006 on a., b. and c.	730,834
e. Expected assets on December 31, 2006 (sum of a. through d.)	8,438,119
2. Actual assets on January 1, 2006	·, ···,
a. Before any assumption or method changes	8,971,954
b. After assumption and method changes	8,971,954
3. Difference from the expected assets	,,
a. (Gain) or loss due to plan exp diff from expected (1e 2a.)	(533,835)
b. Due to changes in actuarial assumptions & methods (2a 2b.)	0
c. Total (a. + b.)	(533,835)
	()
C. Changes in the unfunded actuarial accrued liability	
1. Unfunded AAL on January 1, 2005 (A.1.a B.1.a.)	(251,547)
2. Expected unfunded AAL on December 31, 2006 (A.1.e B.1.e.)	(1,206,042)
2. Changes	
a. Actuarial (gain) or loss (A.3.a. + B.3.a.)	(484,829)
b. Changes in actuarial methods and assumptions (A.3.b. + B.3.b.)	0
c. Changes in plan provisions (A.3.c.)	499,802
d. Total change	14,973
3. Unfunded AAL on December 31, 2006	(1,191,069)

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Average Available Financing

	State <u>Aid</u>	City <u>Contrib</u>	Credit for <u>Surplus</u>	Total	Active <u>Members</u>	Average Financing
2004 2005 2006	\$385,216 380,209 404,954	\$79,554 226,000 185,000	\$25,155 0 119,107	\$489,925 606,209 709,061	60 58 52	\$8,165 10,452 13,636

Average available financing for 2007: 10,751

Minimum required for \$31.00 monthly benefit: 2,511

Notes:

Notice -

The State Aid and City Contributions shown are those made during the calendar year indicated.
The number of active members is from the State Reporting Form for the year indicated, that is, the number as of December 31.

- The average available financing for 2007 is the average for the three years preceeding 2007 (2004 to 2006). The minimum average financing required to support the \$31.00 monthly benefit is from Minnesota Statutes §424A.02.

January 1, 2007 Actuarial Valuation

GASB 25 Disclosure Information

A. GASB 25 actuarial accrued liability (6.00%) 1. Active members \$1,838,542 2. Vested terminated members 3. Retirees, beneficiaries, and disabled members 4,094,861 4. Total actuarial accrued liability as of January 1, 2005 6,877,648

B. Key economic assumptions

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- 1. Discount rate for obligations
- 2. Long term rate of return on assets

6.00% 6.00%

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January 1, 2007 Actuarial Valuation

Active Membership as of January 1, 2007

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	Birth <u>Date</u>	Entry <u>Date</u>	Years of <u>Service</u>	Projected Monthly <u>Benefit*</u>
Anderson, Daniel R.	4/18/1972	9/9/2003	3.3	\$620
Anderson, Jeremiah B.	1/2/1977	9/5/1995	11.3	930
Anderson, Kevin L.	9/6/1968	2/14/2000	5.1	620
Becker, Jim M.	7/9/1966	2/1/1994	12.3	682
Booker, Rebecca J.	1/16/1955	4/29/1998	8.7	620
Bruder, Jeffry A.	1/12/1971	2/1/1994	12.2	806
Camarillo, David L.	10/20/1961	1/7/1993	13.7	620
Carlson, Walter A.	9/25/1955	4/22/1999	7.6	620
Clark, Thomas A.	7/29/1966	1/19/1987	19.0	899
Corrigan, Patrick J.	9/25/1965	12/1/1990	15.3	744
Crooks, Rian R.	7/29/1965	2/1/1994	12.9	651
Diaz, Israel	2/12/1978	9/9/2003	3.3	744
Erko, Mike P.	9/19/1957	2/14/1981	22.4	713
Farrell, David L.	5/11/1965	2/1/1994	12.6	651
Fiske, Robert G.	10/28/1967	1/19/1987	19.9	930
Forster, Connie A.	4/7/1965	5/1/1998	6.4	620
Freitag, Loren L.	6/12/1961	2/1/1994	12.9	620
Gordon, Brian D.	10/23/1970	4/22/2001	5.7	620
Harinen, Greg *	9/25/1971	7/6/2004	2,1	.620
Hayes, Jeffrey K.	9/30/1971	1/7/1993	13.5	868
Howard, Daniel D.	9/1/1956	1/21/1987	19.7	620
Jahn, Jeffrey	7/8/1969	9/9/2003	2.7	620
Kroger II, Richard A.	11/2/1960	2/24/1988	16.4	620
Krueger, Donald W.	8/25/1951	5/22/1982	24.4	744
Lanz, Edward J.	4/3/1937	9/9/1996	8.8	620
Lueck, Christopher T.	12/18/1973	4/22/2001	5.7	713
Lundstrom, Harlan	6/28/1962	2/13/1989	17.5	713
Main, Randy L.	12/7/1967	9/9/2003	3.3	620
Martin, Kenneth C.	10/14/1961	1/18/1986	20.9	806
Matti, Brad H.	4/5/1964	3/14/1983	22.8	930
Mickelson, Michael P.	8/7/1957	10/4/1994	11.6	620
Miller, Todd O.	1/26/1969	4/22/2001	5.7	620
Nelson, Douglas J.	10/4/1969	12/1/1990	15.9	899
Osmonson, Kathleen A.	3/18/1962	5/1/1998	8.7	620
Parten, Garrett	8/17/1969	4/22/1999	7.5	620
Pawlitschek, Andrew D.	8/16/1967	9/9/2003	2.1	620
Retka, Daniel D.	3/31/1977	9/9/2003	3.3	744
Schaaf, Michael L.	12/5/1969	9/9/2003	3.1	620
Skoglund, David A.	1/22/1965	2/1/1994	12.9	651
Summerfield, Chris	6/2/1958	11/24/1984	18.3	620
Swanson, Donald J.	5/10/1970	3/7/2000	6.8	620
Vacco, Mike	8/17/1967	12/16/2003	3.0	620
Vandeville, Corey	1/23/1972	4/1/2004	2.7	620
Walters, Trent S.	6/23/1966	4/22/2001	5.6	620
Wangen, Derek L.	2/7/1980	4/22/1999	7.2	930

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January 1, 2007 Actuarial Valuation

Active Membership as of January 1, 2007

	Birth <u>Date</u>	Entry <u>Date</u>	Years of <u>Service</u>	Projected Monthly <u>Benefit*</u>
Zhelavskiy, Vasiliy I.	7/30/1978	9/9/2003	3.2	775
Zikmund, Nyle R.	5/20/1958	11/12/1982	24.0	775
Zuchowski, Brian V.	8/4/1977	4/22/2001	5.7	806
New active members since	January 1, 20	005:		
Backstrom, Brent	1/4/1983	1/17/2006	0.9	837
Leguil, Steven	11/15/1959	1/17/2006	0.9	620
Stepaniak, Thomas	4/21/1972	1/17/2006	0.9	620
Zobava, Mark	2/2/1968	1/31/2006	0.0	620

* Assumes retirement at later of age 50 or 20 years of service.

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January 1, 2007 Actuarial Valuation

Inactive Members as of January 1, 2007

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	Birth	Monthly
<u>Retired members</u>	Date	<u>Benefit</u>
Ackermann, Steve	7/20/1955	\$713.00
Bates, William	12/13/1950	713.00
Becker, William	1/1/1934	620.00
Bochniak, Eugene	3/1/1939	651.00
Brandt, Irving	3/1/1914	620.00
Cavanaugh, Patrick	11/27/1954	513.36
Copeland, Jim	3/7/1954	682.00
Cox, Wesley	3/1/1926	775.00
Dolin, Steve	12/1/1946	310.00
Doll, Francis	11/1/1928	620.00
Drabant, Laverne	4/1/1929	620.00
Durkot, John	4/1/1953	515.11
Emerson, Eric	9/1/1951	620.00
Forbes, Joseph	10/1/1919	899.00
Hansen, James	7/1/1949	651.00
Hegna, LeaAnn	8/1/1951	310.00
Hovland, Harry	4/1/1946	651.00
	1/1/1924	620.00
Kolar, Lloyd	10/1/1951	713.00
Kvitrud, John		620.00
Mahaffey, Jack	9/1/1937	
Mattson, Tom	9/1/1941	620.00
Mccalley, Mike	6/1/1947	463.76
Morrison, Robin R.	2/17/1954	620.00
Myslicki, Larry	7/1/1946	513.36
Nelson, Charles	6/1/1943	651.00
Nelson, Chester	6/1/1942	713.00
Norling, Curtis	5/1/1944	434.00
Olson, Vern	5/1/1931	341.00
Osen, Orland	10/1/1938	620.00
Packenham, Richard	7/1/1941	651.00
Pask, Leo	10/1/1940	620.00
Paulson, Floyd	6/1/1943	620.00
Ramola, Felix	6/1/1943	620.00
Rosengren, Eric	11/1/1947	620.00
Ryan, Michelle	4/1/1953	104.89
Samsal, Tim	2/1/1954	372.00
Schoen, William	12/1/1932	310.00
Schuldt, Wally	7/1/1932	651.00
Skeate, Thomas	6/1/1936	620.00
Skillings, Timothy G.	4/23/1948	513.36
Sorenson, Ev	4/1/1933	620.00
Teske, Gary	12/1/1946	620.00
Thorson, Elroy	7/1/1947	465.00
Vito, Kevin	8/1/1951	310.00
Vold, Roderick J.	1/9/1948	620.00
Welle, Mike	8/1/1953	463.76
West, Steven	11/1/1951	620.00
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Van Iwaarden

January 1, 2007 Actuarial Valuation

Inactive Members as of January 1, 2007

	Birth	Monthly
<u>Beneficiaries</u>	Date	<u>Benefit</u>
Anderson, Dorothy	3/1/1927	697.50
Hawke, Gladys	10/1/1946	534.75
Johnson, Donna	8/1/1937	232.50
Polenik, Judie	5/1/1943	418.50
Simon, Audrey	3/1/1930	465.00
St. Marie, Ann	11/1/1928	581.25

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	Birth	Monthly
Deferred vested	Date	<u>Benefit</u>
Bohan, Jay	6/1/1957	372.00
Caroon, Dale	5/18/1959	417.00
Drewitz, Scott	3/1/1958	682.00
Hanson, Bruce D.	10/23/1961	713.00
Hawley, Tim	11/9/1963	651.00
Krone, Randy A.	12/2/1958	651.00
Olson, Dean	10/1/1961	513.36
Reynolds, Ray	4/1/1962	463.76
Santer, John	8/4/1965	416.64
Sauve, Stephen A.	4/24/1957	620.00
Strand, Mark	1/1/1961	620.00
Yaekel, Dan	4/1/1963	416.64

January 1, 2007 Actuarial Valuation

Summary of Changes in Membership

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	Active	Terminated <u>Vested</u>	Retired	Beneficiaries Disabled
<u>A. Members on June 30, 2003</u>	60	9	42	7 0
 <i>B. Changes in the member group</i> 1. New active members 2. Retirements 3. Separation with deferred annuity 4. Separation, not vested 5. Separation with disability benefit 6. Deaths 7. Lump sum distributions 	4 (4) (4) (4)	(1) 4	5	(1)
8. Corrections 9. Total changes	(8)	3	5	(1) 0
<u>C. Members on January 1, 2005</u>	52	12	47	6 0

January 1, 2005 Actuarial Valuation

Summary of Plan Provisions

1. Normal retirement benefit

- 2. Vested termination benefit
- 3. Survivors benefit lump sum
- 4. Survivors benefit annuity

5. Children's benefits

6. Disability benefits

Monthly life annuity of \$31 per year of service (up to 30 years) payable on retirement after age 50 and 20 years of service.

On termination, after 10 years of service, the monthly normal retirement benefit is payable at age 50 subject to vesting. The vesting percentage is 60% for members with 10 years of service, increased by 4% for each additional year of service up to a maximum of 100% after 20 years.

\$4,000 lump sum payable on the death of an active member

On the death of a retiree or member disabled in the line of service, 75% of the member's accrued benefit is payable immediately as a life annuity to the surviving spouse.

On the death of an active member not in the line service or deferred inactive member, 75% of the members vested accrued benefit is payable to the surviving spouse commencing on the date the member would have attained age 50 and completed 20 years of service.

On the death of an active member in the line of duty, 100% of the member's accrued benefit is payable immediately as a life annuity to the surviving spouse.

On the death of the firefighter's surviving spouse, the surviving children will receive the pension that was payable to the surviving spouse. Benefits cease upon the last surviving child's attainment of age 18.

Short term disability: \$25 per day for up to 26 weeks

Long term disability in the line of duty: 5% of the Base Service Pension per year of service, up to 20 years. Base Service Pension is the benefit payable to a retiring member with 20 years of service. If the member is over age 50, benefit is payable after 26 weeks of disability. If the member is not yet 50 years old, benefit is payable after 26 weeks of disability and the date the member reaches age 50, or immediately if the firefighter has 20 years service.

Long term disability not in the line of duty: 10 years of service required for eligibility. Benefit equals 50% of the Base Service Pension, plus 5% per year of service past 10 years, to a maximum of 100%. Benefit payable on the date the member attains age 50 and would have completed 15 years of service.

January 1, 2005 Actuarial Valuation

Actuarial Methods and Assumptions

1. Mortality

2. Withdrawal

3. Disability

4. Retirement

5. Payment form

6. Beneficiary information

7. Interest rate

8. Actuarial cost method

9. Asset Basis

The 1994 Group Annuity Mortality Static Table.

6% withdrawal assumed at age 20, decreasing 0.24% each year with no withdrawal after age 45.

75% of the Railroad Retirement Board 12th valuation rates.

Members are assumed to retire at the later of age 53 or 20 years of service.

25% of active deaths and disabilities were assumed to in line of duty or service related

85% of members are assumed to be married, with husbands the same age as wives.

5.0% compounded annually for the required contribution, 6.0% for accounting disclosures.

The Entry Age Normal Cost Method, as prescribed by Minnesota Statutes. Under this method, the normal cost for an individual member is the level annual dollar amount 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.

Market value