

GENERAL ASSEMBLY RETIREMENT SYSTEM  
OF ILLINOIS

ACTUARIAL VALUATION  
AS OF JUNE 30, 2011

**GOLDSTEIN & ASSOCIATES**  
Actuaries and Consultants

29 SOUTH LaSALLE STREET SUITE 735  
CHICAGO, ILLINOIS 60603  
PHONE (312) 726-5877 FAX (312) 726-4323

October 24, 2011

Board of Trustees  
General Assembly Retirement System of Illinois  
2101 South Veterans Parkway  
P.O. Box 19255  
Springfield, Illinois 62794-9255

Re: **Actuarial Valuation as of June 30, 2011**

Dear Board Members:

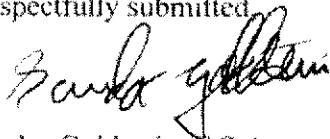
I am pleased to submit our actuarial report on the financial position and funding requirements of the General Assembly Retirement System of Illinois based on the actuarial valuation as of June 30, 2011.

The report consists of 12 Sections and 2 Appendices as follows:

	<u>Page No.</u>
Section A - Purpose and Summary	1
Section B - Data Used For Valuation	1
Section C - Retirement System Provisions	5
Section D - Actuarial Assumptions and Cost Method	5
Section E - Actuarial Liability	9
Section F - Employer's Normal Cost	10
Section G - State Contribution Requirements	11
Section H - Annual Required Contribution for GASB No. 25	14
Section I - Reconciliation of Change in Unfunded Liability	15
Section J - Projection of Benefits, Contributions, and Liabilities	18
Section K - Net Pension Obligation	18
Section L - Certification	22
Appendix 1 - Summary of Principal Provisions	23
Appendix 2 - Glossary of Terms	27

I would be pleased to discuss any aspects of this report with you and other interested persons.

Respectfully submitted,



Sandor Goldstein, F.S.A.  
Consulting Actuary

**A. PURPOSE AND SUMMARY**

We have carried out an actuarial valuation of the General Assembly Retirement System of Illinois as of June 30, 2011. The purpose of the valuation was to determine the financial position and funding requirements of the retirement system. This report is intended to present the results of the valuation. The results are summarized below:

1. Total actuarial liability	\$ 298,408,371
2. Actuarial value of assets	63,161,047
3. Unfunded actuarial liability	235,247,324
4. Funded Ratio	21.2%
5. Employer contribution requirement for FY 13 under Section 5/2-124 of the Illinois Pension Code	\$ 14,150,000
6. Annual required contribution for FY 13 under GASB Statement No. 25	\$ 17,064,640

**B. DATA USED FOR THE VALUATION**

Participant Data. The participant data required to carry out the valuation was supplied by the retirement system. The membership of the system as of June 30, 2011, on which the valuation was based, is summarized in Exhibit 1. It can be seen that there were 180 active members, 291 members receiving retirement annuities, 118 members receiving survivor's annuities, and 1 member receiving a reversionary annuity included in the valuation. The total active payroll as of June 30, 2011 was \$14,463,838.

Exhibit 1

Summary of Membership Data

1.	Number of Members	
	(a) Active Members	
	(i) Vested	128
	(ii) Non-vested	52
	(b) Members Receiving	
	(i) Retirement Annuities	291
	(ii) Survivor's Annuities	118
	(iii) Reversionary Annuities	1
	(c) Inactive Members	86
2.	Annual Salaries (Active Members)	
	(a) Total Salary	\$ 14,463,838
	(b) Average Salary	80,355
3.	Total Accumulated Employee Contributions of Active Members	\$ 12,046,326
4.	Annual Annuity Payments	
	(a) Retirement Annuities	\$ 15,188,299
	(b) Survivor's Annuities	3,142,835
	(c) Reversionary Annuities	6,000

Assets. Public Act 96-0043, signed into law on July 15, 2009, provides that the actuarial value of the System's assets shall be used in determining the required State contribution to the System. Public Act 96-0043 provides that the actuarial value of the System's assets beginning June 30, 2009 is to be calculated as follows:

As of June 30, 2008, the actuarial value of the System's assets shall be equal to the market value of the assets as of that date. In determining the actuarial value of the System's assets for fiscal years after June 30, 2008, any actuarial gains or losses from investment return incurred in a fiscal year shall be recognized in equal annual amounts over the 5-year period following the fiscal year.

We have therefore determined the actuarial value of assets as of June 30, 2011 by recognizing 60% of the unexpected loss from investment return incurred during the fiscal year ending June 30, 2009, 40% of the unexpected gain from investment return incurred during the fiscal year ending June 30, 2010, and 20% of the unexpected gain from investment return incurred during the fiscal year ending June 30, 2011. The resulting actuarial value of assets as of June 30, 2011 is equal to \$63,161,047. The development of this actuarial value of assets is outlined in Exhibit 2. The market value of the net assets as of June 30, 2011 amounts to \$60,394,908.

Exhibit 2

Actuarial Value of Assets

A. Development of Investment Gain/(Loss) for Fiscal Year for 2011

1. Market Value of Assets as of 06/30/2010	\$ 54,691,156
2. Employer Contributions (includes \$10,000 gift)	11,443,614
3. Employee Contributions	2,006,200
4. Benefits and Expenses	18,037,443
5. Expected Market Value (Based on assumed rate of return)	54,298,845
6. Actual Market Value	60,394,908
7. Investment Gain (Loss) (6 – 5)	6,096,063

B. Development of Actuarial Value of Assets as of 06/30/2011

8. Market Value of Assets as of 06/30/2011	\$ 60,394,908
9. Investment Gain/(Loss) for Fiscal Year 2009	(19,956,538)
10. 40% of Gain/(Loss) for Fiscal Year 2009	(7,982,615)
11. Investment Gain/(Loss) for Fiscal Year 2010	566,044
12. 60% of Gain/(Loss) for Fiscal Year 2010	339,626
13. Investment Gain/(Loss) for Fiscal Year 2011	6,096,063
14. 80% of Gain/(Loss) for Fiscal Year 2011	<u>4,876,850</u>
15. Actuarial Value of Assets as of 06/30/2011 (8 – 10 – 12 – 14)	<u>\$ 63,161,047</u>

### **C. RETIREMENT SYSTEM PROVISIONS**

The actuarial valuation was based on the provisions of the retirement system in effect as of June 30, 2011 as provided in Article 2 of the Illinois Pension Code. Senate Bill 550, which was signed into law on December 30, 2010 as Public Act 96-1490, made the following changes for persons who first become participants under the retirement system on or after January 1, 2011:

1. For 2011, limits the highest salary for annuity purposes to \$106,800. Limitations for future years shall annually thereafter be increased by the lesser of 3% or the annual unadjusted percentage increase (but not less than zero) in the Consumer Price Index-U for the twelve months ending September 30.
2. Provides that required contributions shall not exceed the contributions that would be due on the highest salary for annuity purposes.
3. Suspends the retirement annuity being paid when an annuitant is employed on a full time basis and becomes a member or participant of the General Assembly Retirement System Article or any other Article of the Illinois Pension Code. Upon termination of the employment, the retirement annuity shall resume and, if appropriate, be recalculated.

A summary of the principal provisions of the system in effect as of June 30, 2011 is provided in Appendix 1.

### **D. ACTUARIAL ASSUMPTIONS AND COST METHOD**

#### Actuarial Assumptions

For the June 30, 2011 valuation, the interest rate assumption was changed from 8.0% per year to 7.0% per year. Based on an experience analysis over the five-year period 2006-2010, we have made some additional changes in the assumptions used for the June 30, 2011 actuarial valuation.

We have changed the mortality assumption to the UP-1994 Mortality Table for Males, rated down four years for active and retired members. For previous actuarial valuations, we had used

the UP-1994 Mortality Table for Males, rated down two years, for active and retired. The salary increase assumption was reduced from 5% per year to 4% per year. We have reduced the assumed rates of termination to 4% per year. We have reduced the assumed rates of retirement at the earlier ages and increased the assumed retirement rates at the later ages to produce a somewhat higher expected average retirement age. The other assumptions used for the June 30, 2011 actuarial valuation are the same as those used for the June 30, 2010 actuarial valuation. The major actuarial assumptions used for the current valuation are summarized below:

Mortality Rates. For active and retired members: the UP-1994 Mortality Table for Males, rated down 4 years. For spouses: the UP-1994 Mortality Table for Females, rated down 1 year.

Termination Rates. The termination rates used for persons who became participants prior to January 1, 2011 are as follows:

<u>Age</u>	<u>Rate of Termination</u>
20 - 65	.040
66 and over	.000

The termination rates used for persons who became or will become participants on or after January 1, 2011 are as follows:

<u>Age</u>	<u>Rate of Termination</u>
20 - 66	.040
67 and over	.000

Disability Rates. The following is a sample of the disability rates that were used for the valuation:

<u>Age</u>	<u>Rate of Disability</u>
30	.00057
35	.00064
40	.00083
45	.00115
50	.00170
55 and over	.00000

Retirement Rates. For persons who became participants prior to January 1, 2011, rates of retirement for each age from 55 to 80 were used. The following are samples of the rates of retirement that were used:

<u>Age</u>	<u>Rate of Retirement</u>
55	.100
60	.085
65	.085
70	.085
75	.085
80	1.000

The above retirement rates are equivalent to an average retirement age of approximately 64.3.

Retirement Rates. For persons who became or will become participants on or after January 1, 2011, rates of retirement for each age from 62 to 80 were used. The following are samples of the rates of retirement that were used:

<u>Age</u>	<u>Rate of Retirement</u>
62	.40
65	.25
67	.40
70	.05
75	.05
80	1.00

The above retirement rates are equivalent to an average retirement age of approximately 68.1.

Salary Increase. A salary increase assumption of 4.0% per year, compounded annually, was used. This 4.0% salary increase assumption can be considered to consist of an inflationary component of 3.0% per year and a seniority/merit component of 1.0% per year.

Interest Rate. An interest rate assumption of 7.0% per year, compounded annually, was used. This interest rate assumption can be considered to consist of an inflation component of 3.0% per year and a real rate of return of 4.0% per year.

Marital Status. It was assumed that 75% of active members will be married at the time of retirement.

Spouse's Age. The age of the spouse was assumed to be 4 years younger than the age of the employee.

### Actuarial Cost Method

The projected unit credit actuarial cost method was used for the June 30, 2011 valuation. Actuarial gains and losses are reflected in the unfunded actuarial liability. This is the same actuarial cost method that was used for the June 30, 2010 valuation.

### **E. ACTUARIAL LIABILITY**

The actuarial liability as determined under the valuation for the various classes of members is summarized in Exhibit 3. The total actuarial liability is then compared with the actuarial value of assets in order to arrive at the unfunded actuarial liability. (The actuarial terms used in this report are defined in Appendix 2.)

As of June 30, 2011, the total actuarial liability is \$298,408,371, the actuarial value of assets is \$63,161,047, and the unfunded actuarial liability is \$235,247,324. The ratio of the actuarial value of assets to the actuarial liability, or funded ratio, is 21.2%.

Exhibit 3

Actuarial Liability As of June 30, 2011

1. Actuarial Liability For Active Members	
(a) Basic retirement annuity	\$ 30,752,064
(b) Annual increase in retirement annuity	10,086,782
(c) Pre-retirement survivor's annuity	2,820,096
(d) Post-retirement survivor's annuity	3,502,741
(e) Withdrawal benefits	5,492,580
(f) Disability benefits	<u>263,743</u>
(g) Total	\$ 52,918,006
2. Actuarial Liability For Members Receiving Benefits	
(a) Retirement annuities	\$ 190,150,001
(b) Survivor annuities (Including reversionary)	<u>28,510,406</u>
(c) Total	\$ 218,660,407
3. Actuarial Liability For Inactive Members	<u>26,829,958</u>
4. Total Actuarial Liability	<u>\$ 298,408,371</u>
5. Actuarial Value of Assets	<u>63,161,047</u>
6. Unfunded Actuarial Liability	<u>\$ 235,247,324</u>
7. Funded Ratio	21.2%

**F. EMPLOYER'S NORMAL COST**

The employer's share of the normal cost for the year beginning July 1, 2011 is developed in Exhibit 4. For the year beginning July 1, 2011, the total normal cost is determined to be \$4,859,224. Employee contributions are estimated to be \$1,660,021. The resulting employer's share of the normal cost is \$3,199,203.

Based on a payroll of \$14,463,838, the employer's share of the normal cost can be expressed as 22.12% of payroll.

Exhibit 4

Employer's Normal Cost For Year Beginning July 1, 2011

	<u>Dollar Amount</u>	<u>Percent of Payroll</u>
1. Basic retirement annuity	\$ 2,514,391	17.38%
2. Annual increase in retirement annuity	818,967	5.66
3. Pre-retirement survivor's annuity	239,674	1.66
4. Post-retirement survivor's annuity	282,024	1.95
5. Withdrawal benefits	654,345	4.53
6. Disability benefits	28,323	.20
7. Administrative expenses	<u>321,500</u>	<u>2.22</u>
8. Total normal cost	\$ 4,859,224	33.60%
9. Employee contributions	<u>1,660,021</u>	<u>11.48</u>
10. Employer's share of normal cost	<u>\$ 3,199,203</u>	<u>22.12%</u>

Note. The above figures are based on total active payroll of \$14,463,838 as of June 30, 2011.

**G. STATE CONTRIBUTION REQUIREMENTS**

Section 5/2-124 of the Illinois Pension Code provides for the following funding plan for the system:

For fiscal years 2011 through 2045, the minimum State contribution to the system for each fiscal year shall be an amount determined by the system to be sufficient to bring the total assets of the system up to 90% of the total actuarial liabilities by the end of fiscal year 2045. In making these determinations, the required State contribution shall be calculated as a level percentage of payroll

over the years through 2045. For fiscal year 2011, the total required State contribution was \$11,039,000. For fiscal year 2012, the total required State contribution is \$10,502,000. For fiscal years 2013 through 2045, the State contribution shall be a level percent of the applicable payroll required to bring the total assets of the system up to 90% of the total actuarial liabilities by the end of fiscal year 2045.

Public Act 93-0002, effective April 7, 2003, authorized the sale of \$10 billion in general obligation bonds. On July 1, 2003, the General Assembly Retirement System received \$27,073,983 from the General Obligation Bond (GOB) proceeds. Under the changes made to the funding plan by Public Act 93-0002, the State contribution for each year shall not exceed:

1. The State contribution that would have been required had the GOB program not been in effect, reduced by
2. The total debt service for each year for the system's portion of GOB proceeds

Based on the June 30, 2011 actuarial valuation and the provisions of Section 5/2-124 of the Illinois Pension Code, we have calculated the required contribution for fiscal year 2013 to be \$14,150,000. We have also estimated the required contribution for the years 2014 through 2018.

The required State contribution rates and amounts are as follows:

<u>Fiscal Year</u>	<u>Projected Payroll</u>	<u>Required State Contribution as a Percent of Payroll</u>	<u>Required State Contribution as a Dollar Amount</u>
2013	\$ 14,902,000	94.96%	\$ 14,150,000
2014	15,332,000	96.05	14,727,000
2015	15,761,000	97.07	15,299,000
2016	16,283,000	96.50	15,713,000
2017	16,743,000	96.01	16,076,000
2018	17,311,000	96.01	16,621,000

Additional details regarding the calculation of the required state contribution as a dollar amount for fiscal years 2013 and later are provided below:

Required State Contribution (in thousands)					
Fiscal Year	(1) State Contribution Under Regular Funding Plan With GOB	(2) State Contribution Without GOB	(3) Amount of Debt Service	(4) Maximum State Contribution (2 - 3)	(5) Actual State Contribution (Lower of 1 and 4)
2013	14,150	16,592	2,170	14,422	14,150
2014	14,727	17,152	2,155	14,997	14,727
2015	15,299	17,710	2,141	15,569	15,299
2016	15,713	18,267	2,126	16,141	15,713
2017	16,076	18,757	2,202	16,555	16,076
2018	16,621	19,394	2,275	17,119	16,621

#### Method of Calculation

The contribution requirements shown above have been determined using the actuarial assumptions, membership data and benefit provisions that were used for the regular actuarial valuation. However, in order to determine the contribution requirements, certain calculations needed to be made that are not normally required in a regular actuarial valuation. Benefit payout requirements, normal costs, and payroll were estimated over the 34-year period from 2012 through 2045 by projecting the membership of the system over the 34-year period, taking into account the impact of new entrants to the system over the 34-year period.

In order to make the required projections, assumptions needed to be made regarding the age and salary distribution of new entrants as well as the size of the active membership of the system. The assumptions regarding the profile of new entrants to the system was based on the recent

experience of the system with regard to new entrants. The size of the active membership of the system was assumed to remain constant over the 34-year projection period.

As provided in Public Act 96-0043, in projecting the actuarial value of assets for future years, we have assumed that the rate of return on the actuarial value of assets would be 7.0% per year. In order to estimate the State contribution that would have been required for FY 2013 and later had the GOB program not been in effect, we first needed to estimate the hypothetical asset value of the system as of June 30, 2011 if the system had not received proceeds from the GOB. We estimated this hypothetical asset value as of June 30, 2011 to be \$19,068,215.

#### **H. ANNUAL REQUIRED CONTRIBUTION FOR GASB STATEMENT NO. 25**

GASB Statement No. 25 requires the disclosure of the annual required employer contribution (ARC), calculated in accordance with certain parameters. Based on the results of the June 30, 2011 actuarial valuation, we have therefore calculated the annual required contribution for the fiscal year ending on June 30, 2013. In accordance with the provisions of Public Act 96-0043, in calculating the annual required contribution, we have used the actuarial value of assets with a 5-year smoothing of the unexpected investment loss in Fiscal Year 2009 and the unexpected investment gains in Fiscal Year 2010 and Fiscal Year 2011. In accordance with the parameters prescribed in GASB Statement No. 25, we have used a 30-year level percent of payroll amortization of the unfunded liability. On this basis, the annual required contribution for Fiscal Year 2013 has been determined to be as follows:

	<u>Fiscal Year 2013</u>
1. Employer's normal cost	\$ 3,248,638
2. Annual amount to amortize the unfunded liability over 30 years as a level percent of payroll	<u>13,816,002</u>
3. Annual required contribution (1 + 2)	<u>\$ 17,064,640</u>

#### **I. RECONCILIATION OF CHANGE IN UNFUNDED LIABILITY**

The net actuarial experience during the period July 1, 2010 to June 30, 2011 resulted in an increase in the system's unfunded actuarial liability of \$49,694,734. This increase in unfunded liability is a result of several kinds of gains and losses as illustrated in Exhibit 5.

The employer funding requirement for the year of normal cost plus interest on the unfunded actuarial liability amounted to \$17,054,779, whereas the actual employer contribution for the year amounted to \$11,433,614. Thus, the employer contribution for the year fell short of the normal cost plus interest on the unfunded liability by \$5,621,165. Had all aspects of the system's experience been in line with the actuarial assumptions, the unfunded liability would have increased by this amount.

The net rate of investment return based on the actuarial value of assets, taking into account the investment loss for Fiscal Year 2009 and the investment gains for Fiscal Year 2010 and Fiscal Year 2011 recognized in the current actuarial valuation, was approximately 2.4%, in comparison with the

assumed rate of investment return of 8.0%. This resulted in an increase in the unfunded liability of \$3,577,042. Salaries increased at a rate of 1.8% in comparison with the assumed rate of increase of 5.0%, resulting in a decrease in the unfunded liability of \$1,718,437.

Salary increases of inactive members who are participants in other Illinois public retirement systems resulted in an increase in the unfunded liability of 6,514,624. The change made in the actuarial assumptions used for the June 30, 2011 actuarial valuation resulted in an increase in the unfunded liability of \$35,809,167.

The various other aspects of the system's experience resulted in a decrease in the unfunded liability of \$108,827. The aggregate financial experience of the system resulted in an increase in the unfunded liability of \$49,694,734.

Exhibit 5

Reconciliation of Change in Unfunded Liability  
Over the Period July 1, 2010 to June 30, 2011

1. Unfunded actuarial liability as of 7/1/10	\$ 185,552,590
2. Employer contribution requirement of normal cost plus interest on the unfunded liability for the period 7/1/10 to 6/30/11	17,054,779
3. Actual employer contribution for the year	<u>11,433,614</u>
4. Increase in unfunded liability due to employer contributions being less than normal cost plus interest on unfunded liability (2 – 3)	5,621,165
5. Increase in unfunded liability due to investment return lower than assumed	3,577,042
6. Decrease in unfunded liability due to salary increases lower than assumed	(1,718,437)
7. Increase in unfunded liability due to salary increases for inactive members	6,514,624
8. Increase in unfunded liability due to change in actuarial assumptions	35,809,167
9. Decrease in unfunded liability due to other sources	<u>(108,827)</u>
10. Net increase in unfunded liability for the year	<u>\$ 49,694,734</u>
11. Unfunded actuarial liability as of 6/30/11 (1 + 10)	<u>\$ 235,247,324</u>

**J. PROJECTION OF BENEFITS, CONTRIBUTIONS, AND LIABILITIES**

Based on the results of the June 30, 2011 valuation and using the actuarial assumptions used for the valuation, we have projected valuation results for a 34-year period commencing with Fiscal Year 2012. We have based State contributions on the contribution requirements in the funding plan specified in Section 5/2-124 of the Illinois Pension Code. The results of our projections are shown in Exhibit 7.

**K. NET PENSION OBLIGATION**

GASB Statement No. 27 requires governmental employers to disclose the Net Pension Obligation (NPO), the cumulative difference between the annual pension cost and the actual employer contribution. We have therefore determined the Net Pension Obligation as of June 30, 2011 in accordance with the requirements of GASB Statement No. 27. As required under GASB Statement No. 27, our calculations include all fiscal years between December 15, 1986 and June 30, 2011. For each fiscal year, an annual pension cost was determined as the annual required contribution (ARC), one year's interest on the NPO, and an adjustment to the ARC.

The results of our calculations are summarized in Exhibit 8. As can be seen from Exhibit 8, the Net Pension Obligation as of June 30, 2011 was determined to be \$64,666,743.

EXHIBIT 7

**GENERAL ASSEMBLY RETIREMENT SYSTEM OF ILLINOIS  
PROJECTION OF COSTS, BENEFITS, AND LIABILITIES AT 7%  
(State Contributions Are Based on the Provisions under Section 5/2-124 of the Illinois Pension Code)  
(All Dollar Amounts in Millions)**

	Fiscal Year Ending 6/30					
	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
<b><u>BASIC DATA</u></b>						
1. Number of Active Members	180	180	180	180	180	180
2. Expected Total Payroll	\$14.5	\$14.9	\$15.3	\$15.8	\$16.3	\$16.7
<b><u>VALUATION RESULTS</u></b>						
3. Actuarial Liability (Retired Lives Reserve)	\$301.6 (221.0)	\$304.6 (223.2)	\$307.6 (225.4)	\$310.2 (227.3)	\$312.7 (229.1)	\$314.9 (230.8)
4. Assets (Actuarial Value)	\$57.5	\$54.7	\$55.9	\$56.8	\$56.2	\$55.3
5. Unfunded Actuarial Liability (Funded Percentage)	\$244.1 (19.1)	\$249.9 (18.0)	\$251.7 (18.2)	\$253.4 (18.3)	\$256.5 (18.0)	\$259.6 (17.6)
6. Annual Normal Cost						
(a) Total	\$4.9	\$5.0	\$5.0	\$5.0	\$5.1	\$5.1
(b) Employee Contribution	1.7	1.7	1.8	1.8	1.9	1.9
(c) Employer's Share (% of Total Payroll)	3.2 (22.12)	3.3 (21.83)	3.2 (21.15)	3.2 (20.42)	3.2 (19.62)	3.2 (18.82)
7. State Contribution (% of Total Payroll)	\$10.5 (72.61)	\$14.2 (94.96)	\$14.7 (96.05)	\$15.3 (97.07)	\$15.7 (96.50)	\$16.1 (96.01)
8. Estimated Total Expenses (Benefits, Refunds and Administrative Expenses)	\$19.2	\$19.8	\$20.5	\$21.3	\$22.0	\$22.7
9. Accumulated Contributions (Actives and Inactives)	\$17.3	\$17.8	\$18.3	\$18.9	\$19.5	\$20.0

EXHIBIT 7 (Continued)

**GENERAL ASSEMBLY RETIREMENT SYSTEM OF ILLINOIS  
PROJECTION OF COSTS, BENEFITS, AND LIABILITIES AT 7%**  
(State Contributions Are Based on the Provisions under Section 5/2-124 of the Illinois Pension Code)  
(All Dollar Amounts in Millions)

	Fiscal Year Ending 6/30					
	<u>2020</u>	<u>2025</u>	<u>2030</u>	<u>2035</u>	<u>2040</u>	<u>2045</u>
<b><u>BASIC DATA</u></b>						
1. Number of Active Members	180	180	180	180	180	180
2. Expected Total Payroll	\$18.4	\$21.0	\$24.4	\$28.2	\$32.7	\$37.8
<b><u>VALUATION RESULTS</u></b>						
3. Actuarial Liability (Retired Lives Reserve)	\$320.2 (234.6)	\$322.6 (236.4)	\$317.4 (232.6)	\$310.0 (227.2)	\$306.1 (224.3)	\$311.4 (228.2)
4. Assets (Actuarial Value)	\$51.2	\$45.8	\$49.5	\$76.5	\$146.1	\$280.3
5. Unfunded Actuarial Liability (Funded Percentage)	\$269.0 (16.0)	\$276.8 (14.2)	\$267.9 (15.6)	\$233.5 (24.7)	\$160.0 (47.7)	\$31.1 (90.0)
6. Annual Normal Cost						
(a) Total	\$5.1	\$5.0	\$5.1	\$5.4	\$5.9	\$6.6
(b) Employee Contribution	2.1	2.4	2.8	3.2	3.7	4.2
(c) Employer's Share (% of Total Payroll)	3.0 (16.39)	2.6 (12.28)	2.3 (9.48)	2.2 (7.73)	2.2 (6.68)	2.4 (6.28)
7. State Contribution (% of Total Payroll)	\$17.7 (96.01)	\$20.2 (96.01)	\$23.3 (95.66)	\$27.2 (96.22)	\$31.5 (96.22)	\$36.3 (96.22)
8. Estimated Total Expenses (Benefits, Refunds and Administrative Expenses)	\$24.7	\$26.5	\$27.3	\$27.0	\$26.0	\$25.2
9. Accumulated Contributions (Actives and Inactives)	\$22.0	\$25.2	\$29.2	\$33.8	\$39.1	\$45.2

EXHIBIT 8

GENERAL ASSEMBLY RETIREMENT SYSTEM  
CALCULATION OF NET PENSION OBLIGATION AS OF JUNE 30, 2011 UNDER GASB STATEMENT NO. 27  
DATE OF TRANSITION TO GASB STATEMENT NO. 27 IS JULY 1, 1996

Fiscal Year	Annual Required Contribution *	Interest on NPO	Adjustment to ARC	Pension Cost	Actual Employer Contribution	Change in NPO	Net Pension Obligation
1992	5,513,388	609,943	613,116	5,510,215	1,965,600	3,544,615	11,168,897
1993	5,668,411	893,512	898,161	5,663,762	2,201,000	3,462,762	14,631,659
1994	6,462,239	1,170,533	1,176,623	6,456,149	2,116,800	4,339,349	18,971,008
1995	7,168,649	1,517,681	1,525,577	7,160,753	2,148,200	5,012,553	23,983,561
1996	7,942,130	1,918,685	1,928,668	7,932,147	2,400,000	5,532,147	29,515,708 **
1997	4,939,052	2,361,257	1,256,201	6,044,108	2,787,074	3,257,034	32,772,742
1998	5,318,505	2,621,819	1,394,822	6,545,502	3,113,000	3,432,502	36,205,244
1999	6,092,002	2,896,420	1,540,911	7,447,511	3,699,758	3,747,753	39,952,997
2000	6,311,995	3,196,240	1,700,417	7,807,818	3,951,000	3,856,818	43,809,815
2001	6,530,519	3,504,785	1,864,565	8,170,739	4,311,909	3,858,830	47,668,645
2002	6,961,911	3,813,492	2,028,798	8,746,605	4,721,478	4,025,127	51,693,772
2003	7,752,005	4,135,502	2,369,318	9,518,189	5,433,781	4,084,408	55,778,180
2004	8,894,016	4,462,254	2,556,521	10,799,749	32,951,754	(22,152,005)	33,626,175
2005	8,302,564	2,690,094	1,541,213	9,451,445	4,675,000	4,776,445	38,402,620
2006	8,593,196	3,072,210	1,760,135	9,905,271	4,175,390	5,729,881	44,132,501
2007	10,125,503	3,530,600	2,359,396	11,296,707	5,470,429	5,826,278	49,958,779
2008	10,672,535	3,996,702	2,827,642	11,841,595	6,809,800	5,031,795	54,990,574
2009	11,129,440	4,399,246	3,112,439	12,416,247	8,856,422	3,559,825	58,550,399
2010	12,064,078	4,684,032	3,313,923	13,434,187	10,411,274	3,022,913	61,573,312
2011	13,086,199	4,925,865	3,485,019	14,527,045	11,433,614	3,093,431	64,666,743

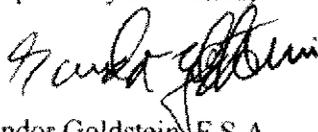
\* For Fiscal Years 1988 through 1996, the Annual Required Contribution was calculated as the APB-8 requirement of normal cost plus a 40-year level-dollar amortization of the unfunded liability. For Fiscal Years 1997 through 2006, the Annual Required Contribution was calculated as normal cost plus a 40-year level-percent-of-payroll amortization of the unfunded liability. Starting with Fiscal Year 2007, the Annual Required Contribution was calculated as normal cost plus a 30-year level-percent-of-payroll amortization of the unfunded liability.

\*\* Equals Net Liability at Transition.

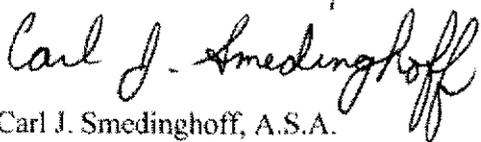
**L. CERTIFICATION**

This actuarial report has been prepared in accordance with generally accepted actuarial principles and practices and to the best of our knowledge, fairly represents the financial condition of the General Assembly Retirement System of Illinois as of June 30, 2011.

Respectfully submitted,



Sandor Goldstein, F.S.A.  
Consulting Actuary



Carl J. Smedinghoff, A.S.A.  
Associate Actuary

Appendix 1

Summary of Principal Provisions

1. Participation. A person eligible for membership must participate in the system as a condition of employment unless an "Election Not to Participate" is filed within 24 months from the date of assuming office.

2. Member Contributions. All members of the system are required to contribute to the system the following percentage of their salaries:

Retirement Annuity	8.5%
Automatic Annuity Increase	1.0
Survivor's Annuity	<u>2.0</u>
Total	11.5%

3. Retirement Annuity - Eligibility. A member who has at least 8 years of creditable service is entitled to a retirement annuity upon attainment of age 55. A member with at least 4 years of service but less than 8 years of service is entitled to a retirement annuity upon attainment of age 62.

A member with at least 8 years of service who becomes disabled while in service is entitled to a retirement annuity regardless of age.

4. Retirement Annuity - Amount. The retirement annuity is determined according to the following formula based upon the member's final rate of salary:

- 3.0% for each of the first 4 years of service, plus
- 3.5% for each of the next 2 years of service, plus
- 4.0% for each of the next 2 years of service, plus
- 4.5% for each of the next 4 years of service, plus
- 5.0% for each year of service in excess of 12

The maximum retirement annuity is 85% of the final rate of salary.

5. Automatic Increase In Retirement Annuity. (a) Annual automatic increases of 3% of the current amount of retirement annuity are provided. The initial increase is effective in the month of January or July of the year next following the year in which the first anniversary of retirement occurs, but in no event prior to attainment of age 60.

(b) Beginning January 1, 1990, for persons who become participants prior to August 8, 2003 and who remain in service after attaining 20 years of creditable service, 3% annual automatic increases begin to accrue on January 1 next following the date the participant attains age 55 or completes 20 years of creditable service, whichever occurs later. For any person who has service

credit for the entire period from January 15, 1969 through December 31, 1992, the increases shall accrue from age 50 instead of age 55. However, such increases shall not become payable until the January 1 or July 1 next following the first anniversary of retirement, or the first of the month following attainment of age 60, whichever occurs later.

6. Survivor's Annuity - Eligibility. A surviving spouse without children is eligible for survivor benefits at age 50 or over provided marriage to the member had been in effect for at least 1 year immediately prior to the member's death.

A surviving spouse with unmarried eligible children is eligible for a survivor's annuity benefit at any age provided the above marriage requirements have been met. When all children are disqualified because of death, marriage or attainment of age 18 or age 22 in the case of a full-time student, the spouse's benefit is suspended if the spouse is under age 50 until the attainment of such age.

An unmarried eligible child under age 18 or under age 22 and a full-time student or over age 18 and disabled may qualify for the survivor's annuity if there is no surviving spouse or if the spouse dies. Legally adopted children are eligible for survivor benefits on the same basis as other children.

If the member dies in service as a member, the member must have at least 2 years of service credit for survivor's annuity eligibility. If death occurs after termination of service but before retirement, the deceased member must have at least 4 years of service credit for survivor's annuity eligibility.

7. Survivor's Annuity - Amount. (a) A surviving spouse is entitled to a survivor's annuity of  $66 \frac{2}{3}\%$  of the amount of retirement annuity to which the member was entitled on the date of death, without regard to whether the member had attained age 55 as of the time of death, subject to a minimum payment of 10% of salary.

(b) If a surviving spouse has in his or her care eligible children, the survivor's annuity shall be the greater of the following:

(1)  $66 \frac{2}{3}\%$  of the amount of retirement annuity to which the member was entitled on the date of death, or (2) 30% of the member's salary increased by 10% of salary on account of each eligible child, subject to a total payment for the surviving spouse and children of 50% of salary. If only unmarried children survive, each such child shall be entitled to an annuity of 20% of salary, subject to a maximum total payment for all children of 50% of salary.

(c) Upon the death of a member after termination of service, or upon the death of an annuitant, the maximum total payment to a surviving spouse and eligible children, or eligible children alone if there is no surviving spouse, shall be 75% of the retirement annuity to which the member or annuitant was entitled.

(d) Survivor's annuities are subject to annual automatic increases of 3% of the current amount of annuity.

(e) The minimum survivor's annuity provided by the system is \$300 per month.

(f) In the case of a proportional survivor's annuity under the Retirement Systems Reciprocal Act, if the amount payable by the system on January 1, 1993 is less than \$300 per month, the amount shall be increased as of that date by \$2 per month for each full year elapsed since the annuity began.

8. Refund of Contributions. Upon termination of service, a member is entitled to a refund of his total contributions without interest.

A member who has no eligible survivor's annuity beneficiaries, or is unmarried at the time of retirement, is entitled to a refund of his or her contributions for the survivor's annuity.

#### Persons Who First Become Participants On or After January 1, 2011

The following changes to the above provisions apply to persons who first become participants on or after January 1, 2011:

1. The highest salary for annuity purposes is equal to the average monthly salary obtained by dividing the participant's total salary during the 96 consecutive months of service within the last 120 months of service in which the total compensation was the highest by the number of months in that period.
2. For 2011, the highest salary for annuity purposes is limited to \$106,800. Limitations for future years shall annually thereafter be increased by the lesser of 3% or the annual unadjusted percentage increase (but not less than zero) in the Consumer Price Index-U for the twelve months ending September 30.
3. Required contributions shall not exceed the contributions that would be due on the highest salary for annuity purposes.
4. For 2010, the final average salary is limited to the Social Security wage base of \$106,800. Limitations for future years shall automatically be increased or decreased, as applicable, by a percentage change in the Consumer Price Index-U during the preceding 12 month calendar year.
5. A participant is eligible to retire with unreduced benefits after attainment of age 67 with at least 8 years of service credit. However, a participant may elect to retire at age 62 with at least 8 years of service credit and receive a retirement annuity reduced by one-half of 1% for each month that his or her age is under 67.
6. The annual retirement annuity provided is equal to 3% of the participant's final average salary for each year of service. The maximum retirement annuity payable shall be 60% of the participant's final average salary.
7. Automatic annual increases are provided in the retirement annuity then being paid equal to 3% or the annual change in the Consumer Price Index for all Urban Consumers, whichever is less. Such increases are payable in the January or July next following the first anniversary of retirement, and in the same month of each year thereafter.
8. Automatic annual increases are provided in the survivor annuity then being paid equal to 3% or the annual change in the Consumer Price Index for all Urban Consumers, whichever

is less. Such increases are payable (1) on each January 1 occurring on or after the commencement of the annuity if the deceased member died while receiving a retirement annuity, or (2) in other cases, on each January 1 occurring on or after the first anniversary of the commencement of the annuity.

9. The retirement annuity being paid is suspended when an annuitant accepts full time employment in a position covered under the General Assembly Retirement System or any other Article of the Illinois Pension Code. Upon termination of the employment, the retirement annuity shall resume and, if appropriate, be recalculated.

## Appendix 2

### Glossary of Terms used in Report

1. Actuarial Present Value. The value of an amount or series of amounts payable at various times, determined as of a given date by the application of a particular set of actuarial assumptions.
2. Actuarial Cost Method or Funding Method. A procedure for determining the actuarial present value of pension plan benefits and for determining an actuarially equivalent allocation of such value to time periods, usually in the form of a normal cost and an actuarial accrued liability.
3. Normal Cost. That portion of the actuarial present value of pension plan benefits, which is allocated to a valuation year by the actuarial cost method.
4. Actuarial Liability or Accrued Liability. That portion, as determined by a particular actuarial cost method, of the actuarial present value of pension benefits which is not provided for by future normal costs.
5. Actuarial Value of Assets. The value assigned by the actuary to the assets of the pension plan for purposes of an actuarial valuation.
6. Unfunded Actuarial Liability. The excess of the actuarial liability over the actuarial value of assets.
7. Projected Unit Credit Actuarial Cost Method. A cost method under which the projected benefits of each individual included in an actuarial valuation are allocated by a consistent formula to valuation years. The actuarial present value of benefits allocated to a valuation year is called the normal cost. The actuarial present value of benefits allocated to all periods prior to a valuation year is called the actuarial liability.

Under this method, the actuarial gains (losses), as they occur, generally reduce (increase) the unfunded actuarial liability.

8. Actuarial Assumptions. Assumptions as to future events affecting pension costs.
9. Actuarial Valuation. The determination, as of a valuation date, of the normal cost, actuarial liability, actuarial value of assets, and related actuarial present values for a pension plan.