

ILLINOIS MUNICIPAL RETIREMENT FUND
GAIN/LOSS ANALYSIS
OF FINANCIAL EXPERIENCE AMONG ACTIVE MEMBERS
DURING THE PERIOD JANUARY 1, 2016 TO DECEMBER 31, 2016

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DURING CALENDAR YEAR 2016

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March 22, 2017

Board of Trustees
Illinois Municipal Retirement Fund
Oak Brook, Illinois 60521

Ladies and Gentlemen:

Submitted in this report are the results of the annual gain and loss analysis of financial experience among the active members of the Illinois Municipal Retirement Fund (IMRF) covering the period from **January 1, 2016 to December 31, 2016.**

This is one of several documents comprising the full actuarial report. For additional information please see the Annual Actuarial Valuation report dated March 22, 2017.

The valuation was based upon information, furnished by IMRF staff, concerning Retirement Fund benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by IMRF Staff. GRS is not responsible for unauthorized use of this report.

The valuations are based upon current plan provisions related to Regular Members, Sheriff's Law Enforcement Personnel (SLEP), and Elected County Officials (ECO) employment.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of IMRF as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Brian B. Murphy and Mark Buis are Members of the American Academy of Actuaries (MAAA). These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein.

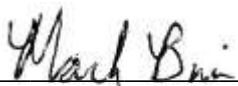
The signing actuaries are independent of the plan sponsor.

Gabriel, Roeder, Smith & Company will be pleased to review this valuation and report with the Board of Trustees and to answer any questions pertaining to the valuation.

Respectfully submitted,

GABRIEL, ROEDER, SMITH & COMPANY

By 
Brian B. Murphy, FSA, EA, FCA, MAAA, PhD


Mark Buis, FSA, EA, FCA, MAAA

BBM/MB:bd

COMMENTS

PURPOSE OF GAIN/LOSS ANALYSIS. Regular actuarial valuations give valuable information about the composite change in unfunded actuarial accrued liabilities -- whether or not the liabilities are increasing or decreasing and by how much.

Valuations do not show the portion of the change attributable to each risk area within the retirement system financial mechanism: the rate of investment return which plan assets will earn; the rates of withdrawal of active members who leave covered employment; the rates of mortality; the rates of disability; the rates of pay increases; and the ages at actual retirement. In an actuarial valuation, assumptions must be made as to what these rates will be, for the next year and for decades in the future.

The objective of a gain and loss analysis is to determine the portion of the change in actuarial condition (unfunded actuarial accrued liabilities) attributable to each risk area.

The fact that actual experience differs from assumed experience is to be expected -- *the future cannot be predicted with precision.* The economic risk areas (particularly investment return and pay increases) are volatile. Inflation directly affects economic risk areas, and inflation seems to defy reliable prediction.

Changes in the assumed experience for a risk area should be made when the differences between assumed and actual experience have been observed to be sizable and persistent. A gain and loss analysis covering a relatively short period may or may not be indicative of *long-term trends, which are the basis of financial assumptions.*

COMMENTS

DATA USED. The 2016 gain/loss analysis is based on the active member population as reported for use in preparing the December 31, 2015 and December 31, 2016 regular annual actuarial valuations. Please note however, that counts shown in this report may not match the December 31, 2016 valuation or the December 31, 2015 gain/loss report since data records for members who have more than one record have been combined. The 2015 reported active member data was matched with the 2016 reported active/inactive member data and the 2016 reported data for retirees and beneficiaries. This matching shows the movement of persons from active member status to various inactive status categories (e.g., retirement, death, disability, etc.). A reconciliation of the population is shown below:

	Active Population Reconciliation						
	Actual					Total	Expected
	Regular	SLEP	ECO				
			Regular	SLEP			
Beginning of Year Census	168,769	4,167	220	13	173,169		
+ New People	21,877	258	2	0	22,137		
- Normal Retirement	4,521	148	32	1	4,702	4,972	
- Early Retirement	1,065	0	0	0	1,065	1,296	
- Vested Deferred Retirements	2,151	32	22	0	2,205	1,621	
- Deaths	129	3	0	0	132	288	
- Disabilities	363	7	0	0	370	71	
- Other Terminations	12,586	93	15	0	12,694	11,570	
End of Year Census	169,831	4,142	153	12	174,138		

The expected number of disabilities is based on the assumed rates of disability for permanent disability. The actual number of disabilities shown above is comprised of both temporary and permanent disability cases with temporary cases making up the majority.

The retirement system had *a net experience gain/(loss) of \$25 million* during the 2016 observation year, which is 0.06% of the beginning accrued liabilities. During the 2016 observation year, IMRF experienced a return on the Market Value of Assets of 7.6%. The loss of \$110 million related to investment return and described on the following page is based on the Actuarial Value of Assets (AVA), which is a five-year smoothed market value. In this method, a portion of the current years' market value gain is combined with portions of the gains or losses from the prior four years to arrive at the AVA. See page 8 for a full description of this method. The gains in the non-economic risk areas were somewhat offset by losses due to the smoothed investment return.

CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITIES DURING CALENDAR YEAR 2016

The schedule below estimates the total gain or loss on Retirement Fund activities for the year as the difference between Expected and Actual Unfunded Liability.

	Unfunded Liability Development During	
	2016	2015
Unfunded Liability January 1	\$4,573,446,421	\$4,764,939,075
(Assumed Payments)	(295,381,436)	(306,609,121)
Assumed Interest	332,065,180	346,011,165
Expected Unfunded Liability December 31	4,610,130,165	4,804,341,119
Change Due to Experience Study	0	0
Change Due to Benefit Changes	0	0
Change Due to Investment Experience	109,908,168	(313,208,972)
Change Due to Demographic and Other Sources	(134,725,458)	82,314,274
Actual Unfunded Liability December 31	\$4,585,312,875	\$4,573,446,421
Gain (Loss) for the Year	\$ 24,817,290	\$ 230,894,698

The following schedule reconciles the employer contribution rate from last year to this year.

	Regular	SLEP	ECO	Total
Prior Year	11.34 %	22.39 %	73.50 %	11.94 %
Tier 2 Structure	(0.12)%	(0.16)%	0.00 %	(0.12)%
Investment Return	0.12 %	0.20 %	0.67 %	0.09 %
Pay Increases	(0.16)%	(1.38)%	(0.37)%	(0.16)%
Demographic	(0.02)%	0.19 %	2.20 %	0.00 %
Payroll Growth	0.09 %	0.49 %	5.13 %	0.08 %
Death and Disability Rate Change	(0.08)%	(0.08)%	(0.05)%	(0.08)%
Other	0.07 %	(0.16)%	1.64 %	0.03 %
Current Year	11.24 %	21.49 %	82.72 %	11.79 %

The next page shows the breakdown of the total gain or loss by source. Risk areas related to assumptions include economic risks and demographic risks. Economic risks relate to pay increases and investment return. Demographic risks relate to rates of retirement, death, disability, and other terminations. Actual number counts for each decrement are shown on pages 16 to 35. It is important to note that liability weighting was used to develop assumptions for certain decrements (such as retirement and age-based withdrawal) and therefore looking at number counts alone is not always the best indicator of plan experience.

**CHANGES IN ACTIVE MEMBER ACCRUED LIABILITIES
GAINS & LOSSES BY RISK AREA
DURING CALENDAR YEAR 2016**

Type of Risk Area	Gain (Loss) in Period			Percent of Liabilities
	Regular	SLEP	Totals	
	Millions of \$			
Risks Related to Assumptions				
Economic Risk Areas				
<i>Pay Increases</i>	\$279.8	\$ 32.9	\$ 312.7	0.79%
<i>Investment Return</i>			(109.9)	(0.28)%
Demographic Risk Areas				
<i>Service Retirements</i>	(13.3)	(6.9)	(20.2)	(0.05)%
<i>Early Retirements</i>	(2.6)	0.0	(2.6)	(0.01)%
<i>Vested Deferred Retirements</i>	(12.9)	(1.2)	(14.1)	(0.03)%
<i>Death and Survivor Benefits</i>	(2.7)	(0.6)	(3.3)	(0.01)%
<i>Disability Benefits</i>	11.1	0.9	12.0	0.03%
<i>Terminated with Refund</i>	34.7	1.0	35.7	0.09%
Risks not Related to Assumptions*			(185.5)	(0.47)%
Total Gain (or Loss) During Period			24.8	0.06%
Beginning of Year Accrued Liabilities			\$39,486.6	100.0%

* This is primarily due to rehires of former employees and actual reserve transfers for retirees being higher than the estimated reserve transfers. This may be due to higher final average pay than expected, higher service at retirement than expected, miscellaneous effects of the ERI program or other data adjustments that are made when a final benefit calculation is performed. There may also be a small gain or loss due to retiree mortality which was included in this amount.

GAIN/LOSS EXPERIENCE DURING CALENDAR YEAR 2016

Gain/Loss Experience expressed as a % of beginning of year liabilities



**EXPERIENCE GAINS & LOSSES BY RISK AREA
COMPARATIVE STATEMENT**

Experience Period	Pay Increases	Investment Return	Service Retirement	Early Retirement	Vested Deferred Retirement	Death and Survivor Benefits	Disability Benefits	Terminated with Refund	Other	Total Gain (Loss)	
										\$	Percent of Liabilities
1998	\$ (69.9)	\$ 515.7	\$ 37.8	\$(8.7)	\$ 37.8	\$7.7	\$ 5.7	\$(10.5)	\$ (197.0)	\$ 318.6	2.9 %
1999 ¹	5.5	962.1	(6.8)	(5.1)	(14.6)	0.6	6.4	(21.1)	(168.1)	758.9	6.4 %
2000	12.2	642.5	0.8	(2.8)	(8.7)	1.8	9.8	(22.4)	(89.2)	544.0	4.2 %
2001	(29.5)	69.4	(4.9)	(1.0)	(20.3)	2.9	10.0	11.4	1.4	39.4	0.3 %
2002 ¹	19.5	(611.8)	(9.9)	(2.0)	(31.0)	4.3	6.9	2.3	(66.7)	(688.4)	(4.5)%
2003	36.8	(404.6)	(18.4)	(5.4)	(28.0)	2.3	5.9	10.0	(250.0)	(651.4)	(3.9)%
2004	(0.3)	(478.5)	(14.7)	(5.3)	(27.5)	3.4	7.3	15.8	(183.0)	(682.6)	(3.8)%
2005 ¹	130.0	23.8	(10.4)	(5.0)	(28.3)	1.9	12.0	19.3	(111.2)	32.1	0.2 %
2006	23.5	262.2	(8.6)	(3.4)	(32.7)	2.1	9.4	11.1	(211.7)	51.9	0.3 %
2007	(15.4)	305.8	(8.4)	(2.6)	(35.3)	4.1	10.2	23.2	(170.5)	111.1	0.6 %
2008 ¹	8.2	(3,331.5)	2.4	(2.1)	(40.8)	1.8	11.4	9.1	(40.5)	(3,382.0)	(12.6)%
2009	70.2	(343.2)	11.6	(0.5)	(38.3)	3.5	12.9	(11.8)	(53.5)	(349.1)	(1.4)%
2010	359.6	(90.5)	(0.2)	0.0	(32.3)	3.3	7.3	(0.3)	(442.1) ²	(195.2)	(0.7)%
2011 ¹	238.9	(164.3)	(22.9)	(5.7)	(25.9)	7.3	8.2	19.9	(344.4) ³	(288.9)	(1.0)%
2012	230.2	71.0	2.0	(3.0)	(24.7)	6.5	20.8	23.8	(89.0)	237.6	0.8 %
2013	141.5	811.5	(11.6)	(2.8)	(22.7)	3.2	15.7	45.1	(74.0)	905.9	2.8 %
2014 ¹	64.2	767.6	(19.3)	(4.9)	(19.7)	(2.2)	17.2	37.9	(1,274.8) ³	(434.0)	(1.3)%
2015	22.9	313.2	(28.5)	(4.7)	(16.8)	(3.4)	15.8	33.0	(100.6)	230.9	0.6 %
2016	312.7	(109.9)	(20.2)	(2.6)	(14.1)	(3.3)	12.0	35.7	(185.5)	24.8	0.1 %

¹ Changes in assumptions due to the Experience Study.

² Includes one-time data changes of approximately \$250 million.

³ Includes Experience Study Changes.

**DEVELOPMENT OF FUNDING VALUE OF RETIREMENT SYSTEM ASSETS
GAIN (LOSS) FROM INVESTMENT RETURN
DURING THE CALENDAR YEAR 2016**

Year Ended December 31	2015	2016	2017	2018	2019	2020
A. Funding Value Beginning of Year	\$32,700,208,537	\$34,913,127,469				
B. Market Value End of Year	34,461,065,824	36,446,780,265				
C. Market Value Beginning of Year	34,833,147,358	34,461,065,824				
D. Non-Investment/Administrative Net Cash Flow	(532,824,752)	(624,873,575)				
E. Investment Return						
E1. Market Total: B-C-D	160,743,218	2,610,588,016				
E2. Assumed Rate of Return	7.50%	7.50%				
E3. Assumed Amount of Return	2,432,534,712	2,595,051,801	-----Scheduled-----			
E4. Return Subject to Phase-in: E1-E3	(2,271,791,494)	15,536,215				
F. Phased-In Recognition of Investment Return						
F1. Current Year: 0.20xE4	(454,358,299)	3,107,243	Unknown	Unknown	Unknown	Unknown
F2. First Prior Year	(43,893,138)	(113,015,411)	3,107,243	Unknown	Unknown	Unknown
F3. Second Prior Year	685,590,556	-	(113,015,411)	3,107,243	Unknown	Unknown
F4. Third Prior Year	125,869,853	-	-	(113,015,411)	3,107,243	Unknown
F5. Fourth Prior Year	-	-	-	-	(113,015,412)	3,107,243
F6. Funding Corridor Adjustment	-	-	-	-	-	-
F7. Total Scheduled Phase-in of Gain/(Loss)	313,208,972	(109,908,168)	(109,908,168)	(109,908,168)	(109,908,169)	3,107,243
G. Acceptable Phase-In of Investment Return						
G1. Projected Funding Value without Phase-In: A+D+E3	34,599,918,497	36,883,305,695				
G2. Limit on Phase-In: B-G1	(138,852,673)	(436,525,430)				
G3. Acceptable Phase-In Amount	313,208,972	(109,908,168)				
H. Funding Value End of Year: A+D+E3+G3	34,913,127,469	36,773,397,527				
I. Difference Between Market and Funding Value	(452,061,645)	(326,617,262)	(216,709,094)	(106,800,926)	3,107,243	-
J. Recognized Rate of Return	8.5 %	7.2 %				
K. Market Rate of Return	0.5 %	7.6 %				
L. Ratio of Funding Value to Market Value	101.3 %	100.9 %				

The Funding Value of Assets recognizes assumed investment return (line E3) fully each year. Differences between actual and assumed investment return (line E4) are phased-in over a closed 5-year period subject to a 20% corridor. The acceptable phase-in amount (Item G3) is the minimum of Items F7 and G2, if G2 is positive. If G2 is negative, the acceptable phase-in amount is the greater of Items F7 and G2.

**REGULAR EMPLOYEES IN VALUATION
BY AGE AND YEARS OF SERVICE
AS OF DECEMBER 31, 2015**

Age	Years of Service to Valuation Date								Total Number
	Men				Women				
	0-7	8-19	20-34	35 Plus	0-7	8-19	20-34	35 Plus	
24 & Under	2,312				3,005				5,317
25- 29	4,692	204			6,372	158			11,426
30- 34	4,068	1,564			5,745	1,517	2		12,896
35- 39	2,844	2,931	16		5,647	3,164	15		14,617
40- 44	2,418	3,040	443	3	6,457	4,013	359		16,733
45- 49	2,369	3,008	1,640	8	7,422	6,052	1,307	1	21,807
50	449	567	441	6	1,382	1,555	361	1	4,762
51	484	618	520	5	1,359	1,746	429		5,161
52	495	658	573	6	1,358	1,882	472	2	5,446
53	563	662	658	19	1,247	2,004	602	17	5,772
54	568	670	690	45	1,181	2,102	588	37	5,881
55	563	660	615	102	1,151	2,166	694	40	5,991
56	542	620	589	76	1,013	2,077	720	50	5,687
57	547	603	525	81	1,018	2,050	728	70	5,622
58	533	616	526	111	861	2,018	785	67	5,517
59	589	617	485	136	832	1,901	862	75	5,497
60	526	521	410	122	735	1,680	820	87	4,901
61	560	544	380	91	624	1,402	816	69	4,486
62	477	522	294	86	524	1,262	745	46	3,956
63	466	434	276	72	438	1,036	621	43	3,386
64	358	412	201	50	376	899	567	57	2,920
65	355	366	153	52	295	676	457	47	2,401
66	256	284	117	25	220	480	314	35	1,731
67	238	204	69	25	204	359	243	23	1,365
68	183	188	52	13	158	273	183	13	1,063
69	208	166	52	7	150	239	163	14	999
70 & Over	679	816	196	36	431	734	446	91	3,429
Totals	28,342	21,495	9,921	1,177	50,205	43,445	13,299	885	168,769

Figures on this page may not always match corresponding figures from the regular valuation due to differences in tabulation methods.

**ECO REGULAR EMPLOYEES IN VALUATION
BY AGE AND YEARS OF SERVICE
AS OF DECEMBER 31, 2015**

Age	Years of Service to Valuation Date								Total Number
	Men				Women				
	0-7	8-19	20-34	35 Plus	0-7	8-19	20-34	35 Plus	
24 & Under									
25- 29	1								1
30- 34	1								1
35- 39	5	1			1				7
40- 44	3	5	2		1	1			12
45- 49	5	5	4		3	3			20
50	1	1	1		1	2			6
51					1	3			4
52	2	1	1	1			2		7
53	5	4	1		2	1	1		14
54	4	3		1		1	2	1	12
55	2	1			1	1	2		7
56	1	2	2			1			6
57	2	2	1		2	1			8
58		4	1		1	3	1	1	11
59	2	6	1		1	5	1		16
60		6	1			1		1	9
61	2	5		1	1	2	1	1	13
62		6						1	7
63	3	2	2		2		4		13
64	2	3			1				6
65		3				1	1		5
66	2	5			1	1			9
67		1	1			2			4
68	1	2							3
69		1							1
70 & Over	3	6	2	1		3	2	1	18
Totals	47	75	20	4	19	32	17	6	220

Figures on this page may not always match corresponding figures from the regular valuation due to differences in tabulation methods.

**SLEP EMPLOYEES IN VALUATION
BY AGE AND YEARS OF SERVICE
AS OF DECEMBER 31, 2015**

Age	Years of Service to Valuation Date								Total Number
	Men				Women				
	0-7	8-19	20-34	35 Plus	0-7	8-19	20-34	35 Plus	
24 & Under	69				13				82
25- 29	305	5			41	2			353
30- 34	338	240			59	29			666
35- 39	176	409	2		36	65			688
40- 44	83	443	90		19	89	10		734
45- 49	69	327	315		11	40	37		799
50	6	31	61		2	5	6		111
51	9	29	42		1	12	9		102
52	5	27	36			9	8		85
53	9	20	31			9	6		75
54	3	23	32			5	3		66
55	8	19	19	1		13	5		65
56	6	18	19			6	2	1	52
57	5	18	21		1	2	4	1	52
58	8	11	13	1		1			34
59	6	9	11	2		3	3		34
60	8	15	11	2		7	1		44
61	5	10	4	1	1	1			22
62	6	8	5	2		3	1		25
63	5	14	4	2		2	1		28
64		6	5						11
65		4	1	1		1			7
66	2	2	2			2			8
67	1	3	3				1		8
68	2	2	1						5
69	1	2		1					4
70 & Over	1	4	2						7
Totals	1,136	1,699	730	13	184	306	97	2	4,167

Figures on this page may not always match corresponding figures from the regular valuation due to differences in tabulation methods.

**ECO SLEP EMPLOYEES IN VALUATION
BY AGE AND YEARS OF SERVICE
AS OF DECEMBER 31, 2015**

Age	Years of Service to Valuation Date								Total Number
	Men				Women				
	0-7	8-19	20-34	35 Plus	0-7	8-19	20-34	35 Plus	
24 & Under									
25- 29									
30- 34									
35- 39									
40- 44									
45- 49	2	2							4
50									
51			1						1
52									
53									
54		1							1
55									
56									
57									
58									
59	1	2							3
60									
61									
62									
63									
64									
65			1	2					3
66									
67			1						1
68									
69									
70 & Over									
Totals	3	5	3	2					13

Figures on this page may not always match corresponding figures from the regular valuation due to differences in tabulation methods.

**REGULAR EMPLOYEES IN VALUATION
BY AGE AND YEARS OF SERVICE
AS OF DECEMBER 31, 2016**

Age	Years of Service to Valuation Date								Total Number
	Men				Women				
	0-7	8-19	20-34	35 Plus	0-7	8-19	20-34	35 Plus	
24 & Under	2,453	1			3,148				5,602
25- 29	4,784	194			6,481	161			11,620
30- 34	4,058	1,630			5,936	1,478			13,102
35- 39	2,968	2,928	24		5,967	3,205	26		15,118
40- 44	2,392	3,092	439	2	6,535	3,933	345	1	16,739
45- 49	2,318	2,954	1,616	10	7,433	5,881	1,347	1	21,560
50	438	605	452	3	1,347	1,458	351		4,654
51	457	548	490	6	1,352	1,624	403	2	4,882
52	518	611	554	6	1,268	1,819	501		5,277
53	510	663	587	16	1,243	1,926	538	4	5,487
54	572	659	667	46	1,164	2,022	662	35	5,827
55	560	663	664	72	1,117	2,089	637	58	5,860
56	571	621	579	82	1,060	2,085	722	46	5,766
57	540	615	556	82	973	1,999	767	66	5,598
58	529	602	481	108	960	1,982	762	78	5,502
59	557	604	475	122	792	1,896	855	64	5,365
60	558	625	434	131	781	1,759	892	68	5,248
61	527	503	382	102	669	1,494	829	77	4,583
62	522	508	332	93	592	1,238	779	70	4,134
63	444	466	241	69	449	1,036	677	43	3,425
64	402	423	237	66	388	921	577	40	3,054
65	326	365	174	46	326	739	506	46	2,528
66	280	302	113	34	250	478	329	32	1,818
67	229	238	77	25	179	361	231	31	1,371
68	208	172	57	16	186	285	187	20	1,131
69	173	158	40	11	144	209	145	13	893
70 & Over	748	842	208	45	498	759	484	103	3,687
Totals	28,642	21,592	9,879	1,193	51,238	42,837	13,552	898	169,831

Figures on this page may not always match corresponding figures from the regular valuation due to differences in tabulation methods.

**ECO REGULAR EMPLOYEES IN VALUATION
BY AGE AND YEARS OF SERVICE
AS OF DECEMBER 31, 2016**

Age	Years of Service to Valuation Date								Total Number
	Men				Women				
	0-7	8-19	20-34	35 Plus	0-7	8-19	20-34	35 Plus	
24 & Under									
25- 29									
30- 34	1								1
35- 39		5			1				6
40- 44	1	4	1			1			7
45- 49	1	7	2		1	5			16
50		1	2						3
51		2	1			2			5
52						4			4
53	2	1	1	1			2		7
54	1	4	1			2	1		9
55	1	4		1		1	2	1	10
56	1				1				2
57	1	1	2			1			5
58	1	1			1	2			5
59		3	2			4		1	10
60		5	2		1	3	2		13
61		3	2			1		1	7
62	2	4		1	1	1	1		10
63		2	2					1	5
64	2		3		1	1	1		8
65		1			1				2
66		2				1	1		4
67	2					1			3
68		1	1						2
69		2							2
70 & Over	1	2	1			2		1	7
Totals	17	55	23	3	8	32	10	5	153

Figures on this page may not always match corresponding figures from the regular valuation due to differences in tabulation methods.

**SLEP EMPLOYEES IN VALUATION
BY AGE AND YEARS OF SERVICE
AS OF DECEMBER 31, 2016**

Age	Years of Service to Valuation Date								Total Number
	Men				Women				
	0-7	8-19	20-34	35 Plus	0-7	8-19	20-34	35 Plus	
24 & Under	65				12				77
25- 29	318	2			53				373
30- 34	346	221			42	39			648
35- 39	152	439	2		33	66			692
40- 44	84	416	80		19	81	11		691
45- 49	54	328	322		9	43	46		802
50	8	37	87		3	5	5		145
51	7	26	39		3	5	1		81
52	10	26	36			11	9		92
53	4	22	33			8	7		74
54	8	18	23	1		9	4		63
55	4	20	27			5	2		58
56	9	13	16	2		11	6		57
57	6	16	16			4	4		46
58	3	18	16	1	1	2	4	1	46
59	8	12	8			1			29
60	5	7	8	2		3	2	1	28
61	5	15	12	1		5	1		39
62	2	11	4	1	1	1			20
63	5	7	4	1		3	1		21
64	3	12	4	2		1			22
65	1	2	4						7
66		3				1			4
67	2	1	1			1	1		6
68	2	3	3						8
69	2		1						3
70 & Over	2	5	2	1					10
Totals	1,115	1,680	748	12	176	305	104	2	4,142

Figures on this page may not always match corresponding figures from the regular valuation due to differences in tabulation methods.

**ECO SLEP EMPLOYEES IN VALUATION
BY AGE AND YEARS OF SERVICE
AS OF DECEMBER 31, 2016**

Age	Years of Service to Valuation Date								Total Number
	Men				Women				
	0-7	8-19	20-34	35 Plus	0-7	8-19	20-34	35 Plus	
24 & Under									
25- 29									
30- 34									
35- 39									
40- 44									
45- 49	2	1							3
50		1							1
51									
52			1						1
53									
54									
55		1							1
56									
57									
58									
59									
60	1	2							3
61									
62									
63									
64									
65									
66			1	2					3
67									
68									
69									
70 & Over									
Totals	3	5	2	2					12

Figures on this page may not always match corresponding figures from the regular valuation due to differences in tabulation methods.

RETIREMENT EXPERIENCE

**ACTIVE REGULAR GROUP MEMBERS WHO BECAME AGE & SERVICE
RETIREES DURING CALENDAR YEAR 2016
(RETIREMENT WITH BENEFIT BEGINNING IMMEDIATELY)**

Male		
Age	Retirements	Exposure
Under 55	10	10
55	34	114
56	35	109
57	21	108
58	20	135
59	35	165
60	116	1,193
61	102	1,102
62	158	1,014
63	158	895
64	92	807
65	158	679
66	149	534
67	109	408
68	66	279
69	67	278
70	51	220
71	34	146
72	33	158
73	27	145
74	24	123
75 & Up	94	487
Total (55 & Up)	1,583	9,099
Average Rate:	0.1740	

Female		
Age	Retirements	Exposure
Under 55	7	7
55	12	57
56	10	61
57	12	86
58	15	96
59	16	77
60	278	2,834
61	239	2,560
62	364	2,355
63	289	1,930
64	216	1,658
65	373	1,482
66	312	1,003
67	167	722
68	153	602
69	103	479
70	87	344
71	51	236
72	40	172
73	37	182
74	37	153
75 & Up	110	452
Total (55 & Up)	2,921	17,541
Average Rate:	0.1665	

**ACTIVE REGULAR GROUP MEMBERS WHO BECAME EARLY SERVICE
RETIREES DURING CALENDAR YEAR 2016**

Male		
Age	Retirements	Exposure
55	74	1,384
56	66	1,296
57	61	1,142
58	53	1,145
59	70	1,203
Total	324	6,170
Average Rate:	0.0525	

Female		
Age	Retirements	Exposure
55	150	2,983
56	170	2,983
57	139	2,932
58	125	2,830
59	157	2,931
Total	741	14,659
Average Rate:	0.0505	

**ACTIVE SLEP GROUP MEMBERS WHO BECAME AGE & SERVICE
RETIREES DURING CALENDAR YEAR 2016
(RETIREMENT WITH BENEFIT BEGINNING IMMEDIATELY)**

Male		
Age	Retirements	Exposure
Under 50	-	-
50	22	89
51	20	59
52	9	44
53	6	35
54	14	33
55	11	31
56	4	24
57	3	21
58	4	15
59	7	15
60	4	21
61	2	25
62	4	20
63	4	19
64	3	13
65	8	13
66	-	5
67	1	4
68	1	5
69	1	4
70	-	1
71	-	1
72	-	1
73	-	-
74	1	2
75 & Up	-	1
Total (50 & Up)	129	501
Average Rate:	0.2575	

Female		
Age	Retirements	Exposure
Under 50	-	-
50	5	11
51	3	8
52	-	8
53	2	7
54	1	4
55	2	7
56	1	5
57	1	6
58	-	1
59	-	1
60	-	9
61	2	4
62	-	3
63	-	3
64	1	2
65	-	-
66	-	2
67	-	1
68	1	1
69	-	-
70	-	-
71	-	-
72	-	-
73	-	-
74	-	-
75 & Up	-	-
Total (50 & Up)	19	83
Average Rate:	0.2289	

**ACTIVE ECO GROUP MEMBERS WHO BECAME AGE & SERVICE
RETIREES DURING CALENDAR YEAR 2016
(RETIREMENT WITH BENEFIT BEGINNING IMMEDIATELY)**

Male		
Age	Retirements	Exposure
Under 55	-	-
55	-	3
56	1	1
57	1	4
58	1	8
59	1	6
60	-	7
61	1	5
62	1	8
63	1	5
64	-	4
65	-	2
66	2	5
67	3	5
68	-	1
69	-	1
70	-	1
71	1	2
72	-	-
73	2	3
74	-	-
75 & Up	2	7
Total (55 & Up)	17	78
Average Rate:	0.2179	

Female		
Age	Retirements	Exposure
Under 55	-	-
55	2	7
56	1	1
57	-	1
58	1	5
59	1	6
60	-	4
61	2	4
62	-	1
63	1	3
64	2	3
65	-	2
66	-	1
67	-	-
68	2	2
69	-	-
70	-	-
71	-	1
72	1	1
73	-	-
74	-	-
75 & Up	2	4
Total (55 & Up)	15	46
Average Rate:	0.3261	

**ACTIVE ECO SLEP GROUP MEMBERS WHO BECAME AGE & SERVICE
RETIREES DURING CALENDAR YEAR 2016
(RETIREMENT WITH BENEFIT BEGINNING IMMEDIATELY)**

Male		
Age	Retirements	Exposure
Under 50	-	-
50	-	-
51	-	1
52	-	-
53	-	-
54	-	-
55	-	1
56	-	-
57	-	-
58	-	-
59	-	-
60	-	2
61	-	-
62	-	-
63	-	-
64	-	-
65	-	2
66	-	1
67	-	-
68	1	1
69	-	-
70	-	-
71	-	-
72	-	-
73	-	-
74	-	-
75 & Up	-	-
Total (50 & Up)	1	8
Average Rate:	0.1250	

Female		
Age	Retirements	Exposure
Under 50	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	-	-
59	-	-
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
65	-	-
66	-	-
67	-	-
68	-	-
69	-	-
70	-	-
71	-	-
72	-	-
73	-	-
74	-	-
75 & Up	-	-
Total (50 & Up)	-	-
Average Rate:	-	

DISABILITY EXPERIENCE

REGULAR GROUP MEMBERS WHO BECAME DISABILITY RETIREES DURING CALENDAR YEAR 2016

Male		
Age	Disabilities*	Exposure
Under 20	-	69
20-24	-	1,832
25-29	1	4,803
30-34	4	5,562
35-39	10	5,761
40-44	14	5,820
45-49	17	6,922
50-54	25	8,429
55-59	42	9,268
60-64	41	7,240
65-69	14	3,290
70-74	1	1,263
75 and Over	2	676
Totals	171	60,935
Average Rate:	0.0028	

Female		
Age	Disabilities*	Exposure
Under 20	-	81
20-24	1	2,357
25-29	7	6,408
30-34	7	7,144
35-39	7	8,690
40-44	12	10,435
45-49	24	14,426
50-54	35	17,924
55-59	52	19,363
60-64	34	13,805
65-69	5	5,250
70-74	6	1,399
75 and Over	2	552
Totals	192	107,834
Average Rate:	0.0018	

* The numbers shown above may be overstated due to inclusion of temporary disability cases. Actual numbers may vary once the permanent cases have been determined.

**SLEP GROUP MEMBERS WHO BECAME DISABILITY RETIREES
DURING CALENDAR YEAR 2016**

Male		
Age	Disabilities*	Exposure
Under 20	-	-
20-24	-	49
25-29	-	286
30-34	-	568
35-39	1	587
40-44	1	597
45-49	1	701
50-54	-	421
55-59	1	209
60-64	-	116
65-69	1	36
70-74	-	2
75 and Over	-	-
Totals	5	3,572
Average Rate:	0.0014	

Female		
Age	Disabilities*	Exposure
Under 20	-	-
20-24	-	8
25-29	-	43
30-34	1	85
35-39	1	102
40-44	-	109
45-49	-	92
50-54	-	82
55-59	-	42
60-64	-	22
65-69	-	4
70-74	-	-
75 and Over	-	-
Totals	2	589
Average Rate:	0.0034	

* The numbers shown above may be overstated due to inclusion of temporary disability cases. Actual numbers may vary once the permanent cases have been determined.

**ECO GROUP MEMBERS WHO BECAME DISABILITY RETIREES
DURING CALENDAR YEAR 2016**

Male		
Age	Disabilities	Exposure
Under 20	-	-
20-24	-	-
25-29	-	1
30-34	-	1
35-39	-	6
40-44	-	9
45-49	-	12
50-54	-	26
55-59	-	26
60-64	-	35
65-69	-	17
70-74	-	6
75 and Over	-	7
Totals	-	146
Average Rate:	-	

Female		
Age	Disabilities	Exposure
Under 20	-	-
20-24	-	-
25-29	-	-
30-34	-	-
35-39	-	1
40-44	-	1
45-49	-	6
50-54	-	14
55-59	-	22
60-64	-	17
65-69	-	7
70-74	-	2
75 and Over	-	4
Totals	-	74
Average Rate:	-	

**ECO SLEP MEMBERS WHO BECAME DISABILITY RETIREES
DURING CALENDAR YEAR 2016**

Male		
Age	Disabilities	Exposure
Under 20	-	-
20-24	-	-
25-29	-	-
30-34	-	-
35-39	-	-
40-44	-	-
45-49	-	3
50-54	-	2
55-59	-	2
60-64	-	2
65-69	-	4
70-74	-	-
75 and Over	-	-
Totals	-	13
Average Rate:	-	

Female		
Age	Disabilities	Exposure
Under 20	-	-
20-24	-	-
25-29	-	-
30-34	-	-
35-39	-	-
40-44	-	-
45-49	-	-
50-54	-	-
55-59	-	-
60-64	-	-
65-69	-	-
70-74	-	-
75 and Over	-	-
Totals	-	-
Average Rate:	-	

WITHDRAWAL EXPERIENCE

**REGULAR GROUP MEMBERS WHO LEFT ACTIVE STATUS
DURING CALENDAR YEAR 2016
WITH MORE THAN EIGHT YEARS OF SERVICE**

Male		
Age	Withdrawals	Exposure
25-29	13	201
30-34	89	1,597
35-39	130	2,985
40-44	142	3,522
45-49	132	4,647
50-54	182	6,069
55 & Over	187	187
Total	875	19,208
Average Rate:	0.0456	

Female		
Age	Withdrawals	Exposure
25-29	18	169
30-34	142	1,563
35-39	228	3,256
40-44	299	4,373
45-49	398	7,368
50-54	457	11,656
55 & Over	401	401
Total	1,943	28,786
Average Rate:	0.0675	

**SLEP GROUP MEMBERS WHO LEFT ACTIVE STATUS
DURING CALENDAR YEAR 2016
WITH MORE THAN SEVEN YEARS OF SERVICE**

Male		
Age	Withdrawals	Exposure
25-29	-	9
30-34	13	298
35-39	6	468
40-44	6	526
45-49	9	656
50-54	2	130
55 & Over	1	74
Total	37	2,161
Average Rate:	0.0171	

Female		
Age	Withdrawals	Exposure
25-29	-	2
30-34	2	46
35-39	1	72
40-44	3	98
45-49	-	83
50-54	1	40
55 & Over	1	21
Total	8	362
Average Rate:	0.0221	

**ECO GROUP MEMBERS WHO LEFT ACTIVE STATUS
DURING CALENDAR YEAR 2016
WITH MORE THAN EIGHT YEARS OF SERVICE**

Male		
Age	Withdrawals	Exposure
25-29	-	-
30-34	-	-
35-39	-	3
40-44	1	6
45-49	2	7
50-54	3	15
55 & Over	10	10
Total	16	41
Average Rate:	0.3902	

Female		
Age	Withdrawals	Exposure
25-29	-	-
30-34	-	-
35-39	-	-
40-44	-	1
45-49	-	3
50-54	3	12
55 & Over	-	-
Total	3	16
Average Rate:	0.1875	

**ECO SLEP GROUP MEMBERS WHO LEFT ACTIVE STATUS
DURING CALENDAR YEAR 2016
WITH MORE THAN SEVEN YEARS OF SERVICE**

Male		
Age	Withdrawals	Exposure
25-29	-	-
30-34	-	-
35-39	-	-
40-44	-	-
45-49	-	1
50-54	-	1
55 & Over	-	-
Total	-	2
Average Rate:	-	

Female		
Age	Withdrawals	Exposure
25-29	-	-
30-34	-	-
35-39	-	-
40-44	-	-
45-49	-	-
50-54	-	-
55 & Over	-	-
Total	-	-
Average Rate:	-	

**REGULAR GROUP MEMBERS WHO LEFT ACTIVE STATUS
WITH NO MONTHLY BENEFIT
DURING CALENDAR YEAR 2016
(NON-VESTED SEPARATIONS)**

Male		
Service Index	Withdrawals	Exposure
1	824	3,383
2	1,123	5,628
3	673	4,530
4	433	3,478
5	323	3,032
6	209	2,453
7	174	2,102
8	159	2,031
9	121	1,722
10	112	1,583
11	75	1,481
12	66	1,276
13	49	1,102
14	64	1,058
15	51	1,084
16	60	1,139
17	38	1,120
18	30	967
19	37	799
20	24	724
21	20	639
22	16	534
23	13	470
24	14	383
25	13	389
26	16	444
27	12	454
28	7	389
29	4	316
30 and Over	33	955
Totals (Less Than or Equal to 8 Years of Service)	3,918	26,637
Average Rate	0.1471	

Female		
Service Index	Withdrawals	Exposure
1	1,805	6,777
2	2,183	10,348
3	1,314	7,744
4	915	6,104
5	610	4,866
6	469	4,054
7	374	3,782
8	331	3,564
9	360	3,557
10	278	3,271
11	216	2,792
12	175	2,254
13	134	1,915
14	123	1,720
15	115	1,857
16	103	1,897
17	75	1,634
18	61	1,333
19	49	1,119
20	56	875
21	42	711
22	22	581
23	23	477
24	11	365
25	14	328
26	11	328
27	13	335
28	8	256
29	10	217
30 and Over	44	570
Totals (Less Than or Equal to 8 Years of Service)	8,001	47,239
Average Rate	0.1694	

**SLEP GROUP MEMBERS WHO LEFT ACTIVE STATUS
WITH NO MONTHLY BENEFIT
DURING CALENDAR YEAR 2016
(NON-VESTED SEPARATIONS)**

Male		
Service Index	Withdrawals	Exposure
1	12	91
2	17	183
3	8	160
4	9	137
5	9	128
6	8	115
7	4	99
8	5	140
9	7	183
10	4	150
11	2	156
12	3	152
13	2	144
14	1	123
15	1	131
16	1	121
17	2	115
18	-	124
19	2	123
20	2	108
21	1	78
22	2	89
23	-	43
24	-	43
25	1	49
26	-	37
27	-	26
28	-	18
29	-	7
30 and Over	1	3
Totals (Less Than or Equal to 7 Years of Service)	67	913
Average Rate	0.0734	

Female		
Service Index	Withdrawals	Exposure
1	2	11
2	7	27
3	2	26
4	-	18
5	1	25
6	-	18
7	1	18
8	2	27
9	-	30
10	-	29
11	-	16
12	-	27
13	2	30
14	-	17
15	-	29
16	-	28
17	1	24
18	-	22
19	-	17
20	-	21
21	1	9
22	1	9
23	-	8
24	-	3
25	-	7
26	-	3
27	-	3
28	1	3
29	-	-
30 and Over	-	-
Totals (Less Than or Equal to 7 Years of Service)	13	143
Average Rate	0.0909	

**ECO GROUP MEMBERS WHO LEFT ACTIVE STATUS
WITH NO MONTHLY BENEFIT
DURING CALENDAR YEAR 2016
(NON-VESTED SEPARATIONS)**

Male		
Service Index	Withdrawals	Exposure
1	1	2
2	-	1
3	-	-
4	-	1
5	1	3
6	8	14
7	2	7
8	4	9
9	-	2
10	-	2
11	2	-
12	2	3
13	1	1
14	2	2
15	-	-
16	1	4
17	2	4
18	2	-
19	1	1
20	1	-
21	-	1
22	-	2
23	-	1
24	1	4
25	1	1
26	-	-
27	-	-
28	-	-
29	-	-
30 and Over	-	3
Totals (Less Than or Equal to 8 Years of Service)	16	37
Average Rate	0.4324	

Female		
Service Index	Withdrawals	Exposure
1	1	1
2	-	-
3	-	-
4	-	-
5	-	-
6	-	5
7	1	2
8	-	5
9	1	4
10	-	-
11	-	-
12	-	1
13	-	1
14	-	2
15	-	1
16	1	2
17	-	1
18	-	-
19	-	-
20	1	1
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	1
28	-	-
29	-	-
30 and Over	-	2
Totals (Less Than or Equal to 8 Years of Service)	2	13
Average Rate	0.1538	

**ECO SLEP GROUP MEMBERS WHO LEFT ACTIVE STATUS
WITH NO MONTHLY BENEFIT
DURING CALENDAR YEAR 2016
(NON-VESTED SEPARATIONS)**

Male		
Service Index	Withdrawals	Exposure
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	3
7	-	-
8	-	-
9	-	-
10	-	1
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	1
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30 and Over	-	-
Totals (Less Than or Equal to 7 Years of Service)	-	3
Average Rate	0.0000	

Female		
Service Index	Withdrawals	Exposure
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30 and Over	-	-
Totals (Less Than or Equal to 7 Years of Service)	-	-
Average Rate	0.0000	

MORTALITY EXPERIENCE

**ACTIVE MEMBERS DEATHS
DURING CALENDAR YEAR 2016**

Male		
Age	Deaths	Exposure
Under 20	-	69
20-24	2	1,881
25-29	1	5,090
30-34	2	6,131
35-39	1	6,354
40-44	4	6,426
45-49	1	7,638
50-54	11	8,878
55-59	17	9,505
60-64	21	7,393
65-69	6	3,347
70-74	6	1,271
75 and Over	4	683
Totals	76	64,666
Average Rate:	0.0012	

Female		
Age	Deaths	Exposure
Under 20	-	81
20-24	-	2,365
25-29	1	6,451
30-34	1	7,229
35-39	1	8,793
40-44	2	10,545
45-49	5	14,524
50-54	10	18,020
55-59	12	19,427
60-64	17	13,844
65-69	4	5,261
70-74	3	1,401
75 and Over	-	556
Totals	56	108,497
Average Rate:	0.0005	

**RETIRED MEMBERS DEATHS
DURING CALENDAR YEAR 2016**

Male		
Age	Deaths	Exposure
Under 55	1	420
55-59	41	3,399
60-64	77	6,738
65-69	141	8,621
70-74	175	6,198
75-79	186	4,583
80-84	229	3,162
85-89	230	1,902
90-94	172	815
95-99	39	160
100-104	5	11
105 & Over	-	-
Totals	1,296	36,009
Actual Average Rate	0.0360	
Expected Average Rate	0.0350	

Female		
Age	Deaths	Exposure
Under 55	1	260
55-59	30	4,921
60-64	73	11,915
65-69	121	17,124
70-74	148	13,165
75-79	244	9,541
80-84	300	6,798
85-89	396	4,777
90-94	397	2,406
95-99	171	684
100-104	26	84
105 & Over	2	6
Totals	1,909	71,681
Actual Average Rate	0.0266	
Expected Average Rate	0.0253	

SALARY EXPERIENCE

**SALARY INCREASES BY AGE
DURING CALENDAR YEAR 2016***

Age Group Beginning of Year	Pay Increase During the Next Year		
	Regular	SLEP	ECO
25-29	6.37 %	9.14 %	0.00 %
30-34	5.15 %	5.68 %	0.00 %
35-39	4.03 %	2.20 %	(0.22)%
40-44	3.34 %	0.71 %	(0.42)%
45-49	3.02 %	1.16 %	(0.84)%
50-54	2.76 %	0.85 %	0.91 %
55-59	2.56 %	1.86 %	0.79 %
60-64	2.32 %	1.27 %	0.98 %
65-69	2.30 %	1.94 %	0.23 %
70-74	2.06 %	3.55 %	(0.80)%
75 & Over	2.25 %	11.54 %	(2.93)%
Averages:			
Expected	4.11 %	4.83 %	4.00 %
Actual	2.74 %	1.65 %	0.33 %

* *Members active both at the beginning and end of year and have 5 or more years of service at the beginning of the year for Regular and ECO groups and 0 or more years of service for SLEP and ECO SLEP groups (increases for SLEP groups are correlated primarily with service).*

**SALARY INCREASES BY YEARS OF SERVICE
DURING CALENDAR YEAR 2016***

Service Index	Pay Increase During the Next Year		
	Regular	SLEP	ECO
1	12.40 %	13.35 %	0.00 %
2	9.15 %	8.01 %	0.00 %
3	6.14 %	4.65 %	0.00 %
4	4.96 %	3.65 %	3.00 %
5	4.75 %	2.92 %	(0.07)%
6	4.26 %	2.56 %	3.27 %
7	3.66 %	0.97 %	(3.17)%
8	3.30 %	0.70 %	1.50 %
9	3.41 %	1.15 %	0.85 %
10	3.19 %	0.46 %	0.11 %
11	3.18 %	0.94 %	(0.74)%
12	2.86 %	1.09 %	(1.18)%
13	2.76 %	(0.59)%	(1.37)%
14	2.73 %	1.33 %	(2.86)%
15	2.58 %	0.69 %	2.63 %
16	2.35 %	2.94 %	(2.87)%
17	2.37 %	(0.64)%	0.45 %
18	2.26 %	(1.21)%	0.17 %
19	2.37 %	(0.53)%	0.71 %
20	2.06 %	1.59 %	(5.47)%
21	2.32 %	1.10 %	4.68 %
22	2.09 %	0.82 %	(3.45)%
23	2.31 %	1.08 %	(1.26)%
24	1.87 %	0.91 %	0.92 %
25	1.92 %	1.24 %	11.40 %
26	1.96 %	0.53 %	3.70 %
27	1.83 %	4.68 %	(0.16)%
28	2.07 %	5.64 %	2.12 %
29	2.20 %	4.59 %	0.00 %
30	1.41 %	0.17 %	1.31 %
31	1.98 %	2.96 %	0.00 %
32	2.00 %	(0.05)%	2.05 %
33	1.79 %	(6.72)%	(3.70)%
34	1.52 %	0.12 %	0.00 %
35	2.66 %	0.00 %	0.00 %
36	1.91 %	3.03 %	0.00 %
37	2.64 %	1.07 %	1.29 %
38	0.96 %	(3.53)%	6.22 %
39	1.20 %	0.00 %	(3.35)%
40	1.91 %	2.31 %	(3.54)%
Averages:			
Expected	4.74 %	4.83 %	4.05 %
Actual	3.67 %	1.65 %	1.47 %

* Reported pay for most people with less than 1 year of service may have been for only a portion of a year.

March 22, 2017

Mr. Mark Nannini
Chief Financial Officer
Illinois Municipal Retirement Fund
2211 South York Road, Suite 500
Oak Brook, Illinois 60523

Dear Mark:

Enclosed are 5 copies of the Gain/Loss Analysis of Financial Experience Among Active Members during the period of January 1, 2016 to December 31, 2016 for the Illinois Municipal Retirement Fund (IMRF).

Your comments and/or questions will be welcome.

Sincerely,



Mark Buis, FSA, EA, MAAA

MB:bd
Enclosures

cc: Audrey Brown-Ryce, IMRF