

[www.pwc.com](http://www.pwc.com)

# *The State of Indiana Public Employees' Retirement Fund*

1977 Police Officers' and Firefighters' Pension and  
Disability Fund

Actuarial Valuation as of  
June 30, 2010



April 20, 2011

Board of Trustees  
The State of Indiana Public Employees' Retirement Fund  
1 North Capitol, Suite 001  
Indianapolis, IN 46204

**Re: Certification of the Actuarial Valuations of the State of Indiana Public Employees' Retirement Fund as of June 30, 2010**

Dear Board of Trustees:

Actuarial valuations are performed annually for the State of Indiana Public Employees' Retirement Fund ("Indiana PERF") defined benefit pension plans ("Plans"). The results of the latest actuarial valuations, which were prepared as of June 30, 2010, are presented in individual valuation reports for each fund and were prepared pursuant to the engagement letter between Indiana PERF and PricewaterhouseCoopers LLP ("PwC"), dated June 7, 2010. The reports are intended to provide the Board of Trustees ("Board") with information on the funded status of the Plans, development of the contribution rates, and certain financial statement disclosure information.

Under Indiana statutes, employer contribution rates are adopted annually for each Plan by the Board. These rates are actuarially determined based on the Board's funding policy and adopted actuarial assumptions. Contribution rates determined by the actuarial valuation become effective either twelve or eighteen months after the valuation date, depending on the applicable employer. For example, the rates determined by the June 30, 2010 actuarial valuation and adopted by the Board will become effective on either July 1, 2011 or January 1, 2012. If new legislation is enacted between the valuation date and the date the contribution rates become effective, the Board may adjust the recommended rates 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 the contribution rates, the Board's principal objectives have been:

- To set contribution rates such that the unfunded actuarial accrued liability ("UAAL") will be amortized over a 30-year period.
- To set contribution rates such that they remain relatively level over time.

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

In addition, the Board has adopted contribution rate smoothing rules for the Public Employees' Retirement Fund, the State Excise Police, Gaming Agent, Gaming Control Officer, and Conservation Enforcement Officers' Retirement Plan, the 1977 Police Officers' and Firefighters' Pension and Disability Fund, and the Prosecuting Attorneys' Retirement Fund. The contribution rate smoothing rules vary based on the size of the employer and are periodically revised via Board Resolutions. The contribution rate smoothing rules reduce annual volatility in the contribution rates, by phasing in the effects of gains and losses over time.

For 2008, an additional smoothing rule was adopted which stated that any employer contribution amount or rate developed based on the 2008 valuation could not be less than the employer contribution amount or rate based on the prior year valuation. This smoothing rule was adopted in anticipation of the recent economic downturn. This additional smoothing rule was continued for the 2009 and 2010 valuations, but will be reconsidered in future years.

No membership growth is anticipated in setting the contribution rate. This is consistent with GASB #25, which prohibits anticipating membership growth in determining the minimum Annual Required Contribution ("ARC").



**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, it should increase over time, until it reaches 100%. The combined funded ratio for all Plans decreased by 7.4% from the preceding year due to experience losses when compared to that anticipated by the actuarial assumptions.

**Benefit Provisions**

The benefit provisions reflected in the valuation reports are those which were in effect at June 30, 2010, as set forth in the related Indiana statutes. None of the Plans had any material changes in benefit provisions since the 2009 valuation.

**Assets and Member Data**

The valuations were based on asset values of the trust funds and member census data as of June 30, 2010. All asset and member data was provided by Indiana PERF. 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 and methods used in the valuations have been selected and approved by the Board. In our opinion, the assumptions and methods are reasonable for the purposes of the valuation reports and comply with the parameters set forth in Statements No. 25 and No. 27 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 purpose.

**Certification**

We certify that the information presented herein is accurate and fairly portrays the actuarial position of each Plan administered by PERF as of June 30, 2010.

This report contains the required accounting information to be included in the Comprehensive Annual Financial Report. This information has been prepared in accordance with our understanding of Governmental Accounting Standards No. 25 and No. 27 (as amended by No. 50).

To the best of our knowledge this actuarial statement is complete and accurate and has 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 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 PwC and Indiana PERF that may impair our objectivity.

This document was not intended or written to be used, and it cannot be used, for the purpose of avoiding U.S. federal, state, or local tax penalties. This includes penalties that may apply if the transaction that is the subject of this document is found to lack economic substance or fails to satisfy any other similar rule of law. This document has been prepared pursuant to an engagement letter between Indiana PERF and PwC, and is intended solely for the use and benefits of Indiana PERF and not for reliance by any other person.

Respectfully submitted,

Ms. Cindy Fraterrigo  
Member, American Academy of Actuaries  
Fellow of the Society of Actuaries  
Enrolled Actuary (No. 11-06229)

Mr. Sheldon Gamzon  
Member, American Academy of Actuaries  
Fellow of the Society of Actuaries  
Enrolled Actuary (No. 11-03238)

Mr. Brandon Robertson  
Member, American Academy of Actuaries  
Associate of the Society of Actuaries  
Enrolled Actuary (No. 11-07568)

---

TABLE OF CONTENTS

|   |           |
|---|-----------|
| <b>I. EXECUTIVE SUMMARY</b>                                   | <b>1</b>  |
| <b>II. FUNDING</b>  |           |
| A. Development of Funded Status                               | 8         |
| B. Unfunded Actuarial Accrued Liability Reconciliation        | 9         |
| C. Actuarial Accrued Liability Reconciliation                 | 10        |
| D. Reconciliation of Market Value of Assets                   | 11        |
| E. Reconciliation of Actuarial Value of Assets                | 12        |
| F. Contribution Rate  | 13        |
| G. Unfunded Actuarial Accrued Liability Amortization Schedule | 14        |
| H. History of Employer Contribution Rates                     | 15        |
| I. Historical Investment Experience                           | 16        |
| <b>III. ACCOUNTING</b>  |           |
| A. Assumptions and Methods Under GASB #25 and #27             | 17        |
| B. Membership Data  | 17        |
| C. Statement of Plan Net Assets                               | 18        |
| D. Statement of Changes in Plan Net Assets                    | 19        |
| E. Schedule of Funding Progress                               | 20        |
| F. Schedule of Employer Contributions                         | 20        |
| G. Development of Net Pension Obligation (NPO)                | 21        |
| H. Three-Year Trend Information                               | 21        |
| I. Solvency Test  | 22        |
| <b>IV. CENSUS DATA</b>  | <b>23</b> |
| <b>V. ACTUARIAL ASSUMPTIONS AND METHODS</b>                   | <b>30</b> |
| <b>VI. SUMMARY OF PLAN PROVISIONS</b>                         | <b>35</b> |
| <b>VII. DEFINITIONS OF TECHNICAL TERMS</b>                    | <b>41</b> |

---

## SECTION I - EXECUTIVE SUMMARY

### **HIGHLIGHTS OF THE ACTUARY'S REPORT**

This report presents the results of the actuarial valuation of the 1977 Police Officers' and Firefighters' Pension and Disability Fund (the "1977 Fund") and has been prepared to present the current funded status of the Plan, contribution requirements for calendar year 2012 (January 1, 2012 through December 31, 2012), and certain financial statement disclosure information. The valuation was performed using census data for plan members as of as of June 30, 2010 provided by Indiana PERF, asset information as of June 30, 2010 provided by Indiana PERF, the actuarial assumptions and methods approved by the Board and summarized in Section V, and the plan provisions effective June 30, 2010 as summarized in Section VI.

#### **Contribution Rate**

The 1977 Fund contribution rate after reflecting the contribution smoothing rules increased from 19.5% to 19.7% for calendar year 2012.

The contribution rate is equal to the prior year Actual Rate (after smoothing), plus a portion of the increase (or less a portion of the decrease) between the current year True Rate (prior to smoothing) and the prior year Actual Rate, where the portion of the increase (or decrease) is calculated as follows:

- If there is an increase between the current year True Rate and the prior year Actual Rate, the increase shall be limited to one-half of the increase between the current year True Rate and the prior year Actual Rate, rounding up to the next tenth of a percent.
- If there is a decrease between the current year True Rate and the prior year Actual Rate, the decrease shall be limited to the decrease between the current year True Rate and prior year Actual Rate that is in excess of 1.0%, rounded up to the next tenth of a percent.

In addition to the smoothing rules stated above, an additional rule was implemented such that the current year Actual Rate cannot be less than the prior year Actual Rate. This additional rule is applicable to the contribution rate that is effective for calendar year 2012. However, for calendar year 2012, the True Rate increased and therefore this rule did not impact the required contribution rate.

The contribution rate determined by the June 30, 2010 valuation becomes effective on January 1, 2012. Therefore, the actual dollar amount of employer cost will depend on the actual payroll during calendar year 2012.

Employees covered by the 1977 Fund contribute 6% of the compensation of a first class officer during their first 32 years of service. However, the employer may elect to "pick-up" all or part of the employee contribution. If a member terminates employment with less than 20 years of service, the accumulated contributions with interest can be withdrawn as a lump sum or the member may direct the 1977 Fund to make a direct rollover of the distribution amount. When a member becomes vested with at least 20 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.

---

## SECTION I - EXECUTIVE SUMMARY

### **HIGHLIGHTS OF THE ACTUARY'S REPORT (CONTINUED)**

#### **Funded Status**

The funded status of the 1977 Fund is measured by the funded ratio, which is the ratio of the assets available for benefits to total liability measure for the 1977 Fund. While there are several such measures that could be appropriately used, the total liability measure that ties most closely to PERF'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 four (4) years, the 1977 Fund AAL funded ratio decreased from 98.0% at June 30, 2009 to 92.7% at June 30, 2010. The decrease is primarily due to a loss on the AVA from smoothing investment losses that occurred in 2008 and 2009, as well as the net effect of changes to the discount rate, cost-of-living, and mortality assumptions, which increased the AAL.

#### **Investment Experience**

On a Market Value basis, from June 30, 2009 to June 30, 2010, the 1977 Fund experienced an approximate investment return of 12.7%. However, on an Actuarial Value basis over the same time period, the 1977 Fund experienced an approximate investment return of 0.1%. The lower investment return on the AVA can be attributed to the smoothing of prior losses that more than offset the gain on Market Value from June 30, 2009 to June 30, 2010.

#### **Cost-of-Living Adjustment**

Benefits for retired members are increased annually based on increases in the CPI-U index. The increase is subject to a 3% maximum and 0% minimum. There was a 2.4% increase in monthly benefits provided to retired members, disabled members, and beneficiaries effective July 1, 2010. No increase was provided as of July 1, 2009.

#### **Changes in Actuarial Assumptions**

For the June 30, 2010 valuation, the Board approved the following assumption changes:

- The interest rate (net of administrative and investment expenses) was lowered from 7.25% to 7.0%.
- The cost-of-living increase assumption changed from 2.75% compounded annually to 2.25% compounded annually.
- The mortality assumption was changed from the UP 94 Mortality Table for healthy lives and 115% of UP 1994 Mortality Table for disabled lives to the IRS 2008 Static Mortality Table projected forward five (5) years with Scale AA for both healthy and disabled lives.

---

**SECTION I - EXECUTIVE SUMMARY**

**HIGHLIGHTS OF THE ACTUARY'S REPORT (CONTINUED)**

**Changes in Plan Provisions**

There have been no changes in the plan provisions since the June 30, 2009 valuation.

**Changes in Actuarial Methods**

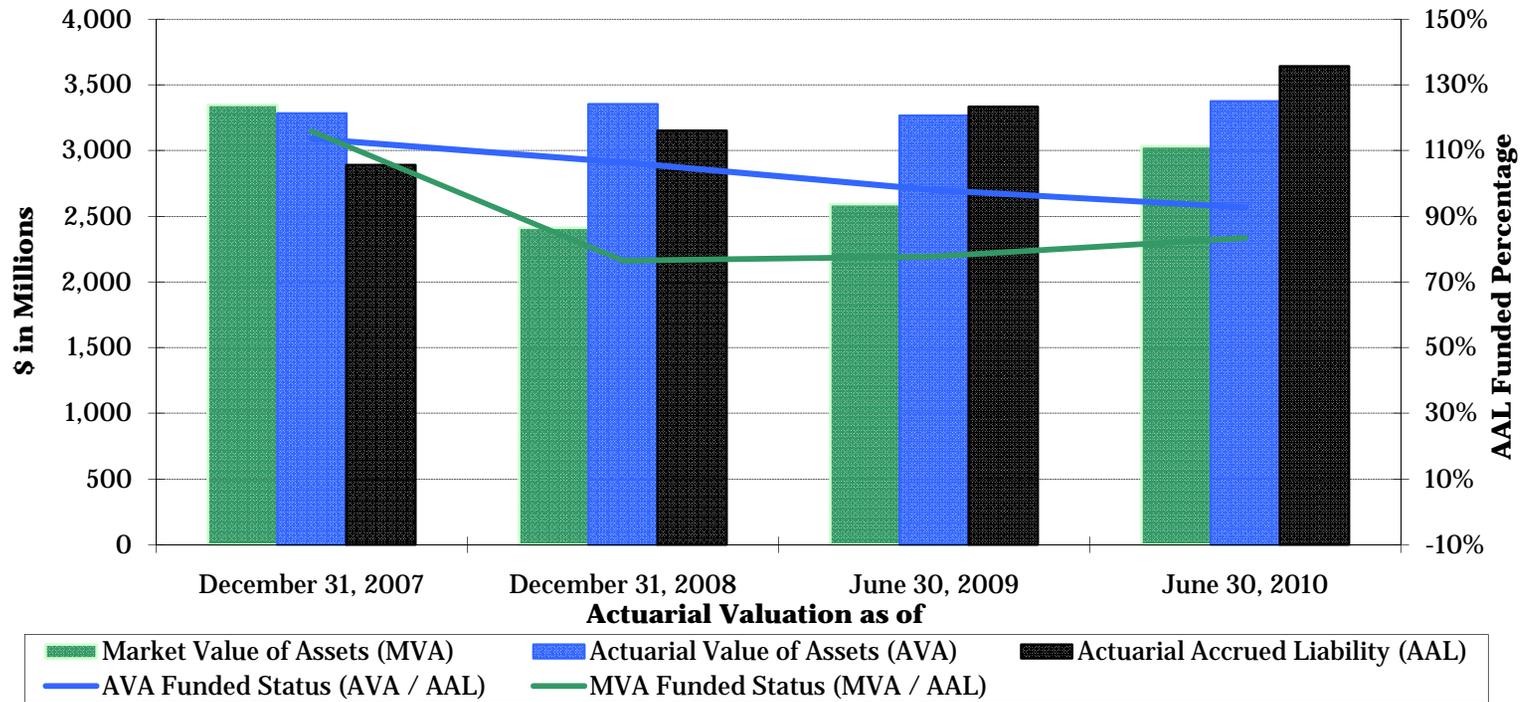
For the June 30, 2010 valuation, the Board approved the following method changes:

- The method of amortizing gains and losses was changed from a level dollar, rolling 30-year amortization method to a level dollar, closed ended 30-year method under which a new base is established each year beginning July 1, 2010.
- The AVA was updated to include a 20% corridor, where the AVA cannot be more than 120% or less than 80% of the Market Value of Assets ("MVA") after the four-year smoothing of gains and losses is applied.

**SECTION I - EXECUTIVE SUMMARY**

**HISTORICAL SUMMARY**

**1977 Fund – 4 Year History of Funded Status<sup>1</sup>**



| <b><u>Actuarial Valuation as of:</u></b> | <b><u>December 31, 2007</u></b> | <b><u>December 31, 2008</u></b> | <b><u>June 30, 2009</u></b> | <b><u>June 30, 2010</u></b> |
|--|---------------------------------|---------------------------------|-----------------------------|-----------------------------|
| Actuarial Accrued Liability (AAL)        | \$2,889.3                       | \$3,150.8                       | \$3,332.7                   | \$3,639.7                   |
| Actuarial Value of Assets (AVA)          | 3,281.5                         | 3,352.7                         | 3,265.6                     | 3,374.4                     |
| Market Value of Assets (MVA)             | 3,347.7                         | 2,410.8                         | 2,591.7                     | 3,033.3                     |
| Unfunded Liability (AAL - AVA)           | (392.2)                         | (201.9)                         | 67.1                        | 265.3                       |
| AVA Funded Status (AVA / AAL)            | 113.6%                          | 106.4%                          | 98.0%                       | 92.7%                       |
| MVA Funded Status (MVA / AAL)            | 115.9%                          | 76.5%                           | 77.8%                       | 83.3%                       |

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

SECTION I - EXECUTIVE SUMMARY

**HISTORICAL SUMMARY (CONTINUED)**

**Summary of Valuation Results<sup>1</sup>**

|  | <u>December 31, 2007</u> | <u>December 31, 2008</u> | <u>June 30, 2009</u> | <u>June 30, 2010</u> |
|--|--------------------------|--------------------------|----------------------|----------------------|
| Employer Contributions - Before Smoothing            |                          |                          |                      |                      |
| Normal Cost (Beginning of Year)                      | \$ 137,703,794           | \$ 150,228,277           | \$ 148,391,864       | \$ 154,421,923       |
| Amortization of Unfunded Actuarial Accrued Liability | (30,211,830)             | (15,551,625)             | 5,168,095            | 20,029,260           |
| Interest Adjustment <sup>2</sup>                     | 3,896,584                | 4,882,029                | 5,566,549            | -                    |
| Employee Contributions                               | <u>(36,198,275)</u>      | <u>(38,618,413)</u>      | <u>(38,547,232)</u>  | <u>(40,547,846)</u>  |
| Total Contribution Amount                            | \$ 75,190,273            | \$ 100,940,268           | \$ 120,579,276       | \$ 133,903,337       |
| Contribution Rate as a % of Payroll <sup>3</sup>     | 12.4%                    | 15.7%                    | 18.6%                | 19.8%                |
| Employer Contributions - After Smoothing             |                          |                          |                      |                      |
| Contribution Amount                                  | \$ 117,772,753           | \$ 125,762,540           | \$ 126,558,452       | \$ 133,132,094       |
| Contribution Rate as a % of Payroll <sup>3,4</sup>   | 19.5%                    | 19.5%                    | 19.5%                | 19.7%                |

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

<sup>2</sup> Valuation results prior to June 30, 2010 included an interest adjustment to the middle of the year because the payroll used for computing contribution rates was not discounted to the beginning of the year.

<sup>3</sup> For the 1977 Fund, payroll is the applicable first class officer pay for each member.

<sup>4</sup> The Employer Contributions are based on the payroll as of June 30, 2010. Since the contribution rate determined by the June 30, 2010 valuation becomes effective on January 1, 2012, the actual dollar amount of employer cost will depend on the actual payroll during calendar year 2012. The amount shown is meant to illustrate the impact of contribution rate smoothing.

SECTION I - EXECUTIVE SUMMARY

**HISTORICAL SUMMARY (CONTINUED)**

**Summary of Valuation Results (Continued)**<sup>1</sup>

|   | <u>December 31, 2007</u> | <u>December 31, 2008</u> | <u>June 30, 2009</u> | <u>June 30, 2010</u> |
|---|--------------------------|--------------------------|----------------------|----------------------|
| Census Information                      |                          |                          |                      |                      |
| Active                                  |                          |                          |                      |                      |
| Number                                  | 12,611                   | 13,095                   | 13,184               | 13,362               |
| Average Age                             | 39.3                     |                          | 40.2                 | 40.6                 |
| Average Years of Service                | 12.4                     |                          | 13.1                 | 13.1                 |
| Covered Payroll of Actives <sup>2</sup> | \$ 603,962,838           | \$ 644,936,101           | \$ 649,017,701       | \$ 675,797,434       |
| Inactive - Vested                       |                          |                          |                      |                      |
| Number                                  | 190                      | 122                      | 108                  | 111                  |
| Average Age                             |                          |                          |                      | 49.8                 |
| Average Years of Service                |                          |                          |                      | 22.3                 |
| Inactive - Non-Vested <sup>3</sup>      |                          |                          |                      |                      |
| Number                                  |                          |                          |                      | 771                  |
| Retiree/Beneficiary/Disabled            |                          |                          |                      |                      |
| Number                                  | 2,548                    | 2,530                    | 2,608                | 2,782                |
| Average Age                             |                          |                          |                      | 61.3                 |
| Annual Benefits Payable                 | \$ 49,537,070            | \$ 53,588,258            | \$ 55,564,149        | \$ 60,220,091        |

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

<sup>2</sup> For the 1977 Fund, payroll is the applicable first class officer pay for each member.

<sup>3</sup> For June 30, 2010, inactive non-vested members entitled to a refund of their ASA balances totaling \$5,912,881.

SECTION I - EXECUTIVE SUMMARY

**HISTORICAL SUMMARY (CONTINUED)**

**Summary of Valuation Results (Continued)**<sup>1</sup>

|  | <u>December 31, 2007</u> | <u>December 31, 2008</u> | <u>June 30, 2009</u> | <u>June 30, 2010</u> |
|--|--------------------------|--------------------------|----------------------|----------------------|
| <b>Actuarial Accrued Liability (AAL)</b>               |                          |                          |                      |                      |
| ASA Balance  | \$ 498,662,000           | \$ 534,303,000           | \$ 571,534,000       | \$ 634,864,721       |
| Retiree/Beneficiary/Disabled                           | 655,826,901              | 765,909,426              | 793,166,894          | 859,626,595          |
| Active and Inactive                                    | <u>1,734,806,025</u>     | <u>1,850,614,597</u>     | <u>1,967,984,639</u> | <u>2,145,177,957</u> |
| Total  | \$ 2,889,294,926         | \$ 3,150,827,023         | \$ 3,332,685,533     | \$ 3,639,669,273     |
| <b>Actuarial Value of Assets (AVA)</b>                 |                          |                          |                      |                      |
| ASA Balance  | \$ 498,662,000           | \$ 534,303,000           | \$ 571,534,000       | \$ 634,864,721       |
| Retiree/Beneficiary/Disabled                           | 655,826,901              | 765,909,426              | 793,166,894          | 859,626,595          |
| Active and Inactive                                    | <u>2,126,991,176</u>     | <u>2,052,493,012</u>     | <u>1,900,896,680</u> | <u>1,879,946,523</u> |
| Total  | \$ 3,281,480,077         | \$ 3,352,705,438         | \$ 3,265,597,574     | \$ 3,374,437,839     |
| <b>Market Value of Assets (MVA)</b>                    |                          |                          |                      |                      |
| ASA Balance  | \$ 498,662,000           | \$ 534,303,000           | \$ 571,534,000       | \$ 634,864,721       |
| Retiree/Beneficiary/Disabled                           | 655,826,901              | 765,909,426              | 793,166,894          | 859,626,595          |
| Active and Inactive                                    | <u>2,193,238,644</u>     | <u>1,110,575,197</u>     | <u>1,226,972,637</u> | <u>1,538,793,947</u> |
| Total  | \$ 3,347,727,545         | \$ 2,410,787,623         | \$ 2,591,673,531     | \$ 3,033,285,263     |
| <b>Unfunded Actuarial Accrued Liability: AAL - AVA</b> |                          |                          |                      |                      |
| ASA Balance  | \$ -                     | \$ -                     | \$ -                 | \$ -                 |
| Retiree/Beneficiary/Disabled                           | -                        | -                        | -                    | -                    |
| Active and Inactive                                    | <u>(392,185,151)</u>     | <u>(201,878,415)</u>     | <u>67,087,959</u>    | <u>265,231,434</u>   |
| Total  | \$ (392,185,151)         | \$ (201,878,415)         | \$ 67,087,959        | \$ 265,231,434       |
| <b>Funded Percentage</b>                               |                          |                          |                      |                      |
| ASA Balance  | 100.0%                   | 100.0%                   | 100.0%               | 100.0%               |
| Retiree/Beneficiary/Disabled                           | 100.0%                   | 100.0%                   | 100.0%               | 100.0%               |
| Active and Inactive                                    | <u>122.6%</u>            | <u>110.9%</u>            | <u>96.6%</u>         | <u>87.6%</u>         |
| Total  | 113.6%                   | 106.4%                   | 98.0%                | 92.7%                |
| <b>Summary of Assumptions</b>                          |                          |                          |                      |                      |
| Valuation Interest Rate                                | 7.25%                    | 7.25%                    | 7.25%                | 7.00%                |
| Salary Scale   | 4.00%                    | 4.00%                    | 4.00%                | 4.00%                |
| Cost-of-Living Assumption                              | 2.75%                    | 2.75%                    | 2.75%                | 2.25%                |

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

---

**SECTION II - FUNDING**

**FUNDING**

|   | <u>Page</u> |
|---|-------------|
| A. Development of Funded Status                               | 8           |
| B. Unfunded Actuarial Accrued Liability Reconciliation        | 9           |
| C. Actuarial Accrued Liability Reconciliation                 | 10          |
| D. Reconciliation of Market Value of Assets                   | 11          |
| E. Reconciliation of Actuarial Value of Assets                | 12          |
| F. Contribution Rate  | 13          |
| G. Unfunded Actuarial Accrued Liability Amortization Schedule | 14          |
| H. History of Employer Contribution Rates                     | 15          |
| I. Historical Investment Experience                           | 16          |

SECTION II - FUNDING

**A. Development of Funded Status**<sup>1</sup>

|  | <b>June 30, 2009</b> | <b>June 30, 2010</b> |
|--|----------------------|----------------------|
| 1. Actuarial Accrued Liability           |                      |                      |
| a. Annuity Savings Account               | 571,534,000          | 634,864,721          |
| b. Retirees, Beneficiaries, and Disabled | 793,166,894          | 859,626,595          |
| c. Active and Inactive                   | 1,967,984,639        | 2,145,177,957        |
| d. Total: (1)(a) + (1)(b) + (1)(c)       | \$ 3,332,685,533     | \$ 3,639,669,273     |
| 2. Actuarial Value of Assets             |                      |                      |
| a. Annuity Savings Account               | 571,534,000          | 634,864,721          |
| b. Retirees, Beneficiaries, and Disabled | 793,166,894          | 859,626,595          |
| c. Active and Inactive                   | 1,900,896,680        | 1,879,946,523        |
| d. Total: (2)(a) + (2)(b) + (2)(c)       | \$ 3,265,597,574     | \$ 3,374,437,839     |
| 3. Unfunded Actuarial Accrued Liability  |                      |                      |
| a. Annuity Savings Account               | -                    | -                    |
| b. Retirees, Beneficiaries, and Disabled | -                    | -                    |
| c. Active and Inactive                   | 67,087,959           | 265,231,434          |
| d. Total: (1)(d) - (2)(d)                | \$ 67,087,959        | \$ 265,231,434       |
| 4. Funded Status                         |                      |                      |
| a. Annuity Savings Account               | 100.0%               | 100.0%               |
| b. Retirees, Beneficiaries, and Disabled | 100.0%               | 100.0%               |
| c. Active and Inactive                   | 96.6%                | 87.6%                |
| d. Total: (2)(d) / (1)(d)                | 98.0%                | 92.7%                |

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

SECTION II - FUNDING

**B. Unfunded Actuarial Accrued Liability Reconciliation**<sup>1</sup>

|   | <b>June 30, 2009</b> | <b>June 30, 2010</b> |
|---|----------------------|----------------------|
| 1. Unfunded Actuarial Accrued Liability, Prior Year                 | \$ (201,878,415)     | \$ 67,087,959        |
| 2. Changes in Unfunded Actuarial Accrued Liability                  |                      |                      |
| a. Actuarial Value of Assets Experience (Gain)/Loss                 | \$ 224,641,348       | \$ 225,027,081       |
| b. Actuarial Accrued Liability Experience (Gain)/Loss               | 42,282,093           | (38,816,236)         |
| c. Additional Liability Due to Transition from Prior Actuary        | -                    | (36,487,301)         |
| d. Additional Liability Due to Changes in Actuarial Assumptions     | -                    | 49,098,836           |
| e. Additional Liability Due to Changes in Plan Provisions           | -                    | -                    |
| f. Total New Amortization Bases                                     | N/A                  | \$ 198,822,380       |
| (2)(a) + (2)(b) + (2)(c) + 2(d) + (2)(e)                            |                      |                      |
| g. Amortization of Existing Bases                                   | 2,042,933            | (678,905)            |
| h. Change in Unfunded Actuarial Accrued Liability:                  | \$ 268,966,374       | \$ 198,143,475       |
| (2)(f) + (2)(g)   |                      |                      |
| 3. Unfunded Actuarial Accrued Liability, Current Year: (1) + (2)(h) | \$ 67,087,959        | \$ 265,231,434       |

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

SECTION II - FUNDING

**C. Actuarial Accrued Liability Reconciliation**

|   |                         |                       |
|---|-------------------------|-----------------------|
| 1. June 30, 2009 Actuarial Accrued Liability <sup>1</sup>                       | \$ 3,332,685,533        |                       |
| 2. Normal Cost <sup>1</sup>   | 148,391,864             |                       |
| 3. Actual Benefit Payments  | 65,217,403              |                       |
| 4. Interest of 7.25% on (1) + (2) - (3)/2                                       | 250,013,980             |                       |
| 5. Expected June 30, 2010 Actuarial Accrued Liability:<br>(1) + (2) - (3) + (4) | \$ 3,665,873,974        |                       |
|   | <u>Dollar Change</u>    | <u>Percent Change</u> |
|   | <u>in Liability</u>     | <u>in Liability</u>   |
| 6. (Gain)/Loss Components   |                         |                       |
| a. Transition from Prior Actuary  | \$ (36,487,301)         | (1.0%)                |
| b. Census   | (38,816,236)            | (1.1%)                |
| c. Mortality Assumption Change  | 120,268,836             | 3.3%                  |
| d. Cost-of-living Assumption (COLA) Change                                      | (205,555,222)           | (5.6%)                |
| e. Discount Rate Assumption Change  | 134,385,222             | 3.7%                  |
| f. Total: (6)(a) + (6)(b) + (6)(c) + (6)(d) + (6)(e)                            | \$ (26,204,701)         | (0.7%)                |
| 7. Actual June 30, 2010 Actuarial Accrued Liability: (5) + (6)(f)               | <b>\$ 3,639,669,273</b> |                       |

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

SECTION II - FUNDING

**D. Reconciliation of Market Value of Assets**

|  | <b>June 30, 2009</b>    | <b>June 30, 2010</b>    |
|--|-------------------------|-------------------------|
| 1. Market Value of Assets, Prior June 30                               | \$ 3,148,395,784        | \$ 2,591,673,531        |
| 2. Receipts  |                         |                         |
| a. Employer Contributions  | \$ 129,681,545          | \$ 130,774,507          |
| b. Employee Contributions  | 38,404,779              | 39,826,023              |
| c. Investment Income and Dividends Net of Fees                         | (646,069,607)           | 335,799,829             |
| d. Security Lending Income Net of Fees                                 | -                       | 1,966,364               |
| e. Net Transfers In  | 130,853                 | 236,919                 |
| f. Miscellaneous Income  | 436,208                 | 89,877                  |
| g. Total Receipts:   | \$ (477,416,222)        | \$ 508,693,519          |
| 3. Disbursements   |                         |                         |
| a. Benefits Paid During the Year                                       | \$ 55,865,651           | \$ 62,913,046           |
| b. Refund of Contributions and Interest                                | 3,171,848               | 2,304,357               |
| c. Administrative Expenses   | 20,263,689              | 1,864,384               |
| d. Net Transfers Out   | 4,843                   | -                       |
| e. Miscellaneous Disbursements   | -                       | -                       |
| f. Total Disbursements:  | \$ 79,306,031           | \$ 67,081,787           |
| 4. Market Value of Assets, Current June 30: (1) + (2)(g) + (3)(f)      | <b>\$ 2,591,673,531</b> | <b>\$ 3,033,285,263</b> |
| 5. Market Value of Assets Approximate Annual Rate of Investment Return | (20.8%)                 | 12.7%                   |

SECTION II - FUNDING

**E. Reconciliation of Actuarial Value of Assets**

|     |   |                    |                       |
|-----|---|--------------------|-----------------------|
| 1.  | Market Value of Assets, June 30, 2009                                       | \$                 | 2,591,673,531         |
| 2.  | Market Value of Assets, June 30, 2010                                       |                    | 3,033,285,263         |
| 3.  | Expected Earnings/Expenses  |                    |                       |
| a.  | Expected Investment Earnings at 7.25% on June 30, 2009 Market Value         |                    | 187,896,331           |
| b.  | Expected Receipts and Investment Earnings at 7.25%                          |                    | 177,123,442           |
| c.  | Expected Disbursements and Investment Expenses at 7.25%                     |                    | 67,581,534            |
| 4.  | Expected Assets, June 30, 2010: (1) + (3)(a) + (3)(b) + (3)(c)              | \$                 | 2,889,111,770         |
| 5.  | 2009-2010 Gain/(Loss): (2) - (4)  |                    | 144,173,493           |
| 6.  | Smoothing of Gain/(Loss)  |                    |                       |
|     | <u>Year</u>   | <u>Gain/(Loss)</u> | <u>% Unrecognized</u> |
| a.  | 2009-2010   | \$ 144,173,493     | 75%                   |
| b.  | 2008-2009   | (898,565,391)      | 50%                   |
| 7.  | Preliminary Actuarial Value of Assets, June 30, 2010: (2) - (6)(a) - (6)(b) | \$                 | 3,374,437,839         |
| 8.  | Corridor  |                    |                       |
| a.  | 120% of Market Value  |                    | 3,639,942,316         |
| b.  | 80% of Market Value   |                    | 2,426,628,210         |
| 9.  | Actuarial Value of Assets, June 30, 2010                                    | <b>\$</b>          | <b>3,374,437,839</b>  |
| 10. | Actuarial Value of Assets as a Percent of Market Value: (9) / (2)           |                    | 111.2%                |
| 11. | Actuarial Value of Assets Approximate Annual Rate of Investment Return      |                    | 0.1%                  |

SECTION II - FUNDING

F. Contribution Rate

|  | <u>June 30, 2010</u>            |                                  |
|--|---------------------------------|----------------------------------|
|  | <u>\$</u>                       | <u>% of Payroll <sup>1</sup></u> |
| 1. Current Payroll   | \$ 675,797,434                  |                                  |
| 2. Normal Cost (Beginning of Year)   | 154,421,923                     | 22.85%                           |
| 3. Unfunded Actuarial Accrued Liability (UAAL) Amortizations   |                                 |                                  |
| a. UAAL Balance  | 265,231,434                     |                                  |
| b. Annual Amortization   | 20,029,260                      | 2.96%                            |
| 4. Expected Employee Contributions   | 40,547,846                      | 6.00%                            |
| 5. Employer Contributions - True Rate (Before Smoothing): (2) + (3)(b) - (4)   | 133,903,337                     | 19.81%                           |
| 6. Prior Year Actual Rate  |                                 | 19.50%                           |
| 7. Difference between True Rate and Prior Year Actual Rate: (5) - (6)  |                                 | 0.31%                            |
| 8. If increase, one-half of difference in (7); if decrease, excess of (7) over 1.0%; rounded up to nearest tenth percent |                                 | 0.20%                            |
| 9. Employer Contributions - Actual Rate (After Smoothing): [(6) + (8), not less than (6)]                                | <b>133,132,094 <sup>2</sup></b> | <b>19.70%</b>                    |

<sup>1</sup> For the 1977 Fund, payroll is the applicable first class officer pay for each member.

<sup>2</sup> The Employer Contributions are based on the payroll as of June 30, 2010. Since the contribution rates determined by the June 30, 2010 valuation become effective on January 1, 2012, the actual dollar amount of employer cost will depend on the actual payroll during calendar year 2012. The amount shown is meant to illustrate the impact of contribution rate smoothing.

SECTION II - FUNDING

**G. Unfunded Actuarial Accrued Liability Amortization Schedule**<sup>1</sup>

|    | <u>Date Base<br/>Established</u> | <u>Reason</u>   | <u>Remaining<br/>Unfunded</u> | <u>Remaining<br/>Period</u> | <u>Amortization<br/>Amount</u> |
|----|----------------------------------|---|-------------------------------|-----------------------------|--------------------------------|
| 1. | 6/30/2009                        | Actuarial Experience Loss                                     | \$ 66,409,054                 | 29                          | \$ 5,055,073                   |
| 2. | 6/30/2010                        | Actuarial Experience Loss and Change in Actuarial Assumptions | <u>198,822,380</u>            | 30                          | <u>14,974,187</u>              |
| 3. | Total                            |   | \$ 265,231,434                |                             | \$ 20,029,260                  |

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

---

## SECTION II - FUNDING

### **H. History of Employer Contribution Rates<sup>1, 2</sup>**

| 1.<br><u>Valuation Date</u> | 2.<br><u>Effective Date</u> | 3.<br><u>Contribution Rate</u> |
|-----------------------------|-----------------------------|--------------------------------|
| December 31, 2007           | July 1, 2009                | 19.5%                          |
| December 31, 2008           | July 1, 2010                | 19.5%                          |
| June 30, 2009               | January 1, 2011             | 19.5%                          |
| June 30, 2010               | January 1, 2012             | 19.7%                          |

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

<sup>2</sup> Rates shown reflect application of the contribution rate smoothing rules.

## SECTION II - FUNDING

### **I. Historical Investment Experience**

| 1.<br><u>Year Ending</u>   | 2.<br><u>Approximate Annual Rate of Investment Return</u> |                     | 4.<br><u>Actuarial Assumed<br/>Interest Rate</u> |
|----------------------------|---|---------------------|--|
|                            | <u>Actuarial Basis</u>                                    | <u>Market Basis</u> |  |
| December 31, 2001          | 2.6%  | (1.3%)              | 7.50%  |
| December 31, 2002          | (2.0%)  | (8.9%)              | 7.50%  |
| December 31, 2003          | 2.9%  | 24.2%               | 7.25%  |
| December 31, 2004          | 4.9%  | 11.9%               | 7.25%  |
| December 31, 2005          | 13.5%   | 7.8%                | 7.25%  |
| December 31, 2006          | 15.5%   | 13.7%               | 7.25%  |
| December 31, 2007          | 10.8%   | 6.3%                | 7.25%  |
| December 31, 2008          | (1.2%)  | (30.8%)             | 7.25%  |
| June 30, 2009 <sup>1</sup> | 0.2%  | (20.8%)             | 7.25%  |
| June 30, 2010              | 0.1%  | 12.7%               | 7.25%  |

<sup>1</sup> Figures shown are for the six-month period from January 1, 2009 to June 30, 2009.

---

**SECTION III - ACCOUNTING**

**ACCOUNTING**

|   | <u>Page</u> |
|---|-------------|
| A. Assumptions and Methods Under GASB #25 and #27 | 17          |
| B. Membership Data                                | 17          |
| C. Statement of Plan Net Assets                   | 18          |
| D. Statement of Changes in Plan Net Assets        | 19          |
| E. Schedule of Funding Progress                   | 20          |
| F. Schedule of Employer Contributions             | 20          |
| G. Development of Net Pension Obligation (NPO)    | 21          |
| H. Three-Year Trend Information                   | 21          |
| I. Solvency Test                                  | 22          |

---

## SECTION III - ACCOUNTING

### **REQUIRED SUPPLEMENTARY INFORMATION UNDER GASB #25 AND #27**

#### **A. Assumptions and Methods Under GASB #25 and #27**

Under the Governmental Accounting Standards Board (GASB) Statements No. 25 and No. 27, certain information about the plan is required to be disclosed. The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

|                           |  |
|---------------------------|--|
| Valuation Date            | June 30, 2010  |
| Actuarial Cost Method     | Entry Age Actuarial Cost Method                                    |
| Amortization Method       | Level Dollar   |
| Amortization Period       | 30 Years   |
| Actuarial Value of Assets | 4-Year Smoothed Market Value with 20% Corridor                     |
| Actuarial Assumptions:    |  |
| Investment Rate of Return | 7.0% (changed from 7.25% as of June 30, 2009)                      |
| Future Salary Increases   | 4.0% (includes 3.0% wage inflation)                                |
| Cost-of-Living Increases  | 2.25% compounded annually (changed from 2.75% as of June 30, 2009) |

#### **B. Membership Data**

The plan consisted of the following membership as of June 30, 2010, the date of the latest actuarial valuation:

|  |               |
|--|---------------|
| Retired members, beneficiaries and disabled members receiving benefits:    | 2,782         |
| Terminated vested plan members entitled to but not yet receiving benefits: | 111           |
| Terminated non-vested plan members entitled to refund of ASA balance:      | 771           |
| Active Plan Members:   | <u>13,362</u> |
| Total membership:  | 17,026        |

SECTION III - ACCOUNTING

**REQUIRED SUPPLEMENTARY INFORMATION UNDER GASB #25 AND #27 (CONTINUED)**

**C. Statement of Plan Net Assets**

|   |    |                      |
|---|----|----------------------|
| 1. Assets   |    |                      |
| a. Cash and Cash Equivalents  | \$ | 276,762,256          |
| b. Securities Lending Collateral  |    | 557,614,449          |
| c. Receivables  |    |                      |
| i. Contributions Receivable   | \$ | 42,052,117           |
| ii. Accrued Investment Income   |    | 10,139,864           |
| iii. Receivables for Investment Securities  |    | 229,576,789          |
| iv. Member Loans  |    | -                    |
| v. Miscellaneous Receivables  |    | 134,739              |
| vi. Due From Other Governmental Plans   |    | -                    |
| vii. Due From Other Funds   |    | -                    |
| viii. Total Receivables   | \$ | 281,903,509          |
| d. Investments  |    |                      |
| i. Debt Securities  | \$ | 906,826,439          |
| ii. Equity Securities   |    | 1,089,307,917        |
| iii. Mutual Funds   |    | 169,765,572          |
| iv. Other Investments   |    | 593,867,075          |
| v. Total Investments  | \$ | 2,759,767,003        |
| e. Capital Assets   |    | -                    |
| f. Total Assets: (1)(a) + (1)(b) + (1)(c)(viii) + (1)(d)(v) + (1)(e)                        | \$ | 3,876,047,217        |
| 2. Liabilities  |    |                      |
| a. Accounts Payable   | \$ | 30,028               |
| b. Salaries and Benefits Payable  |    | -                    |
| c. Investments Payable  |    | 263,108,756          |
| d. Securities Lending Collateral  |    | 557,614,449          |
| e. Due To Other Governmental Plans  |    | -                    |
| f. Due To Other Funds   |    | 22,008,721           |
| g. Total Current Liabilities  | \$ | 842,761,954          |
| h. Compensated Absences - Long Term   |    | -                    |
| i. Total Liabilities: (2)(a) + (2)(b) + (2)(c) + (2)(d) + (2)(e) + (2)(f) + (2)(g) + (2)(h) | \$ | 842,761,954          |
| 3. Net Assets Held in Trust for Pension Benefits: (1)(f) - (2)(i)                           | \$ | <b>3,033,285,263</b> |

SECTION III - ACCOUNTING

**REQUIRED SUPPLEMENTARY INFORMATION UNDER GASB #25 AND #27 (CONTINUED)**

**D. Statement of Changes in Plan Net Assets**

|  |    |                      |
|--|----|----------------------|
| 1. Net Assets as of June 30, 2009  | \$ | 2,591,673,531        |
| 2. Revenue (Additions)   |    |                      |
| a. Contributions   |    |                      |
| i. Member Contributions  | \$ | 39,826,023           |
| ii. Employer Contributions   |    | 130,774,507          |
| iii. Other Contributions   |    | -                    |
| iv. Total Contributions  | \$ | <u>170,600,530</u>   |
| b. Investment Income/Loss  |    |                      |
| i. Investment Income/Loss  | \$ | 356,195,115          |
| ii. Securities Lending Income  |    | 2,815,821            |
| iii. Securities Lending Expenses   |    | (849,456)            |
| iv. Other Investment Expenses  |    | <u>(20,395,286)</u>  |
| v. Net Investment Income   | \$ | 337,766,194          |
| c. Other Additions   |    |                      |
| i. Intergovernmental Transfers   | \$ | 236,918              |
| ii. Miscellaneous Income   |    | <u>89,877</u>        |
| iii. Total Other Additions   | \$ | 326,795              |
| d. Total Revenue (Additions): (2)(a)(iv) + (2)(b)(v) + (2)(c)(iii)                           | \$ | 508,693,519          |
| 3. Expenses (Deductions)   |    |                      |
| a. Pension and Disability Benefits   | \$ | 62,349,046           |
| b. Death, Survivor, and Funeral Benefits   |    | 564,000              |
| c. Distributions of Contributions and Interest   |    | 2,304,357            |
| d. Intergovernmental Transfers   |    | -                    |
| e. Pensions Relief Distributions   |    | -                    |
| f. Local Unit Withdrawals  |    | -                    |
| g. Administrative Expenses   |    | <u>1,864,384</u>     |
| h. Total Expenses (Deductions): (3)(a) + (3)(b) + (3)(c) + (3)(d) + (3)(e) + (3)(f) + (3)(g) | \$ | 67,081,787           |
| 4. Changes in Net Assets Held in Trust for Pension Benefits: (2) - (3)                       | \$ | 441,611,732          |
| 5. Net Assets as of June 30, 2010: (1) + (4)   | \$ | <b>3,033,285,263</b> |

SECTION III - ACCOUNTING

**REQUIRED SUPPLEMENTARY INFORMATION UNDER GASB #25 AND #27 (CONTINUED)**

**E. Schedule of Funding Progress<sup>1</sup>**

(\$ in Thousands)

| 1.<br>Actuarial<br>Valuation<br>Date | 2.<br>Actuarial<br>Value of Assets | 3.<br>Actuarial Accrued<br>Liability (AAL) | 4.<br>Unfunded Actuarial<br>Accrued Liability (UAAL)<br>(3) - (2) | 5.<br>AAL Funded<br>Ratio<br>(2) / (3) | 6.<br>Annual<br>Anticipated<br>Payroll <sup>2</sup> | 7.<br>UAAL as a<br>% of Payroll<br>(4) / (6) |
|--------------------------------------|------------------------------------|--|---|--|---|--|
| 12/31/2004                           | \$ 1,976,905                       | \$ 2,064,171                               | 87,266  | 95.8%                                  | \$ 493,707  | 17.7%  |
| 12/31/2005                           | 2,347,986                          | 2,415,053                                  | 67,067  | 97.2%                                  | 522,227   | 12.8%  |
| 12/31/2006                           | 2,860,512                          | 2,649,525                                  | (210,987)   | 108.0%                                 | 557,644   | (37.8%)                                      |
| 12/31/2007                           | 3,281,480                          | 2,889,295                                  | (392,185)   | 113.6%                                 | 603,963   | (64.9%)                                      |
| 12/31/2008                           | 3,352,705                          | 3,150,827                                  | (201,878)   | 106.4%                                 | 644,936   | (31.3%)                                      |
| 6/30/2009                            | 3,265,598                          | 3,332,686                                  | 67,088  | 98.0%                                  | 649,018   | 10.3%  |
| 6/30/2010                            | 3,374,438                          | 3,639,669                                  | 265,231   | 92.7%                                  | 675,797   | 39.2%  |

**F. Schedule of Employer Contributions<sup>1</sup>**

(\$ in Thousands)

| 1.<br>Plan Year<br>Ending | 2.<br>Annual Required<br>Contribution (ARC) | 3.<br>Actual<br>Employer Contribution | 4.<br>% of ARC<br>(3) / (2) |
|---------------------------|---|---------------------------------------|-----------------------------|
| 12/31/2004                | \$ 92,834                                   | \$ 102,903                            | 110.8%                      |
| 12/31/2005                | 97,286                                      | 108,768                               | 111.8%                      |
| 12/31/2006                | 102,964                                     | 143,272                               | 139.1%                      |
| 12/31/2007                | 108,741                                     | 122,712                               | 112.7%                      |
| 12/31/2008                | 117,773                                     | 133,196                               | 112.6%                      |
| 6/30/2009                 | 62,881 <sup>3</sup>                         | 64,285                                | 102.2%                      |
| 6/30/2010                 | 126,558                                     | 130,775                               | 103.3%                      |

<sup>1</sup> Above valuation results were calculated by the prior actuary.

<sup>2</sup> For the 1977 Fund, payroll is the applicable first class officer pay for each member.

<sup>3</sup> Equal to one-half of annual cost determined as of December 31, 2008.

SECTION III - ACCOUNTING

**REQUIRED SUPPLEMENTARY INFORMATION UNDER GASB #25 AND #27 (CONTINUED)**

**G. Development of Net Pension Obligation (NPO) <sup>1</sup>**

(\$ in Thousands)

| 1.<br>Plan Year<br>Ending | 2.<br>Annual<br>Required<br>Contribution (ARC) | 3.<br>Interest<br>on NPO at<br>Discount Rate | 4.<br>ARC<br>Adjustment<br>(9) / (5) | 5.<br>Amortization<br>Factor | 6.<br>Net Pension<br>Cost (NPC)<br>(2) + (3) - (4) | 7.<br>Actual<br>Employer<br>Contribution | 8.<br>Change<br>in NPO<br>(6) - (7) | 9.<br>NPO at<br>Beginning<br>of Year | 10.<br>NPO at<br>End of Year<br>(8) + (9) |
|---------------------------|--|--|--------------------------------------|------------------------------|--|--|-------------------------------------|--------------------------------------|---|
| 12/31/2007                | \$ 108,741                                     | \$ (3,110)                                   | \$ (3,544)                           | 12.1037                      | \$ 109,175   | \$ 122,712                               | \$ (13,537)                         | (42,895)                             | \$ (56,432)                               |
| 12/31/2008                | 117,773  | (4,091)                                      | (4,662)                              | 12.1037                      | 118,344  | 133,196                                  | (14,852)                            | (56,432)                             | (71,284)                                  |
| 6/30/2009 <sup>2</sup>    | 62,881   | (2,584)                                      | (2,945)                              | 12.1037                      | 63,242   | 64,285                                   | (1,043)                             | (71,284)                             | (72,327)                                  |
| 6/30/2010                 | 126,558  | (5,244)                                      | (5,976)                              | 12.1037                      | 127,290  | 130,775                                  | (3,485)                             | (72,327)                             | (75,812)                                  |

**H. Three-Year Trend Information <sup>1</sup>**

(\$ in Thousands)

| 1.<br>Plan Year<br>Ending | 2.<br>Net Pension<br>Cost (NPC) | 3.<br>Actual<br>Employer<br>Contribution | 4.<br>% of NPC<br>(3) / (2) |
|---------------------------|---------------------------------|--|-----------------------------|
| 12/31/2007                | \$ 109,175                      | \$ 122,712                               | 112.4%                      |
| 12/31/2008                | 118,344                         | 133,196                                  | 112.6%                      |
| 6/30/2009 <sup>2</sup>    | 63,242                          | 64,285                                   | 101.6%                      |
| 6/30/2010                 | 127,290                         | 130,775                                  | 102.7%                      |

<sup>1</sup> Results were calculated by the prior actuary.

<sup>2</sup> Calculations adjusted for short plan year (January 1, 2009 to June 30, 2009).

**SECTION III - ACCOUNTING**

**I. Solvency Test**<sup>1</sup>

Portion of Actuarial Liability Provided by Assets  
(\$ in Thousands)

| 1.<br><u>As of</u> | 2.<br><u>ASA<br/>Balances</u> | 3.<br><u>Retired and<br/>Beneficiaries</u> | 4.<br><u>Non-Retired<br/>Members (Employer<br/>Financed Portion)</u> | 5.<br><u>Total Actuarial<br/>Accrued<br/>Liabilities</u> | 6.<br><u>Actuarial Value<br/>of Assets</u> |
|--------------------|-------------------------------|--|--|--|--|
| 12/31/2004         | \$ 362,908<br>100.0%          | 436,606<br>100.0%                          | \$ 1,264,657<br>93.1%  | \$ 2,064,171<br>95.8%                                    | \$ 1,976,905                               |
| 12/31/2005         | 403,643<br>100.0%             | 503,498<br>100.0%                          | 1,507,912<br>95.6%   | 2,415,053<br>97.2%                                       | 2,347,986                                  |
| 12/31/2006         | 455,476<br>100.0%             | 546,628<br>100.0%                          | 1,647,421<br>100.0%  | 2,649,525<br>108.0%                                      | 2,860,512                                  |
| 12/31/2007         | 498,662<br>100.0%             | 655,827<br>100.0%                          | 1,734,806<br>100.0%  | 2,889,295<br>113.6%                                      | 3,281,480                                  |
| 12/31/2008         | 534,303<br>100.0%             | 765,909<br>100.0%                          | 1,850,615<br>100.0%  | 3,150,827<br>106.4%                                      | 3,352,705                                  |
| 6/30/2009          | 571,534<br>100.0%             | 793,167<br>100.0%                          | 1,967,985<br>96.6%   | 3,332,686<br>98.0%                                       | 3,265,598                                  |
| 6/30/2010          | 634,865<br>100.0%             | 859,626<br>100.0%                          | 2,145,178<br>87.6%   | 3,639,669<br>92.7%                                       | 3,374,438                                  |

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

---

**SECTION IV - CENSUS DATA**

**CENSUS DATA**

|  | <u>Page</u> |
|--|-------------|
| A. Reconciliation of Participant Data  | 23          |
| B. Census Information  | 24          |
| C. Schedule of Active Member Valuation Data  | 25          |
| D. Schedule of Retirees, Beneficiaries, and Disabled Members   | 26          |
| E. Distribution of Active Members by Age and Service   | 27          |
| F. Distribution of Inactive Vested Members by Age and Service  | 28          |
| G. Distribution of Retired Members, Beneficiaries, and Disabled Members by Age and Number of Years Retired | 29          |

SECTION IV - CENSUS DATA

**A. Reconciliation of Participant Data**

|                                | Inactive Non-Vested |                  |                 |          |         |             | Total  |
|--------------------------------|---------------------|------------------|-----------------|----------|---------|-------------|--------|
|                                | Actives             | ASA Balance      | Inactive Vested | Disabled | Retired | Beneficiary |        |
| McCready & Keene June 30, 2009 | 13,184              |                  | 108             | 648      | 1,451   | 509         | 15,900 |
| Adjustment <sup>1</sup>        | 110                 | 779 <sup>2</sup> | -               | -        | -       | 11          | 900    |
| PwC Total as of June 30, 2009  | 13,294              | 779              | 108             | 648      | 1,451   | 520         | 16,800 |
| New Entrants                   | 443                 | -                | -               | -        | -       | -           | 443    |
| Rehires                        | 131                 | (123)            | (4)             | (3)      | -       | -           | 1      |
| Non-Vested Terminations        | (163)               | 163              | -               | -        | -       | -           | -      |
| Vested Terminations            | (36)                | (1)              | 37              | -        | -       | -           | -      |
| Retirements                    | (115)               | (1)              | (30)            | (6)      | 152     | -           | -      |
| Disablements                   | (34)                | (2)              | -               | 39       | (3)     | -           | -      |
| Death with Beneficiary         | (6)                 | (2)              | -               | (6)      | (23)    | 37          | -      |
| Death without Beneficiary      | (5)                 | -                | -               | (1)      | (7)     | (23)        | (36)   |
| Refunds                        | (83)                | (53)             | -               | -        | -       | -           | (136)  |
| Data Adjustments <sup>1</sup>  | (64)                | 11               | -               | -        | 2       | 5           | (46)   |
| Total as of June 30, 2010      | 13,362              | 771              | 111             | 671      | 1,572   | 539         | 17,026 |

<sup>1</sup> Most data adjustments are member records that were not included in the June 30, 2009 valuation date file provided by the prior actuary, but were included in the June 30, 2010 data received from Indiana PERF.

<sup>2</sup> Inactive non-vested members were not included in the June 30, 2009 valuation data file provided by the prior actuary.

SECTION IV - CENSUS DATA

**B. Census Information**<sup>1</sup>

|  | <b>June 30, 2009</b> | <b>June 30, 2010</b> |
|--|----------------------|----------------------|
| 1. Active                                  |                      |                      |
| a. Number                                  | 13,184               | 13,362               |
| b. Average Age                             | 40.2                 | 40.6                 |
| c. Average Years of Service                | 13.1                 | 13.1                 |
| d. Covered Payroll of Actives <sup>2</sup> | \$ 649,017,701       | \$ 675,797,434       |
| 2. Inactive - Vested                       |                      |                      |
| a. Number                                  | 108                  | 111                  |
| b. Average Age                             |                      | 49.8                 |
| c. Average Years of Service                |                      | 22.3                 |
| 3. Inactive - Non-Vested <sup>3</sup>      |                      |                      |
| a. Number                                  |                      | 771                  |
| 4. Retiree/Beneficiary/Disabled            |                      |                      |
| a. Number                                  | 2,608                | 2,782                |
| b. Average Age                             |                      | 61.3                 |
| c. Annual Benefits Payable                 | \$ 55,564,149        | \$ 60,220,091        |

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

<sup>2</sup> For the 1977 Fund, payroll is the applicable first class officer pay for each member.

<sup>3</sup> For June 30, 2010, inactive non-vested members entitled to a refund of their ASA balances totaling \$5,912,881.

SECTION IV - CENSUS DATA

**C. Schedule of Active Member Valuation Data**<sup>1</sup>

| 1.<br><u>As of</u> | 2.<br><u>Active<br/>Members</u> | 3.<br><u>Annual<br/>Payroll<br/>(\$ in Thousands)</u> | 4.<br><u>Average<br/>Pay<sup>2</sup><br/>(3) / (2)</u> | 5.<br><u>Annual<br/>Percent<br/>Increase</u> |
|--------------------|---------------------------------|---|--|--|
| 12/31/2004         | 11,424                          | \$ 493,707  | \$ 43,217  | 3.4%   |
| 12/31/2005         | 11,728                          | 522,227   | 44,528   | 3.0%   |
| 12/31/2006         | 12,056                          | 557,644   | 46,254   | 3.9%   |
| 12/31/2007         | 12,611                          | 603,963   | 47,892   | 3.5%   |
| 12/31/2008         | 13,095                          | 644,936   | 49,251   | 2.8%   |
| 6/30/2009          | 13,184                          | 649,018   | 49,228   | (0.0%)                                       |
| 6/30/2010          | 13,362                          | 675,797   | 50,576   | 2.7%   |

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

<sup>2</sup> For the 1977 Fund, payroll is the applicable first class officer pay for each member.

SECTION IV - CENSUS DATA

**D. Schedule of Retirees, Beneficiaries, and Disabled Members<sup>1</sup>**

| 1.                    | 2. Added      |  | 4. Removed    |  | 6. End of Year <sup>2</sup> |  | 8.                                     | 9.                               |
|-----------------------|---------------|--|---------------|--|-----------------------------|--|--|----------------------------------|
| <u>Year Beginning</u> | <u>Number</u> | <u>Annual Allowances (\$ in Thousands)</u> | <u>Number</u> | <u>Annual Allowances (\$ in Thousands)</u> | <u>Number</u>               | <u>Annual Allowances (\$ in Thousands)</u> | <u>% Increase in Annual Allowances</u> | <u>Average Annual Allowances</u> |
| 12/31/2003            | 14            | \$ 255                                     | 22            | \$ 387                                     | 1,898                       | \$ 33,706                                  | (1.5%)                                 | \$ 17,759                        |
| 12/31/2004            | 257           | 5,493                                      | 28            | 554  | 2,127                       | 38,648                                     | 14.7%                                  | 18,170                           |
| 12/31/2005            | 172           | 3,860                                      | 34            | 592  | 2,265                       | 41,973                                     | 8.6%                                   | 18,531                           |
| 12/31/2006            | 333           | 8,101                                      | 50            | 886  | 2,548                       | 49,537                                     | 18.0%                                  | 19,442                           |
| 12/31/2007            | 255           | 5,861                                      | 273           | 4,565                                      | 2,530                       | 53,588                                     | 8.2%                                   | 21,181                           |
| 12/31/2008            | 102           | 2,571                                      | 24            | 479  | 2,608                       | 55,564                                     | 3.7%                                   | 21,305                           |
| 6/30/2010             | 208           | 4,918                                      | 34            | 641  | 2,782                       | 60,220                                     | 8.4%                                   | 21,646                           |

<sup>1</sup> Valuation results prior to June 30, 2010 were calculated by the prior actuary.

<sup>2</sup> End of year annual allowances are not equal to the prior end of year allowances plus additions and less removals because of data changes and cost-of-living increases.

SECTION IV - CENSUS DATA

**E. Distribution of Active Members by Age and Service**

| <b>Attained Age</b> | Distribution of Active Members by Age and Service as of June 30, 2010 |              |              |                |                |                |                |                |                |               |               |
|---------------------|---|--------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|
|                     | Under 1 year  | 1 to 4 years | 5 to 9 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                 | 95  | 87           |              |                |                |                |                |                |                |               | 182           |
| 25-29               | 187   | 908          | 185          |                |                |                |                |                |                |               | 1,280         |
| 30-34               | 89  | 740          | 1,011        | 239            |                |                |                |                |                |               | 2,079         |
| 35-39               | 28  | 453          | 939          | 1,187          | 149            |                |                |                |                |               | 2,756         |
| 40-44               | 12  | 50           | 483          | 994            | 912            | 183            |                |                |                |               | 2,634         |
| 45-49               | 1   | 5            | 40           | 422            | 579            | 874            | 119            |                |                |               | 2,040         |
| 50-54               |   | 7            | 12           | 67             | 259            | 560            | 478            | 142            |                |               | 1,525         |
| 55-59               |   | 1            | 3            | 25             | 33             | 194            | 228            | 249            |                |               | 733           |
| 60-64               |   |              | 2            | 7              | 6              | 12             | 51             | 47             | 1              |               | 126           |
| 65-69               |   |              |              | 1              |                |                |                | 4              |                |               | 5             |
| 70&Above            |   |              |              | 1              | 1              |                |                |                |                |               | 2             |
| <b>Total</b>        | <b>412</b>  | <b>2,251</b> | <b>2,675</b> | <b>2,943</b>   | <b>1,939</b>   | <b>1,823</b>   | <b>876</b>     | <b>442</b>     | <b>1</b>       |               | <b>13,362</b> |

SECTION IV - CENSUS DATA

**F. Distribution of Inactive Vested Members by Age and Service**<sup>1</sup>

| <b>Attained Age</b> | <b>Distribution of Inactive Vested Members by Age and Service as of June 30, 2010</b> |                       |                       |                      |              |
|---------------------|---|-----------------------|-----------------------|----------------------|--------------|
|                     | <b>Under 20 years</b>   | <b>20 to 24 years</b> | <b>25 to 29 years</b> | <b>Over 30 years</b> | <b>Total</b> |
| <25                 |   |                       |                       |                      |              |
| 25-29               |   |                       |                       |                      |              |
| 30-34               |   |                       |                       |                      |              |
| 35-39               |   |                       |                       |                      |              |
| 40-44               |   | 4                     |                       |                      | 4            |
| 45-49               |   | 56                    |                       |                      | 56           |
| 50-54               |   | 32                    | 6                     |                      | 38           |
| 55-59               |   | 3                     |                       | 7                    | 10           |
| 60-64               |   | 2                     |                       |                      | 2            |
| 65-69               |   |                       | 1                     |                      | 1            |
| 70&Above            |   |                       |                       |                      |              |
| <b>Total</b>        |   | <b>97</b>             | <b>7</b>              | <b>7</b>             | <b>111</b>   |

<sup>1</sup> Does not include 771 non-vested members entitled to a refund of their ASA balances only.

SECTION IV - CENSUS DATA

**G. Distribution of Retired Members, Beneficiaries, and Disabled Members by Age and Number of Years Retired <sup>1</sup>**

| <b>Attained Age</b> | <b>Distribution of Retired Members, Beneficiaries, and Disabled Members by Age and Number of Years Retired as of June 30, 2010</b> |                     |                       |                       |                       |                       |                      |              |
|---------------------|--|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|--------------|
|                     | <b>Under 5 years</b>   | <b>5 to 9 years</b> | <b>10 to 14 years</b> | <b>15 to 19 years</b> | <b>20 to 24 years</b> | <b>25 to 29 years</b> | <b>Over 30 years</b> | <b>Total</b> |
| <40                 | 25   | 14                  | 4                     |                       |                       |                       |                      | 43           |
| 40-44               | 38   | 29                  | 15                    | 4                     |                       |                       |                      | 86           |
| 45-49               | 31   | 39                  | 36                    | 17                    | 2                     |                       |                      | 125          |
| 50-54               | 224  | 48                  | 41                    | 21                    | 8                     | 6                     |                      | 348          |
| 55-59               | 363  | 191                 | 52                    | 39                    | 20                    | 9                     |                      | 674          |
| 60-64               | 97   | 138                 | 125                   | 42                    | 37                    | 19                    | 4                    | 462          |
| 65-69               | 18   | 14                  | 227                   | 39                    | 26                    | 20                    | 4                    | 348          |
| 70-74               | 1  | 3                   | 81                    | 179                   | 15                    | 21                    | 2                    | 302          |
| 75-79               |  |                     | 25                    | 55                    | 65                    | 7                     | 2                    | 154          |
| 80-84               |  |                     | 3                     | 35                    | 53                    | 39                    | 1                    | 131          |
| 85-89               |  |                     | 4                     | 9                     | 31                    | 28                    | 11                   | 83           |
| 90&Above            |  |                     |                       | 3                     | 2                     | 12                    | 9                    | 26           |
| <b>Total</b>        | <b>797</b>   | <b>476</b>          | <b>613</b>            | <b>443</b>            | <b>259</b>            | <b>161</b>            | <b>33</b>            | <b>2,782</b> |

---

**SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS**

**ACTUARIAL ASSUMPTIONS AND METHODS**

|                          | <u>Page</u> |
|--------------------------|-------------|
| A. Actuarial Assumptions | 30          |
| B. Actuarial Methods     | 33          |

SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

**A. Actuarial Assumptions**

The assumptions used in the valuation were selected and approved by the Indiana PERF Board of Trustees. The demographic assumptions are reviewed every five years through a study of actual experience. 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 | 7.0% (net of administrative and investment expenses)             |
| Interest on Member ASA Balances   | 5.5% per year  |
| Future Salary Increases           | 4.0% per year  |
| Inflation                         | 3.0% per year  |
| Cost of Living Increases          | 2.25% per year in retirement.                                    |
| Mortality (Healthy and Disabled)  | 2008 IRS Static Mortality projected five (5) years with Scale AA |
| Disability                        | 150% of 1964 OASDI Table. Illustrative rates shown below:        |

| <u>Age</u> | <u>Rate</u> |
|------------|-------------|
| 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

Sarason T-1 Table. Illustrative rates shown below:

| <u>Age</u> | <u>Rate</u> |
|------------|-------------|
| 20         | 5.4384%     |
| 25         | 4.8948%     |
| 30         | 3.7020%     |
| 35         | 2.3492%     |
| 40         | 1.1283%     |
| 45         | 0.2653%     |
| 50+        | 0.0000%     |

Retirement

Retirement rates based on actual experience from 1998 through 2002.  
Illustrative rates shown below:

| <u>Ages</u> | <u>Rate</u> |
|-------------|-------------|
| 45 - 49     | 5%          |
| 50 - 51     | 10%         |
| 52 - 64     | 20%         |
| 65 - 69     | 50%         |
| 70 +        | 100%        |

Decrement Timing

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

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.

Disability Retirement

For members hired after 1989 that become disabled, impairments are assumed to be 45% Class 1 (at 65% of salary), 10% Class 2 (at 50% of salary), and 45% Class 3 (at 36% of salary).

---

## SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

### A. Actuarial Assumptions (continued)

|                        |   |
|------------------------|---|
| Pre-Retirement Death   | Of active member deaths, 10% are assumed to be in the line of duty and 90% are other than in the line of duty. Additionally, all deaths among retired and disabled members are other than in line of duty.  |
| Data Assumptions       | <p>Actives and inactives with either no date of birth and/or no gender are assumed to be age 41 and/or male. Spouse gender is assumed to be the opposite gender of the member. First class salary was assumed to be \$62,395 if missing.</p> <p>Retirees and disabled members that are not married and do not have a retirement option listed are assumed to elect a single life annuity. Retirees and disabled members that are married and do not have a retirement option listed are assumed to be receiving a 60% joint and survivor annuity. Beneficiaries that do not have a retirement option listed are assumed to receive monthly payments for life.</p> |
| Changes in Assumptions | <p>For the June 30, 2010 valuation, the Board approved the following assumption changes:</p> <ul style="list-style-type: none"><li>- The interest rate (net of administrative and investment expenses) was lowered from 7.25% to 7.0%.</li><li>- The cost-of-living increase assumption changed from 2.75% compounded annually to 2.25% compounded annually.</li><li>- The mortality assumption was changed from the UP 94 Mortality table for Healthy lives and 115% of UP 1994 Mortality table for disabled lives to the IRS 2008 Static Mortality table projected forward five (5) years with Scale AA, for both healthy and disabled lives.</li></ul>         |

---

## SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

### **B. 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 thirty years. However, the smoothing methods employed in determining the Actuarial Value of Assets and contribution rates (i.e. the Actual Rate) 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, though we recommend periodic review of the contribution rate smoothing rules to ensure that funding of the benefits is not unreasonably deferred.

#### 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.

Gains and losses occurring from census experience different than assumed, assumption changes, and benefit changes are amortized over a 30-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 30-year period. 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.

#### 2. Asset Valuation Method

Actuarial Value of Assets is equal to a four-year smoothing of gains and losses on the Market Value of Assets subject to a 20% corridor.

---

## SECTION V - ACTUARIAL ASSUMPTIONS AND METHODS

### **B. Actuarial Methods (continued)**

#### 3. Contribution Rate Smoothing Methods

The contribution rate is equal to the prior year Actual Rate (after smoothing), plus a portion of the increase (or less a portion of the decrease) between the current year True Rate (prior to smoothing) and the prior year Actual Rate, where the portion of the increase (or decrease) is calculated as follows:

- If there is an increase between the current year True Rate and the prior year Actual Rate, the increase shall be limited to one-half of the increase between the current year True Rate and the prior year Actual Rate, rounding up to the next tenth of a percent.
- If there is a decrease between the current year True Rate and the prior year Actual Rate, the decrease shall be limited to the decrease between the current year True Rate and prior year Actual Rate that is in excess of 1.0%, rounded up to the next tenth of a percent.

#### 4. Changes in Actuarial Methods

For the June 30, 2010 valuation, the Board approved the following method changes:

- The method of amortizing gains and losses was changed from a level dollar, rolling 30-year amortization to a level dollar, closed ended 30-year method under which a new base is established each year beginning July 1, 2010.
- The AVA was updated to include a 20% corridor, where the AVA cannot be more than 120% or less than 80% of the Market Value of Assets ("MVA") after the four-year smoothing of gains and losses is applied.

---

SECTION VI - SUMMARY OF PLAN PROVISIONS

**SUMMARY OF PLAN PROVISIONS**

|                               | <u>Page</u> |
|-------------------------------|-------------|
| A. Summary of Plan Provisions | 35          |

---

**SECTION VI - SUMMARY OF PLAN PROVISIONS**

**A. Summary of Plan Provisions**

The benefit provisions for the 1977 Fund are set forth in IC 36-8-8. A summary of those defined pension benefit provisions is presented below:

**Participation**                      All full-time, fully-paid police officers and firefighters who work for employers participating in the 1977 Fund and who are hired or rehired after April 30, 1977.

**Eligibility for Defined Pension Benefits**

- a. Normal Retirement      Age 52 with 20 or more years of creditable service
- b. Early Retirement        Age 50 with 20 or more years of creditable service
- c. Late Retirement         Subject to continued employment after normal retirement
- d. Disability Retirement    As determined by a disability medical panel.
- e. Termination              20 or more years of creditable service and no longer active (i.e. vested inactive)
- f. Pre-Retirement Death   Immediate

**Amount of Benefits**

- a. Normal Retirement      The retirement benefit valued was 50% of the base salary (first-class salary) of a First Class Police Officer and Firefighter with 20 years of service, plus an additional 1% for each completed 6 months of service over 20 years up to a maximum of 74% with 32 years of service.
- b. Early Retirement        Early retirement benefits are reduced by 7% per year for commencement between ages 50 and 52.
- 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 is included in the computation.

---

## SECTION VI - SUMMARY OF PLAN PROVISIONS

### **A. Summary of Plan Provisions (continued)**

#### Amount of Benefits (continued)

##### d. Disability Retirement

**Hired Before 1990** This disability benefit is only available to members hired prior to January 1, 1990 and who do not choose to be covered by the disability benefit for members hired after 1989. The disability benefit is equal to the benefit the member would have received if the member had retired. If the member does not have 20 years of service or is not at least age 52 on the date of disability, the benefit is computed as if the member does have 20 years of service and is age 52 on the date of disability.

**Hired after 1989** This disability benefit is for members hired after 1989, or hired prior to January 1, 1990, who have chosen to be covered by this disability benefit. The following describes the three different classes of impairments and the amount of base benefit for each class:

**Class 1 Impairment:**

A personal injury that occurs while on duty, while responding to an emergency, or due to an occupational disease. The disability benefit is equal to a base benefit of 45% of base salary, plus an additional amount between 10% and 45% of this salary based on degree of impairment. The benefit is payable for life, at which time the member is entitled to a retirement benefit based on the salary and service the member would have earned had the member remained in active service.

**Class 2 Impairment:**

A proven duty-related disease. The disability benefit is equal to a base benefit of 22% of base salary, plus an additional 0.5% of this salary for each year of service up to a maximum of 30 years of service, plus an additional amount between 10% and 45% of this salary based on degree of impairment. If the member's total benefit is less than 30% of this salary and the member has fewer than 4 years of service, then the benefit is payable for a period equal to the years of service of the member. Otherwise, the benefit is payable for life.

---

**SECTION VI - SUMMARY OF PLAN PROVISIONS**

**A. Summary of Plan Provisions (continued)**

Amount of Benefits (continued)

d. Disability Retirement (continued)

Hired after 1989  
(continued)

Class 3 Impairment:

All other impairments that are not Class 1 or Class 2. The disability benefit is equal to a base benefit of 1% of base salary for each year of service up to a maximum of 30 years of service, plus an additional amount between 10% and 45% of this salary based on degree of impairment. If the member's total benefit is less than 30% of this salary and the member has fewer than 4 years of service, then the benefit is payable for a period equal to the years of service of the member. Otherwise, the benefit is payable until age 52, at which time the member is entitled to a retirement benefit based on 20 years of service.

e. Termination

If a member ends employment other than by death or disability before completing 20 years of active service, the member shall be entitled to the member's contributions plus accumulated interest. This benefit is not available to converted members.

If termination is after earning 20 years of service, the termination benefit is the accrued retirement benefit determined as of the termination date and payable commencing of the normal retirement date. The member may elect to receive a reduced early retirement benefit.

f. Pre-Retirement Death

Surviving Spouse

If a member dies other than in the line of duty, the spouse's benefit is equal to 60% of the monthly benefit the member was receiving or was entitled to receive on the date of death.

If a member dies in the line of duty, the spouse's benefit is equal to the monthly benefit the member was receiving or was entitled to receive on the date of death.

In either case, if the member does not have 20 years of service or is not at least age 52 on the date of death, the benefit is computed as if the member does have 20 years of service and is age 52 on the date of death.

---

**SECTION VI - SUMMARY OF PLAN PROVISIONS**

**A. Summary of Plan Provisions (continued)**

Amount of Benefits (continued)

f. Pre-Retirement Death (continued)

**Children** A payment shall be made to each child of a deceased member equal to 20% of the member's benefit until the later of (a) the date the child becomes age 18, or (b) the date the child becomes age 23 if enrolled in a qualified school. If a child is at least 18 and is mentally or physically incapacitated, the child is entitled to an amount equal to the greater of 30% of the base salary, or 55% of the member's benefit payable for the duration of the incapacity. If the member does not have 20 years of service or is not at least age 52 on the date of death, the benefit is computed as if the member does have 20 years of service and is age 52 on the date of death.

**Dependent Parents** If a deceased member leaves no surviving spouse and no qualified child but does leave a dependent parent or parents, an amount equal to 50% of the member's benefit shall be paid to the parent or parents jointly during their lifetime. If the member does not have 20 years of service or is not at least age 52 on the date of death, the benefit is computed as if the member does have 20 years of service and is age 52 on the date of death.

**No Spouse or Dependent** If a deceased member leaves no surviving spouse, no qualified dependent child, nor a dependent parent, a refund of the member's contributions plus accumulated interest will be made to the member's estate.

g. **Additional Death Benefits** A funeral death benefit is paid to the heirs or estate upon the member's death from any cause and is equal to at least \$12,000. An additional death benefit of \$150,000 is paid from the Pension Relief Fund to a surviving spouse, children, or parent(s) if death occurs in the line of duty.

**Member Contributions** Members are assumed to contribute at the rate of 6% of salary until they have completed 32 years of service.

---

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")

The DROP is an optional form of benefit, which allows members who are eligible for an unreduced retirement benefit to continue to work and earn a salary while accumulating a DROP benefit payable in a lump sum or three annual installments. A member who elects to enter the DROP shall execute an irrevocable election to retire on the DROP retirement date. The member shall select a DROP retirement date not less than 12 months and not more than 36 months after the member's DROP entry date. While in the DROP, the member shall continue to make applicable fund contributions.

When a member enters the DROP, a "DROP frozen benefit" will be calculated. This is equal to the member's monthly retirement benefit based on accrued service and base salary as of the date member enters the DROP. Upon DROP retirement, the member is eligible to receive a lump sum equal to the amount of the DROP frozen benefit multiplied by the number of months in the DROP. You may elect to receive this amount in three annual installments instead of in a single lump sum. In addition, the member will receive a monthly retirement benefit equal to the DROP frozen benefit. The member will not continue to accrue service credit for the years in the DROP. Cost of living adjustments will not apply to the frozen monthly benefit while in the DROP. The cost of living adjustments will begin to be applied to the frozen monthly benefit, however, in the year after the year in which the member retires.

If the member elected to participate in the DROP, the member may, upon retirement, elect to forego DROP benefits, and instead receive monthly retirement benefits calculated as if the member never elected to participate in the DROP. These benefits would be based on accrued service and base salary as of the date the member retires.

---

SECTION VI - SUMMARY OF PLAN PROVISIONS

**A. Summary of Plan Provisions (continued)**

Forms of Payment

a. Single Life Annuity                      Member will receive a monthly benefit for life, but there are no monthly payments to anyone after death.

b. Joint with 60% Survivor Benefits                      Member will be paid a monthly benefit for life. After death, 60% of the benefit will be paid to the spouse or parent for their lifetime or the dependent until age 18.

Cost-of-Living Adjustments                      Benefits for retired members are increased annually based on increases in the CPI-U index. The increase is subject to a 3% maximum and 0% minimum.

Changes in Provisions                      No changes since prior valuation.

---

**SECTION VII - DEFINITIONS OF TECHNICAL TERMS**

**DEFINITIONS OF TECHNICAL TERMS**

|                                   | <u>Page</u> |
|-----------------------------------|-------------|
| A. Definitions of Technical Terms | 41          |

---

## SECTION VII - DEFINITIONS OF TECHNICAL TERMS

### A. Definitions of Technical Terms

|                                   |   |
|-----------------------------------|---|
| Actual Rate                       | The contribution rate expressed as a percentage of covered payroll on an annual basis (not less than 0.0%) that is the result of applying applicable smoothing rules to the prior year Actual Rate and current year True Rate.  |
| 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 this means 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 procedure for determining an actuarially equivalent allocation of the Present Value of Future Benefits to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.  |
| Actuarially Equivalent            | A method of making the actuarial present value of two series of payments equal as of a given date using the same assumptions.   |
| Actuarial Gain/(Loss)             | The difference between actual unfunded Actuarial Accrued Liability and anticipated unfunded Actuarial Accrued Liability — during the period between two valuation dates. It is a measurement of the difference between actual and expected experience.  |
| Actuarial Present Value           | The single amount now that is equal to a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest and by probabilities of payment.   |
| Actuarial Valuation               | The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.   |

---

## SECTION VII - DEFINITIONS OF TECHNICAL TERMS

### **A. Definitions of Technical Terms (continued)**

|  |   |
|--|---|
| Actuarial Valuation Date                           | The date as of which an actuarial valuation is performed.   |
| Amortization                                       | The payment of a present value financial obligation on an installment basis over a future number of years.  |
| Annual Required Contribution of the Employer (ARC) | The employer's periodic required contributions to a defined benefit pension plan, calculated in accordance with the plan provisions, actuarial assumptions, actuarial cost method and other actuarial method prescribed by Governmental Accounting Standards No. 25 and No. 27.   |
| Creditable Service                                 | Service credited under the system that was rendered before the date of the actuarial valuation.   |
| Funding Policy                                     | The program for the amounts and timing of contributions to be made by plan members, employer, and other contributing entities (for example, state government contributions to a local government plan) to provide the benefits specified by a pension plan.   |
| Level Dollar Amortization Method                   | The amount to be amortized is divided into equal dollar amounts to be paid over a given number of years; part of each payment is interest and part is principal (similar to a mortgage payment on a building). Because payroll can be expected to increase as a result of inflation, level dollar payments generally represent a decreasing percentage of payroll; in dollars adjusted for inflation, the payments can be expected to decrease over time.                                   |
| Normal Cost (NC)                                   | That portion of the present value of future benefits which is allocated to a valuation year 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. |

---

SECTION VII - DEFINITIONS OF TECHNICAL TERMS

**A. Definitions of Technical Terms (continued)**

|   |  |
|---|--|
| 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.   |
| 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. |
| True Rate                               | The precise actuarial contribution rate (not less than 0.0%) determined by summing the Normal Cost and amortization of unfunded Actuarial Accrued Liability and dividing by anticipated payroll.   |