State of Delaware

July 1, 2011
Postretirement Health Valuation

Produced by Cheiron

January 2012

Classic Values, Innovative Advice

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January 18, 2012

Mr. David Craik
Pension Administrator
Delaware Public Employees Retirement System
860 Silver Lake Boulevard, Suite 1
Dover, Delaware 19904

Dear Dave:

As requested, we have performed an analysis of the Postretirement Health Plan provided by the State of Delaware. The following report contains our findings and disclosures required by The Governmental Accounting Standards Board (GASB) standard.

Appendix A describes the Participant Data, Assumptions, and Methods used in calculating the liabilities contained in Section I. We relied, without audit, on information provided by the Plan Administrator. The economic assumptions used in this report are similar to those currently used to fund pension benefits and are the same as the prior year's OPEB with the exception of the revised salary scale assumption.

Appendix B contains our understanding of the substantive plan provisions based on the information provided by your office.

The results of this report depend on the future experience conforming to the actuarial assumptions used. The results will change to the extent that future experience differs from the assumptions. Actuarial computations are calculated based on our understanding of GASB 43/45 and are for purposes of fulfilling employer financial accounting requirements. Determinations for purposes other than meeting employer financial accounting requirements may be significantly different from the results in these exhibits. We have not incorporated the impact of future changes that may be required as a result of the Patient Protection and Affordable Care Act of 2010.

This report was prepared solely for the Delaware Public Employees Retirement System for the purposes described herein, except that the plan auditor may rely on this report solely for the purpose of completing an audit related to the matters herein. This report is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

We hereby certify that, to the best of our knowledge, this report and its contents, which are work products of Cheiron, Inc., are complete and accurate and have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

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Please do not hesitate to call should you have any questions.

Sincerely,
Cheiron

Margaret A. Tempkin, FSA, EA	John L. Colberg, FSA, EA
Principal Consulting Actuary	Principal Consulting Actuary

cc: Stephanie Scola
Trisha Neely

INTRODUCTION

The State of Delaware has engaged Cheiron to provide an analysis of the Postretirement Health Benefit Plan's liabilities as of July 1, 2011. The primary purposes of performing this actuarial valuation are to:

- Estimate the current cost of the retiree health benefit using The Governmental Accounting Standards Board (GASB) 43/45 methodology under the current funding strategy;
- Reconcile with prior results;
- Determine appropriate funding strategies; and
- Identify trends in the OPEB cost.

We have determined cost, liabilities and other factors under the Plan on the basis that all actuarial assumptions and methods are reasonable.

GASB's OPEB Requirements:

The Governmental Accounting Standards Board (GASB) has released Statement 43 regarding financial reporting for post-employment benefit plans other than pension plans and a companion Statement (number 45) regarding the employer accounting for these plans. Statement 43 is generally applicable where an entity has a separate trust or fund for OPEB benefits. We understand the System received approval that the trust used to fund future OPEB costs does qualify as a separate trust for GASB purposes. Statement 45, which was adopted in the fiscal year ending June 30, 2008, requires the Plan Sponsor to book the actuarial cost (net of employee and retiree contributions) of the plan as an expense on its financial statements and then accrue a liability to the extent actual contributions were less than this expense. Additional disclosures include a description of the plan, summary of significant accounting policies, contributions, and a statement of funding progress, along with the methods and assumptions used for those disclosures.

VALUATION RESULTS

Below we summarize our analysis:

- The actuarial liability as of July 1, 2011 is $6.77 billion compared to assets of $144 million.
- Based on this valuation, the required GASB expense for FY 2012 is $490.5 million, which is $303.3 million in excess of projected pay-as-you-go costs of $187.2 million.
- The figures provided in this report are highly sensitive to the assumptions used, and we show how sensitive the results are to changes in key assumptions.

The remainder of this report provides additional detail on our analysis. First we present the results of our baseline actuarial study, followed by the reconciliation of our results to the prior actuarial results. We then introduce sensitivity analyses to both assumptions and benefits and conclude with information on the GASB Other Post Employment Benefit (OPEB) requirements.

The fundamental principal underlying our analysis, as well as the GASB standard, is that the cost of its benefits should be related to the period in which benefits are earned, rather than to the period of benefit distribution. The *normal cost* is the annual amount which would be sufficient to fund the plan benefits (net of retiree contributions) if it were paid from each employee's date of hire until termination or retirement. Under the method used in our analysis, the normal cost is determined as a percentage of pay. This means the underlying dollar amount is expected to increase each year as salary increases. The *actuarial liability* represents the portion of the value of the projected benefit at retirement that is allocated to service earned prior to the valuation date; that is, it represents the accumulation of past normal costs from date of hire until the valuation date. The *unfunded actuarial liability* represents the excess of the actuarial liability over plan assets.

Information about the actuarial liabilities of the Plan as of July 1, 2011 is shown in Table 1 below.

Table 1
Actuarial Liability
Pay-As-You-Go Funding (4.25% assumed discount)
($ in millions)

	State Employees	Judges	Closed State Police	Open State Police	Total
Actives	$ 3,113.8	$ 5.2	$ 0.3	$ 123.6	$ 3,242.9
Retirees	3,374.4	5.1	104.5	42.5	3,526.5
Total	$ 6,488.2	$ 10.3	$ 104.8	$ 166.1	$ 6,769.4
Assets*	$ 137.5	$ 0.0	$ 2.0	$ 4.0	$ 143.5
UAL**	$ 6,350.7	$ 10.3	$ 102.8	$ 162.1	$ 6,625.9

** Assets allocated in proportion to liabilities*
*** Unfunded Actuarial Liability*

Please note, however, that GASB only requires disclosure of the above liability and does not require the entity to immediately record the entire liability on the balance sheet. GASB's requirement is that the entity is required to show the annual required contribution (ARC) as the

VALUATION RESULTS

expense, and the cumulative difference, beginning in FY08 of the Net OPEB Obligation (NOO), which is the ARC, less actual contributions (adjusted for interest and to avoid double-counting).

The ARC consists of two parts: (1) the *normal cost*, which represents the annual cost attributable to service earned in a given year, and (2) the 30-year amortization of the unfunded actuarial liability (UAL). The UAL under pay-as-you-go funding will be larger than under actuarial funding. The entire ARC is not a new expense. Under the current funding method of pay-as-you-go (PAYGo), the State pays for the benefits currently provided to existing retirees. The difference between the actual contributions made (benefits provided) and the annual required contributions is the increase in expense on the financial statements of the State.

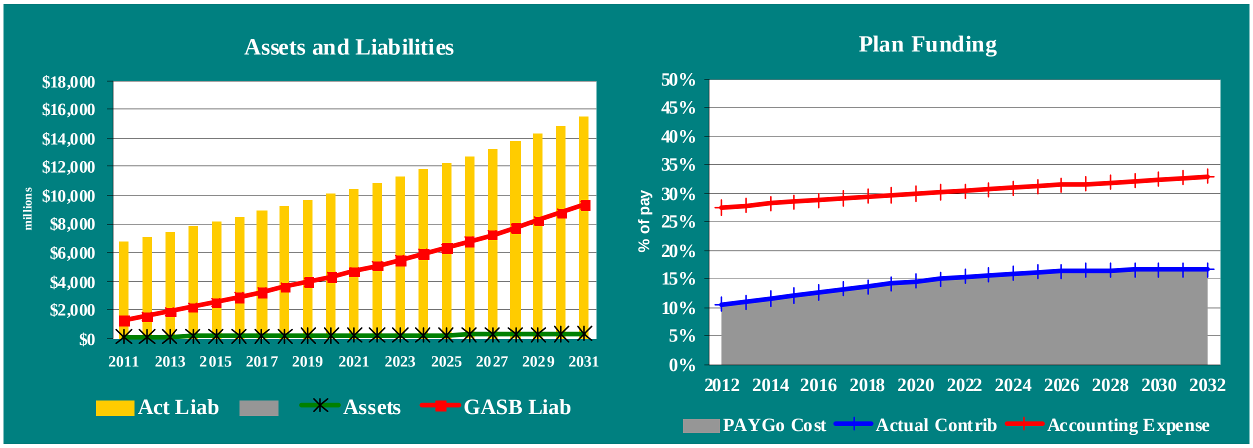
In Table 2 below, we show the computed FY 2012 annual required contribution (ARC) under the State's funding policy and a 4.25% assumed discount rate.

Table 2
GASB ARC – FY2012
Pay-As-You-Go Funding (4.25% assumed discount)
($ in millions)

	State Employees	Judges	Closed State Police	Open State Police	Total
Normal Cost	$ 225.2	$ 0.4	$ 0.0	$ 9.4	$ 235.0
UAL Amortization	244.9	0.4	3.9	6.3	255.5
Total	$ 470.1	$ 0.8	$ 3.9	$ 15.7	$ 490.5

VALUATION RESULTS

Looking beyond 2012, both the expense and liability on the financial statements increase dramatically. The charts below project the assets and liabilities and the funding costs for the next 20 years.



As the above left chart shows, the unfunded actuarial liability increases from $6.8 billion to $15.4 billion during the next 20 years. The red line on the same chart shows the liability appearing on the State's financial statements, which will increase to $9.3 billion over the same time period.

The chart on the right shows the annual costs. Benefit payments, net of retiree contributions, are shown by the grey area and increase from 10.5% of pay or $187 million to 16.6% of pay or $561 million. The blue line represents the State's assumed contributions. Under PAYGo funding they match the net benefit payments; the ARC, shown by the red line, increases from 27.5% of pay or $491 million in FY12 to 33.0% of pay or $1.1 billion in FY32.

VALUATION RESULTS

Below are the expected net benefit payments that we anticipate for the next 15 years under Pay-As-You-Go.

Table 3
Expected Net Benefit Payments
($ in millions)

Fiscal Year Ending June 30	Expected Net Benefit Payments	Fiscal Year Ending June 30	Expected Net Benefit Payments	Fiscal Year Ending June 30	Expected Net Benefit Payments
2012	$ 187.2	2017	$ 275.8	2022	$ 378.2
2013	202.1	2018	295.6	2023	398.8
2014	219.0	2019	315.9	2024	418.8
2015	237.2	2020	336.9	2025	437.7
2016	256.1	2021	357.9	2026	455.8

RECONCILIATION

Liabilities

The Plan last had a valuation of the liabilities performed as of July 1, 2010. Table 4 provides an estimate of the major factors contributing to the change in liability since that report. All plans have been grouped together in the reconciliation table below. Note that we are reconciling to a liability as of July 1, 2010 using a 5.0% discount rate with a 5.0% ultimate medical trend.

Table 4
Reconciliation of Actuarial Liability
($ in millions)

Expected Actuarial Liability as of July 1, 2011	**$ 6,267.1**
Changes due to:	
• Demographic Changes	$ (14.0)
• Change in Assumptions	516.3
Total Changes	$ 502.3
Actual Actuarial Liability as of July 1, 2011	**$ 6,769.4**

- *Demographic Changes* refers to the change in actual data and elections from July 1, 2010 to July 1, 2011.
- *Change in Assumptions* refers to the change in current and future health care costs as well as changes that reflect the experience study.

RECONCILIATION

Assets

Table 5 below shows the reconciliation of assets for the fiscal year. This section reconciles to the assets of July 1, 2010 that were used to develop the FY2011 ARC.

Table 5
Reconciliation of Assets
($ in millions)

Assets as of July 1, 2010	**$**	**104.4**
Contributions:		
• State Contributions*	$	182.3
• Retiree Contributions*		6.2
• TOTAL	$	188.5
Benefits & Expenses*:	$	(166.8)
Net Investment Income:	$	17.4
Total Change:	$	39.1
Assets as of July 1, 2011	**$**	**143.5**

* Contributions for benefits and expenses were routed through the trust

SENSITIVITY OF RESULTS

The liabilities and ARC produced in this report are sensitive to the assumptions used. The previous charts showing PAYGo vs. actuarial funding provide some sensitivity impact for the change in discount rate. In addition, we also produced liabilities using alternative health care trend rates to provide some measure of sensitivity. If all trend assumptions are increased by 1% from the original trends, the unfunded actuarial liability as of July 1, 2011 increases from $6.63 billion to $7.68 billion. Likewise, the ARC for FY2012 would increase from $490.5 million to $635.4 million.

Below we have shown the liabilities using a 1% increase in health care trend rates to provide some measure of sensitivity.

Table 6
Actuarial Liability
Pay-As-You-Go Funding (4.25% assumed discount)
(1% increase in medical trends)
($ in millions)

	State Employees	Judges	Closed State Police	Open State Police	Total
Actives	$ 3,679.1	$ 5.7	$ 0.3	$ 145.3	$ 3,830.4
Retirees	3,819.1	5.7	117.6	50.5	3,992.9
Total	$ 7,498.2	$ 11.4	$ 117.9	$ 195.8	$ 7,823.3
Assets*	$ 137.5	$ 0.0	$ 2.0	$ 4.0	$ 143.5
UAL**	$ 7,360.7	$ 11.4	$ 115.9	$ 191.8	$ 7,679.8

* Assets allocated in proportion to liabilities
** Unfunded Actuarial Liability

Table 7
GASB ARC – FY2012
Pay-As-You-Go Funding (4.25% assumed discount)
($ in millions)

	State Employees	Judges	Closed State Police	Open State Police	Total
Normal Cost	$ 324.8	$ 0.5	$ 0.0	$ 13.9	$ 339.2
UAL Amortization	283.9	0.4	4.4	7.5	296.2
Total	$ 608.7	$ 0.9	$ 4.4	$ 21.4	$ 635.4

Below we have shown the liabilities using a 1% decrease in health care trend rates to provide some measure of sensitivity.

SENSITIVITY OF RESULTS

Table 8
Actuarial Liability
Pay-As-You-Go Funding (4.25% assumed discount)
(1% decrease in medical trends)
($ in millions)

	State Employees	Judges	Closed State Police	Open State Police	Total
Actives	$ 2,640.5	$ 4.7	$ 0.3	$ 104.7	$ 2,750.2
Retirees	3,006.6	4.6	93.5	36.2	3,140.9
Total	$ 5,647.1	$ 9.3	$ 93.8	$ 140.9	$ 5,891.1
Assets*	$ 138.5	$ 0.0	$ 2.0	$ 3.0	$ 143.5
UAL**	$ 5,508.6	$ 9.3	$ 91.8	$ 137.9	$ 5,747.6

* Assets allocated in proportion to liabilities
** Unfunded Actuarial Liability

Table 9
GASB ARC – FY2012
Pay-As-You-Go Funding (4.25% assumed discount)
(1% decrease in medical trends)
($ in millions)

	State Employees	Judges	Closed State Police	Open State Police	Total
Normal Cost	$ 157.7	$ 0.3	$ 0.0	$ 6.4	$ 164.4
UAL Amortization	212.5	0.4	3.5	5.4	221.8
Total	$ 370.2	$ 0.7	$ 3.5	$ 11.8	$ 386.2

ACTUARIAL FUNDING

To have a system where the assets will eventually accumulate to the actuarial liability, meaning that the entire liability is funded, the State of Delaware may wish to begin funding this program on an actuarial basis by contributing the ARC. If the State were to establish a funding policy of contributing the ARC, the discount rate could be increased. Using a discount rate of 7.50% (matching the pension assumption) produces an unfunded liability of $4.14 billion, rather than $6.63 billion.

In addition to the change in overall liability, the ARC will also decrease. Thus, in order to fund on an actuarial basis, the State needs to contribute $348.5 million, or $161.2 million above the PAYGo cost.

If the State increases its contribution, but it is still less than the actuarially funded scenario, the discount rate will increase above the 4.25% discount rate, and the resulting liabilities and ARC payments will likely fall between the two discount rate scenarios presented in this report.

Table 10
Actuarial Liability
Actuarial Funding (7.50% assumed discount)
($ in millions)

	State Employees	Judges	Closed State Police	Open State Police	Total
Actives	$ 1,757.4	$ 3.5	$ 0.2	$ 67.4	$ 1,828.5
Retirees	2,355.7	3.8	73.6	26.1	2,459.2
Total	$ 4,113.1	$ 7.3	$ 73.8	$ 93.5	$ 4,287.7
Assets*	$ 138.5	$ 0	$ 2.0	$ 3.0	$ 143.5
UAL**	$ 3,974.6	$ 7.3	$ 71.8	$ 90.5	$ 4,144.2

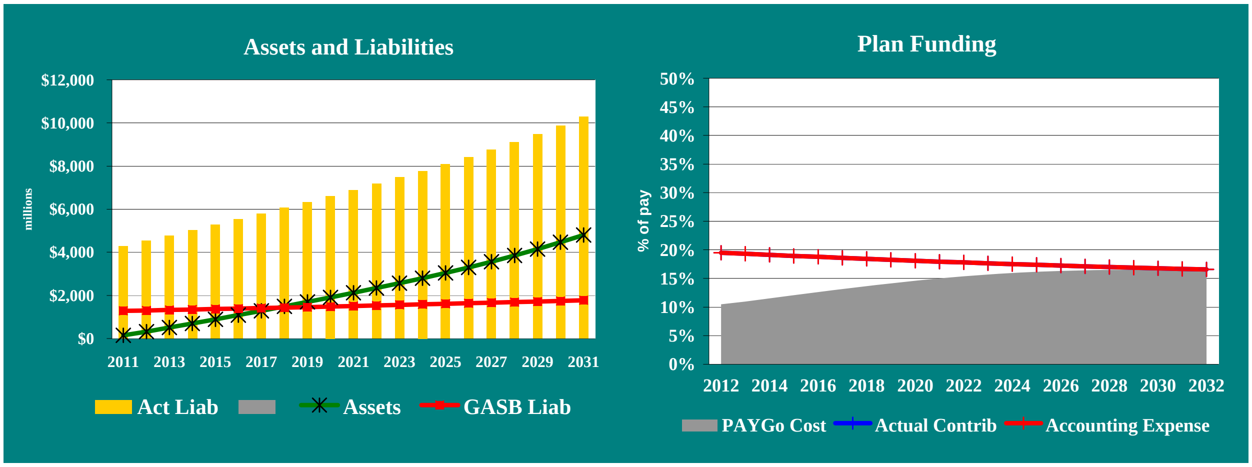
* Assets allocated in proportion to liabilities
** Unfunded Actuarial Liability

Table 11
GASB ARC – FY2012
Actuarial Funding (7.50% assumed discount)
($ in millions)

	State Employees	Judges	Closed State Police	Open State Police	Total
Normal Cost	$ 101.2	$ 0.2	$ 0.0	$ 4.0	$ 105.4
UAL Amortization	233.2	0.4	4.1	5.4	243.1
Total	$ 334.4	$ 0.6	$ 4.1	$ 9.4	$ 348.5

ACTUARIAL FUNDING

Looking beyond 2012, the charts below project the assets and liabilities and the funding costs for the next 20 years assuming the State amortizes the liability over an open 30-year period.



As the above left chart shows, the unfunded actuarial liability increases from $4.4 billion to $10.3 billion during the next 20 years. The red line on the same chart shows the liability appearing on the State's financial statements, which will remain fairly stable over the period.

The chart on the right shows the annual costs. Benefit payments, net of retiree contributions, are shown by the grey area and increase from 10.5% of pay or $187 million to 16.6% of pay or $561 million, the same as in the pay-as-you-go scenario. The blue line (which is covered by the red line after FY 2012) represents the State's contribution and mirrors the ARC. Under actuarial funding (paying the full ARC and 7.50% discount) the GASB expense on the State's financial statements remains relatively stable as a percentage of pay.

ACTUARIAL FUNDING

Below are the employer contributions, benefit payments, assets and NOO that we anticipate for the next 15 years under Actuarial Funding.

Table 12
Expected Contributions,
Expected Net Benefit Payments,
Assets and NOO
($ in millions)

Fiscal Year Ending June 30	Expected Contributions	Expected Net Benefit Payments	Expected Assets	Expected NOO
2012	$ 348.4	$ 187.2	$ 321.5	$ 1,300.3
2013	356.4	202.1	505.5	1,321.5
2014	364.5	219.0	694.2	1,343.1
2015	372.7	237.2	886.7	1,365.1
2016	381.1	256.1	1,082.9	1,387.4
2017	389.8	275.8	1,282.2	1,410.1
2018	398.7	295.6	1,485.3	1,433.2
2019	407.9	315.9	1,692.1	1,456.6
2020	417.5	336.9	1,902.5	1,480.4
2021	427.4	357.9	2,117.2	1,504.6
2022	437.6	378.2	2,337.6	1,529.2
2023	448.2	398.8	2,564.2	1,554.2
2024	459.2	418.8	2,798.5	1,579.6
2025	470.6	437.7	3,042.5	1,605.5
2026	482.3	455.8	3,298.1	1,631.7

ACCOUNTING DISCLOSURES

Statement No. 43 and 45 of the Governmental Accounting Standards Board (GASB) establishes standards for disclosure of other postemployment benefit information by governmental employers and plans in notes to financial statements and supplementary information.

In accordance with those statements, we have prepared the following disclosures:

Schedule of Funding Progress

The schedule of funding progress, Table 13, compares the assets used for funding purposes to the comparable liabilities to determine how well the Plan is funded and how this status has changed over the past several years. The actuarial liability is compared to the actuarial value of assets to determine the funding ratio. The Actuarial Accrued Liability under GASB is determined assuming that the Plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions.

Table 13
Schedule of Funding Progress
($ millions)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liabilities (b)	Unfunded Actuarial Accrued Liabilities (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b-a)/c]
7/1/2011	$ 144	$ 6,769	$ 6,625	2.1%	$ 1,787	371%
7/1/2010	104	5,884	5,780	1.8	1,798	321
7/1/2009	83	5,636	5,553	1.5	1,811	307
7/1/2008	79	5,489	5,410	1.4	1,770	306
7/1/2006	25	4,656	4,631	0.5	1,644	282

ACCOUNTING DISCLOSURES

Schedule of Employer Contributions

The schedule of employer contributions, Table 14, shows whether the employer has made contributions that are consistent with an actuarially sound method of funding the benefits to be provided.

Table 14
Schedule of Employer Contributions
($ in millions)

Fiscal Year Ended June 30	Annual Required Contribution (ARC)	Percentage of ARC Contributed	Net OPEB Obligation
2012	$ 490.5	To be determined	To be determined
2011	488.1	37%	$ 1,279.4
2010	480.0	36%	963.9
2009	516.2	31%	648.9
2008	464.6	38%	288.8

Table 15 below shows the development of the Net OPEB Obligation.

Table 15
Development of Net OPEB Obligation
Pay-As-You-Go Funding (4.25% assumed discount)
($ in millions)

	June 30, 2011	Projected June 30, 2012
1. Net OPEB Obligation/(Asset) at beginning of fiscal year	**$ 963.9**	**$ 1,279.4**
2. Annual Required Contribution for FYE	$ 488.1	$ 490.5
3. Interest on Net OPEB Obligation/(Asset)	48.2	54.4
4. Adjustment to Annual Required Contribution	38.5	49.3
5. Annual OPEB Cost *(2.) + (3.) – (4.)*	$ 497.8	$ 495.6
6. Employer Contributions (Actual/Estimated)	$ (182.3)	$ (187.2)
7. Net OPEB Obligation/(Asset) at end of fiscal year *(1.) + (5.) + (6.)*	**$ 1,279.4**	**$ 1,587.8**

ACCOUNTING DISCLOSURES

We have also provided a *Note to Required Supplementary Information* for the financial statements in Table 16.

Table 16
Note to Required Supplementary Information

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Valuation Date	July 1, 2011
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level percent open
Remaining Amortization Period	30 years
Asset Valuation Method	Market Value
Actuarial Assumptions:	
Investment Rate of Return	4.25%
Prior Year Rate of Salary Increases	3.75% (plus merit scale)
Rate of Salary Increases	3.25% (plus merit scale)
Ultimate Rate of Medical Inflation	4.25%

APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Participant Data as of July 1, 2011

Census as of July 1, 2011

	State Employees	Judges	Closed State Police	Open State Police	Total
Eligible Active Employees	35,572	54	1	662	36,289
Actives with coverage	**28,302**	**49**	**1**	**591**	**28,943**
Eligible Terminated Vesteds	2,008	0	0	10	2,018
Eligible LTDs	424	0	0	0	424
Retirees and Disableds with coverage	16,465	23	364	79	16,931
Beneficiaries with coverage	2,042	14	90	4	2,150
Total Inactives with coverage	**18,507**	**37**	**454**	**83**	**19,081**
Spouses with coverage	7,095	19	291	64	7,469
Total Inactives and Spouses with coverage	**25,602**	**56**	**745**	**147**	**26,550**
Total with coverage	**53,904**	**105**	**746**	**738**	**55,493**

Eligible Active Employees

Age Group	State Employees	Judges	Closed State Police	Open State Police	Total
Under 25	999	0	0	14	1,013
25 to 30	2,935	0	0	76	3,011
30 to 35	3,592	0	0	98	3,690
35 to 40	3,857	0	0	135	3,992
40 to 45	4,714	2	0	159	4,875
45 to 50	5,329	7	0	114	5,450
50 to 55	5,393	7	1	60	5,461
55 to 60	4,792	8	0	6	4,806
60 to 65	2,869	23	0	0	2,892
Over 65	1,092	7	0	0	1,099
Total	**35,572**	**54**	**1**	**662**	**36,289**

Retirees, Disables and Beneficiaries with Coverage

Age Group	State Employees	Judges	Closed State Police	Open State Police	Total
Under 50	250	0	0	36	286
50 to 55	604	0	14	33	651
55 to 60	1,544	0	51	13	1,608
60 to 65	3,486	3	114	1	3,604
65 to 70	3,727	5	93	0	3,825
70 to 75	2,851	9	86	0	2,946
75 to 80	2,491	9	42	0	2,542
80 to 85	1,848	6	31	0	1,885
85 to 90	1,154	4	16	0	1,174
Over 90	552	1	7	0	560
Total	**18,507**	**37**	**454**	**83**	**19,081**

APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

New Entrant Population Statistics

	State Employees	Judges	State Police
Average Age	34	44	29
Average Salary	$ 43,264	$ 160,938	$48,972
% Blue PPO	42%	0%	26%
% Blue HMO	31%	50%	43%
% Aetna	7%	0%	22%
% Nonelect	20%	50%	9%

Economic Assumptions

1. ***Discount Rate:*** 4.25% per year

2. ***Salary Growth (for Normal Cost):*** 3.25% per year

3. ***Aggregate Payroll Growth for Amortization:*** 3.25% per year

4. ***Per Person Cost Trends:***

Date To Year Beginning July 1	Annual Increase Pre-65 Medical	Post-65 Medical	Pharmacy
2012	8.50%	6.50%	9.00%
2013	8.00	6.00	8.50
2014	7.70	5.90	8.15
2015	7.39	5.74	7.80
2016	7.07	5.57	7.44
2017	6.76	5.41	7.09
2018	6.45	5.24	6.73
2019	6.13	5.08	6.38
2020	5.82	4.91	6.02
2021	5.50	4.75	5.67
2022	5.19	4.58	5.31
2023	4.88	4.42	4.96
2024	4.56	4.25	4.60
2025+	4.25	4.25	4.25

Deductibles, Co-payments, Out-of-Pocket Maximums, and Annual Maximum are assumed to increase at the above trend rates.

APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Demographic Assumptions

1. *Rates of Retirement:*

State Employees:

Early Retirement: Age-based upon attaining the earliest of:

a) age 55 with 15 years of credited service
b) 25 years of credited service

Normal Retirement: 1-year Select & Ultimate (age-based) upon attaining the earliest of:

a) age 62 with five years of credited service
b) age 60 with 15 years of credited service
c) 30 years of credited service

Male Early Retirement	
Age	**Rate**
42 - 52	10.00%
52 - 59	5.00

Male Normal Retirement		
Age	**Select**	**Ultimate**
<45	10.00%	0.00%
45 – 46	10.00	7.50
47 – 51	10.00	10.00
52	10.00	15.00
53	10.00	14.00
54	10.00	13.00
55	10.00	20.00
56 – 59	10.00	15.00
60 – 61	10.00	20.00
62	20.00	25.00
63 – 64	15.00	20.00
65	15.00	25.00
66 – 69	15.00	20.00
70	15.00	17.00
71	15.00	25.00
72 – 79	15.00	17.00
80+	100.00	100.00

APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Female Early Retirement	
Age	**Rate**
<41	0.00%
42 – 59	10.00
60+	0.00

Female Normal Retirement		
Age	**Select**	**Ultimate**
<45	10.00%	0.00%
45 – 49	10.00	6.00
50 – 51	20.00	6.00
52 – 53	20.00	8.00
54	20.00	11.00
55	20.00	15.00
56	20.00	11.00
57 – 58	20.00	15.00
59 – 61	20.00	20.00
62	20.00	25.00
63	20.00	20.00
64	30.00	20.00
65	28.00	20.00
66	26.00	20.00
67 – 69	15.00	20.00
70	15.00	21.00
71 – 79	15.00	20.00
80+	100.00	100.00

Judges:

Normal Retirement: 1-year Select & Ultimate (age-based) upon attaining the earliest of:

a) age 65 with 12 years of credited service
b) 24 years of credited service

Normal Retirement		
Age	**Select**	**Ultimate**
< 55	40.00%	0.00%
55-61	40.00	30.00
62-69	50.00	40.00
70 +	100.00	100.00

APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Closed State Police:

Age-based Select and Ultimate table as follows:

Age	Select	Ultimate
<41	25.00%	0.00%
41-49	25.00	12.50
50-54	50.00	15.00
55-59	50.00	75.00
60+	50.00	100.00

Open State Police:

Normal Retirement: 1-year Select & Ultimate (age-based) upon attaining the earliest of:

a) age 55
b) 20 years of credited service

	Normal Retirement	
Age	**Select**	**Ultimate**
<37	14.45%	0.00%
37-49	14.45	9.35
50-54	14.45	11.48
55-59	14.45	63.75
60+	14.45	100.00

2. *Rate of Withdrawal:*

State Employees:

10-year Select (age- and service-based) & Ultimate (age-based) tables

Age Select:	0	1	2	3	4	5	6	7	8	9	Ultimate
<35	20%	15%	12%	10%	8%	8%	5%	5%	4%	4%	3%
35-39	18	15	10	10	7	6	5	5	4	4	3
40-54	13	13	10	7	6	5	5	5	4	4	3
55-59	12	12	10	8	6	5	5	5	4	4	3
60-65	12	12	10	10	6	5	5	5	4	4	3
>65	12	12	10	14	6	5	5	5	4	4	3

APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Judges:

None

Closed State Police:

Service-based Select and Ultimate table as follows:

Service	Rate
0	8.00%
1-2	2.50
3	2.25
4-5	2.00
6	1.75
7	1.50
8	1.25
9	1.00
Ultimate	1.00

Open State Police:

10-year Select & Ultimate tables (service-based) to age 54

Service	Rate
0	8.00%
1	2.50
2	2.50
3	2.25
4	2.00
5	2.00
6	1.75
7	1.50
8	1.25
9	1.00
Ultimate	1.00

APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

3. Rate of Mortality:

State Employees:

a. Healthy Inactive Mortality

With Fully Generational Mortality Improvements (Projection Scale)
Male: RP-2000 Mortality Table
Female: RP-2000 Mortality Table

Rates of Healthy Inactive Mortality				
	Rates (Prior to Projection)		Projection Scale	
Age	**Male**	**Female**	**Male**	**Female**
50	0.21%	0.17%	1.80%	1.70%
55	0.36	0.27	1.90	0.80
60	0.67	0.51	1.60	0.50
65	1.27	0.97	1.40	0.50
70	2.22	1.67	1.50	0.50
75	3.78	2.81	1.40	0.80
80	6.44	4.59	1.00	0.70
85	11.08	7.74	0.70	0.60
90	18.34	13.17	0.40	0.30

b. Healthy Active Mortality

With Fully Generational Mortality Improvements (Projection Scale)
Male: RP-2000 Mortality Table
Female: RP-2000 Mortality Table

Rates of Healthy Active Mortality (Prior to Projection)		
Age	**Male**	**Female**
20	0.03%	0.02%
25	0.04	0.02
30	0.04	0.03
35	0.08	0.05
40	0.11	0.07
45	0.15	0.11
50	0.21	0.17
55	0.36	0.27
60	0.67	0.51

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PARTICIPANT DATA, ASSUMPTIONS AND METHODS

c. Disabled Inactive Mortality

2011 PBGC Disabled Mortality Tables, 50% Social Security Disabled / 50% Non-Social Security Disabled.

Rates of Disabled Inactive Mortality		
Age	Male	Female
40	1.97%	1.06%
45	2.22	1.24
50	2.51	1.47
55	2.88	1.79
60	3.33	2.21
65	3.91	2.77
70	4.78	3.39
75	6.39	4.54
80	8.93	6.46

Judges:

a. Healthy Inactive Mortality

With Fully Generational Mortality Improvements (Projection Scale)
Male: RP-2000 Mortality Table
Female: RP-2000 Mortality Table

Rates of Healthy Inactive Mortality				
	Rates (Prior to Projection)		Projection Scale	
Age	Male	Female	Male	Female
40	0.21%	0.17%	1.80%	1.70%
45	0.36	0.27	1.90	0.80
50	0.67	0.51	1.60	0.50
55	1.27	0.97	1.40	0.50
60	2.22	1.67	1.50	0.50
65	3.78	2.81	1.40	0.80
70	6.44	4.59	1.00	0.70
75	11.08	7.74	0.70	0.60
80	18.34	13.17	0.40	0.30

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PARTICIPANT DATA, ASSUMPTIONS AND METHODS

b. Healthy Active Mortality

With Fully Generational Mortality Improvements (Projection Scale)
Male: RP-2000 Mortality Table
Female: RP-2000 Mortality Table

Rates of Healthy Active Mortality (Prior to Projection)		
Age	**Male**	**Female**
20	0.03%	0.02%
25	0.04	0.02
30	0.04	0.03
35	0.08	0.05
40	0.11	0.07
45	0.15	0.11
50	0.21	0.17
55	0.36	0.27
60	0.67	0.51

c. Disabled Inactive Mortality

2011 PBGC Disabled Mortality Tables, 50% Social Security Disabled / 50% Non-Social Security Disabled.

Rates of Disabled Inactive Mortality		
Age	**Male**	**Female**
40	1.97%	1.06%
45	2.22	1.24
50	2.51	1.47
55	2.88	1.79
60	3.33	2.21
65	3.91	2.77
70	4.78	3.39
75	6.39	4.54
80	8.93	6.46

APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Closed State Police and Open State Police:

a. Healthy Inactive Mortality

With Fully Generational Mortality Improvements (Projection Scale)
Male: RP-2000 Mortality Table
Female: RP-2000 Mortality Table

Rates of Healthy Inactive Mortality

	Rates (Prior to Projection)		Projection Scale	
Age	**Male**	**Female**	**Male**	**Female**
50	0.21%	0.17%	1.80%	1.70%
55	0.36	0.27	1.90	0.80
60	0.67	0.51	1.60	0.50
65	1.27	0.97	1.40	0.50
70	2.22	1.67	1.50	0.50
75	3.78	2.81	1.40	0.80
80	6.44	4.59	1.00	0.70
85	11.08	7.74	0.70	0.60
90	18.34	13.17	0.40	0.30

b. Healthy Active Mortality

With Fully Generational Mortality Improvements (Projection Scale)
Male: RP-2000 Mortality Table
Female: RP-2000 Mortality Table

Rates of Healthy Active Mortality (Prior to Projection)

Age	Male	Female
20	0.03%	0.02%
25	0.04	0.02
30	0.04	0.03
35	0.08	0.05
40	0.11	0.07
45	0.15	0.11
50	0.21	0.17
55	0.36	0.27
60	0.67	0.51

APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

c. Disabled Inactive Mortality

2011 PBGC Disabled Mortality Tables, 50% Social Security Disabled / 50% Non-Social Security Disabled.

Rates of Disabled Inactive Mortality		
Age	**Male**	**Female**
40	1.97%	1.06%
45	2.22	1.24
50	2.51	1.47
55	2.88	1.79
60	3.33	2.21
65	3.91	2.77
70	4.78	3.39
75	6.39	4.54
80	8.93	6.46

4. ***Percent of Retirees Electing Coverage:*** For employees who currently have medical coverage, 95% of employees are assumed to elect coverage at retirement if they have 20 or more years of service and 80% if they have less than 20 years of service. These employees are assumed to remain in their current plan.

   For employees who do not currently have medical coverage, 50% of employees are assumed to elect medical coverage in the comprehensive plan prior to retirement, and then will follow the election percentages above.

   40% of current and future terminated vested employees are assumed to elect coverage.

   100% of LTD participants are assumed to elect coverage.

5. ***Family Composition:*** 50% of employees will elect spouse coverage at retirement.

6. ***Dependent Age:*** For current active employees, males are assumed to be three years older than female spouses. For current retirees, actual spouse date of birth was used.

APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Claim and Expense Assumptions

1. ***Average Monthly Claims and Expense Assumptions*****:** The following claim and expense assumptions are applicable to the 12-month period beginning July 1, 2010 and are based on the premiums in effect on the valuation date. Subsequent years' costs are based on the trended first year cost adjusted with trends listed above. Participants in the new BCBS CDH Gold Plan were assumed to have the same claims as the Bluecare HMO. Participants in the new Aetna CDH Gold Plan were assumed to have the same claims as the Aetna HMO. Both of these plans are new as of July 1, 2011.

Under age 65: Healthy Retirees & All Dependents

Age	Blue PPO		Bluecare HMO		Aetna HMO		Pharmacy	
	Male	Female	Male	Female	Male	Female	Male	Female
40	$222	$417	$224	$420	$253	$474	$57	$84
45	$271	$424	$273	$427	$308	$482	$77	$103
50	$354	$485	$357	$489	$402	$552	$106	$136
55	$462	$562	$466	$566	$525	$639	$142	$175
60	$603	$665	$608	$670	$686	$756	$183	$213
64	$757	$779	$763	$785	$860	$886	$212	$232

Age 65 & Over

Age	Blue PPO		Bluecare HMO		Aetna HMO		Pharmacy	
	Male	Female	Male	Female	Male	Female	Male	Female
65	$118	$126	$118	$126	$118	$126	$219	$233
70	$145	$145	$145	$145	$145	$145	$250	$251
75	$174	$162	$174	$162	$174	$162	$266	$264
80	$193	$173	$193	$173	$193	$173	$272	$266
85	$201	$175	$201	$175	$201	$175	$269	$259

Disabled Retirees

Age	Blue PPO		Bluecare HMO		Aetna HMO		Pharmacy	
	Male	Female	Male	Female	Male	Female	Male	Female
40	$164	$320	$165	$321	$180	$350	$86	$126
45	$204	$330	$205	$332	$224	$361	$115	$154
50	$270	$373	$272	$376	$296	$409	$159	$204
55	$353	$417	$355	$419	$387	$458	$213	$262
60	$458	$502	$461	$505	$503	$551	$274	$320
64	$565	$587	$568	$591	$620	$645	$318	$348
65	$178	$189	$178	$189	$178	$189	$328	$350
70	$218	$217	$218	$217	$218	$217	$374	$377
75	$260	$244	$260	$244	$260	$244	$399	$395
80	$290	$260	$290	$260	$290	$260	$408	$398
85	$302	$262	$302	$262	$302	$262	$404	$388

2. ***Medicare Part D Subsidy*****:** Per GASB guidance, the Part D Subsidy has not been reflected in this valuation.

3. ***Medicare Part B Premiums*****:** Assumed that Medicare eligible retirees pay the Medicare Part B premiums.

APPENDIX A
PARTICIPANT DATA, ASSUMPTIONS AND METHODS

4. ***Medicare Eligibility*:**
   Future retirees: Age 65+ = 100.00%.
   Current retires: under 65 = those known to be eligible for Medicare will remain eligible, Age 65+ = 100.00%.

5. ***Annual Limits*:** Assumed to increase at the same rate as trend.

6. ***Lifetime Maximums*:** Are not assumed to have no financial impact.

7. ***Geography*:** Implicitly assumed to remain the same as current retirees.

Methodology

The Entry Age Actuarial Cost Method was used to value the Plan's actuarial liabilities and to set the normal cost. Under this method, the normal cost rate is the percentage of pay contribution which would be sufficient to fund the plan benefits if it were paid from each member's entry into the System until termination or retirement. A rolling 30-year amortization period was used under the pay-as-you-go funding scenario.

A normal cost rate is determined for a typical new entrant. This rate is determined by taking the value, as of age at entry into a plan in the Program, of the member's projected future benefits, reducing it by the value of future member contributions, and dividing it by the value, also as of the member's entry age, of the member's expected future salary.

The medical claims costs were developed using July 1, 2008 to June 30, 2009 active and retiree experience paid through June 30, 2009. We used the projected incurred claims provided by the State's healthcare actuary. The pharmacy claims costs were developed using July 1, 2008 to June 30, 2009 active and retiree experience paid through June 30, 2009. Expenses were based on projection using contractual rates and projected costs. From this data, we developed per person per month (PPPM) costs and then adjusted those using age curves. The rates were then trended forward to the period July 1, 2010 to June 30, 2011 using an annual trend assumption of 8.5% for medical, 8.5% for pharmacy, and 6% for expenses. The claims were then trended forward to the period July 1, 2011 to June 30, 2012 using annual trend assumption of 9.0% for pre-Medicare medical, 7.0% for post-Medicare medical, and 9.0% for pharmacy.

Changes Since Last Valuation

The demographic assumptions were changed to reflect the most current experience study. The salary scale assumption was changed from 3.75% to 3.25%. And the discount rate was changed from 5.0% to 4.25%.

APPENDIX B
SUBSTANTIVE PLAN PROVISIONS

Eligibility:

State Employees:

Normal Retirement:

Eligibility: (i) age 62 with five years of credited service; or (ii) age 60 with 15 years of credited service; or (iii) any age with 30 years of credited service.

Early Retirement:

Eligibility: (i) age 55 with 15 years of credited service; or (ii) any age with 25 years of credited service.

Judges:

Normal Retirement:

Judges appointed before July 1, 1980:

Eligibility: (i) age 65 with 12 years of service as a judge; or (ii) any age with 24 years of service; or (iii) involuntarily retired after 22 years of service as a judge.

Judges appointed after June 30, 1980:

Eligibility: (i) age 62 with 12 years of service as a judge; or (ii) any age with 24 years of service; or (iii) involuntarily retired after 22 years of service as a judge.

Closed State Police:

Normal Retirement:

Age 55 or 20 years of credited service.

Open State Police:

Normal Retirement:

Eligibility: (i) Must be employed at 55 with ten years of credited service; or (ii) any age with 20 years of credited service; or (iii) ten years of credited service when age plus service equals 75.

All vested participants in the groups above are eligible to pick up coverage at commencement of their vested pension benefit.

Spouse coverage is available under any of the plan options with the state paying the same percentage as the retiree. Surviving spouses are eligible to coverage after the retiree's death.

APPENDIX B
SUBSTANTIVE PLAN PROVISIONS

Benefits:

Blue Cross Blue Shield First State Basic – This plan provides the freedom of choice you experience with a Preferred Provider Organization (PPO) that allows you to receive both in and out of network benefits.

In-network services will have a deductible of $500 per individual and $1,000 per family. The plan will then pay at 90% of the Blue Cross Blue Shield allowable charge. There is also a coinsurance limit of $1,500 per individual and $3,000 per family, and once this is met the plan will pay at 100% of the allowable charge. Therefore, total out-of-pocket costs will be $2,000 per individual and $4,000 per family, plus any co-pays and non-covered charges. Please note that pharmacy benefit expenses do not accumulate toward meeting the deductible or coinsurance amounts.

Out-of-network services will be subject to a deductible of $1,000 per individual and $2,000 per family and then the plan will pay at 70% of the allowable charge. The out-of-network coinsurance limit is set at $3,000 per individual and $6,000 per family, after which services are paid at 100%. Out-of-pocket costs for non-network services will total $4,000 for individual and $8,000 for family, plus any non-covered charges. Please note that pharmacy benefit expenses do not accumulate toward meeting the deductible or coinsurance amounts.

Preventive services are covered in-network at 100% of the allowable charge and are not subject to a deductible or coinsurance. Preventive services are covered out-of-network at 70% of the allowable charge and are not subject to a deductible or co-insurance.

Blue Cross Blue Shield Blue Care – Blue Care is Blue Cross Blue Shield's HMO-Managed Care plan in which each member selects a primary care physician (PCP) to coordinate his/her healthcare needs. Blue Care members have access to the BCBS of Delaware provider network for covered services with a PCP referral and the BCBS nationwide network for emergency care. Blue Care also includes coverage for services such as: outpatient, inpatient, prenatal and postnatal care, emergency, mental health care, lab, x-ray, vision, chiropractic and many others.

Blue Cross Blue Shield Comprehensive Preferred Provider Organization (PPO) Plan – This plan provides the freedom of choice that you experience with a traditional comprehensive plan. When participants obtain services in-network, they pay a small co-pay/co-insurance with no deductible, but they may also use an out-of-network provider to obtain benefits at a reduced level.

The plan provides an expansive national network of participating providers. If the member uses out-of-network providers, they must meet a $300 per person/$600 per family plan year deductible unless otherwise noted. The out-of pocket maximum is $1,800 per person/$3,600 per family (including the deductible) per plan year. The out-of-pocket maximum applies to medical services only. Co-payments for prescription medication are not applied to the out-of-pocket maximum.

APPENDIX B
SUBSTANTIVE PLAN PROVISIONS

Blue Cross Blue Shield CDH Gold – BCBSD's CDH Gold Plan offers many of the features of a Preferred Provider Organization (PPO) plan with the added advantage of a State-funded Health Reimbursement Account (HRA). Effective July 1, 2011.

The plan includes a $1,500 deductible for employee only (Individual) coverage and $3,000 for Family coverage. The HRA pays the first $1,250 in deductible expenses for Individuals and $2,500 for Families. The member is financially responsible for the remaining in-network deductible ($250 for Individuals and $500 for Families). When the deductible is satisfied, in-network health care services are paid at 90 percent, with an in-network coinsurance maximum of $3,000 for Individuals and $6,000 for Families. When the deductible is satisfied, out-of-network health care services are paid at 70 percent, with an out-of-network coinsurance maximum of $6,000 for Individuals and $12,000 for Families.

Benefits are subject to a single plan year deductible, combining in- and out-of-network deductible amounts. In- and out-of-network coinsurance amounts accumulate together toward the coinsurance maximums.

In addition, preventive care services are covered at 100 percent and are not subject to a deductible or coinsurance. Prescriptions are provided through the prescription benefits manager, Medco, and prescription copays are not applicable to the medical deductible or out-of-pocket maximum.

Aetna – Access and Choice. Aetna's HMO offers all the advantages of a national health plan and local customer service. Members choose any primary care physician (PCP) from a broad network. Aetna's HMO plan offers direct access for emergency and urgent care, routine OB/GYN care, and a host of health, wellness and educational programs.

Aetna – CDH Gold Plan - Each year, your employer funds a health reimbursement account – the fund – for you. You can use fund dollars to pay eligible out-of-pocket health care costs. Fund dollars can even pay partial amounts of these costs. If you don't use the whole fund in one year, no worries, unused amounts can roll over to the next year. However, if you change employers or leave the CDH Gold Plan, you can't take the fund with you. Effective July 1, 2011.

Once you pay the full deductible, your health plan begins to pay benefits. As you use the fund, the payments count toward your deductible. That means you have less to pay out of your own pocket!

Once you meet your deductible, your health plan pays its share for eligible expenses. You pay a smaller share of these costs from your own pocket.

Special Medicfill Medicare Supplement (Administered by Blue Cross Blue Shield of Delaware) - This plan supplements Medicare. Unless otherwise indicated on the Benefits Highlights pages in the Open Enrollment booklet, benefits will be paid as noted only after Medicare pays its full amount. **Note:** Delaware Law mandates that the member, spouse and eligible dependents, elect Medicare Parts A & B when eligible.

APPENDIX B
SUBSTANTIVE PLAN PROVISIONS

Medco Prescription Coverage – When you enroll in a health care plan you will automatically be enrolled in the prescription drug plan managed by Medco Health Solutions, Inc. (Medco). The only exception is the Special Medicfill plan without prescription coverage for those pensioners who have chosen to enroll in Medicare Part D for their prescription coverage. The Coordination of Benefits (COB) policy also applies to prescription coverage. If your spouse or dependents have other health coverage that is primary (pays first), the prescription coverage provided through the State's plan for the spouse or dependents will become secondary.

2011 Prescription Copay Rates			
State of Delaware Prescription Coverage	Tier 1 Generic	Tier 2 Preferred	Tier 3 Non-Preferred
30-DAY Supply	$ 8.50	$20.00	$45.00
90-DAY Supply	$17.00	$40.00	$90.00
*No Changes to Copays in 2008			"Preferred" = Formulary

Current Retiree Contributions:

If hired prior to 07/01/1991 or are on disability retirement, no contributions are required. If hired on or after 07/01/1991 (and not retired on disability), contributions depend on years of service, as shown in the table below:

Years of Service	Percent of State Share Paid by State
Less than 10	0%
10-14	50
15-19	75
20 or more	100

House Bill number 81 established a fixed cost share effective July 1, 2012 for the different health insurance plans offered by the State for regular officers or employees of the State and their dependents, and a fixed cost share for pensioners and their dependents who are not eligible for federal Medicare. The State share is listed below:

Medical Plan Type	State Share Percent of Premium Paid by State
Basic	96.00%
Consumer-Directed	95.00
HMO	93.50
Comprehensive PPO	86.75

APPENDIX B
SUBSTANTIVE PLAN PROVISIONS

Future Retiree Contributions:

If hired prior to 07/01/1991 or are on disability retirement, no contributions are required. If hired on or after 07/01/1991 (and not retired on disability) and before January 1, 2007, contributions depend on years of service, as shown in the table below:

Years of Service	Percent of State Share Paid by State
Less than 10	0%
10-14	50
15-19	75
20 or more	100

If hired on or after January 1, 2007 (and not retired on disability), contributions depend on years of service, as shown in the table below:

Years of Service	Percent of State Share Paid by State
Less than 15	0%
15-17.5	50
17.5-19	75
20 or more	100

Pensioners who retire after July 1, 2012 and who become eligible for Medicare will pay in addition to their percentage above, an additional 5% of the Medicare supplement offered by the State.

APPENDIX C
GLOSSARY OF TERMS

1. **Actuarial Assumptions**
   Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, and retirement; changes in compensation; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the actuarial value of assets; and other relevant items.

2. **Actuarial Cost Method**
   A procedure for determining the actuarial present value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a normal cost and an actuarial liability.

3. **Actuarial Gain (Loss)**
   A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

4. **Actuarial Liability**
   The portion of the actuarial present value of projected benefits which will not be paid by future normal costs; it represents the value of the past normal costs with interest to the valuation date.

5. **Actuarial Present Value (Present Value)**
   The value as of a given date of a future amount or series of payments; the actuarial present value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made. As a simple example: assume you owe $100 to a friend one year from now. Also, assume there is a 1% probability of your friend dying over the next year, in which case you won't be obligated to pay him. If the assumed investment return is 10%, the actuarial present value is:

Amount		Probability of Payment		1/ (1+Discount Rate)		
$100	x	(1 - .01)	x	1/(1+.1)	=	$90

6. **Actuarial Valuation**
   The determination, as of a specified date, of the normal cost, actuarial liability, actuarial value of assets, and related actuarial present values for a pension plan.

7. **Actuarial Value of Assets**
   The value of cash, investments and other property belonging to a pension plan as used by the actuary for the purpose of an actuarial valuation. The purpose of an actuarial value of assets is to smooth out fluctuations in market values. This way long-term costs are not distorted by short-term fluctuations in the market.

APPENDIX C
GLOSSARY OF TERMS

8. **Amortization Payment**
   The portion of the pension plan contribution which is designed to pay interest and principal on the unfunded actuarial liability in order to pay for that liability in a given number of years.

9. **Entry Age Normal Actuarial Cost Method**
   A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

10. **Normal Cost**
    That portion of the actuarial present value of pension plan benefits and expenses which is allocated to a valuation year by the actuarial cost method.

11. **Unfunded Actuarial Liability**
    The excess of the actuarial liability over the actuarial value of assets.

12. **Funded Percentage**
    The ratio of the actuarial liabilities to the actuarial value of assets.

13. **Mortality Table**
    A set of percentages which estimate the probability of death at a particular point in time. Typically, the rates are annual and based on age and sex.

14. **Discount Rate**
    The assumed interest rate used for converting projecting dollar related values to a present value as of the valuation date.

15. **Medical Trend**
    The assumed increase in dollar related values in the future due to the increase in the cost of health care.