

**2017 ACT 205 ACTUARIAL
VALUATION REPORT
ON
FIRE PENSION PLAN**

**Section No. 3
Exhibit No. 22**

Commonwealth of Pennsylvania
 Department of the Auditor General
 Municipal Pension Reporting Program (MPRP)
 613 North Street, 321 Finance Building
 Harrisburg PA 17120
 717-787-3636 (main line)
 717-787-7574 (fax)
 comptroller@paauditor.gov (please insert MPRP in the subject line)

2017
ACT 205 ACTUARIAL VALUATION REPORT:
FIRE PENSION PLAN
WITH DEFINED BENEFITS

FILING DEADLINE: March 30, 2018

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RECEIPT					
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Special Instructions: Where a Deferred Retirement Option Plan (DROP) is operated for members of the pension plan, the participating pension plan members should be reported as retired members in Section IV and Schedule A.

Section I - Identification of Municipality

INSTRUCTIONS: Print or type requested information in the space provided.

Note: In Part A, home rule municipalities should check the box and enter the number of their previous municipal classification.

	Item No.	
A. Type of Municipality.....	2	(1)
(Check appropriate box below and enter corresponding number.)		
<input checked="" type="checkbox"/> City (2)	<input type="checkbox"/> Township (1 st) (4)	
<input type="checkbox"/> Borough (3)	<input type="checkbox"/> Township (2 nd) (5)	
<input type="checkbox"/> Town (3)	<input type="checkbox"/> Authority (6)	
	<input type="checkbox"/> COG/Regional Entity (7)	
B. Name of Municipality.....	Harrisburg City (2)	
C. Name of County.....	Dauphin (3)	

Section II - Identification of Pension Plan and Specification of Valuation Date

INSTRUCTIONS: Print or type requested information in space provided.

A. Name of Pension Plan.....	Harrisburg Fire (4)		
B. Date on which pension plan was established.....	1 Mo.	1 Da.	1947 Yr. (5)
C. Valuation date for demographic, financial and actuarial data..... (Use 1/1/2017 unless otherwise specified in plan document prior to 12/31/1982.)	1 Mo.	1 Da.	2017 Yr. (6)

Section III - General Information

INSTRUCTIONS: Respond to each question by entering "yes" or "no" in the space provided.

- A. Is Social Security coverage provided for the active members of the pension plan identified in Section II?..... NO (8)
- B. Do any active members of the pension plan identified in Section II participate in any other pension plan or plans that receive funding from the municipality? NO (9)
- C. Do any of the active members of the pension plan identified in Section II work on average less than 35 hours per week?..... NO (10)
- D. Does the pension plan identified in Section II include active members who are not employees of the municipality identified in Section I?..... NO (11)
- E. Do retired members of the pension plan identified in Section II receive any benefit, such as insurance coverage, that is provided wholly or partially by the municipality and not funded through the pension plan identified in Section II?..... YES (12)

Section IV - Demographic Data as of January 1, 2017 (Valuation Date)

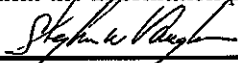
INSTRUCTIONS: Enter valuation date specified in Section II, Part C, in the space provided above and on each page of Schedule A. Print or type information requested in Part A in the space provided. Enter zero, if applicable. Do not leave blanks or refer to the schedules or exhibits. Complete Schedule A. Then complete the certification in Part B below.

A. Summary of Demographic Data

1. Number of active members on valuation date..... 72 (13)
2. Total annual payroll of active members as of above valuation date \$ 4,898,992 (14)
3. Number of members terminated with vested or deferred benefit on valuation date..... 1 (15)
4. As of valuation date, number of persons receiving:
- a. Retirement benefits
- i. As normal retired members 89 (16i)
- ii. As DROP participants..... 0 (16ii)
- iii. Total 89 (16iii)
- b. Disability benefits..... 0 (17)
- c. Surviving spouse benefits(Includes surviving child benefits)..... 42 (18)
- d. Surviving child benefits(Included in Item 4C surviving spouse benefits)..... 0 (19)
- e. Total (a+b+c+d) 131 (20)
5. As of valuation date, total annual benefits payable as:
- a. Retirement benefits
- i. To normal retired members \$ 3,000,422 (21i)
- ii. To DROP participants..... \$ 0 (21ii)
- iii. Total \$ 3,000,422 (21iii)
- b. Disability benefits..... \$ 0 (22)
- c. Surviving spouse benefits(Includes surviving child benefits)..... \$ 783,601 (23)
- d. Surviving child benefits(Included in Item 5C surviving spouse benefits)..... \$ 0 (24)
- e. Total (a+b+c+d) \$ 3,784,023 (25)

B. Certification of Demographic Data

I hereby certify that I have prepared and reviewed the demographic data entered in Part A of this section and in Schedule A; and I further certify that the information provided is to the best of my knowledge true and accurate.


(Signature)

3/16/2018

(Date)

Stephen W. Vaughn
(Name)

Secretary, Pa Mun. Ret. System
(Title)

(717) 787-2065
(Telephone)

Section V - Financial Data as of January 1, 2017 (Valuation Date)

INSTRUCTIONS: Enter valuation date specified in Section II, Part C, in the space provided above and on each page of Schedule B. Print or type the data requested in Part A, rounded to the nearest dollar, in the space provided. Enter zero, if applicable. Do not leave blanks or refer to exhibits. Complete Schedule B. Then complete the certification in Part B below.

Note: The asset values provided in Part A of this section and in Schedule B must include all the assets of the pension plan regardless of custodial arrangements involving administrative agencies.

A. Summary of Financial Data

- | | Item No. |
|--|-----------------|
| 1. MARKET VALUE OF ASSETS, <i>excluding the cash surrender values of individual insurance and annuity contracts</i> , on the above valuation date**.....\$ | 72,208,662 (26) |
| 2. CASH SURRENDER VALUE of individual insurance and annuity contracts on the above valuation date or nearest anniversary date.....\$ | 0 (27) |
| 3. TOTAL FUND ASSETS (1 + 2) on the above valuation date.....\$ | 72,208,662 (28) |
| 4. TOTAL EARNINGS, including investment income, realized capital gains/losses, unrealized capital gains/losses, and dividends on insurance/annuity contracts for the year ended on the above valuation date.....\$ | 6,428,418 (29) |
| 5. MEMBER CONTRIBUTIONS to plan for the year ended on the above valuation date (Include employee contributions treated as employer contributions pursuant to Section 414(h) of the Internal Revenue Code.).....\$ | 262,850 (30) |
| 6. MUNICIPAL CONTRIBUTIONS to plan for the year ended on valuation date (6a + 6b)*.....\$ | 280,858 (31) |
| a. State Aid Portion \$..... | |
| b. Local Portion \$..... | |
| * Total net of refunds | |
| 7. ACTUAL MUNICIPAL DEPOSIT for the year ended on the valuation date (6 + 7a - 7b).....(Net of refunds).....\$ | 280,858 (32) |
| a. Contributions Receivable at beginning of year \$ <u>0</u> | |
| b. Contributions Receivable at End of year \$ <u>0</u> | 1 |
| 8. TOTAL MONTHLY BENEFIT PAYMENTS for the year ended on the above valuation date.....\$ | 3,823,520 (33) |
| 9. ANNUAL INSURANCE OR ANNUITY PREMIUM PAYMENTS, <i>excluding single premium annuity purchases</i> , for the year ended on the above valuation date.....\$ | 0 (34) |
| 10. ADMINISTRATIVE EXPENSES paid from the assets of the pension plan for the year ended on the above valuation date.....(See Appendix 1, Note 2).....\$ | 199,487 (35) |
| 11. MINIMUM MUNICIPAL OBLIGATION to the pension plan for the year ended on the valuation date (Enter amount reported in Item 12 or Item 14 on page 12, whichever is applicable.).....\$ | 280,858 (36) |

1 A funding deficiency occurs when the actual municipal deposit is less than the Minimum Municipal Obligation. If a funding deficiency has been partially or fully rectified, complete Schedule B, Section V and Section VI, and include the specified documentation.

** See Appendix 1, Note 1

B. Certification of Financial Data

I hereby certify that I have prepared and reviewed the financial data entered in Part A of this section and in Schedule B; and I further certify that the information provided is to the best of my knowledge true and accurate.

Stephen W. Vaughn
(Signature)

3/16/2018
(Date)

Stephen W. Vaughn
(Name)

Secretary, Pa Mun. Ret. System
(Title)

(717) 787-2065
(Telephone)

Section VI - Actuarial Data as of January 1, 2017 (Valuation Date)

INSTRUCTIONS: Enter valuation date specified in Section II, Part C, in the space provided above and on each page of Schedule C. Complete Part A and Part B below in accordance with the instructions provided. Complete Schedule C. Then complete the certification in Part C below.

Note: The asset values provided in Part A of this section must include all the assets of the pension plan regardless of custodial arrangements involving administrative agencies.

A. Summary of Actuarial Data

INSTRUCTIONS: Print or type the data requested, rounded to the nearest dollar, in the space provided. Enter zero or negative values, if applicable. Do not leave blanks or refer to exhibits.

	Item No.
1. ACTUARIAL PRESENT VALUE OF FUTURE BENEFITS as of valuation date	\$ <u>82,922,704</u> (40)
2. ACTUARIAL PRESENT VALUE OF FUTURE NORMAL COST as of valuation date.....	\$ <u>12,985,135</u> (41)
3. ACTUARIAL ACCRUED LIABILITY as of valuation date.....	\$ <u>69,937,569</u> (42)
4. ACTUARIAL VALUE OF ASSETS, including aggregate insurance/annuity cash surrender value, as of valuation date	\$ <u>78,243,707</u> (43)
5. UNFUNDED ACTUARIAL ACCRUED LIABILITY as of valuation date (+ or -).....	\$ <u>-8,306,138</u> (44)
6. NORMAL COST (employer & employee), <i>excluding administrative expenses</i> , payable as of valuation date for the plan year beginning on valuation date:	
a. As a dollar amount	\$ <u>1,225,362</u> (45)
b. As a percentage of total annual payroll	<u>25.01</u> % (46)
7. AVERAGE ADMINISTRATIVE EXPENSES payable from the assets of the pension plan in the prior plan year and the plan year beginning on valuation date ^{1*}	\$ <u>4,180</u> (47)
8. ANNUAL COVERED PAYROLL of active members as of valuation date	\$ <u>4,898,992</u> (48)
9. AMORTIZATION CONTRIBUTIONS	
a. For amortization of initial unfunded actuarial accrued liability established 1/1/85. ²	
1) Amortization period remaining (years)	<u>0</u> (49)
2) Amortization contribution calculated as a level dollar amount for the plan year beginning on valuation date	\$ <u>0</u> (50)
3) Amortization contribution calculated as a level percentage of payroll for the plan year beginning on valuation date ³	\$ <u>N/A</u> (51)
b. For amortization of all increases or decreases in unfunded actuarial accrued liability occurring after 1/1/85 or the initial UAL's establishment. ²	
1) Aggregated amortization period (years)	<u>0</u> (52)
2) Aggregated amortization contribution calculated as a level dollar amount for the plan year beginning on valuation date	\$ <u>0</u> (53)
c. Modified Total Amortization Requirement ⁴	\$ <u>0</u> (54)
d. Total Amortization Requirement (Item 50 + Item 53 or Item 51 + Item 53 or Item 54, whichever is applicable).....	\$ <u>0</u> (55)
10. ACTUAL OR ESTIMATED MEMBER CONTRIBUTIONS to the pension plan for the year beginning on the valuation date.....	\$ <u>244,950</u> (56)

*PMRS Administrative Expense (\$20 per participant)

Section VI - Actuarial Data (Cont'd)

INSTRUCTIONS: If insurance/annuity contracts are maintained pre-retirement to fund a portion of the benefits provided by the pension plan at retirement, enter the information requested in Items 57-67 below. Otherwise, do not complete Items 57-67.

Note: For Item 67, include "side fund" amortization contribution for the initial UAL established 1/1/85 and the aggregated "side fund" amortization contribution for increases and decreases in the UAL occurring after 1/1/85. Attach a facsimile of Schedule C, Section II, to support the entry for Item 67.

A. Summary of Actuarial Data (Cont'd)

	Item No.
11. ACTUARIAL PRESENT VALUE OF INSURANCE/ANNUITY CONTRACT CASH VALUES AT RETIREMENT as of valuation date	\$ _____ (57)
12. ADJUSTED ACTUARIAL PRESENT VALUE OF FUTURE BENEFITS as of valuation date (Item 40 - Item 57)	\$ _____ (58)
13. ADJUSTED ACTUARIAL PRESENT VALUE OF FUTURE NORMAL COST as of valuation date.....	\$ _____ (59)
14. ADJUSTED ACTUARIAL ACCRUED LIABILITY as of valuation date.....	\$ _____ (60)
15. ACTUARIAL VALUE OF ASSETS, excluding aggregate insurance/annuity cash surrender value, as of valuation date	\$ _____ (61)
16. ADJUSTED UNFUNDED ACTUARIAL ACCRUED LIABILITY as of valuation date (+ or -).....	\$ _____ (62)
17. ADJUSTED NORMAL COST, excluding administrative expenses, payable as of valuation date for the plan year beginning on valuation date.....	\$ _____ (63)
18. ANNUAL INSURANCE/ANNUITY PREMIUM PAYMENTS for the plan year beginning on valuation date.....	\$ _____ (64)
19. GROSS ADJUSTED NORMAL COST for the plan year beginning on valuation date (Item 63 + Item 64):	
a. As a dollar amount	\$ _____ (65)
b. As a percentage of payroll.....	_____ % (66)
20. ADJUSTED AMORTIZATION CONTRIBUTION calculated as a level dollar amount for the plan year beginning on valuation date.....	\$ _____ (67)

¹ The average of the prior year's administrative expenses and the estimated administrative expenses for the current year. If the amount entered exceeds the prior year's expenses (Section V, Part A, Item 35) by more than 10%, attach an exhibit detailing the administrative expenses for the year beginning on the valuation date.

² Initial unfunded actuarial accrued liability may be established later than 1/1/1985 if coincidental with the establishment of the pension plan or with the initiation of a new amortization schedule authorized by Act 82 of 1998.

³ Enter N/A unless municipality has been certified to use level percentage of payroll amortization pursuant to Section 607 of Act 205.

⁴ If the municipality has formally elected to apply the limit on the amortization contribution under section 202(b)(4), enter the modified total amortization requirement calculated as the amount required to amortize the unfunded actuarial accrued liability over ten years. Otherwise, enter N/A.

Section VI - Actuarial Data (Cont'd)**B. Additional Information**

INSTRUCTIONS: Print or type the information requested in the space provided. Enter "N/A" if applicable. Do not leave blanks or refer to exhibits.

- Item No.
1. MAJOR ECONOMIC ACTUARIAL ASSUMPTIONS
- a. Interest or investment earnings rate 5.25 % (68)
- b. Salary projection 4.11 % (69)
2. ADMINISTRATIVE ARRANGEMENT (Enter corresponding number. ⇨) 6 (70)

- | | |
|---|--|
| <input type="checkbox"/> 1 - Self-administered fund | <input type="checkbox"/> 4 - Insured deposit administration contract |
| <input type="checkbox"/> 2 - Bank or other trust fund | <input type="checkbox"/> 5 - Immediate participation guarantee contract |
| <input type="checkbox"/> 3 - Split-funded plan - Insurance plus side fund | <input checked="" type="checkbox"/> X - Pennsylvania Municipal Retirement System |
| <input type="checkbox"/> 7 - Other (Describe) _____ | |

3. COST FOR ACTUARIAL SERVICES to be billed or charged for completing this reporting form and for preparing the associated actuarial valuation report..... \$ 0.00* (71)

*Actuarial Services are included as part of membership

PMRS enrolled plans are not charged separately for preparation of the actuarial valuation. This is an allocated cost included in administrative expenses.

C. Certification of Actuarial Data

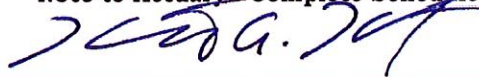
I hereby certify that I have prepared and reviewed the actuarial data and information entered in Part A and Part B of this section and in Schedule C and that the data and information provided is to the best of my knowledge true and accurate.

I further certify that I have five years of actuarial experience with public pension plans and that I am (Check appropriate box.)

☒ a member of the American Academy of Actuaries enrolled in 1986.

☒ an enrolled actuary pursuant to the Employee Retirement Income Security Act of 1974, No. 17-03776

Note to Actuary: Complete Schedule D, Actuary's Review of Required Exhibits and Data, found on Page 19.

	<u>3/16/2018</u>
(Signature)	(Date)
<u>Kenneth A. Kent, FSA, FCA, MAAA, EA</u>	<u>(877) 243-4766</u>
(Name)	(Telephone)
<u>Cheiron, Inc.</u>	(73)
(Name of Firm)	
<u>ra-staff@pa.gov</u>	(74)
(E-mail Address)	

Section VII - Certification of Report by the Chief Administrative Officer of the Municipality

INSTRUCTIONS: Ensure that Schedule A, Schedule B and Schedule C are completed and attached to the reporting form. Review the information entered in each section of the reporting form and the information provided in the schedules. Then complete the certification below and return the original reporting form to the Department. **Retain a copy of the completed reporting form for audit compliance purposes.**

Note: To be completed by the person officially designated as the Chief Administrative Officer of the municipality under Act 205 of 1984.

I hereby certify that to the best of my knowledge the information provided in this report is complete, true and accurate.

Sam Weber 3/22/18
(Signature of Chief Administrative Officer) (Date)

BRUCE WEBER (717) 255-3040
(Name of Chief Administrative Officer) (Print or type) (Telephone)

bweber@harrisburgpa.gov
(E-Mail Address) (Optional)

If a third-party administrator has been the source of any information provided in this report, list the administrator below.

Pennsylvania Municipal Retirement System (800) 622-7968
(Third-Party Administrator) (Print or type) (Telephone)

ra-staff@pa.gov
(E-Mail Address) (Optional)

Inquiries regarding completion or submission of the reporting form may be directed to:

**Commonwealth of Pennsylvania
Department of the Auditor General
Municipal Pension Reporting Program (MPRP)**

Mailing Address
613 North Street, 321 Finance Building
Harrisburg, PA 17120

717-787-3636 (main line)
717-787-7574 (fax)
comptroller@paauditor.gov (please insert MPRP in the subject line)

INSTRUCTIONS: Print or type the requested information in the space provided. For totals, enter zero if applicable. Refer to attachments or exhibits only to explain or support data entered on the schedule. If you need additional space, make a photocopy of this page and insert behind this page.

☐ Check here if there are no retired members.
 See Excel File

☐ Check here if there are no members terminated with vesting.

**PART I - DEMOGRAPHIC DATA FOR
INDIVIDUAL RETIRED MEMBERS**

Member	Current Age	Monthly Pension Payable	Retirement Age	Type *	Years of Service	Gender (M/F)
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						

**PART II - DEMOGRAPHIC DATA FOR
INDIVIDUAL MEMBERS TERMINATED WITH VESTING**

Member	Current Age	Monthly Pension Payable	Retirement Age	Years of Service	Gender (M/F)
1	43	1,887	50	0	M
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

* Type: Blank = Member, S = Spouse/Child, D = Disability, DR = DROP

Municipality	Harrisburg Fire
PERC	22-030-2 F
County	
Plan Type	

Schedule A - Demographic Data as of January 1, 2017
Part I - Individual Retired Members

Member	Age	Monthly Pension Payable	Retirement Age	Type	Years of Service	Gender (M/F)
1	56	\$3,274	50			M
2	75	\$3,436	64			M
3	55	\$2,798	50			M
4	72	\$2,016	55			M
5	77	\$3,157	63			M
6	65	\$4,634	57			M
7	68	\$3,249	55			M
8	59	\$3,549	59			M
9	58	\$2,714	55			M
10	61	\$2,877	54			M
11	57	\$3,180	51			M
12	74	\$2,769	60			M
13	58	\$3,345	53			M
14	89	\$5,046	78			M
15	53	\$3,052	50			M
16	72	\$3,124	60			M
17	68	\$3,344	57			M
18	58	\$2,910	53			M
19	55	\$3,188	50			M
20	62	\$4,117	58			M
21	54	\$3,124	49			M
22	64	\$2,942	53	S		F
23	69	\$2,114	59	S		F
24	58	\$2,977	52			M
25	78	\$2,736	65	S		F
26	78	\$3,748	66			M
27	75	\$2,788	61			M
28	66	\$2,282	59	S		F
29	54	\$3,194	49			M
30	65	\$2,008	60	S		F
31	62	\$4,177	58			M
32	64	\$2,423	50			M
33	70	\$2,011	53			M
34	51	\$2,839	50			M
35	74	\$3,249	62			M
36	52	\$2,301	40	S		F
37	62	\$4,212	55			M
38	59	\$3,358	54			M
39	63	\$3,029	52			M
40	62	\$2,676	56			M
41	56	\$2,877	50			M
42	83	\$2,604	65			M

43	51	\$3,194	49		M
44	60	\$4,423	57		M
45	59	\$2,571	48	S	F
46	59	\$3,938	53		M
47	52	\$3,037	49		M
48	61	\$2,944	55		M
49	75	\$3,011	61		M
50	59	\$2,931	49		M
51	53	\$2,981	50		M
52	68	\$4,162	60		M
53	51	\$2,839	49		M
54	53	\$3,121	50		M
55	60	\$3,686	53		M
56	59	\$4,423	56		M
57	57	\$2,612	50		M
58	62	\$3,828	54		M
59	60	\$2,273	55		M
60	92	\$3,498	78	S	F
61	66	\$2,473	52		M
62	76	\$2,030	53		M
63	74	\$1,505	50		M
64	75	\$920	60	S	F
65	73	\$869	59	S	F
66	81	\$1,715	63		M
67	56	\$3,011	49		F
68	65	\$2,487	63	S	F
69	63	\$3,479	57		M
70	65	\$2,971	55	S	F
71	69	\$3,712	58		M
72	69	\$3,474	58	S	F
73	60	\$4,140	57		M
74	52	\$2,929	49		F
75	77	\$2,999	63		M
76	72	\$3,051	62	S	F
77	52	\$3,390	50		F
78	71	\$3,373	59		M
79	67	\$4,192	57		M
80	65	\$3,345	58		M
81	53	\$3,121	50		F
82	54	\$3,686	49		M
83	74	\$2,742	62		M
84	73	\$1,006	62		F
85	77	\$2,016	59		M
86	63	\$3,483	56	S	F
87	60	\$3,783	53		M
88	67	\$2,016	51		M
89	59	\$3,124	54		M
90	57	\$638	53		F
91	80	\$1,830	59	S	F
92	77	\$1,107	60	S	F
93	87	\$333	55	S	F
94	92	\$949	81	S	F
95	78	\$1,001	75	S	F
96	75	\$1,503	65	S	F
97	84	\$722	52	S	F

98	63	\$982	45	S	F
99	64	\$982	58	S	F
100	52	\$656	33	S	F
101	86	\$1,084	68	S	F
102	97	\$333	65	S	F
103	71	\$1,586	43		M
104	82	\$1,289	74	S	F
105	77	\$1,861	58	S	F
106	88	\$589	62	S	F
107	84	\$1,108	41		M
108	74	\$830	51	S	F
109	77	\$1,432	56		M
110	71	\$1,606	49		M
111	78	\$392	45	S	F
112	92	\$567	60	S	F
113	80	\$985	75	S	F
114	81	\$1,278	78	S	F
115	74	\$1,505	64	S	F
116	72	\$1,234	37		M
117	70	\$765	38	S	F
118	70	\$1,861	52	S	F
119	83	\$1,508	79	S	F
120	73	\$1,137	48	S	F
121	71	\$1,861	51		M
122	42	\$698	25	S	F
123	86	\$848	65	S	F
124	72	\$1,739	44		M
125	78	\$1,004	56		M
126	76	\$1,610	49		M
127	82	\$1,116	58		M
128	74	\$1,502	56		M
129	60	\$321	45		F
130	61	\$587	58		M
131	58	\$436	54		M

SCHEDULE A - Demographic Data as of January 1, 2017
 Page 2 of 2 (Valuation Date)

Harrisburg City
 (Municipality)

Dauphin
 (County)

Part III - Active Member Data ¹ - ☐ Check here if there are no active members. See Excel File

Member	Age	Years of Service	Total Annual Payroll	Gender (M/F)
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				

Member	Age	Years of Service	Total Annual Payroll	Gender (M/F)
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

¹ Plans with active members of 50 or more must e-mail an Excel spreadsheet containing the specified active member data to the Department at comptroller@PaAuditor.gov (please insert MPRP in the subject line). When submitting your data, specify the municipality, county, and plan type (police, fire, or nonuniformed) in the first line of the spreadsheet.

Municipality	Harrisburg Fire
PERC	22-030-2 F
County	
Plan Type	

Schedule A - Demographic Data as of January 1, 2017
Part III - Active Member Data

Member	Age	Years of Service	Base Annual Payroll	Gender (M/F)
1	40	9	\$63,731	M
2	33	9	\$63,216	M
3	36	8	\$66,465	M
4	33	9	\$63,645	M
5	46	19	\$73,593	M
6	50	26	\$68,129	M
7	47	20	\$68,037	M
8	49	20	\$78,512	M
9	49	26	\$68,037	M
10	55	22	\$67,855	M
11	44	21	\$73,985	M
12	48	22	\$68,129	M
13	52	22	\$65,966	M
14	46	18	\$68,129	M
15	52	27	\$68,129	M
16	49	26	\$71,500	M
17	50	20	\$73,494	M
18	58	20	\$67,397	M
19	45	21	\$73,494	M
20	56	26	\$68,129	M
21	45	18	\$67,580	M
22	47	18	\$67,854	M
23	47	17	\$67,215	M
24	43	17	\$67,763	M
25	42	17	\$78,408	M
26	40	16	\$77,978	M
27	42	17	\$85,880	M
28	52	17	\$67,946	M
29	48	11	\$64,933	M
30	50	11	\$64,845	M
31	38	11	\$64,758	M
32	34	11	\$66,809	M
33	44	14	\$72,186	M
34	38	14	\$77,220	M
35	39	14	\$73,356	M
36	44	14	\$66,288	M
37	40	12	\$65,711	M
38	42	12	\$71,845	M
39	37	12	\$72,034	M
40	43	12	\$65,446	M
41	43	13	\$66,916	M
42	39	13	\$66,916	M

43	47	13	\$66,467	M
44	43	12	\$64,065	M
45	41	12	\$65,020	M
46	48	13	\$66,827	M
47	37	15	\$66,916	M
48	43	7	\$63,129	M
49	32	4	\$62,070	M
50	27	4	\$62,071	M
51	31	4	\$60,996	M
52	32	4	\$61,988	M
53	29	4	\$61,987	M
54	29	4	\$60,574	M
55	27	4	\$62,071	M
56	27	4	\$61,988	M
57	28	4	\$61,905	M
58	27	3	\$53,571	M
59	31	3	\$53,499	M
60	27	3	\$53,356	M
61	37	3	\$53,571	M
62	31	3	\$53,499	M
63	36	3	\$53,356	M
64	30	3	\$53,499	M
65	40	3	\$53,212	M
66	34	3	\$53,571	M
67	35	3	\$53,356	M
68	27	3	\$53,571	M
69	22	2	\$50,750	M
70	24	2	\$50,750	M
71	23	2	\$50,682	M
72	32	2	\$50,750	M

SCHEDULE B - Financial Data as of January 1, 2017
Page 1 of 5 (Valuation Date)

Harrisburg City
(Municipality)

Dauphin
(County)

INSTRUCTIONS: Print or type the requested information in the space provided. Round to the nearest dollar. Enter zero, if applicable. Refer to attachments or exhibits only to explain or support data entered on the schedule.

Section I - Statement of Net Assets Available for Benefits

	As of the Above Valuation Date	As of the Previous Year (2016)	Item No.
A. Assets:			
1. Cash	\$ 0	\$ 0	(1)
2. Accrued Interest and Dividends Receivable	\$ 0	\$ 0	(2)
3. Receivables (Specify)			
Employee Contributions	\$ 1,153	\$ 9,035	(3)
Employer Contributions	\$ 0	\$ 0	(4)
State Aid	\$ 0	\$ 0	(5)
Other <u>Administrative Fees</u>	\$ 0	\$ 0	(6)
.....	\$ 0	\$ 0	(7)
4. Investments at Market Value (Specify)			
Money Markets and Other Cash Investments	\$ 0	\$ 0	(8)
Mutual Funds	\$ 0	\$ 0	(9)
Stocks and Other Equities	\$ 0	\$ 0	(10)
Bonds and Other Fixed Income	\$ 0	\$ 0	(11)
5. Other Assets (Specify)			
Insurance Contract/Group Annuity	\$ 0	\$ 0	(12)
Other <u>PMRS Assets (Market Value of Assets</u>	\$ 72,207,509	\$ 69,250,508	(13)
<u>Excluding Receivables)</u>	\$ 0	\$ 0	(14)
.....	\$ 0	\$ 0	(15)
6. Insurance/Annuity Cash Surrender Value (Individual Policies) ...			
.....	\$ 72,208,662	\$ 69,259,543	(16)
Total Fund Assets			
B. Current Liabilities:			
1. Accounts Payable and Accrued Administrative Expenses	\$ 0	\$ 0	(17)
2. Other Current Liabilities			
Benefits Payable	\$ 0	\$ 0	(18)
Other	\$ 0	\$ 0	(19)
.....	\$ 0	\$ 0	(20)
.....	\$ 0	\$ 0	(21)
Total Current Liabilities			
C. Net Assets Available for Benefits (Market Value) as of valuation date	\$ 72,208,662	\$ 69,259,543	(22)

Section II - Statement of Revenues, Expenses and Change in Fund Assets.

	As of the Above Valuation Date	As of the Previous Year (2016)	Item No.
A. Net Assets at Beginning of Year (Market Value)*	\$ 69,259,543	\$ 73,117,624	(1)
*See Appendix 1, Note 1			
B. Gross Revenues (unreduced by any fees, costs, or expenses):			
Member Contributions	\$ 262,850	\$ 250,526	(2)
Total Municipal Contributions			
a. State Aid Portion	\$ 0	\$ 0	(3)
b. Local Portion ..(Includes state aid portion and net of refunds)	\$ 280,858	\$ 358,000	(4)
Interest Earnings/Dividend Income.....	\$ 0	\$ 0	(5)
Realized/Unrealized Capital Gains/Losses	\$ 0	\$ 0	(6)
Other Revenues or Credits (Specify)			
<u>PMRS Investment Income</u>	\$ 3,985,356	\$ 3,973,188	(7)
<u>Market Value Income (Loss)</u>	\$ 2,443,062	\$ -4,568,980	(8)
<u>Transfers</u>	\$ 0	\$ 0	(9)
Total Revenues.....	\$ 6,972,126	\$ 12,734	(10)
C. Expenses			
Total Benefit Payments (Lump-Sum).....	\$ 12,344	\$ 100	(11)
Total Benefit Payments (Monthly)....(Net of refunds).....	\$ 3,811,176	\$ 3,700,781	(12)
Annuity Purchases (Lump-Sum).....	\$ 0	\$ 0	(13)
Insurance Premiums.....	\$ 0	\$ 0	(14)
Refund of Member Contributions	\$ 0	\$ 0	(15)
Lump-Sum Drop Account Payments.....	\$ 0	\$ 0	(16)
Actuarial Costs	\$ 0	\$ 0	(17)
Investment Costs	\$ 0	\$ 0	(18)
All Other Expenses or Debits (Specify)			
<u>Administrative Expenses (See Appendix 1, Note 2)</u>	\$ 199,487	\$ 169,934	(19)
<u>Transfers</u>	\$ 0	\$ 0	(20)
Total Expenses.....	\$ 4,023,007	\$ 3,870,815	(21)
C. Net Assets at End of Year (Market Value)	\$ 72,208,662	\$ 69,259,543	(22)

Section III - Presentation of the Determination of the Minimum Municipal Obligation (MMO) for the Year Ended on Valuation Date.

INSTRUCTIONS: Enter data reflecting the minimum municipal obligation developed in the fall of 2015 for the plan year beginning in 2016.
[Section 302(C) of Act 205 of 1984.]

		Item No.
A. IDENTIFICATION OF THE ACTUARIAL VALUATION REPORT (AVR) used to determine funding requirement. (Enter valuation date - 2015 or earlier year.)	<u>1</u> / <u>1</u> / <u>2013</u> Mo. Da. Yr.	(1)
B. DEVELOPMENT OF MINIMUM MUNICIPAL OBLIGATION under Section 302(c) of Act 205 of 1984. (If the asset value exceeded the present value of future benefits in the actuarial valuation report identified in Part A, check the box, skip Item 2 through Item 10, and complete Item 11 and Item 12, if applicable.) <input type="checkbox"/>		
1. TOTAL ANNUAL PAYROLL projected for year ended on valuation date.....	\$ 5,944,292	(2)
2. TOTAL NORMAL COST, expressed as a percentage of total annual payroll, derived from actuarial valuation report identified in item 1	26.49 %	(3)
3. TOTAL PROJECTED NORMAL COST for year ended on valuation date (Item 2 x Item 3)	\$ 1,574,643	(4)
4. TOTAL AMORTIZATION REQUIREMENT for year ended on valuation date ¹	\$ 0	(5)
5. TOTAL ADMINISTRATIVE EXPENSES projected for year ended on valuation date*.....	\$ 4,240	(6)
6. TOTAL FINANCIAL REQUIREMENTS (Item 4 + Item 5 + Item 6).....	\$ 1,578,883	(7)
7. MEMBER CONTRIBUTIONS projected for year ended on valuation date	\$ 297,215	(8)
8. FUNDING ADJUSTMENT determined pursuant to Section 302(c)(2) of Act 205 of 1984 for year ended on valuation date ²	\$ 1,000,810	(9)
9. MINIMUM MUNICIPAL OBLIGATION (MMO) for year ended on valuation date (Item 7 - Item 8 - Item 9).....	\$ 280,858	(10)
10. DELINQUENT MMO PLUS INTEREST from plan year beginning in 2015	\$ 0	(11)
11. TOTAL MMO for year ended on valuation date (Item 10 + Item 11).....	\$ 280,858	(12)
C. AMORTIZATION CONTRIBUTION REDUCTION (Complete if Amortization Contribution Reduction was elected pursuant to Section 607(H.1) of Act 205.)		
1. REDUCTION OF AMORTIZATION CONTRIBUTION (Maximum is 25% of Item 5.).....	\$ 0	(13)
2. RE-CALCULATED MMO for year ended on valuation date (Item 12 - Item 13)	\$ 280,858	(14)

*PMRS Administrative Expense (\$20 per participant)

¹ If the amount entered differs from the amount reported in the actuarial valuation report identified in Item 1 above due to the scheduled termination of one or more amortization bases established pursuant to Chapter 2 of Act 205, attach an exhibit reconciling the difference.

² Funding adjustment is applicable where assets exceed actuarial accrued liability and is equal to 10% of the amount of the excess.

Section III - Presentation of the Determination of the Minimum Municipal Obligation (MMO) for the Plan Year Beginning in 2015.

INSTRUCTIONS: Enter data reflecting the minimum municipal obligation developed in the fall of 2014 for the plan year beginning in 2015.
[Section 302(C) of Act 205 of 1984.]

	Item No.
<p>A. IDENTIFICATION OF THE ACTUARIAL VALUATION REPORT (AVR) used to determine funding requirement. (Enter valuation date - 2013 or earlier year.)</p>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">1 / 1 / 2013</div> <div>(1)</div> </div> <div style="display: flex; justify-content: space-around; align-items: center; font-size: small;"> <div>Mo.</div> <div>Da.</div> <div>Yr.</div> </div>
<p>B. DEVELOPMENT OF MINIMUM MUNICIPAL OBLIGATION under Section 302(c) of Act 205 of 1984. (If the asset value exceeded the present value of future benefits in the actuarial valuation report identified in Part A, check the box, skip Item 2 through Item 10, and complete Item 11 and Item 12, if applicable.) <input type="checkbox"/></p>	
1. TOTAL ANNUAL PAYROLL projected for year ended on valuation date.....	\$ 6,303,352 (2)
2. TOTAL NORMAL COST, expressed as a percentage of total annual payroll, derived from actuarial valuation report identified in item 1	26.49 % (3)
3. TOTAL PROJECTED NORMAL COST for year ended on valuation date (Item 2 x Item 3)	\$ 1,669,758 (4)
4. TOTAL AMORTIZATION REQUIREMENT for year ended on valuation date ¹	\$ 0 (5)
5. TOTAL ADMINISTRATIVE EXPENSES projected for year ended on valuation date*.....	\$ 4,220 (6)
6. TOTAL FINANCIAL REQUIREMENTS (Item 4 + Item 5 + Item 6).....	\$ 1,673,978 (7)
7. MEMBER CONTRIBUTIONS projected for year ended on valuation date	\$ 315,168 (8)
8. FUNDING ADJUSTMENT determined pursuant to Section 302(c)(2) of Act 205 of 1984 for year ended on valuation date ²	\$ 1,000,810 (9)
9. MINIMUM MUNICIPAL OBLIGATION (MMO) for year ended on valuation date (Item 7 - Item 8 - Item 9).....	\$ 358,000 (10)
10. DELINQUENT MMO PLUS INTEREST from plan year beginning in 2014.....	\$ 0 (11)
11. TOTAL MMO for year ended on valuation date (Item 10 + Item 11).....	\$ 358,000 (12)
<p>C. AMORTIZATION CONTRIBUTION REDUCTION (Complete if Amortization Contribution Reduction was elected pursuant to Section 607(H.1) of Act 205.)</p>	
1. REDUCTION OF AMORTIZATION CONTRIBUTION (Maximum is 25% of Item 5.).....	\$ 0 (13)
2. RE-CALCULATED MMO for year ended on valuation date (Item 12 - Item 13)	\$ 358,000 (14)

*PMRS Administrative Expense (\$20 per participant)

¹ If the amount entered differs from the amount reported in the actuarial valuation report identified in Item 1 above due to the scheduled termination of one or more amortization bases established pursuant to Chapter 2 of Act 205, attach an exhibit reconciling the difference.

² Funding adjustment is applicable where assets exceed actuarial accrued liability and is equal to 10% of the amount of the excess.

Section V - Documentation of Compliance with Act 205 Funding Standard Requirements

- INSTRUCTIONS: 1. Complete the information below if a funding deficiency has been partially or fully rectified, and provide the following:
- Documentation showing the development of the pension plan's municipal funding requirements (Minimum Municipal Obligation (MMO)) pursuant to Section 302 and, if applicable, Section 607(H.1) of Act 205 for the years reported.
 - Signature in Section VI below by the approved actuary and the municipality's chief administrative officer certifying, subject to the penalties of 18 Pa. C. S. §4904 relating to unsworn falsification to authorities, that the accompanying documentation is accurate and that the funding requirements prescribed by Section 302, and if applicable Section 607(H.1), of Act 205 are satisfied.
2. Documentation showing the actual municipal contributions to the pension plan for the years reported, including copies of specific supporting documents such as the development of the MMO, bank statements, evidence of deposit, and cancelled checks should be maintained by the municipality for audit and other purposes.

	2016	2017	Item No.
A) Prior Year's Deficiency ¹ for each year indicated	\$	\$	(1)
B) Interest Rate	%	%	(2)
C) Monthly Interest Rate (B ÷ 12)	%	%	(3)
D) Amount Due on Payment Date (A × (1 + C) ^{Time in months})	\$	\$	(4)
E) Minimum Municipal Obligation	\$	\$	(5)
F) Total Minimum Municipal Obligation (D + E)	\$	\$	(6)
G) Amount Deposited ²	\$	\$	(7)
H) Funding Deficiency	\$	\$	(8)

¹ Development of the MMOs must include the reported funding deficiency with interest.

² Must equal amount deposited as shown on supporting documentation maintained by the municipality.

Section VI - Certification of Compliance with Act 205 Funding Standard Requirements

(Signature of Actuary)

(Date)

(Signature of Chief Administrative Officer)

(Date)

(Name of Actuary)

(Name of Chief Administrative Officer)

(Actuarial Firm)

INSTRUCTIONS: Complete all items using the entry age normal actuarial cost method. Enter zero, if applicable, and round to the nearest dollar. Refer to attachments or exhibits only to explain or support data entered on the schedule.

Section I - Presentation of Actuarial Present Value of Future Benefits as of the Valuation Date

A. Actuarial Present Values for Active Members

(Enter values for ancillary benefits only if valued using EAN.)

1. Retirement Benefits.....	\$	<u>27,065,718</u>	(1)
2. Disability Benefits.....	\$	<u>727,002</u>	(2)
3. Survivor Benefits.....	\$	<u>232,710</u>	(3)
4. Liability for the Refund of Member Contributions.....	\$	<u>59</u>	(4)
5. Vested Withdrawal Benefits.....	\$	<u>3,875,565</u>	(5)
6. Other (Specify)	\$	<u>0</u>	(6)
Subtotal for Active Members	\$	<u>31,901,054</u>	(7)

B. Actuarial Present Values for Non-Active Members and Benefit Recipients

1. Deferred Vested Benefits	\$	<u>294,116</u>	(8)
2. Retirement Benefits.....	\$	<u>43,219,402</u>	(9)
3. Disability Benefits.....	\$	<u>0</u>	(10)
4. Survivor Benefits.....	\$	<u>7,501,514</u>	(11)
5. Total Monies Accumulated in DROP Participant Accounts.....	\$	<u>0</u>	(12)
6. Other (Specify)	\$	<u>0</u>	(13)
Subtotal for Non-Active Members and Benefit Recipients	\$	<u>51,015,032</u>	(14)

C. Total Actuarial Present Value of Future Benefits (Without adjustments)\$ 82,916,086 (15)

D. Total Adjustments for Ancillary Benefits Valued through Approximation Techniques ¹\$ 6,618 (16)

E. Total Actuarial Present Value of Future Benefits (Item 15 + Item 16).....\$ 82,922,704 (17)

¹ A signed statement and accompanying documentation, as specified in Section 203.5 of the Act 205 regulations, must be attached if adjustments are made.

SCHEDULE C - Actuarial Data as of January 1, 2017
Page 2 of 4

Harrisburg City
(Municipality)

Dauphin
(County)

Section II - Unfunded Actuarial Accrued Liability and Amortization Contributions as of Valuation Date

Part A - Initial Unfunded Actuarial Accrued Liability.

Amount of Initial Liability	Date Established	Target Date	Original Amortization Period	Remaining Balance	Level Dollar Amortization Contribution ¹
\$ 0			0	\$ 0	\$ 0 (1)

Part B - Changes in Unfunded Actuarial Accrued Liability since the last actuarial valuation report prepared and submitted under Act 205. ²

Source	Amount of Liability	Date Established	Target Date	Amortization Period	Amortization Contribution
Benefit Plan Modification	0			0	0
Actuarial Assumption Modification	0			0	0
Actuarial Losses (+) or Gains (-)	0 ³			0	0
Post-Retirement Adjustments	0			0	0
Total	\$ 0	XXXXX	XXXXX	XXXXX	\$ 0 (2)

Part C - Aggregation of Changes in Unfunded Actuarial Accrued Liability since initially established in 1985.

Description	Remaining Balance of Aggregated Liability	Date of Aggregation	Aggregated Target Date	Aggregated Amortization Period	Aggregated Amortization Contribution
Aggregation of all prior changes (exclude changes in Section B)	\$ 0			0	\$ 0 (3)
Aggregation of all changes (include changes in Section B)	\$ 0	Current Valuation Date		0	\$ 0 (4)

¹ Level percentage of future payroll amortization contribution should be entered where the municipality has previously implemented that amortization approach pursuant to Section 607 of Act 205.

² Attach exhibit specifying the individual factors contributing to each change in unfunded actuarial accrued liability summarized in Part B.

³ Attach exhibit of the actuarial valuation report showing development of expected unfunded actuarial accrued liability.

Section III – Presentation of Actuarial Assumptions and Methods

A. Actuarial Assumptions**1. Interest Rate**

See Pennsylvania Municipal Retirement System Actuarial Assumptions

2. Salary Projection

See Pennsylvania Municipal Retirement System Actuarial Assumptions

3. Disability Rates

See Pennsylvania Municipal Retirement System Actuarial Assumptions

4. Termination Rates

See Pennsylvania Municipal Retirement System Actuarial Assumptions

5. Mortality

See Pennsylvania Municipal Retirement System Actuarial Assumptions

6. Retirement Age

See Pennsylvania Municipal Retirement System Actuarial Assumptions

7. Asset Smoothing

See Pennsylvania Municipal Retirement System Actuarial Assumptions

8. Other (Specify)

See Pennsylvania Municipal Retirement System Actuarial Assumptions

9. Other (Specify)

See Pennsylvania Municipal Retirement System Actuarial Assumptions

B. Actuarial Cost Method (Specify)

See Pennsylvania Municipal Retirement System Actuarial Assumptions

Section IV – Presentation of Benefit Plan Provisions

A. Eligibility Requirements

Normal Retirement Available upon attainment of age 50.

Early Retirement None Available.

Vesting A member is 100% vested after 10 years of service.

B. Retirement Benefit (Describe fully including Social Security offsets, service increments, etc. and include period over which final average salary is determined if benefit salary related.)

Benefit equals 2.5% times credited service times FAS but in no event is the basic benefit greater than 50% of FAS. FAS based upon final year's salary or last five years' annualized salary, whichever is greater. There is no Social Security offset. A service increment for credited service in excess of 20 years provided.

C. Survivor Benefit (Describe fully including indication of whether benefit is automatic or provided at the election of individual members.)

Pre retirement: Upon death spouse receives 50% of member's FAS.

D. Disability Benefit (Describe fully including offset provisions, service requirements, extent of disability, etc.)

Service Related

Member found unable to perform gainful employment receives 50% of FAS provided credited service is at least 4 years.

Non-Service Related

Member found unable to perform gainful employment receives 50% of FAS provided credited service is at least 4 years.

E. Post Retirement Adjustments (Describe fully including frequency of adjustment, basis for adjustment, minimum/maximum adjustments, etc.)

PMRS law allows a municipality to optionally award post-retirement adjustments based on investment performance (excess interest awards).

F. DROP Benefit (Specify and describe.)

G. Other Benefit (Specify and describe.)

H. Member Contributions

Amount or Rate 5.0% of pay.

Interest Rate Credited to Member Contributions 5.25 %

INSTRUCTIONS: Review all items below. Exhibits are to be placed immediately after this review and do not need to be on their own separate pages.

Section I - Actuary's Review of Required Exhibits and Data

- A. The exhibit of **administrative expenses** specified in footnote 1 on page 5 is attached and labeled as Exhibit I, if applicable.

KAK

Actuary's Initials

- B. The **active member data** specified in footnote 1 on page 9 has been submitted, if required.

KAK

Actuary's Initials

- C. The exhibit of the minimum municipal obligation **amortization requirements** specified in footnote 1 on page 12 and in footnote 1 on page 13 is attached and labeled as Exhibit II, if applicable.

KAK

Actuary's Initials

- D. The exhibit relating to the **changes in the unfunded actuarial accrued liability** specified in footnote 2 on page 16 is attached and labeled as Exhibit III, if applicable.

KAK

Actuary's Initials

- E. The exhibit showing the development of the **expected unfunded actuarial accrued liability** specified in footnote 3 on page 16 is attached and labeled as Exhibit IV, if applicable.

KAK

Actuary's Initials

A 2.25% load has been applied to the vested terminated participant liabilities for the cost of the death benefits until expected retirement date

Development of Expected Unfunded Actuarial Accrued Liability (UAAL) (Exhibit IV)

1. UAAL as of 1/1/2015	0
2. 2015 Amortization Payment	0
3. 2016 Amortization Payment	0
4. Interest to 12/31/2016	0
5. Expected UAAL as of 1/1/2017	0

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM ACTUARIAL ASSUMPTIONS

Actuarial Assumptions: The Board approved actuarial assumptions used for this report as of January 1, 2017 are based on the PMRS Experience Study issued by the actuary in July 2015, as well as the subsequent assumption change of the interest rate. The assumptions are as follows:

A. Healthy Life Mortality:

Pre-Retirement Mortality Rates:

Males: RP-2000 Male Non-Annuitant table projected 15 years with Scale AA

Females: RP-2000 Female Non-Annuitant table projected 15 years with Scale AA and then setback 5 years

Type of Death:

- (a) 15% of pre-retirement deaths are assumed to be service related for municipal plans
- (b) 50% of pre-retirement deaths are assumed to be service related for uniform plans

Post-Retirement Mortality Rates:

Males: RP-2000 Male Annuitant table projected 5 years with Scale AA

Females: RP-2000 Female Annuitant table projected 10 years with Scale AA

Based on the information provided by PMRS and review of the actual mortality experience over a five-year period, these mortality tables provide projected mortality improvements for the future. Given that experience analysis is required to be performed every five years, the projection periods are sufficient to reflect anticipated improvements until the next study is performed.

A 2.25% load has been applied to the vested terminated participant liabilities for the cost of death benefits until the expected retirement date.

B. Disabled Life Mortality Rates:

Males and females: RP-2000 combined table set-forward 10 years

C. Pre-Retirement Termination Rates:

Municipal Participants:

Service	Number of Active Members in Plan	
	<25	25+
<1	15.0%	18.0%
1	15.0%	18.0%
2	11.0%	14.0%
3	8.0%	12.0%
4	7.0%	9.0%
5	6.0%	9.0%
6	5.5%	8.0%
7	5.5%	7.5%
8	5.5%	6.5%
9	4.0%	5.0%
10+	2.5%	4.0%

Uniform Participants:

Service	Number of Active Members in Plan	
	<25	25+
<1	12.0%	13.0%
1	12.0%	10.0%
2	12.0%	7.0%
3	9.0%	7.0%
4	7.0%	6.0%
5	5.0%	5.0%
6	5.0%	4.0%
7	5.0%	3.0%
8	4.5%	3.0%
9	4.0%	3.0%
10+	3.0%	3.0%

D. Disability Incidence Rates:

Municipal - 40% of 1964 OASDI (Social Security) Experience for Males with adjustments. Sample rates are:

Age	Valuation Rate (%)
25	0.014%
35	0.029
45	0.064
55	0.134
65	0.658

Uniformed plans - 60% of 1964 OASDI (Social Security) Experience for Males with adjustments. Sample rates are:

Age	Valuation Rate (%)
25	0.031%
35	0.058
45	0.136
55	0.335
65	1.123

Type of Disability:

- (a) 15% of disablements are assumed to be service related for municipal plans
- (b) 50% of disablements are assumed to be service related for uniform plans

PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM ACTUARIAL ASSUMPTIONS

E. Workers Compensation:

Service-related disability benefits payable from municipal plans are offset by 25% of final average salary.

F. Salary Scale:

Age	Total Rate ¹ (including inflation)
25	7.05%
30	5.44%
35	4.55%
40	4.26%
45	3.97%
50	3.72%
55	3.44%
60	3.28%
65	2.80%

¹Add 2% for each of the first three years of service.

G. Rates of Retirement:

Municipal - Members are assumed to retire over a range of ages as shown below.

Age	Rate ¹
<45	2%
45	8%
46	10%
47 – 50	15%
51 – 54	17%
55	22%
56 – 59	14%
60 – 64	18%
65	25%
66 – 74	20%
75	100%

¹Rates indicated are adjusted by adding 5% (and 10% for ages 60-62 under current rate assumptions) for the year in which the member is first eligible for normal retirement.

Uniformed plans - Members are assumed to retire over a range of ages as shown below.

Age	Rate
<49	0%
50	30%
51 – 54	10%
55	25%
56 – 58	20%
59 – 60	15%
61	20%
62	30%
63 – 64	20%
65	30%
66+	100%

H. Marital Status and Spouse's Age (if applicable):

For retirees with the 50% J&S form of payment, 80% of active members are assumed to be married. Male spouses are assumed to be three years older than female spouses.

I. Social Security Projections (if applicable):

- (a) The Social Security Taxable Wage Base will increase by 3.3% compounded annually;
- (b) The Consumer Price Index will increase 2.8% compounded annually; and
- (c) The Average Total Wages of All Workers will increase by 3.3% compounded annually.

J. Post-Retirement Cost of Living Increases (if applicable)/Inflation:

2.8% per year, subject to plan limitations.

K. Interest Rate/Investment Return Assumption for municipal assets:

5.25% compounded annually, net of investment and certain administration expenses.

L. Asset Smoothing:

The Actuarial Value of Assets equals the plan's member, municipal, DROP (if applicable) reserve accounts plus the retiree actuarial liability. This asset smoothing is based on the unique legislative structure of PMRS and the administrative rules adopted by the PMRS Board in conjunction with Pennsylvania Municipal Retirement Law, all of which are not subject to comply with the Actuarial Standards of Practice No. 44, Selection and Use of Asset Valuation Methods, when defining the Actuarial Value of Assets.

Changes in Actuarial Assumptions:

Assumptions were changed as of January 1, 2017 from the prior Act 205 filing. These changes were based on the PMRS Experience Study for the period covering January 1, 2009 through December 31, 2013, issued by the actuary in July 2015. In addition, the Investment Rate Assumption for municipal assets was decreased from 5.50% to 5.25% with an effective date as of January 1, 2017.

Actuarial Cost Method:

Entry Age Normal Actuarial Cost Method – Entry age is defined as attained age less credited service. Experience regarding disablement and pensioners is pooled within the Pennsylvania Municipal Retirement System based on the Pennsylvania Municipal Retirement Law. The normal cost rate is derived as a level percent of future compensation of current employees, on an individual basis.

Appendix 1

1. Beginning with the 2017 Act 205 Actuarial Valuation Reports, the Market Value of Assets or the Plan Fiduciary Net Position used for GASB 68 purposes will be used for Act 205 Actuarial Valuation reporting purposes. Please note that the "Net Assets at Beginning of Year (Market Value)" as of the previous year (2016) will not agree with the "Net Asset at End of Year (Market Value)" on the 2015 Act 205 Actuarial Valuation Report because the market value of assets and actuarial value of assets were previously reported as one and the same. The Actuarial Value of Assets equals the sum of the Member Reserve, the Municipal Reserve, the DROP Reserve (if applicable), and the Retiree Liability, based on the legislative structure of PMRS and the administrative rules adopted by the PMRS Board in conjunction with Pennsylvania Municipal Retirement Law.

2. Includes PMRS Administrative Expenses and Additional Administrative Expenses reported on the GASB 68 Report. The Additional Administrative Expenses are the allocated expenses in excess of the PMRS Administrative Expense (i.e. \$20 per participant expense paid by each plan).



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