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Indiana Public Retirement System

State Excise Police, Gaming Agent, Gaming Control Officer, and Conservation Enforcement Officers' Retirement Plan

Actuarial Valuation as of
June 30, 2016



November 22, 2016

Board of Trustees
Indiana Public Retirement System
1 North Capitol, Suite 001
Indianapolis, IN 46204

Re: Certification of the Actuarial Valuations of the Indiana Public Retirement System as of June 30, 2016

Dear Board of Trustees:

Actuarial valuations are performed annually as required under statute for the Indiana Public Retirement System ("INPRS") defined benefit pension plans. The results of the June 30, 2016 actuarial valuations for all plans other than the Teachers' Retirement Fund are presented in individual valuation reports pursuant to the engagement letter between INPRS and PricewaterhouseCoopers LLP ("PwC"). These plans (the "Plans") include:

- Public Employees' Retirement Fund
- 1977 Police Officers' and Firefighters' Pension and Disability Fund
- Judges' Retirement System
- State Excise Police, Gaming Agent, Gaming Control Officer, and Conservation Enforcement Officers' Retirement Plan
- Prosecuting Attorneys' Retirement Fund
- Legislators' Retirement System Defined Benefit Plan

The reports are intended to provide the Board of Trustees ("Board") and INPRS staff with information on the funded status of the Plans, development of the contribution rates, and certain financial statement disclosure information. The reports are intended for their sole use and benefit, and are not intended for reliance by other persons.

For accounting purposes, the actuarial assumptions and methods used in the June 30, 2016 valuations were selected and approved by the Board, and are in accordance with our understanding of GASB No.67.

For funding purposes, employer contribution rates and amounts, as applicable, are adopted annually for each Plan by the Board, per Indiana statutes. The contributions are actuarially determined based on the funding policy, actuarial assumptions, and actuarial methods selected and approved by the Board. Contributions determined by the actuarial valuation become effective either twelve or eighteen months after the valuation date, depending on the applicable employer. Therefore, contribution rates and amounts determined by the June 30, 2016 actuarial valuation and adopted by the Board will become effective on either July 1, 2017 or January 1, 2018. If new legislation is enacted between the valuation date and the date the contributions become effective, the Board may adjust the recommended contributions before adopting them, in order to reflect this new legislation. Such adjustments are based on information supplied by the actuary.

Financing Objectives and Funding Policy

In setting contribution levels, the Board's principal objectives have been:

- To set contributions such that the unfunded actuarial accrued liability ("UAAL") of plans that are open to new entrants will be amortized over a period not greater than 20 years for any UAAL arising during the year ending June 30, 2016, and 30 years for any UAAL that arose prior to the year ending June 30, 2016. For plans that are closed to new entrants, the UAAL will be amortized over a period not greater than 5 years.
- To set contributions such that they remain relatively level over time.

To accomplish this, the Board's funding policy requires that employer contributions be equal to the sum of the employer normal cost (which pays the current year cost of benefits accruing) and an amortization of the UAAL in equal installments.

Progress Toward Realization of Financing Objectives

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a Plan's funded status. In the absence of benefit improvements and/or adverse experience it should increase over time, until it reaches 100% if contributions equal or exceed the actuarially determined amount. The combined funded ratio for all Plans (excluding the Teachers' Retirement Fund) increased by 0.3% from the preceding year to 84.6%, primarily due to contributions exceeding the actuarially determined amounts, offset by investment returns less than the 6.75% assumed, and other adverse member demographic experience.



Benefit Provisions

The benefit provisions reflected in the valuation reports are those which were in effect at June 30, 2016, as set forth in Indiana statutes. There were no material changes in benefit provisions since the 2015 valuations.

Assets and Member Data

The valuations were based on asset values of the trust funds as of June 30, 2016 and member census data as of June 30, 2015, adjusted for certain activity during fiscal year 2016. All asset information and member data were provided by INPRS. While certain checks for reasonableness were performed, the data was used unaudited. The accuracy of the results presented in the reports is dependent upon the accuracy and completeness of the underlying asset and census information.

Actuarial Assumptions and Methods

The actuarial assumptions used in the June 30, 2016 valuations were the same assumptions used in the 2015 valuations. The assumptions were adopted by the Board pursuant to an experience study completed in April 2015, which reflected the experience period from July 1, 2010 through June 30, 2014, as well as data from earlier studies. The June 30, 2016 valuations incorporate member census data as of June 30, 2015, adjusted for certain activity during fiscal year 2016. Standard actuarial techniques were used to roll forward valuation results from June 30, 2015 to June 30, 2016.

The actuarial assumptions and methods are summarized in the Actuarial Assumptions and Methods section of each valuation report. We believe the actuarial assumptions and methods are reasonable for the purposes of the valuation reports and comply with the parameters set forth in Statements No. 67 and No. 68 of the Governmental Accounting Standards Board ("GASB"). Different assumptions and methods may be reasonable for other purposes. As such, the results presented in the valuation reports should only be relied upon for the intended purposes stated therein.

Certification

We certify that the information presented herein is accurate and fairly portrays the actuarial position of each Plan administered by INPRS (other than the Teachers' Retirement Fund) as of June 30, 2016, based on the underlying census data, asset information and selected assumptions and methods. This information is presented in several schedules and exhibits in this report, including the following:

Financial Section:

- Note 1 - Tables of Plan Membership (Included in the Historical Summary)
- Note 8 - Net Pension Liability and Actuarial Information - Defined Benefit Plans (Included in the Accounting Section)
- Schedule of Changes in Net Pension Liability and Plan Fiduciary Net Position
- Schedule of Contributions (Actuarially Determined Contribution)
- Schedule of Notes to Required Supplementary Information

Actuarial Section:

- Summary of INPRS Funded Status (Included in the Historical Summary)
- Historical Summary of Actuarial Valuation Results by Retirement Plan (Schedule of Funding Progress Included in the Historical Summary)
- Summary of Actuarial Assumptions, Methods and Plan Provisions
- Analysis of Financial Experience (Included in the Unfunded Actuarial Accrued Liability Reconciliation)
- Solvency Test (Included in the Historical Summary)
- Schedule of Active Member Valuation Data
- Schedule of Retirants and Beneficiaries

Statistical Section:

- Membership Data Summary (Included in the Historical Summary)
- Ratio of Active Members to Annuitants (Census Counts Included in the Historical Summary)
- Schedule of Benefit Recipients by Type of Benefit Option
- Schedule of Average Benefit Payments

Subject to reliance on the data provided, all estimates are based on information available as of a point in time and are subject to ongoing unforeseen and random events. As such, any reported results must be viewed as having a likely range of variability from the estimate, both up and down. Differences between our estimates and actual results depend on the extent to which future experience conforms to the assumptions made for this analysis. It is certain that actual experience will not conform exactly to the assumptions used in this analysis. Although estimated amounts have not been rounded, no inference should be made regarding the precision of such results.

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.



To the best of our knowledge our actuarial reports are complete and accurate and have been prepared in accordance with generally accepted actuarial principles and practice and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with our understanding of the requirements of Indiana state law. The undersigned actuaries are members of the Society of Actuaries and other professional organizations, including the American Academy of Actuaries, and meet the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States relating to pension plans. There is no relationship between the PwC practitioners involved in this engagement and INPRS that may impair our objectivity.

Respectfully submitted,

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The content of this document is limited to the matters specifically addressed herein and does not address any other potential tax consequences, or the potential application of tax penalties, to any matter other than as set forth herein. Our conclusions are not binding upon any taxing authority or the courts and there is no assurance that any relevant taxing authority will not successfully assert a contrary position. In addition, no exceptions (including the reasonable cause exception) are available for any federal or state penalties imposed if any portion of a transaction is determined to lack economic substance or fails to satisfy any similar rule of law, and our advice will not protect you from any such penalties. This document supersedes all prior written or oral advice with respect to the issues addressed in this document and all such prior communications should not be relied upon by any person for any purpose.

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SECTION I - EXECUTIVE SUMMARY

HIGHLIGHTS OF THE ACTUARY'S REPORT

This report presents the results of the actuarial valuation of the State Excise Police, Gaming Agent, Gaming Control Officer, and Conservation Enforcement Officers' Retirement Plan ("EG&C Fund") and has been prepared to present the current funded status of the Plan, contribution requirements for calendar year 2018 (January 1, 2018 through December 31, 2018), and certain financial statement disclosure information. The valuation was performed using census data for plan members as of June 30, 2015, adjusted for certain activity during fiscal year 2016, as provided by INPRS and summarized in Section IV, asset information as of June 30, 2016 provided by INPRS, the actuarial assumptions and methods approved by the Board and summarized in Section V, and the plan provisions effective June 30, 2016 summarized in Section VI.

Contribution Rate

The Board sets, at its discretion, the applicable contribution rate upon considering the results of the actuarial valuation and other analysis as appropriate. The Board has approved an employer contribution rate of 20.75% for calendar year 2018. The contribution rate becomes effective on January 1, 2018. Therefore, the actual dollar amount of employer cost will depend on the actual payroll during calendar year 2018. The approved rate exceeds the actuarially determined contribution rate for calendar year 2018 of 15.97%.

Members of the EG&C Fund contribute 4% of their compensation to the Plan. If a member terminates employment with less than 15 years of service, the accumulated contributions with interest can be withdrawn as a lump sum or the member may direct the EG&C Fund to make a direct rollover of the distribution amount. When a member becomes vested with at least 15 years of service, the member's account balance may not be refunded and is instead combined with the employer contributions in order to fund the member's future retirement annuity benefit.

Funded Status

The funded status of the EG&C Fund is measured by the funded ratio, which is the ratio of the assets available for benefits to a benefit liability measure for the EG&C Fund. While there are several such measures that could be appropriately used, the benefit liability measure that ties most closely to INPRS's funding strategy is the Actuarial Accrued Liability ("AAL").

Using the Actuarial Value of Assets ("AVA"), an asset value that smoothes the market gains and losses over five (5) years, the EG&C Fund AAL funded ratio increased from 84.9% at June 30, 2015 to 85.3% at June 30, 2016. The increase is primarily due to contributions exceeding the actuarially determined contribution, offset by investment returns less than the 6.75% assumed.

Investment Experience

For the fiscal year ending June 30, 2016, the INPRS actual time-weighted return net of fees was 1.2%. Based on the value of assets allocated to the EG&C Fund as of the prior valuation date and contribution and benefit payment activity during the year, the allocation of returns to the EG&C Fund represent a return of approximately 1.1% on market value and 5.0% on actuarial value. The return on actuarial value is different due to the smoothing of returns greater or less than expected returns over five years.

SECTION I - EXECUTIVE SUMMARY

HIGHLIGHTS OF THE ACTUARY'S REPORT (CONTINUED)

Cost-of-Living Adjustment

Cost-of-living increases for retired members have historically been granted on an "ad hoc" basis. INPRS has confirmed that no increase in monthly benefits will be provided to retired members, disabled members, or beneficiaries as of January 1, 2017. Instead a "13th check" is required to be paid to each member (or survivor or beneficiary) in pay status by October 2016. The amount of the 13th check varied based on the years of creditable service the member earned prior to retirement.

Changes in Actuarial Assumptions

There were no actuarial assumption changes for the June 30, 2016 valuation.

Changes in Plan Provisions

It is our understanding that there were no changes to the Plan that impacted the pension benefits during the fiscal year.

Changes in Actuarial Methods

The INPRS Board approved the following changes in methods, effective June 30, 2016:

For funding purposes and when the plan is below 100% funded (based on Actuarial Value of Assets), gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes will be amortized over a 20-year period with level payments each year, rather than a 30-year period. A new gain or loss base will continue to be established each year. This change is made on a prospective basis, beginning with the June 30, 2016 actuarial valuation. Amortization bases established prior to June 30, 2016 will continue to be amortized over their original amortization period, even if the remaining period is greater than 20 years at June 30, 2016. If the plan is at or above 100% funded (based on Actuarial Value of Assets), the methodology of treating past amortization bases as fully amortized and amortizing the entire surplus over an open 30-year period is unchanged. This change increased the annual amortization payment toward the Unfunded Actuarial Accrued Liability reflected in development of the Actuarially Determined Contribution by \$10,252 (0.04% on the Actuarially Determined Contribution Rate) at June 30, 2016.

For funding purposes, the smoothing period for investment gains and losses in the development of the Actuarial Value of Assets was increased from four years to five years at June 30, 2016. This change was implemented retroactively in that the Actuarial Value of Assets at June 30, 2016 was computed as if the five-year amortization period for recognizing investment gains and losses had always been in effect. This change increased the Actuarial Value of Assets, and therefore decreased the Unfunded Actuarial Accrued Liability of the plan by \$310,761 (0.09% on the Actuarially Determined Contribution Rate) at June 30, 2016.

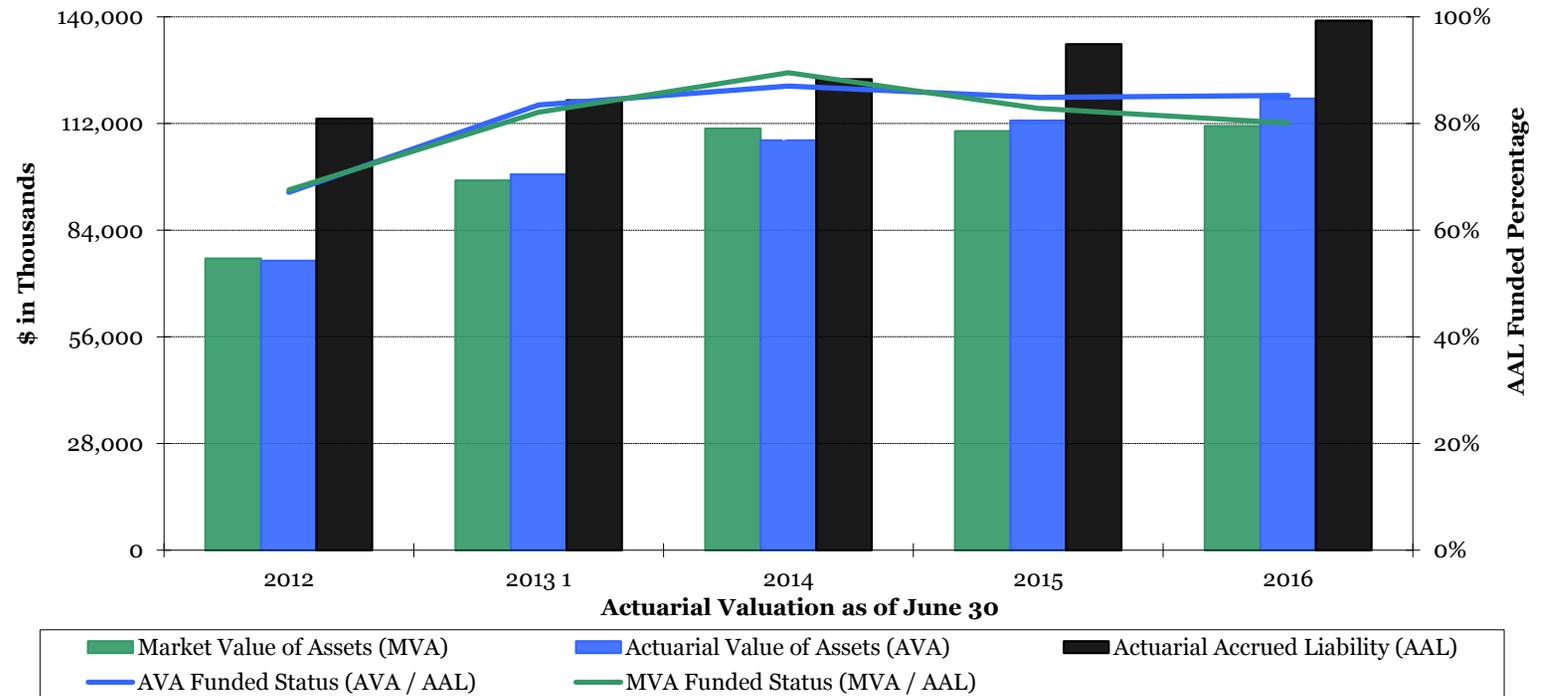
Governmental Accounting Standards

This report contains certain financial statement information, including notes and required supplemental information, prepared in accordance with our understanding of Governmental Accounting Standards No. 67 and No. 68 ("GASB 67" and "GASB 68") in order to assist INPRS with its financial report requirements and to assist INPRS in preparing financial reporting information for participating employers.

SECTION I - EXECUTIVE SUMMARY

HISTORICAL SUMMARY

EG&C Fund – 5 Year History of Funded Status



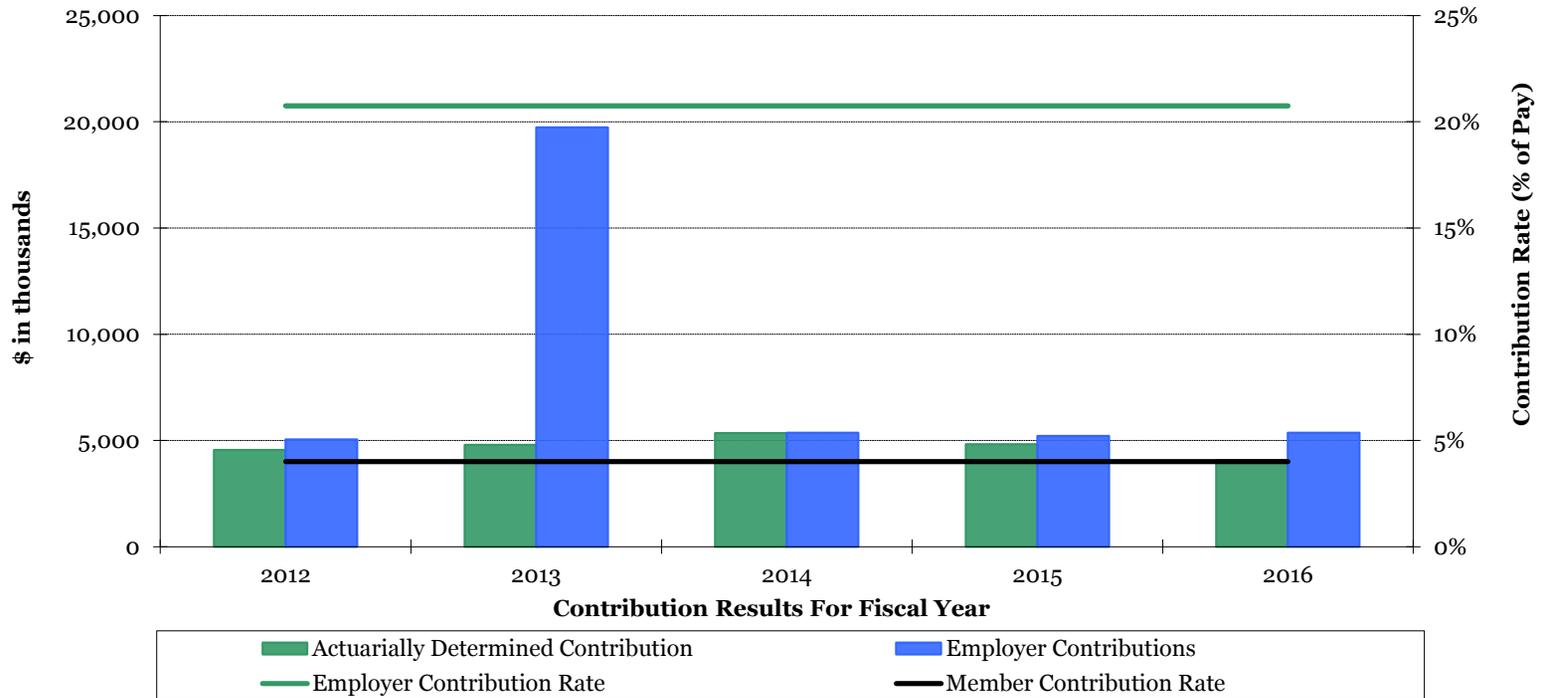
Actuarial Valuation as of June 30:	2012	2013¹	2014	2015	2016
Actuarial Accrued Liability (AAL)	\$113,282.6	\$118,097.2	\$123,600.7	\$132,795.5	\$138,965.1
Actuarial Value of Assets (AVA)	76,007.0	98,608.5	107,563.3	112,764.9	118,515.7
Market Value of Assets (MVA)	76,543.3	97,018.8	110,656.5	110,037.2	111,329.5
Unfunded Liability (AAL - AVA)	37,275.6	19,488.7	16,037.4	20,030.6	20,449.4
AVA Funded Status (AVA / AAL)	67.1%	83.5%	87.0%	84.9%	85.3%
MVA Funded Status (MVA / AAL)	67.6%	82.2%	89.5%	82.9%	80.1%

¹ Includes \$14.6 million of additional contributions due to 2012 HB 1376 during fiscal 2013.

SECTION I - EXECUTIVE SUMMARY

HISTORICAL SUMMARY (CONTINUED)

EG&C Fund – 5 Year History of Contributions



Contribution Results For Fiscal Year:	2012	2013¹	2014	2015	2016
Actuarially Determined Contribution ²	\$4,556.3	\$4,794.4	\$5,340.5	\$4,820.4	\$4,077.7
Employer Contributions	\$5,053.1	\$19,740.0	\$5,358.6	\$5,215.0	\$5,366.6
ADC % Contributed	110.9%	411.7%	100.3%	108.2%	131.6%
Employer Contribution Rate ³	20.75%	20.75%	20.75%	20.75%	20.75%
Member Contribution Rate	4.0%	4.0%	4.0%	4.0%	4.0%

¹ Includes \$14.6 million of additional contributions due to 2012 HB 1376 during fiscal 2013.

² Starting with fiscal year 2013, the ADC amount is based on the ADC Rates in effect during the fiscal year, multiplied by actual (rather than anticipated) payroll for the fiscal year.

³ Rates shown are those in effect on January 1 during the fiscal year. Contribution dollar amounts are for the fiscal year.

SECTION I - EXECUTIVE SUMMARY

HISTORICAL SUMMARY (CONTINUED)

Summary of Valuation Results ¹

<u>Valuation Date</u>	<u>June 30, 2012</u>	<u>June 30, 2013</u>	<u>June 30, 2014</u>	<u>June 30, 2015</u>	<u>June 30, 2016</u>
Development of Actuarially Determined Contribution Rate:					
1. Anticipated Payroll	\$ 25,752,100	\$ 26,200,542	\$ 26,663,926	\$ 25,760,873	\$ 26,163,688
2. Normal Cost (Beginning of Year)					
a. Amount	\$ 3,810,650	\$ 3,841,382	\$ 3,904,932	\$ 3,011,127	\$ 3,550,386
b. Percentage of Payroll	14.80%	14.66%	14.64%	11.69%	13.57%
3. Unfunded Actuarial Accrued Liability Annual Amortizations					
a. Amount	\$ 2,857,333	\$ 1,522,377	\$ 1,291,138	\$ 1,606,821	\$ 1,674,632
b. Percentage of Payroll	11.09%	5.81%	4.84%	6.24%	6.40%
4. Expected Employee Contributions					
a. Amount	\$ 1,030,084	\$ 1,048,022	\$ 1,066,557	\$ 1,030,435	\$ 1,046,548
b. Percentage of Payroll	4.00%	4.00%	4.00%	4.00%	4.00%
5. Actuarially Determined Contribution Rate:					
a. Percentage of Payroll: (2)(b) + (3)(b) - 4(b)	21.89%	16.47%	15.48%	13.93%	15.97%
b. Effective Date	January 1, 2014	January 1, 2015	January 1, 2016	January 1, 2017	January 1, 2018
 <u>Calendar Year</u>	 <u>2014</u>	 <u>2015</u>	 <u>2016</u>	 <u>2017</u>	 <u>2018</u>
Approved Funding Rate	20.75%	20.75%	20.75%	20.75%	20.75%

¹ The contribution rates shown were developed on a funding basis only and do not reflect accounting requirements.

SECTION I - EXECUTIVE SUMMARY

HISTORICAL SUMMARY (CONTINUED)

Summary of Valuation Results (Continued) ¹

	<u>June 30, 2012</u>	<u>June 30, 2013</u>	<u>June 30, 2014</u>	<u>June 30, 2015</u>	<u>June 30, 2016</u>
Census Information					
Active					
Number	468	473	473	448	421
Average Age	40.9	41.0	41.0	41.4	42.2
Average Years of Service	10.2	10.4	10.4	10.8	11.0
Anticipated Payroll of Actives ²	\$ 25,752,100	\$ 26,200,542	\$ 26,663,926	\$ 25,760,873	\$ 26,163,688
Inactive- Vested					
Number	4	4	4	3	7
Average Age	50.0	50.8	50.8	51.0	47.9
Average Years of Service	19.9	19.6	19.6	20.8	20.0
Inactive - Non-Vested ³					
Number	61	87	87	101	121
Retiree/Beneficiary/Disabled					
Number	187	193	193	207	220
Average Age	68.2	68.3	68.3	68.4	68.5
Annual Benefits Payable ⁴	\$ 4,452,452	\$ 4,666,134	\$ 4,666,134	\$ 5,210,101	\$ 5,661,184

¹ The valuation results beginning as of June 30, 2014 were calculated using census data as of the prior year end, adjusted for certain activity during the current fiscal year.

² Figures shown are the anticipated pay for the one-year period following the valuation date.

³ As of June 30, 2015, inactive non-vested members entitled to a refund of their member contribution had balances totaling \$467,838.

⁴ Figures shown reflect cost-of-living increases effective January 1 following the date of the census data, if provided, but do not reflect one-time 13th check amounts provided.

SECTION I - EXECUTIVE SUMMARY

HISTORICAL SUMMARY (CONTINUED)

Summary of Valuation Results (Continued)

	<u>June 30, 2012</u>	<u>June 30, 2013</u>	<u>June 30, 2014</u>	<u>June 30, 2015</u>	<u>June 30, 2016</u>
Actuarial Accrued Liability (AAL)					
Member Contribution Balance	\$ 6,531,863	\$ 7,494,370	\$ 8,041,582	\$ 8,456,123	\$ 9,085,077
Retiree/Beneficiary/Disabled	53,928,711	56,027,923	54,625,687	61,502,320	67,424,037
Active and Inactive	<u>52,822,070</u>	<u>54,574,934</u>	<u>60,933,435</u>	<u>62,837,061</u>	<u>62,455,936</u>
Total	\$ 113,282,644	\$ 118,097,227	\$ 123,600,704	\$ 132,795,504	\$ 138,965,050
Actuarial Value of Assets (AVA)					
Member Contribution Balance	\$ 6,531,863	\$ 7,494,370	\$ 8,041,582	\$ 8,456,123	\$ 9,085,077
Retiree/Beneficiary/Disabled	53,928,711	56,027,923	54,625,687	61,502,320	67,424,037
Active and Inactive	<u>15,546,429</u>	<u>35,086,227</u>	<u>44,896,045</u>	<u>42,806,499</u>	<u>42,006,578</u>
Total	\$ 76,007,003	\$ 98,608,520	\$ 107,563,314	\$ 112,764,942	\$ 118,515,692
Market Value of Assets (MVA)					
Member Contribution Balance	\$ 6,531,863	\$ 7,494,370	\$ 8,041,582	\$ 8,456,123	\$ 9,085,077
Retiree/Beneficiary/Disabled	53,928,711	56,027,923	54,625,687	61,502,320	67,424,037
Active and Inactive	<u>16,082,686</u>	<u>33,496,499</u>	<u>47,989,233</u>	<u>40,078,772</u>	<u>34,820,362</u>
Total	\$ 76,543,260	\$ 97,018,792	\$ 110,656,502	\$ 110,037,215	\$ 111,329,476
Unfunded Actuarial Accrued Liability: AAL - AVA ¹					
Member Contribution Balance	\$ -	\$ -	\$ -	\$ -	\$ -
Retiree/Beneficiary/Disabled	-	-	-	-	-
Active and Inactive	<u>37,275,641</u>	<u>19,488,707</u>	<u>16,037,390</u>	<u>20,030,562</u>	<u>20,449,358</u>
Total	\$ 37,275,641	\$ 19,488,707	\$ 16,037,390	\$ 20,030,562	\$ 20,449,358
Funded Percentage: AVA / AAL ¹					
Member Contribution Balance	100.0%	100.0%	100.0%	100.0%	100.0%
Retiree/Beneficiary/Disabled	100.0%	100.0%	100.0%	100.0%	100.0%
Active and Inactive	<u>29.4%</u>	<u>64.3%</u>	<u>73.7%</u>	<u>68.1%</u>	<u>67.3%</u>
Total	67.1%	83.5%	87.0%	84.9%	85.3%
Summary of Assumptions					
Valuation Interest Rate	6.75%	6.75%	6.75%	6.75%	6.75%
Salary Scale	3.25%	3.25%	3.25%	2.5%	2.5%
Cost-of-Living Assumption	1.0%	1.0%	1.0%	1.0%	1.0%

¹ For purposes of this summary, in determining the unfunded actuarial accrued liability and funded percentage, the assets are allocated first to member contribution balances, then to the retiree/beneficiary/disabled liability, and then to the active/inactive liability.

SECTION II - FUNDING

FUNDING

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SECTION II - FUNDING

A. Development of Funded Status

	June 30, 2015	June 30, 2016
1. Actuarial Accrued Liability		
a. Member Contribution Account	\$ 8,456,123	\$ 9,085,077
b. Retirees, Beneficiaries, and Disableds	61,502,320	67,424,037
c. Actives and Inactives	62,837,061	62,455,936
d. Total: (1)(a) + (1)(b) + (1)(c)	\$ 132,795,504	\$ 138,965,050
2. Actuarial Value of Assets ¹		
a. Member Contribution Account	\$ 8,456,123	\$ 9,085,077
b. Retirees, Beneficiaries, and Disableds	61,502,320	67,424,037
c. Actives and Inactives	42,806,499	42,006,578
d. Total: (2)(a) + (2)(b) + (2)(c)	\$ 112,764,942	\$ 118,515,692
3. Unfunded Actuarial Accrued Liability ¹		
a. Member Contribution Account: (1)(a) - (2)(a)	\$ -	\$ -
b. Retirees, Beneficiaries, and Disableds: (1)(b) - (2)(b)	-	-
c. Actives and Inactives: (1)(c) - (2)(c)	20,030,562	20,449,358
d. Total: (1)(d) - (2)(d)	\$ 20,030,562	\$ 20,449,358
4. Funded Percentage ¹		
a. Member Contribution Account: (2)(a) / (1)(a)	100.0%	100.0%
b. Retirees, Beneficiaries, and Disableds: (2)(b) / (1)(b)	100.0%	100.0%
c. Actives and Inactives: (2)(c) / (1)(c)	68.1%	67.3%
d. Total: (2)(d) / (1)(d)	84.9%	85.3%

¹ For purposes of this summary, in determining the unfunded actuarial accrued liability and funded percentage, the assets are allocated first to member contribution balances, then to the retiree/beneficiary/disabled liability, and then to the active/inactive liability.

SECTION II - FUNDING

B. Unfunded Actuarial Accrued Liability Reconciliation

1. June 30, 2015 Unfunded Actuarial Accrued Liability	\$	20,030,562
2. Normal Cost		3,011,127
3. Actuarially Determined Contribution (Employer and Member)		4,617,948
4. Interest of 6.75% on (1) + (2) - (3)		<u>1,243,603</u>
5. Expected June 30, 2016 Unfunded Actuarial Accrued Liability (1) + (2) - (3) + (4)	\$	19,667,344
6. Actuarial Value of Assets Experience (Gain)/Loss		
a. Investment Experience	\$	1,980,677
b. Contribution and Payroll Experience		(1,357,435)
c. Changes in Actuarial Methods ¹		(310,761)
7. Actuarial Accrued Liability Experience (Gain)/Loss		
a. Actuarial Accrued Liability Experience	\$	1,129,248
b. Additional Liability Due to Cost-of-Living Adjustments ²		(659,715)
c. Additional Liability Due to Changes in Actuarial Assumptions		-
d. Additional Liability Due to Changes in Plan Provisions		<u>-</u>
8. Total Experience (Gain)/Loss - New Amortization Base (6)(a) + (6)(b) + (7)(a) + (7)(b) + (7)(c) + (7)(d)	\$	782,014
9. Actual June 30, 2016 Unfunded Actuarial Accrued Liability (5) + (8)	\$	20,449,358

¹ The INPRS Board approved a change in the method used to compute the Actuarial Value of Assets beginning June 30, 2016 to retroactively increase the smoothing period for investment gains and losses from four years to five years.

² Retired members will be provided a 13th check by October 1, 2016, rather than the assumed 1.0% COLA on January 1, 2017.

SECTION II - FUNDING

C. Actuarial Accrued Liability Reconciliation

1. June 30, 2015 Actuarial Accrued Liability	\$	132,795,504	
2. Normal Cost		3,011,127	
3. Actual Benefit Payments ¹		6,266,565	
4. Service Purchases (Employer and Member)		-	
5. Interest of 6.75% on (1) + (2) - (3)/2 + (4)/2		<u>8,955,451</u>	
6. Expected June 30, 2016 Actuarial Accrued Liability (1) + (2) - (3) + (4) + (5)	\$	138,495,517	
		<u>Dollar Change in Liability</u>	<u>Percent Change in Liability</u>
7. (Gain)/Loss Components			
a. Census	\$	1,129,248	0.8%
b. 13th Check vs. COLA ²		(659,715)	(0.5%)
c. Assumption Changes		-	0.0%
d. Plan Changes		<u>-</u>	<u>0.0%</u>
e. Total: (7)(a) + (7)(b) + (7)(c) + (7)(d)	\$	469,533	0.3%
8. Actual June 30, 2016 Actuarial Accrued Liability: (6) + (7)(e)	\$	138,965,050	

¹ Includes refunds of accumulated member contributions and net interfund transfers.

² Retired members will be provided a 13th check by October 1, 2016 rather than a 1.0% COLA on January 1, 2017.

SECTION II - FUNDING

D. Reconciliation of Market Value of Assets

	June 30, 2015	June 30, 2016
1. Market Value of Assets, Prior June 30	\$ 110,656,502	\$ 110,037,215
2. Receipts		
a. Employer Contributions	\$ 5,215,010	\$ 5,366,551
b. Member Contributions	1,003,661	1,015,896
c. Investment Income and Dividends Net of Fees	(87,238)	1,299,366
d. Security Lending Income Net of Fees	15,679	15,140
e. Member Reassignments	-	-
f. Miscellaneous Income	-	-
g. Total Receipts: (2)(a) + (2)(b) + (2)(c) + (2)(d) + (2)(e) + (2)(f)	\$ 6,147,112	\$ 7,696,953
3. Disbursements		
a. Benefits Paid During the Year	\$ 6,523,776	\$ 6,131,855
b. Refund of Contributions and Interest	84,585	113,379
c. Administrative Expenses	158,038	138,127
d. Member Reassignments	-	21,331
e. Miscellaneous Disbursements	-	-
f. Total Disbursements: (3)(a) + (3)(b) + (3)(c) + (3)(d) + (3)(e)	\$ 6,766,399	\$ 6,404,692
4. Market Value of Assets, Current June 30: (1) + (2)(g) - (3)(f)	\$ 110,037,215	\$ 111,329,476
5. Market Value of Assets Approximate Annual Rate of Return ¹	(0.2%)	1.1%

¹ Based on individual fund experience. Net of expenses and assuming cash flows occur at mid-year.

SECTION II - FUNDING

E. Reconciliation of Actuarial Value of Assets ¹

1.	Market Value of Assets, June 30, 2015		\$ 110,037,215
2.	Market Value of Assets, June 30, 2016		111,329,476
3.	Expected Earnings/Expenses		
a.	Expected Investment Earnings at 6.75% on June 30, 2015 Market Value		7,427,512
b.	Receipts with Expected Investment Earnings at 6.75% ²		6,597,855
c.	Disbursements with Expected Investment Earnings at 6.75% ²		6,478,062
4.	Expected Assets, June 30, 2016: (1) + (3)(a) + (3)(b) - (3)(c)	\$	117,584,520
5.	2015-2016 Gain/(Loss): (2) - (4)		(6,255,044)
6.	Smoothing of Gain/(Loss)		
	<u>Year</u>	<u>Gain/(Loss)</u>	<u>% Unrecognized</u>
a.	2015-2016	\$ (6,255,044)	80%
b.	2014-2015	\$ (7,685,759)	60%
c.	2013-2014	\$ 6,634,832	40%
c.	2012-2013	\$ (1,123,295)	20%
			(224,659)
7.	Preliminary Actuarial Value of Assets, June 30, 2016: (2) - (6)(a) - (6)(b) - (6)(c) - (6)(d)	\$	118,515,692
8.	Corridor		
a.	120% of Market Value: 1.2 x (2)		133,595,371
b.	80% of Market Value: 0.8 x (2)		89,063,581
9.	Actuarial Value of Assets, June 30, 2016: (7), but not greater than (8)(a) or less than (8)(b)	\$	118,515,692
10.	Actuarial Value of Assets as a Percent of Market Value: (9) / (2)		106.5%
11.	Actuarial Value of Assets Approximate Annual Rate of Investment Return ³		5.0%

¹ The INPRS Board approved a change in the method used to compute the Actuarial Value of Assets beginning June 30, 2016 to retroactively increase the smoothing period for investment gains and losses from four years to five years.

² Assumes cash flows occur at mid-year.

³ Net of expenses, assumes cash flows occur at mid-year, and is net of the impact of changing from four-year to a five-year smoothing.

SECTION II - FUNDING

F. Contribution Rate

	<u>June 30, 2015</u>	<u>June 30, 2016</u>
Development of Actuarially Determined Contribution Rate:		
1. Anticipated Payroll	\$ 25,760,873	\$ 26,163,688
2. Normal Cost (Beginning of Year)		
a. Amount	\$ 3,011,127	\$ 3,550,386
b. Percentage of Payroll	11.69%	13.57%
3. Unfunded Actuarial Accrued Liability (UAAL) Annual Amortizations		
a. Amount	\$ 1,606,821	\$ 1,674,632
b. Percentage of Payroll	6.24%	6.40%
4. Expected Employee Contributions		
a. Amount	\$ 1,030,435	\$ 1,046,548
b. Percentage of Payroll	4.00%	4.00%
5. Actuarially Determined Contribution Rate		
a. Percentage of Payroll: (2)(b) + (3)(b) - (4)(b)	13.93%	15.97%
b. Effective Date	January 1, 2017	January 1, 2018
Approved Funding Rate:	20.75%	20.75%
Expected Percentage of Actuarially Determined Contribution Contributed:		
6. Fiscal Year Beginning	July 1, 2016	July 1, 2017
7. Actuarially Determined Contribution Rates for:		
a. July 1 - December 31	15.48%	13.93%
b. January 1 - June 30	13.93%	15.97%
8. Approved Funding Rates for:		
a. July 1 - December 31	20.75%	20.75%
b. January 1 - June 30	20.75%	20.75%
9. Expected Percentage of Actuarially Determined Contribution Contributed:	141.11%	138.80%
$\{(8)(a) + (8)(b) / 2\} / \{(7)(a) + (7)(b) / 2\}$		

SECTION II - FUNDING

G. Unfunded Actuarial Accrued Liability Amortization Schedule ¹

	Date Base Established	Reason	Remaining Unfunded	Remaining Period	Amortization Amount
1.	6/30/2009	Actuarial Experience	\$ 10,811,408	21	\$ 915,986
2.	6/30/2010	Actuarial Experience and Changes in Actuarial Assumptions	3,537,113	24	282,586
3.	6/30/2011	Actuarial Experience and Changes in Actuarial Assumptions	945,190	25	74,276
4.	6/30/2012	Actuarial Experience and Changes in Actuarial Assumptions	4,790,385	26	370,750
5.	6/30/2013	Actuarial Experience and Changes in Actuarial Assumptions	(1,588,453)	27	(121,221)
6.	6/30/2014	Actuarial Experience	(3,069,749)	28	(231,239)
7.	6/30/2015	Actuarial Experience and Changes in Actuarial Assumptions	4,241,450	29	315,683
8.	6/30/2016	Actuarial Experience and Changes in Actuarial Methods ^{2,3}	782,014	20	67,811
	Total		\$ 20,449,358	22.9	\$ 1,674,632

¹ Valuation results prior to June 30, 2010 were calculated by the prior actuary.

² The INPRS Board approved a change in the method used to amortize the Unfunded Actuarial Accrued Liability beginning June 30, 2016 to decrease the amortization period for annual gains and losses from 30 years to 20 years. Amortization bases established prior to June 30, 2016 will continue to be amortized over 30 years.

³ Includes the impact of changing from four-year to a five-year smoothing on the Actuarial Value of Assets.

⁴ The weighted average remaining UAAL amortization period is calculated by weighting the remaining amortization period of each base by the amortization amount of each base.

SECTION II - FUNDING

H. History of Employer Contribution Rates ¹

<u>Valuation Date</u>	<u>Effective Date</u>	<u>Contribution Rate</u>
June 30, 2001	January 1, 2003	16.00%
June 30, 2002	January 1, 2004	16.00%
June 30, 2003	January 1, 2005	16.00%
June 30, 2004	January 1, 2006	16.00%
June 30, 2005	January 1, 2007	16.00%
June 30, 2006	January 1, 2008	20.50%
June 30, 2007	January 1, 2009	20.75%
June 30, 2008	January 1, 2010	20.75%
June 30, 2009	January 1, 2011	20.75%
June 30, 2010	January 1, 2012	20.75%
June 30, 2011	January 1, 2013	20.75%
June 30, 2012	January 1, 2014	20.75%
June 30, 2013	January 1, 2015	20.75%
June 30, 2014	January 1, 2016	20.75%
June 30, 2015	January 1, 2017	20.75%
June 30, 2016	January 1, 2018	20.75%

¹ Valuation results prior to June 30, 2010 were calculated by the prior actuary.

SECTION II - FUNDING

I. Approximate Annual Rate of Return for Year Ending June 30, 2016¹

	<u>Market Value of Assets</u>	<u>Actuarial Value of Assets</u>
1. Balance, Beginning of Year	\$ 110,037,215	\$ 112,764,942
2. Balance, End of Year	111,329,476	118,515,692
3. Total Increase: (2) - (1)	1,292,261	5,750,750
4. Contributions	6,382,447	6,382,447
5. Benefit Payments ²	6,266,565	6,266,565
6. Net Additions: (4) - (5)	115,882	115,882
7. Net Investment Increase: (3) - (6)	1,176,379	5,634,868
8. Average Assets: [(1) + (2) - (7)] / 2	110,095,156	112,822,883
9. Approximate Rate of Return: (7) / (8) ¹	1.1%	5.0% ³

J. Historical Investment Experience

<u>Year Ending June 30</u>	<u>Actual Rate of Investment Return</u>		<u>Actuarial Assumed</u>
	<u>Market Basis</u> ⁴	<u>Actuarial Basis</u> ¹	<u>Interest Rate</u>
2007	18.2%	15.9%	7.25%
2008	(7.6%)	8.2%	7.25%
2009	(20.6%)	(0.9%)	7.25%
2010	13.9%	(1.3%)	7.25%
2011	20.1%	0.1%	7.0%
2012	0.7%	3.0%	7.0%
2013	6.0%	8.0%	6.75%
2014	13.7%	8.6%	6.75%
2015	0.0%	5.2%	6.75%
2016	1.2%	5.0% ³	6.75%

¹ Based on individual fund experience. Net of expenses and assuming cash flows occur at mid-year.

² Includes refunds of accumulated member contributions and net interfund transfers.

³ Net of the impact of changing from four-year to a five-year smoothing.

⁴ INPRS actual time-weighted rate of return net of fees for 2012-2016. PERF Consolidated Defined Benefit time-weighted rate of return reported as gross of fees for 2007-2011.

SECTION II - FUNDING

K. Interest Rate Sensitivity

The investment return assumption (discount rate) should be based on an estimated long-term investment yield for the plan, with consideration given to the nature and mix of current and expected plan investments. Management and the Board continually monitor the investment rate of return assumption and the Board formally reviews the assumption and makes changes as appropriate. The Board last changed the assumption for the June 30, 2012 valuation from 7.0% to 6.75%.

To illustrate the importance of the investment rate of return, which is used to discount the actuarial liabilities of the Plan, the Funded Ratio and Actuarially Determined Contribution Rate (for the calendar year beginning January 1, 2018) are shown below and on the following page at interest rates from 5.75% to 8.00%, in 0.25% increments.

	1.00% Decrease: (5.75%)	0.75% Decrease: (6.0%)	0.50% Decrease: (6.25%)	0.25% Decrease: (6.5%)	Current Assumption: (6.75%)
<u>Funded Status</u>					
Actuarial Accrued Liability	\$ 158,005,800	\$ 152,877,039	\$ 148,004,272	\$ 143,371,806	\$ 138,965,050
Actuarial Value of Assets	<u>118,515,692</u>	<u>118,515,692</u>	<u>118,515,692</u>	<u>118,515,692</u>	<u>118,515,692</u>
Unfunded Actuarial Accrued Liability	\$ 39,490,108	\$ 34,361,347	\$ 29,488,580	\$ 24,856,114	\$ 20,449,358
Funded Ratio	75.0%	77.5%	80.1%	82.7%	85.3%
<u>Actuarially Determined Contribution Rate</u>					
Normal Cost Rate	17.15%	16.15%	15.23%	14.37%	13.57%
UAAL Amortization Rate	11.80%	10.41%	9.05%	7.71%	6.40%
Expected Employee Contribution Rate	<u>4.00%</u>	<u>4.00%</u>	<u>4.00%</u>	<u>4.00%</u>	<u>4.00%</u>
Actuarially Determined Contribution Rate	24.95%	22.56%	20.28%	18.08%	15.97%

SECTION II - FUNDING

K. Interest Rate Sensitivity (Continued)

	0.25% Increase: (7.0%)	0.50% Increase: (7.25%)	0.75% Increase: (7.5%)	1.00% Increase: (7.75%)	1.25% Increase: (8.0%)
<u>Funded Status</u>					
Actuarial Accrued Liability	\$ 134,770,428	\$ 130,775,312	\$ 126,967,936	\$ 123,337,338	\$ 119,873,290
Actuarial Value of Assets	<u>118,515,692</u>	<u>118,515,692</u>	<u>118,515,692</u>	<u>118,515,692</u>	<u>118,515,692</u>
Unfunded Actuarial Accrued Liability	\$ 16,254,736	\$ 12,259,620	\$ 8,452,244	\$ 4,821,646	\$ 1,357,598
Funded Ratio	87.9%	90.6%	93.3%	96.1%	98.9%
<u>Actuarially Determined Contribution Rate</u>					
Normal Cost Rate	12.82%	12.13%	11.48%	10.88%	10.31%
UAAL Amortization Rate	5.11%	3.84%	2.59%	1.35%	0.14%
Expected Employee Contribution Rate	<u>4.00%</u>	<u>4.00%</u>	<u>4.00%</u>	<u>4.00%</u>	<u>4.00%</u>
Actuarially Determined Contribution Rate	13.93%	11.97%	10.07%	8.23%	6.45%

SECTION III - ACCOUNTING

ACCOUNTING

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SECTION III - ACCOUNTING

PLAN FINANCIAL STATEMENTS UNDER GASB #67

A. Statement of Fiduciary Net Position under GASB #67 as of June 30, 2016

1.	Assets		
	a. Cash	\$	40,003
	b. Receivables		
	i. Contributions Receivable	\$	-
	ii. Miscellaneous Receivables		-
	iii. Investments Receivable		1,731,690
	iv. Foreign Exchange Contract Receivable		26,620,611
	v. Interest and Dividends		275,010
	vi. Due From Other Funds		-
	vii. Total Receivables	\$	28,627,311
	c. Total Investments		
	i. Short-Term Investments	\$	-
	ii. Pooled Repurchase Agreements		28,899
	iii. Pooled Short-Term Investments		7,431,564
	iv. Pooled Fixed Income		35,672,845
	v. Pooled Equity		25,071,674
	vi. Pooled Alternative Investments		45,427,728
	vii. Pooled Derivatives		(4,983)
	viii. Securities Lending Collateral		1,704,857
	ix. Total Investments	\$	115,332,584
	d. Net Capital Assets		4,296
	e. Prepaid Expenses		-
	f. Total Assets: (1)(a) + (1)(b)(vii) + (1)(c)(ix) + (1)(d) + (1)(e)	\$	144,004,194
2.	Liabilities		
	a. Accounts Payable	\$	4,641
	b. Retirement Benefits Payable		-
	c. Salaries and Benefits Payable		-
	d. Investments Payable		3,226,593
	e. Foreign Exchange Contracts Payable		26,524,951
	f. Securities Lending Obligations		1,704,857
	g. Securities Sold Under Agreement to Repurchase		1,205,448
	h. Due To Other Funds		8,228
	i. Due to Other Governments		-
	j. Total Liabilities: (2)(a) + (2)(b) + (2)(c) + (2)(d) + (2)(e) + (2)(f) + (2)(g) + (2)(h) + (2)(i)	\$	32,674,718
3.	Fiduciary Net Position Restricted for Pensions: (1)(f) - (2)(j)	\$	111,329,476

SECTION III - ACCOUNTING

PLAN FINANCIAL STATEMENTS UNDER GASB #67

B. Statement of Changes in Fiduciary Net Position under GASB #67 for the Year Ended June 30, 2016

1.	Fiduciary Net Position as of June 30, 2015	\$	110,037,215
2.	Additions		
a.	Contributions		
	i. Member Contributions	\$	1,015,896
	ii. Employer Contributions ¹		5,366,551
	iii. Service Purchases (Employer and Member)		-
	iv. Non-Employer Contributing Entity Contributions		-
	v. Total Contributions	\$	6,382,447
b.	Investment Income/(Loss)		
	i. Net Appreciation/(Depreciation) ^{2,3}	\$	496,858
	ii. Net Interest and Dividend Income		1,526,988
	iii. Securities Lending Income		18,582
	iv. Other Net Investment Income		13,859
	v. Investment Management Expenses		(696,636)
	vi. Direct Investment Expenses		(41,703)
	vii. Securities Lending Expenses		(3,442)
	viii. Total Investment Income/(Loss)	\$	1,314,506
c.	Other Additions		
	i. Member Reassignments	\$	-
	ii. Miscellaneous Receipts		-
	iii. Total Other Additions	\$	-
d.	Total Revenue (Additions): (2)(a)(v) + (2)(b)(viii) + (2)(c)(iii)	\$	7,696,953
3.	Deductions		
a.	Pension and Disability Benefits	\$	6,131,855
b.	Death, Survivor, and Funeral Benefits		-
c.	Distributions of Contributions and Interest		113,379
d.	Member Reassignments		21,331
e.	Administrative Expenses		138,127
f.	Total Expenses (Deductions): (3)(a) + (3)(b) + (3)(c) + (3)(d) + (3)(e)	\$	6,404,692
4.	Net Increase (Decrease) in Fiduciary Net Position: (2)(d) - (3)(f)	\$	1,292,261
5.	Fiduciary Net Position as of June 30, 2016: (1) + (4)	\$	111,329,476

¹ Includes \$70,000 of appropriations from the State general fund to fund 13th check payments to retired members.

² The calculation of realized gains and losses is independent of the calculation of the net change in the fair value of pension plan investments.

³ Realized gains and losses on investments that had been held in more than one reporting period and sold in the current period were included as a change in the fair value reported in the prior period(s) and the current period.

SECTION III - ACCOUNTING

EMPLOYER FINANCIAL STATEMENTS UNDER GASB #68

C. Net Pension Liability under GASB #68 for the Year Ended June 30, 2016

1.	Total Pension Liability		
	a. Total Pension Liability - Beginning of Year	\$	132,795,504
	b. Service Cost ¹		3,011,127
	c. Interest Cost ²		8,955,451
	d. Experience (Gains)/Losses		469,533
	e. Assumption Changes		-
	f. Plan Amendments		-
	g. Benefit Payments ³		(6,266,565)
	h. Member Reassignments ⁴		-
	i. Service Purchases (Employer and Member)		-
	j. Total Pension Liability - End of Year	<u>\$</u>	<u>138,965,050</u>
2.	Plan Fiduciary Net Position		
	a. Plan Fiduciary Net Position - Beginning of Year	\$	110,037,215
	b. Employer Contributions ⁵		5,366,551
	c. Member Contributions		1,015,896
	d. Non-Employer Contributing Entity Contributions		-
	e. Investment Return		
	i. Expected Investment Return ⁶	\$	7,431,423
	ii. Investment Gain/(Loss)		<u>(6,116,917)</u>
	iii. Net Investment Return		1,314,506
	f. Benefit Payments ³		(6,245,234)
	g. Member Reassignments ⁴		(21,331)
	h. Administrative Expenses		<u>(138,127)</u>
	i. Plan Fiduciary Net Position - End of Year	\$	<u>111,329,476</u>
3.	Net Pension Liability		
	a. Net Pension Liability: (1)(j) - (2)(i)	\$	27,635,574
	b. Plan Fiduciary Net Position as a Percentage of the Total Pension Liability : (2)(i) / (1)(j)		80.1%

¹ As of the beginning of the year.

² Includes interest of 6.75% on the beginning-of-year service cost.

³ Includes refunds of accumulated member contributions.

⁴ Includes net interfund transfers

⁵ Includes \$70,000 of appropriations from the State general fund to fund 13th check payments to retired members.

⁶ 6.75%, net of investment expenses and assuming cash flows occur at mid-year.

SECTION III - ACCOUNTING

EMPLOYER FINANCIAL STATEMENTS UNDER GASB #68

D. Deferred Inflows and Outflows of Resources under GASB #68 for the Year Ended June 30, 2016 ¹

<u>Fiscal Year Established</u>	<u>Reason</u>	<u>Remaining Balance At Beginning of Year</u>	<u>Remaining Period ²</u>	<u>Annual Recognition</u>	<u>Remaining Balance At End of Year</u>
1. Liability Experience					
a. Inflows					
2014	Experience Gain	\$ 330,632	6.68	\$ 49,497	\$ 281,135
b. Outflows					
2015	Experience Loss	\$ (721,342)	5.81	\$ (124,156)	\$ (597,186)
2016	Experience Loss	\$ (469,533)	6.24	\$ (75,246)	\$ (394,287)
2. Assumption Changes					
a. Inflows					
None					
b. Outflows					
2015	Assumption Change Loss	\$ (2,277,189)	5.81	\$ (391,944)	\$ (1,885,245)
3. Investment Experience ³					
a. Inflows					
2014	Investment Gain	\$ 3,591,544	3.00	\$ 1,197,183	\$ 2,394,361
b. Outflows					
2015	Investment Loss	\$ (6,671,985)	4.00	\$ (1,667,997)	\$ (5,003,988)
2016	Investment Loss	\$ (6,116,917)	5.00	\$ (1,223,384)	\$ (4,893,533)
4. Total Deferred Inflows / Outflows: (1) + (2) + (3)					
a. Inflows					
	Total	\$ 3,922,176		\$ 1,246,680	\$ 2,675,496
b. Outflows					
	Total	\$ (16,256,966)		\$ (3,482,727)	\$ (12,774,239)

¹ The effort and cost to re-create financial statement information for 10 years was not practical. Information was prepared prospectively from June 30, 2013 for GASB #68 purposes.

² The initial amortization period for liability experience gains / losses and assumption change gains / losses is equal to the expected future working lifetime of all members, active and inactive. The initial amortization period for investment gains / losses is five years.

³ Net of investment expenses.

SECTION III - ACCOUNTING

EMPLOYER FINANCIAL STATEMENTS UNDER GASB #68

D. Deferred Inflows and Outflows of Resources under GASB #68 for the Year Ended June 30, 2016 (Continued)

Amounts reported as deferred inflows / (outflows) of resources to be recognized in pension expense:

Year Ending June 30:		
2016	\$	(2,236,047)
2017	\$	(2,236,047)
2018	\$	(2,236,052)
2019	\$	(3,433,227)
2020	\$	(1,765,230)
2021	\$	(443,780)
Thereafter	\$	15,593

SECTION III - ACCOUNTING

EMPLOYER FINANCIAL STATEMENTS UNDER GASB #68

E. Pension Expense under GASB #68 for the Year Ended June 30, 2016

1. Service Cost	
a. Total Service Cost ¹	3,011,127
b. Member Contributions	(1,015,896)
c. Administrative Expenses	<u>138,127</u>
d. Net Employer Service Cost: (1)(a) + (1)(b) + (1)(c)	2,133,358
2. Interest Cost ²	8,955,451
3. Expected Return on Assets ³	(7,431,423)
4. Plan Amendments	-
5. Recognition of Deferred (Inflows) / Outflows of Resources Related to:	
a. Liability Experience (Gains) / Losses	149,905
b. Assumption Change (Gains) / Losses	391,944
c. Investment (Gains) / Losses	<u>1,694,198</u>
d. Total: (5)(a) + (5)(b) + (5)(c)	2,236,047
6. Preliminary Pension Expense: (1)(d) + (2) + (3) + (4) + (5)(d)	\$ 5,893,433
7. Employer Service Purchases	-
8. Total Pension Expense: (6) + (7)	\$ 5,893,433

¹ As of the beginning of the year.

² Includes interest of 6.75% on the beginning-of-year service cost.

³ 6.75% net of investment expenses and assuming cash flows occur at mid-year. Includes a half year of interest on member contributions.

SECTION III - ACCOUNTING

NOTES TO THE FINANCIAL STATEMENTS UNDER GASB #67 AND #68

F. Selected Notes to the Financial Statements under GASB #67 and #68

1. EG&C Fund is a single-employer plan for GASB accounting purposes.
2. Significant actuarial assumptions and other inputs used to measure the total pension liability:
 - Measurement Date June 30, 2016
 - Valuation Date
Assets: June 30, 2016
Liabilities: June 30, 2015 - Member census data as of June 30, 2015 was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, 2015 and June 30, 2016. Standard actuarial roll forward techniques were then used to project the total pension liability computed as of June 30, 2015 to the June 30, 2016 measurement date.
 - Inflation 2.25%
 - Future Salary Increases 2.5%
 - Cost-of-Living Increases 1.0% compounded annually, beginning January 1, 2017. Retired members were provided a 13th check by October 1, 2015, and will be provided a 13th check by October 1, 2016, which is reflected in the valuation.
 - Mortality Assumption RP-2014 Mortality Blue Collar Set Mortality Table with mortality improvement since 2006 using scale MP-2014 removed and projected on a fully generational basis using the future mortality improvement scale inherent in the mortality projection shown in the Social Security Administration's 2014 Trustee report.
 - Experience Study The most recent comprehensive experience study was completed in April 2015 and was based on member experience between June 30, 2010 and June 30, 2014. The demographic assumptions were updated as needed for the June 30, 2015 actuarial valuation based on the results of the study.
 - Discount Rate The discount rate used to measure the total pension liability as of June 30, 2016, is 6.75% and is equal to the long-term expected return on plan investments, net of administrative expenses. The INPRS Board of Trustees has established a funding policy of setting the employer contribution rate equal to the greater of: 1) the current contribution rate of 20.75%, or 2) the actuarially determined contribution rate computed by the actuary using the assumptions and methods selected by the Board for the annual actuarial valuations. The assumptions and methods selected by the Board for the June 30, 2016 actuarial valuation include a 6.75% expected return on assets assumption, a 20-year level dollar closed method for amortizing future layers of unfunded actuarial accrued liability (30-years for amortization layers established prior to June 30, 2016), and a 5-year smoothing method for recognizing investment gains and losses in the actuarial value of assets. Therefore, if the Board continues to follow its current funding policy, which it has done for the past several years, the employer contribution rates established will be sufficient to fully fund the plan within 20 to 30 years.

SECTION III - ACCOUNTING

NOTES TO THE FINANCIAL STATEMENTS UNDER GASB #67 AND #68

F. Selected Notes to the Financial Statements under GASB #67 and #68 (Continued)

- Discount Rate (Continued) Furthermore, we note that a deterministic projection assuming no future gains or loss shows that the actuarially determined contribution rate is expected to reach a peak of 15.56% for fiscal 2021, as investment losses not yet recognized in the actuarial value of assets are recognized. Therefore, no increase to the current contribution rate would be required in order to fully fund all future benefits. As a result, a detailed projection of plan assets and cash flows was not prepared to prove that plan assets will be sufficient to pay all future benefit payments for current members.

	1% Decrease (5.75%)	Current Rate (6.75%)	1% Increase (7.75%)
- Discount Rate Sensitivity Net Pension Liability	\$ 46,676,324	\$ 27,635,574	\$ 12,007,862

3. Classes of Plan Members Covered: ¹

- Retired Members, Beneficiaries and Disabled Members Receiving Benefits:	220
- Terminated Vested Plan Members Entitled to but Not Yet Receiving Benefits:	7
- Terminated Non-Vested Plan Members Entitled to a Distribution of Contributions:	121
- Active Plan Members:	421
- Total Membership:	769

4. Money-Weighted Rate of Return:

The money-weighted rate of return equals investment performance, net of pension plan investment expense, adjusted for the changing amounts actually invested. For the fiscal year ending June 30, 2016, the money-weighted return on the plan assets is 1.2%.

5. The components of the Net Pension Liability for the EG&C Fund plan as of June 30, 2016, are as follows:

- Total Pension Liability	\$ 138,965,050
- Plan Fiduciary Net Position	111,329,476
- Net Pension Liability	\$ 27,635,574
- Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	80.1%

¹ The valuation results as of June 30, 2016 were calculated using June 30, 2015 census data, adjusted for certain activity during fiscal year 2016.

SECTION III - ACCOUNTING

REQUIRED SUPPLEMENTARY INFORMATION UNDER GASB #67 AND #68

G. Schedule of Changes in the Total Pension Liability and Plan Fiduciary Net Position under GASB #67 and #68 ¹

Year Ending June 30:	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
1. Total Pension Liability				
a. Total Pension Liability - Beginning of Year	\$ 113,282,644	\$ 118,097,227	\$ 123,600,704	\$ 132,795,504
b. Service Cost ²	3,810,650	3,841,382	3,904,932	3,011,127
c. Interest Cost ³	7,740,113	8,030,425	8,383,598	8,955,451
d. Experience (Gains)/Losses	(1,845,309)	(429,626)	845,498	469,533
e. Assumption Changes	(40,954)	-	2,669,133	-
f. Plan Amendments	-	-	-	-
g. Benefit Payments ⁴	(4,835,348)	(5,938,704)	(6,608,361)	(6,266,565)
h. Member Reassignments ⁵	(14,569)	-	-	-
i. Service Purchases (Employer and Member)	-	-	-	-
j. Total Pension Liability - End of Year	<u>\$ 118,097,227</u>	<u>\$ 123,600,704</u>	<u>\$ 132,795,504</u>	<u>\$ 138,965,050</u>
2. Plan Fiduciary Net Position				
a. Plan Fiduciary Net Position - Beginning of Year	\$ 76,543,260	\$ 97,018,792	\$ 110,656,502	\$ 110,037,215
b. Employer Contributions ⁶	19,740,031	5,358,617	5,215,010	5,366,551
c. Member Contributions	1,005,564	1,019,371	1,003,661	1,015,896
d. Non-Employer Contributing Entity Contributions	-	-	-	-
e. Net Investment Return	4,700,988	13,338,780	(71,559)	1,314,506
f. Benefit Payments ⁴	(4,835,348)	(5,938,704)	(6,608,361)	(6,245,234)
g. Member Reassignments ⁵	(14,569)	-	-	(21,331)
h. Administrative Expenses	(121,134)	(140,354)	(158,038)	(138,127)
i. Plan Fiduciary Net Position - End of Year	<u>\$ 97,018,792</u>	<u>\$ 110,656,502</u>	<u>\$ 110,037,215</u>	<u>\$ 111,329,476</u>

¹ The effort and cost to re-create financial statement information for 10-years was not practical. Information was prepared prospectively from June 30, 2012 for GASB #67 purposes and prospectively from June 30, 2013 for GASB #68 purposes.

² As of the beginning of the year.

³ Includes interest of 6.75% on the beginning-of-year service cost.

⁴ Includes refunds of accumulated member contributions and other interfund transfers.

⁵ Includes net interfund transfers.

⁶ For 2016, includes \$70,000 of appropriations from the State general fund to fund 13th check payments to retired members.

SECTION III - ACCOUNTING

REQUIRED SUPPLEMENTARY INFORMATION UNDER GASB #67 AND #68

H. Schedule of Net Pension Liability and Related Ratios under GASB #67 and #68 ¹

1. Year Ending	2. Total Pension Liability	3. Plan Fiduciary Net Position	4. Net Pension Liability (2) - (3)	5. Fiduciary Net Position as a Percentage of Total Pension Liability (3) / (2)	6. Actual Covered Employee Payroll ²	7. Net Pension Liability as a Percentage of Covered Payroll (4) / (6)
6/30/2013	\$ 118,097,227	\$ 97,018,792	\$ 21,078,435	82.2%	\$ 24,675,000	85.4%
6/30/2014	\$ 123,600,704	\$ 110,656,502	\$ 12,944,202	89.5%	\$ 25,824,626	50.1%
6/30/2015	\$ 132,795,504	\$ 110,037,215	\$ 22,758,289	82.9%	\$ 25,132,559	90.6%
6/30/2016	\$ 138,965,050	\$ 111,329,476	\$ 27,635,574	80.1%	\$ 25,525,549	108.3%

¹ The effort and cost to re-create financial statement information for 10-years was not practical. Information was prepared prospectively from June 30, 2012 for GASB #67 purposes and prospectively from June 30, 2013 for GASB #68 purposes.

² Pensionable pay as provided by INPRS.

SECTION III - ACCOUNTING

REQUIRED SUPPLEMENTARY INFORMATION UNDER GASB #67 AND #68

I. Schedule of Contributions under GASB #67 and #68¹

1. Year Ending	2. Actuarially Determined Contribution ²	3. Actual Employer Contributions	4. Contribution Excess / (Deficiency) (Deficiency) (3) - (2)	5. Actual Covered Employee Payroll ³	6. Contributions as a Percentage of Covered Payroll (3) / (5)
6/30/2013	\$ 4,794,353	\$ 19,740,031 ⁴	\$ 14,945,679	\$ 24,675,000	80.0%
6/30/2014	\$ 5,340,533	\$ 5,358,617	\$ 18,084	\$ 25,824,626	20.8%
6/30/2015	\$ 4,820,425	\$ 5,215,010	\$ 394,585	\$ 25,132,559	20.8%
6/30/2016	\$ 4,077,706	\$ 5,366,551 ⁵	\$ 1,288,845	\$ 25,525,549	21.1%

¹ The effort and cost to re-create financial statement information for 10-years was not practical. Information was prepared prospectively from June 30, 2012 for GASB #67 purposes and prospectively from June 30, 2013 for GASB #68 purposes.

² The actuarially determined contribution amounts are based on the average of the actuarially determined contribution rates developed in the actuarial valuations completed one year and two years prior to the beginning of the fiscal year, multiplied by actual payroll during the fiscal year.

³ Pensionable pay as provided by INPRS.

⁴ Includes a contribution of \$14,619,112 made to the Plan pursuant to 2012 HB 1376.

⁵ Excludes \$70,000 of appropriations from the State general fund to fund 13th check payments to retired members.

SECTION III - ACCOUNTING

REQUIRED SUPPLEMENTARY INFORMATION UNDER GASB #67 AND #68

J. Schedule of Money-Weighted Returns under GASB #67 and #68 ¹

1. Year Ending	2. Money-Weighted Rate of Return
6/30/2013	5.5%
6/30/2014	13.7%
6/30/2015	(0.1%)
6/30/2016	1.2%

¹ The effort and cost to re-create financial statement information for 10-years was not practical. Information was prepared prospectively from June 30, 2012 for GASB #67 purposes and prospectively from June 30, 2013 for GASB #68 purposes.

SECTION IV - CENSUS DATA

CENSUS DATA

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SECTION IV - CENSUS DATA

A. Reconciliation of Participant Data¹

	<u>Actives</u>	<u>Inactive Non-Vested With Member Contribution Balance</u>	<u>Inactive Vested</u>	<u>Disabled</u>	<u>Retired</u>	<u>Beneficiary</u>	<u>Total</u>
Total as of June 30, 2014	448	101	3	4	162	41	759
Data Adjustments for Activity During Fiscal Year 2015	-	-	-	-	-	-	-
Adjusted Total as of June 30, 2014	448	101	3	4	162	41	759
New Entrants	19	-	-	-	-	-	19
Rehires	-	-	-	-	-	-	-
Non-Vested Terminations	(25)	25	-	-	-	-	-
Vested Terminations	(5)	-	5	-	-	-	-
Retirements	(12)	-	(1)	-	13	-	-
Disabilities	-	-	-	-	-	-	-
Death with Beneficiary	(1)	-	-	-	(4)	5	-
Death without Beneficiary	-	-	-	-	-	(1)	(1)
Refunds	(3)	(5)	-	-	-	-	(8)
Data Adjustments	-	-	-	-	-	-	-
Total as of June 30, 2015	421	121	7	4	171	45	769
Data Adjustments for Activity During Fiscal Year 2016	-	-	-	-	-	-	-
Adjusted Total as of June 30, 2015	421	121	7	4	171	45	769

¹ The valuation results as of June 30, 2016 were calculated using June 30, 2015 census data, adjusted for certain activity during fiscal year 2016.

SECTION IV - CENSUS DATA

B. Census Information as of June 30, 2015¹

	<u>Male</u>	<u>Female</u>	<u>Total</u>
1. Active			
a. Number	379	42	421
b. Average Age	42.5	39.8	42.2
c. Average Years of Service	11.1	10.2	11.0
d. Anticipated Payroll of Actives ²	\$ 23,640,679	\$ 2,523,009	\$ 26,163,688
2. Inactive - Vested			
a. Number	6	1	7
b. Average Age	48.5	44.0	47.9
c. Average Years of Service	20.7	16.1	20.0
3. Inactive - Non-Vested ³			
a. Number	102	19	121
4. Retiree/Beneficiary/Disabled			
a. Number	169	51	220
b. Average Age	66.2	76.1	68.5
c. Annual Benefits Payable ⁴	\$ 5,103,884	\$ 557,300	\$ 5,661,184

¹ The valuation results as of June 30, 2016 were calculated using June 30, 2015 census data, adjusted for certain activity during fiscal year 2016.

² Figures shown are the anticipated pay for the one-year period following June 30, 2016.

³ As of June 30, 2015, inactive non-vested members entitled to a refund of their member contribution had balances totaling \$467,838.

⁴ Annual allowances reflect cost-of-living increases effective January 1 following the date of the census data, if provided, but do not reflect one-time 13th check amounts.

SECTION IV - CENSUS DATA

C. Schedule of Active Member Valuation Data^{1,2}

1. Valuation Date	2. Active Members	3. Anticipated Payroll (\$ in Thousands) ³	4. Average Pay (3) / (2)	5. Annual Percent Change
6/30/2007	344	17,715	51,497	7.2%
6/30/2008	410	21,333	52,033	1.0%
6/30/2009	443	25,238	56,971	9.5%
6/30/2010	471	26,709	56,707	(0.5%)
6/30/2011	440	24,028	54,609	(3.7%)
6/30/2012	468	25,752	55,026	0.8%
6/30/2013	473	26,201	55,393	0.7%
6/30/2014	473	26,664	56,372	1.8%
6/30/2015	448	25,761	57,502	2.0%
6/30/2016	421	26,164	62,147	8.1%

¹ Valuation results prior to June 30, 2010 were calculated by the prior actuary.

² The valuation results beginning as of June 30, 2014 were calculated using census data as of the prior year end, adjusted for certain activity during the current fiscal year

³ Figures shown are the anticipated pay for the one-year period following the valuation date.

SECTION IV - CENSUS DATA

D. Schedule of Retirees, Beneficiaries, and Disabled Members^{1, 2}

1.	2. Added		3. Removed		4. End of Year ³		5.	6.	7.	8.	9.
Valuation Date	Number	Annual Allowances (\$ in Thousands) ⁴	Number	Annual Allowances (\$ in Thousands) ⁴	Number	Annual Allowances (\$ in Thousands) ⁴	Number	Annual Allowances (\$ in Thousands) ⁴	% Increase in Annual Allowances ⁴	Average Annual Allowances ⁴	
6/30/2007	13	359	5	74	140	2,176	15.2%	15,539			
6/30/2008	9	302	12	119	137	2,518	15.8%	18,382			
6/30/2009	59	748	39	258	157	3,056	21.3%	19,465			
6/30/2010	6	136	6	49	157	3,134	2.6%	19,962			
6/30/2011	22	902	3	23	176	3,978	26.9%	22,602			
6/30/2012	14	495	3	14	187	4,452	11.9%	23,810			
6/30/2013	8	253	2	9	193	4,666	4.8%	24,177			
6/30/2014	-	-	-	-	193	4,666	0.0%	24,177			
6/30/2015	15	556	1	5	207	5,210	11.7%	25,170			
6/30/2016	14	506	1	4	220	5,661	8.7%	25,733			

¹ Valuation results prior to June 30, 2010 were calculated by the prior actuary.

² The valuation results beginning as of June 30, 2014 were calculated using census data as of the prior year end, adjusted for certain activity during the current fiscal year.

³ End of year annual allowances are not equal to the prior end of year annual allowances plus additions and less removals because of reductions for beneficiary benefits, data changes, and cost-of-living increases.

⁴ Annual allowances reflect cost-of-living increases effective January 1 following the date of the census data, if provided, but do not reflect one-time 13th check amounts.

SECTION IV - CENSUS DATA

E. Distribution of Active Members by Age and Service ¹

Attained Age	Distribution of Active Members by Age and Service as of June 30, 2015 ¹								
	Under 10 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 39 years	Over 40 years	Total
<25	5								5
25-29	41								41
30-34	64	7							71
35-39	42	19	5						66
40-44	38	10	17	2					67
45-49	22	4	13	20	1				60
50-54	27	1	3	6	15	2			54
55-59	25	1	1		2	8	3		40
60-64	11	1					3		15
65-69	2								2
70&Up									
Total	277	43	39	28	18	10	6		421

¹ The valuation results as of June 30, 2016 were calculated using June 30, 2015 census data, adjusted for certain activity during fiscal year 2016.

SECTION IV - CENSUS DATA

F. Distribution of Inactive Vested Members by Age and Service ¹

Attained Age	Distribution of Inactive Vested Members by Age and Service as of June 30, 2015 ¹					
	Under 15 years	15 to 19 years	20 to 24 years	25 to 29 years	Over 30 years	Total
<25						
25-29						
30-34						
35-39						
40-44		3				3
45-49		2				2
50-54				1		1
55-59					1	1
60-64						
65-69						
70&Up						
Total		5		1	1	7

¹ The valuation results as of June 30, 2016 were calculated using June 30, 2015 census data, adjusted for certain activity during fiscal year 2016.

SECTION IV - CENSUS DATA

G. Distribution of Retired Members, Beneficiaries, and Disabled Members by Age and Number of Years Retired ¹

Attained Age	Distribution of Retired Members, Beneficiaries, and Disabled Members by Age and Number of Years Retired as of June 30, 2015 ¹						
	Under 10 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	Over 30 years	Total
<40	1						1
40-44							
45-49	1						1
50-54	11						11
55-59	34	1	1		1		37
60-64	41	4	2				47
65-69	28	6	2	3	2		41
70-74		17	11	8	1		37
75-79			5	5	1	2	13
80-84				1	4	3	8
85-89					6	7	13
90&Up					1	10	11
Total	116	28	21	17	16	22	220

¹ The valuation results as of June 30, 2016 were calculated using June 30, 2015 census data, adjusted for certain activity during fiscal year 2016.

SECTION IV - CENSUS DATA

H. Schedule of Benefit Recipients by Type of Benefit Option ¹

Number of Benefit Recipients by Benefit Option as of June 30, 2015

Amount of Monthly Benefit	Retiree Single Life Annuity	Retiree 50%		Survivors	Disability	Total
		Joint and Survivor Annuity				
\$ 1 - 500	-	2	13	1	16	
501 - 1,000	-	11	20	1	32	
1,001 - 1,500	-	15	10	1	26	
1,501 - 2,000	-	13	2	-	15	
2,001 - 3,000	-	79	-	1	80	
over 3,000	-	51	-	-	51	
Total	-	171	45	4	220	

I. Schedule of Average Benefit Payments as of June 30, 2015 ^{1,2}

	Years of Credited Service						Total
	<10	10-14	15-19	20-24	25-29	30+	
Average Monthly Defined Benefit	\$ 504	\$ -	\$ 589	\$ 983	\$ 2,073	\$ 2,746	\$ 2,144
Average Final Average Salary	\$ 33,205	\$ -	\$ 26,025	\$ 37,093	\$ 50,468	\$ 54,912	\$ 50,294
Number of Benefit Recipients	15	-	8	21	66	110	220

¹ The valuation results as of June 30, 2016 were calculated using June 30, 2015 census data, adjusted for certain activity during fiscal year 2016.

Monthly benefits do not reflect 13th check payments made in October 2015 and October 2016. No cost-of-living increases were approved for January 1, 2016 or January 1, 2017.

² For some members, average salary at retirement and years of credited service were not available. The average salary for each group excluded these members.

SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

ACTUARIAL ASSUMPTIONS AND METHODS

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SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

The assumptions used in the valuation were selected and approved by the INPRS Board of Trustees. The demographic assumptions are reviewed at least every five years through a study of actual experience. The last study was completed in April 2015. In this way, the actuary provides guidance to the Board in selecting the assumptions. The actuary and other economic and investment professionals also provide advice to the Board for selecting the economic assumptions. In our opinion, the assumptions are reasonable for purposes of this valuation.

Interest Rate / Investment Return

Funding	6.75% (net of administrative and investment expenses)
Accounting	6.75% (net of investment expenses)

Interest on Member Balances 3.5% per year

Future Salary Increases 2.5% per year

Inflation 2.25% per year

Cost of Living Increases 1.0% per year in retirement beginning January 1, 2018. 13th checks were provided to members in pay status in lieu of a permanent cost-of-living increase in fiscal 2016 and 2017. The fiscal 2017 13th check, payable to members in October 2016, is included in the liability valuation at June 30, 2016.

Mortality (Healthy and Disabled) RP-2014 Blue Collar Set Mortality Table with mortality improvement since 2006 using scale MP-2014 removed and projected on a fully generational basis using the future mortality improvement scale inherent in the mortality projection included in the Social Security Administration's 2014 Trustee report.

Disability 150% of 1964 OASDI Table. Illustrative rates shown below:

Age	Rate
20	0.0900%
25	0.1275%
30	0.1650%
35	0.2205%
40	0.3300%
45	0.5400%
50	0.9090%
55	1.5135%
60	2.4405%
65+	0.0000%

SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions (Continued)

Termination

Based on 2010-2014 experience. Rates shown below:

<u>Service</u>	<u>Rate</u>	<u>Service</u>	<u>Rate</u>
0-1	10%	7	4%
2	9%	8	3%
3	8%	9	2%
4	7%	>=10	1%
5	6%		
6	5%		

Retirement

Based on 2010-2014 experience. Rates shown below:

<u>Age</u>	<u>Rate</u>
<=44	0%
45	3%
46 - 49	2%
50	3%
51 - 59	15%
60-64	40%
>=65	100%

Decrement Timing

Decrements are assumed to occur at the beginning of the year.

Active Members in DROP

Members who are participating in the DROP are assumed to receive an annuity benefit commencing at the end of their DROP period as well as a lump sum payment equal to the number of years they were in the DROP times their annual annuity benefit. The annuity benefit is estimated based on salary and service at the time the member entered the DROP.

Spouse/Beneficiary

90% of members are assumed to be married or to have a dependent beneficiary. Males are assumed to be three (3) years older than females.

SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions (Continued)

Data Assumptions	Spouse gender is assumed to be the opposite gender of the member. Additionally, payroll for new hires is annualized.
Changes in Assumptions	There were no assumption changes for the June 30, 2016 valuation.

SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

B. Assumptions Rationale

Investment Return

The investment return assumption is based on analysis completed by the INPRS investment advisor and an independent, high-level analysis completed by PwC using a "building block" approach that considered the target asset allocation from the Board's investment policy and capital market forecasts from various investment professionals.

Other Assumptions

The Board of Trustees adopts actuarial assumptions, each of which individually represents a reasonable long-term estimate of anticipated experience under the System, derived from experience studies conducted at least every five years. The most recent comprehensive experience study was completed in April 2015. The economic and demographic assumptions listed previously in the report were reviewed and updated, where appropriate, based on the historical experience observed during the study and expectations for the future.

SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

C. Actuarial Methods

The actuarial methods used in this valuation were selected and approved by the Board. In general, the methods provide orderly funding of all benefits being accrued, as well as unfunded past-service benefit liabilities, over a period of twenty years. However, the smoothing methods employed in determining the Actuarial Value of Assets may accelerate or lengthen the effective funding period, depending on whether gains or losses are experienced. In our opinion, the actuarial methods are reasonable for the purposes of this valuation.

1. Actuarial Cost Method

The actuarial cost method is Entry Age Normal - Level Percent of Payroll.

The normal cost is calculated separately for each active member and is equal to the level percentage of payroll needed as an annual contribution from entry age to retirement age to fund projected benefits. The actuarial accrued liability on any valuation date is the accumulated value of such normal costs from entry age to the valuation date.

For funding, gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 20-year period with level payments each year. A new gain or loss base is established each year based on the additional gain or loss during that year and that base is amortized over a new 20-year period (gain or loss bases established prior to June 30, 2016 were amortized over 30 years and will continue to be amortized over 30 -year period). However, when the plan is at or above 100% funded (based on Actuarial Value of Assets), the past amortization bases are considered fully amortized and a single amortization base equal to the surplus is amortized over a 30-year period with level payments each year. The purpose of the method is to give a smooth progression of the costs from year to year and, at the same time, provide for an orderly funding of the unfunded liabilities.

For accounting, gains and losses occurring from census experience different than assumed and assumption changes are amortized into expense over the average expected future service of all plan participants (active and inactive). Gains and losses occurring from investment experience different than assumed are amortized into expense over a 5-year period. The effect of plan changes on the plan liability are fully recognized in expense in the year in which they occur.

Member census data as of June 30, 2015 was used in the valuation and adjusted, where appropriate, to reflect changes between June 30, 2015 and June 30, 2016. Standard actuarial roll forward techniques were then used to project the liabilities computed as of June 30, 2015 to the June 30, 2016 measurement date.

2. Asset Valuation Method

The Actuarial Value of Assets smoothes the recognition of gains and losses on the Market Value of Assets over five years, subject to a 20% corridor.

SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

C. Actuarial Methods (Continued)

3. Employer Contribution Rate

Based on the assumptions and methods previously described, an actuarially determined contribution rate is computed. The Board considers this information, but has ultimate authority in setting the employer contribution rate.

4. Anticipated Payroll

The Anticipated Payroll of \$26,163,688 for the fiscal year beginning July 1, 2016 is equal to the actual payroll during the year ending June 30, 2016, increased with one year of salary scale.

5. Changes in Actuarial Methods

The INPRS Board approved the following changes in methods, effective June 30, 2016:

For funding purposes and when the plan is below 100% funded (based on Actuarial Value of Assets), gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes will be amortized over a 20-year period with level payments each year, rather than a 30-year period. A new gain or loss base will continue to be established each year. This change is made on a prospective basis, beginning with the June 30, 2016 actuarial valuation. Amortization bases established prior to June 30, 2016 will continue to be amortized over their original amortization period, even if the remaining period is greater than 20 years at June 30, 2016. If the plan is at or above 100% funded (based on Actuarial Value of Assets), the methodology of treating past amortization bases as fully amortized and amortizing the entire surplus over an open 30-year period is unchanged. This change increased the annual amortization payment toward the Unfunded Actuarial Accrued Liability reflected in development of the Actuarially Determined Contribution by \$10,252 (0.04% on the Actuarially Determined Contribution Rate) at June 30, 2016.

For funding purposes, the smoothing period for investment gains and losses in the development of the Actuarial Value of Assets was increased from four years to five years at June 30, 2016. This change was implemented retroactively in that the Actuarial Value of Assets at June 30, 2016 was computed as if the five-year amortization period for recognizing investment gains and losses had always been in effect. This change increased the Actuarial Value of Assets, and therefore decreased the Unfunded Actuarial Accrued Liability of the plan by \$310,761 (0.09% on the Actuarially Determined Contribution Rate) at June 30, 2016.

SECTION VI - SUMMARY OF PLAN PROVISIONS

SUMMARY OF PLAN PROVISIONS

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A. Summary of Plan Provisions

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SECTION VI - SUMMARY OF PLAN PROVISIONS

A. Summary of Plan Provisions (Continued)

Amount of Benefits

- a. Normal Retirement The normal retirement benefit is a monthly annuity payable in a Joint and 50% Surviving Beneficiary form and is equal to 25% of average monthly earnings¹, plus 1-2/3% of average monthly earnings for years of creditable service more than 10 years.

- b. Early Retirement The early retirement benefit is the accrued retirement benefit determined as of the early retirement date and payable commencing at the normal retirement date. A member may elect to have the benefit commence prior to normal retirement provided the benefit is reduced by 1/4% for each month that the benefit commencement date precedes age 60.

- c. Late Retirement The late retirement benefit is calculated in the same manner as the normal retirement benefit. Creditable service and earnings earned after normal retirement are included in the computation.

- d. Disability Retirement If disability occurs in the line of duty, the disability retirement benefit is the member's monthly salary multiplied by the degree of impairment and is payable commencing the month following disability date without reduction for early commencement. The benefit shall not be less than 20% of the member's salary if the member has more than 5 years of service, or 10% if 5 or less years of service.

If disability does not occur in the line of duty, the disability retirement benefit is equal to 50% of the member's monthly salary multiplied by the degree of impairment and is payable commencing the month following disability date without reduction for early commencement. The benefit shall not be less than 10% of the member's salary if the member has more than 5 years of service, or 5% if 5 or less years of service.

¹ Average monthly earnings is the monthly average of earnings during the 5 years within the 10 years preceding retirement that produce the highest such average.

SECTION VI - SUMMARY OF PLAN PROVISIONS

A. Summary of Plan Provisions (Continued)

Withdrawal from Fund If a member's employment is terminated prior to eligibility for a retirement annuity, the member may withdraw their contributions from the Fund.

Deferred Retirement Option Plan (DROP) Effective July 1, 2008, a DROP is established for all plan participants.

An employee may make a DROP election as provided in this chapter only if, immediately upon termination, he/she is eligible to receive an unreduced annual retirement allowance under the provisions of the EG&C Fund on his/her entry date into the DROP.

The DROP retirement benefit will be based on average annual salary and years of creditable service on the date the member enters the DROP.

Any member who chooses the DROP shall agree to the following:

- The member shall execute an irrevocable election to retire on the DROP retirement date and shall remain in active service until that date.
- While in the DROP, the member shall continue to make contributions to the EG&C Fund under the provisions of that fund.
- The member shall elect a DROP retirement date not less than 12 months and not more than 36 months after the member's DROP entry date.
- The member may not remain in the DROP after the date the member reaches any mandatory retirement age as set forth in the EG&C Fund.
- The member may make an election to enter the DROP only once in the member's lifetime.
- A member who retires on his/her DROP retirement date may elect to receive an annual retirement allowance.

SECTION VI - SUMMARY OF PLAN PROVISIONS

A. Summary of Plan Provisions (Continued)

Deferred Retirement Option Plan (DROP) (continued) Any member who chooses the DROP shall agree to the following (continued):

- Computed as if the member had never entered the DROP; or

- Consisting of the DROP frozen benefit, plus an additional amount paid as the member elects, determined by multiplying the DROP frozen benefit by the number of months the member was in DROP.

No cost of living increase is applied to a DROP frozen benefit while the participant is in the DROP. After the participant's DROP retirement date, cost of living increases determined under the EG&C Fund apply to the participant's annual retirement allowance.

Cost-of-Living Adjustments The monthly annuity benefits for members in pay status are increased periodically to preserve purchasing power that is diminished due to inflation. Such increases are not guaranteed by Statute and have historically been provided on an "ad hoc" basis.

A "13th check" will be paid to each member (or survivor or beneficiary) in pay status during September 2015. The amount of the 13th check varied based on the years of creditable service the member earned prior to retirement.

Changes in Provisions It is our understanding that there were no changes to the Plan that impacted the pension benefits during the fiscal year.

SECTION VII - DEFINITIONS OF TECHNICAL TERMS

Definitions of Technical Terms

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SECTION VII - DEFINITIONS OF TECHNICAL TERMS

A. Definitions of Technical Terms

Actuarial Accrued Liability (AAL)	That portion, as determined by a particular Actuarial Cost Method, of the Present Value of Future Benefits (PVFB) and expenses which is not provided for by future Normal Costs. Generally, the portion of the PVFB attributable to past service.
Actuarial Assumptions	Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided pension benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.
Actuarial Cost Method	A mathematical procedure for allocating the Present Value of Future Benefits to service periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.
Actuarial Gain/(Loss)	The difference between actual Unfunded Actuarial Accrued Liability and anticipated Unfunded Actuarial Accrued Liability resulting from differences between actual and expected plan experience between two valuation dates.
Actuarial Present Value	The single amount that is equal to a payment or series of payments in the future. It is determined by discounting future payments using predetermined Actuarial Assumptions for interest and by probabilities of payment.
Actuarial Valuation	The determination, as of an Actuarial Valuation Date, of the Present Value of Future Benefits, Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values.
Actuarial Valuation Date	The date as of which an Actuarial Valuation is performed.
Actuarially Determined Contribution	The precise actuarial contribution rate (expressed as a percentage of covered payroll) or amount determined in accordance with a Funding policy, which generally reflects the Normal Cost and amortization of any Unfunded Actuarial Accrued Liability
Actuarially Equivalent	Having the same Actuarial Present Value, based on a set of Actuarial Assumptions.

SECTION VII - DEFINITIONS OF TECHNICAL TERMS

A. Definitions of Technical Terms (Continued)

Amortization	The payment of a present value financial obligation on an installment basis over a future period.
Creditable Service	Service credited under the system that was rendered before the date of the actuarial valuation.
Funding Policy	A set of principles, often including a prescribed Actuarial Cost Method, Actuarial Assumptions, and/or Unfunded Actuarial Accrued Liability Amortization Method, that guide the calculation of the Actuarially Determined Contribution and management decisions regarding funding.
Level Dollar Amortization	Amortization where the installments are equal dollar amounts during each period.
Level Percent Amortization	Amortization where the installments are an equal percent of employee payroll during each period.
Normal Cost (NC)	That portion of the Present Value of Future Benefits which is allocated to the year following the Actuarial Valuation Date by the Actuarial Cost Method. The normal cost is specific to the cost method used.
Plan Assets	Resources, usually in the form of stocks, bonds, and other classes of investments, that have been segregated and restricted in a trust, or equivalent arrangement, in which (a) employer contributions to the plan are irrevocable, (b) assets are dedicated to providing benefits to retirees and their beneficiaries, and (c) assets are legally protected from creditors of the employer(s) or plan administrator, for the payment of benefits in accordance with the terms of the plan.
Plan Members	The individuals covered by the terms of a pension plan. The plan membership generally includes employees in active service, terminated employees who have accumulated benefits but are not yet receiving them, and retired employees and beneficiaries currently receiving benefits.

SECTION VII - DEFINITIONS OF TECHNICAL TERMS

A. Definitions of Technical Terms (Continued)

Present Value of Future Benefits (PVFB)

Projected benefits estimated to be payable to plan members (retirees and beneficiaries, terminated employees entitled to benefits but not yet receiving them, and current active members upon retirement) as a result of their service through the valuation date and their expected future service. The actuarial present value of projected future benefits as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment (taking into account mortality, turnover, probability of participating in plan retirement, etc.). Alternatively, it is the amount that would have to be invested on the valuation date so that the amount invested plus investment earnings will provide sufficient assets to pay the projected benefits when due.

Unfunded Actuarial Accrued Liability (UAAL)

The difference between the Actuarial Accrued Liability and Plan Assets as of a particular date. Plan assets may be market value or a smoothed value.

Unfunded Actuarial Accrued Liability Amortization Method

A predetermined process by which any Unfunded Actuarial Accrued Liability will be amortized for calculating the Actuarially Determined Contribution.