



**AQUARIUS  
CAPITAL**

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# **CHAPPAQUA CENTRAL SCHOOL DISTRICT**

## **OTHER POSTEMPLOYMENT BENEFITS (OPEB)**

### **REPORTING IN ACCORDANCE WITH GASB 45**

#### **FISCAL YEAR**

**JULY 1, 2011 TO JUNE 30, 2012**

**Prepared by: AQUARIUS CAPITAL SOLUTIONS GROUP LLC**  
**Date: May 1, 2012**



May 1, 2012

Mr. John L. Chow  
Assistant Superintendent for Business  
Chappaqua Central School District  
66 Roaring Brook Road  
Chappaqua, NY 10514

Re: Report - GASB 43 & 45 for Fiscal Year July 1, 2011 to June 30, 2012

Dear Mr. Chow:

Enclosed is an analysis of estimated costs for post employment benefits valuation under Government Accounting Standards Board (GASB) No. 43 & 45 for Chappaqua Central School District. The valuation was done for fiscal year July 1, 2011 to June 30, 2012. The attached report was completed in accordance with generally accepted actuarial principles and practices.

#### Financial Results

Included in the analysis is a Table of Contents. Section I of the report, which is five pages, includes the financial forecast for GASB 45. As an example, the unfunded accrued liability (UAL), which is the accrued liability less assets, is approximately \$94.9 million as of July 1, 2011 and the projected annual other postemployment benefits (OPEB) cost is approximately \$5.4 million. The projected Net OPEB Obligation as of June 30, 2012 is approximately \$10.7 million.

Pages 1-2 of the report illustrate the financial projections for the plan as of year-end June 30, 2012 to assist your auditors with accounting for the respective plan year. Although the auditors may only require pages 1-2, we recommend forwarding the report in its entirety.

Results for this valuation were valued based on census information provided by your organization in April 2012. This is based on a total of 997 employees, reflecting the sum of 623 active employees and 374 retired employees.

The active population reflects approximately 44.3% of the unfunded accrued liability above, with 139 employees or 22.3% of these actives eligible for retirement. Details of census demographic information are illustrated further in the report.

#### Overview of Actuarial Gain

On page 5 of the valuation report, we illustrate an actuarial gain of \$0.8 million (or a 0.8% decrease in the prior valuation roll forward UAL to June 30, 2011), which is part of the calculation of OPEB costs. This reflects the decrease in the UAL as of July 1, 2011 as compared to the UAL roll forward from the prior year's valuation to yearend June 30, 2011. The roll forward calculation for the UAL was provided in the prior valuation report and results are illustrated on page 2 of this report.



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The primary driver for the actuarial gain was due to favorable premium rates increases (i.e., 3% for the upcoming year) combined with modification of assumptions for future healthcare inflation. This actuarial gain was offset by the impact of lowering the discount rate from 6% to 5%. Details of the actuarial gain are illustrated on page 5 of this report.

#### Sensitivity Analysis of Discount & Trend Rates

Section I of the report also includes sensitivity analysis based on varying the discount interest rate and healthcare cost inflation (trend). The discount rate used was 5%, which is a decrease from the 6% valuation rate used in the prior year valuation report. We have not performed a review of the Company's investments. If a different discount rate is preferred, then please contact us. Increasing the discount rate by 1% (a discount rate of 6.0%) would lower UAL by approximately 13.1%. Results were valued as of July 1, 2011. See page 3 of the report for details.

Also included is a sensitivity analysis on healthcare cost inflation (trend). A 1% trend factor increase would increase UAL by approximately 15.5%. This was also valued as of July 1, 2011. Our forecast applied the 1% increase beginning in fiscal years 2013 and later, treating the 2011 plan costs as fixed (known) costs due to fully insured. Cost increases for July 1, 2011 to June 30, 2012 were reported to go up 3% from the prior year. Details of these scenarios are illustrated on page 4 of the attached report.

#### Additional Scenarios

Similar to last year, we additional scenarios for the valuation as requested by the Company. For this valuation, we provided the seventy two (72) scenarios on pages 13-14. All scenarios are identical to the prior year. This includes forty two (42) combinations of discount rate and healthcare cost inflation rate, which are illustrated on page 13 of the report. This was expanded from the prior valuation of thirty (30) scenarios due to the change in assumptions in the valuation. For the new scenarios, we illustrated additional trend rate scenarios of 3% and 4% with the variations in discount rates since the experience premium rate increases for the past three fiscal years were 3% per year.

Also included are thirty (30) combinations of future retiree contribution rates (illustrative percentages) and the ultimate healthcare inflation rates. The prior valuation had twenty five (25) scenarios, but we added additional scenarios to reflect the current healthcare cost inflation rates in the current valuation. It should be noted that the retiree contribution rates are scenarios for illustrative purposes and have not been implemented or negotiated. Retiree contribution rate scenarios assume that current retiree contribution rates will not change and changes to retiree contribution rates would only apply to current actives that would retire in the future. These scenarios are illustrated on page 14 of the report.

The ultimate healthcare inflation rates for all seventy two (72) scenarios on pages 13-14 are applied for years 2017 and later. All other assumptions are based on the valuation assumptions in the report.



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### Assumptions & Definitions

As part of this report, we included supporting documentation such as a summary of assumptions and key definitions (glossary), which are provided in Sections III and IV, respectively. This includes assumptions for health care costs, retiree contribution rates, healthcare inflation, discount rate, decrement tables (e.g., probability of death, turnover, disability and retirement) and other provisions. See pages 5-8 for details of the above information.

### Demographic Information

Section V of the report illustrates additional information pertaining to underlying census information including age and sex analysis for active and retired employees along with summaries of the active population by age and years of service. Census analysis is illustrated separately for actives and retirees. This is highlighted on pages 10-12 of the report.

Some highlights of census demographic information as of the July 1, 2011 valuation date are as follows:

- For retirees, the average age is 73.1 years, which reflects an average age of 62.5 for pre-65 retirees and 78.0 for post-65 retirees.
- For actives, the average age is 46.6 years and average years of service of 10.6.
- Of the active population, 22.3% of the population (139 employees) is eligible to retire.
- 65.0% of retirees and 73.8% of actives are female.

On page 12 of the report, we included a comparison on key statistics for demographics to the prior valuation report, i.e., the July 1, 2010 report.

### Information Reviewed

We based our analysis on reviewing electronic census information (record-by-record review), retiree plan information, historical benefit cost information with cost information known through June 30, 2013, contract summary information, audited financial statements as of June 30, 2011, prior valuation reports (all years) and other summary information of retiree benefits and eligibility.

We also gathered additional information from the Company through emails and other correspondence in order to confirm retiree benefit information, including recently implemented changes from collective bargaining, and assumptions.

### Data Reliance & Limitations

In our review, we have relied on the information provided by the Company. We have not audited or verified the accuracy of the information provided. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete.



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This report and all attachments contained herein are for the internal use of the Company. It may not be provided to other parties without prior consent. If consent is granted, the report must be provided in its entirety. We understand the company intends to distribute this letter and attachments to its auditor and accountants in connection with the reporting of results of this report for the sole use of preparation of audited financial statements. Aquarius consents to this distribution as long as the report is provided in its entirety and the auditor is advised to have an actuary review the work.

This report is provided to the Company for the purpose of calculation results under GASB 45. Information in this report may not be appropriate to use for other purposes. Aquarius does not intend to benefit from the overall results of the report and we assume no duty, liability or obligation to parties that use this work for other reasons other than its intention, i.e., reporting of GASB45 for financial statements.

Actuarial Opinion

I, Michael L. Frank, ASA, FCA, MAAA, am President and Actuary of Aquarius Capital Solutions Group LLC. I am an Associate of the Society of Actuaries, Fellow of Conference of Consulting Actuaries, and Member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The attached report was completed in accordance with generally accepted actuarial principles and practices.

We hope that this report is beneficial. When convenient, please contact me so that we can schedule a call or meeting to review report in more detail. In addition, please extend thanks to you and your team for assistance in the gathering of information to help us complete this analysis. Their assistance was much appreciated. We look forward to working with you in the future.

Sincerely,

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Michael L. Frank, A.S.A., M.A.A.A., F.C.A.  
President & Actuary

Cc: Donald Rusconi – Aquarius Capital

Enclosure



Client: Chappaqua Central School District  
Valuation Estimates under GASB No. 43 & 45 valued as of July 1, 2011

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**CHAPPAQUA CENTRAL SCHOOL DISTRICT**

**GASB NO. 43 & 45**

**VALUATION AS OF JULY 1, 2011**

Prepared by: Aquarius Capital Solutions Group LLC  
May 1, 2012



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**SECTION I: FINANCIAL RESULTS AS OF JULY 1, 2011 VALUATION FOR YEAR END DISCLOSURE**

(First Year of Implementation is Fiscal Year July 1, 2008 to June 30, 2009)

1 Discount Rate	5.00%
<u>Section 1: Development of Service Cost</u>	
2 Service Cost at Beginning of Year as of July 1, 2011	\$ 2,480,185
3 Interest on Service Cost (2) x (1)	\$ 124,009
4 Service Cost with Interest to Year End (2) + (3)	\$ 2,604,194
<u>Section 2: Projected Unfunded Accrued Liability to Year End</u>	
5 Accrued Liability (UAL) as of July 1, 2011	\$ 94,904,664
6 Assets	\$ -
7 Unfunded Accrued Liability (UAL) as of July 1, 2011 (5) - (6)	\$ 94,904,664
8 Service Cost with Interest to Year End (4)	\$ 2,604,194
9 Pay-As-You-Go Benefits - July 1, 2011 to June 30, 2012	\$ 3,718,216
10 Interest on Unfunded Accrued Liability (7) x (1) - (8) x (1) / 2	\$ 4,652,278
11 Projected Unfunded Accrued Liability (UAL) as of June 30, 2012 (7) + (8) - (9) + (10)	\$ 98,442,920
<u>Section 3: Amortization of Initial Unfunded Accrued Liability (Implementation)</u>	
12 Initial Unfunded Accrued Liability at Implementation (July 1, 2008 Valuation Report) (Same as Prior Year Valuation)	\$ 92,868,117
13 Number of Years of Amortization	30
14 Amortization of Initial Unfunded Accrued Liability as of July 1, 2008 - 30 Year Amortization: (12) / (13) (Revised to Reflect More Common Method Using Initial UAL)	\$ 3,095,604
15 Interest on Unfunded Accrued Liability (1) x (14)	\$ 154,780
16 Total Amortization of Initial Unfunded Accrued Liability w/ Interest (14) + (15)	\$ 3,250,384
17 Number of Years of Amortization of Initial Unfunded Accrued Liability, including Current Valuation	4



**SECTION I: FINANCIAL RESULTS AS OF JULY 1, 2010 VALUATION FOR YEAR END DISCLOSURE (CONTINUED)**

<u>Section 4: Adjustments to Annual Required Contribution (ARC)</u>	
18 Unfunded Accrued Liability (UAL) as of July 1, 2011 (7)	\$ 94,904,664
19 Projected Unfunded Accrued Liability as of June 30, 2011 (Prior Year Reporting - Results valued as of July 1, 2010 and rollforwarded to year end)	\$ 95,707,255
20 Calculation of Experience (Gain)/Loss on Unfunded Accrued Liability as of July 1, 2011 (18) - (19)	\$ (802,591)
21 Net OPEB Obligation as of June 30, 2011 (Reported in Prior Year June 30, 2011 Financial Statements, page 41 - Matches July 1, 2010 Valuation)	\$ 9,059,096
22 Total (Gain)/Loss since Prior Valuation	
a. Calculation of Experience (Gain)/Loss on UAL as of July 1, 2011: (20)	\$ (802,591)
b. Amortization Period for (Gain)/Loss	15
c. Amortization for (Gain)/Loss for Current Period: (22a) / (22b)	\$ (53,506)
23 Amortization Period for (Gain)/Loss based on Prior Valuation	\$ (889,602)
24 Adjustment to ARC - Amortization of (Gain)/Loss for All Periods (22c) + (23)	\$ (943,108)
<u>Section 5: Summary of Annual OPEB Cost &amp; Net OPEB Obligation as of June 30, 2012)</u>	
25 Unfunded Accrued Liability (UAL) as of July 1, 2011 (7)	\$ 94,904,664
26 Total Service Cost with Interest - July 1, 2011 to June 30, 2012 (4)	\$ 2,604,194
27 Total Amortization of Initial Unfunded Accrued Liability w/ Interest (16)	\$ 3,250,384
28 Annual Required Contribution (ARC) (26) + (27)	\$ 5,854,578
29 Interest on Net OPEB Obligation as of July 1, 2011 (1) x (21)	\$ 452,955
30 Adjustment to ARC (24)	\$ (943,108)
31 Annual OPEB Cost (28) + (29) + (30)	\$ 5,364,425
32 Contributions Made (Pay-As-You-Go Costs) - Illustrated as Projected (8)	\$ 3,718,216
33 Net OPEB Expense Cost at June 30, 2012 (31) - (32)	\$ 1,646,209
34 Net OPEB Obligation as of June 30, 2011 (21)	\$ 9,059,096
35 Net OPEB Obligation as of June 30, 2012 (33) + (34)	\$ 10,705,305



**SECTION II - SUMMARY OF FINANCIAL INFORMATION INCLUDING SENSITIVITY ANALYSIS**

Summary of Financial Results as of Valuation Date w/ Variations in Discount Rate

Results illustrated as of July 1, 2011

	Val. Discount Rate of <u>5.00%</u>	Sensitivity Analysis Val. Discount Rate of <u>6.00%</u>
	<u>Total</u>	<u>Total</u>
1 Total Employee Lives		
a. Actives	623	623
b. Retirees	374	374
c. Subtotal	997	997
2 Present Value of Future Benefits (PVFB)		
a. Actives	\$ 61,346,090	\$ 48,085,357
b. Retirees	\$ 52,836,226	\$ 48,395,915
c. Subtotal	\$ 114,182,316	\$ 96,481,272
d. % Actives	53.7%	49.8%
e. Ratio to Valuation Results for PVFB		84.5%
3 Accrued Liability (AL)		
a. Actives	\$ 42,068,438	\$ 34,043,416
b. Retirees	\$ 52,836,226	\$ 48,395,915
c. Subtotal	\$ 94,904,664	\$ 82,439,332
d. % Actives	44.3%	41.3%
e. Ratio to Valuation Results for AL		86.9%
4 Assets	\$ -	\$ -
5 Unfunded Accrued Liability (UAL) (3c) - (4)	\$ 94,904,664	\$ 82,439,332
6 Service Cost with Interest		
a. Service Cost at Year End:	\$ 2,604,194	\$ 2,016,104
b. Ratio to Valuation Results		77.4%
7 Pay-As-You-Go Benefits	\$ 3,718,216	\$ 3,718,216
8 Ratio of AL to Pay-As-You-Go: (3c) / (7)	25.52	22.17
9 Ratio of Service Cost to Pay-As-You-Go: (6a) / (7)	0.70	0.54
10 Average Annual Pay-As-You-Go Benefit per Retiree (7) / (1b)	\$ 9,942	\$ 9,942
11 Three Year Projection of Pay-As-You-Go Costs		
a. Year 1: July 1, 2011 to June 30, 2012	\$ 3,718,216	\$ 3,718,216
b. Year 1: July 1, 2012 to June 30, 2013	\$ 3,752,714	\$ 3,752,714
c. Year 1: July 1, 2013 to June 30, 2014	\$ 3,992,757	\$ 3,992,757

Note: All costs are net of retiree contributions.



**SECTION II - SUMMARY OF FINANCIAL INFORMATION INCLUDING SENSITIVITY ANALYSIS (CONTINUED)**

Summary of Financial Results as of Valuation Date w/ Variations in Assumed Trend

Results illustrated as of July 1, 2011

	Valuation based on the above <u>Trend Rates</u>	Healthcare Cost Trend Rate Assumptions <u>Increased 1%</u>
	<u>Total</u>	<u>Total</u>
1 Total Employee Lives		
a. Actives	623	623
b. Retirees	374	374
c. Subtotal	997	997
2 Present Value of Future Benefits (PVFB)		
a. Actives	\$ 61,346,090	\$ 78,665,642
b. Retirees	\$ 52,836,226	\$ 57,484,402
c. Subtotal	\$ 114,182,316	\$ 136,150,045
d. % Actives	53.7%	57.8%
e. Ratio to Valuation Results for PVFB		119.2%
3 Accrued Liability (AL)		
a. Actives	\$ 42,068,438	\$ 52,097,008
b. Retirees	\$ 52,836,226	\$ 57,484,402
c. Subtotal	\$ 94,904,664	\$ 109,581,411
d. % Actives	44.3%	47.5%
e. Ratio to Valuation Results for AL		115.5%
4 Assets	\$ -	\$ -
5 Unfunded Accrued Liability (UAL) (3c) - (4)	\$ 94,904,664	\$ 109,581,411
6 Service Cost with Interest		
a. Service Cost at Year End	\$ 2,604,194	\$ 3,404,078
b. Ratio to Valuation Results		130.7%
7 Pay-As-You-Go Benefits	\$ 3,718,216	\$ 3,718,216
8 Ratio of Pay-As-You-Go Benefits to Valuation Assumptions (Line 7 Ratio)		100.0%
9 Ratio of AL to Pay-As-You-Go: (1c) / (7)	25.52	29.47
10 Ratio of Service Cost to Pay-As-You-Go: (6a) / (7)	0.70	0.92
11 Average Annual Pay-As-You-Go Benefit per Retiree (7) / (1b)	\$ 9,942	\$ 9,942
12 Three Year Projection of Pay-As-You-Go Costs		
a. Year 1: July 1, 2011 to June 30, 2012	\$ 3,718,216	\$ 3,718,216
b. Year 1: July 1, 2012 to June 30, 2013	\$ 3,752,714	\$ 3,752,714
c. Year 1: July 1, 2013 to June 30, 2014	\$ 3,992,757	\$ 4,029,727

Notes:

- A. All costs are net of employee contributions.
- B. Healthcare cost inflation sensitivity analysis applied to Year 3 and later, since Year 2 costs (base rates) are already known.



**SECTION II - SUMMARY OF FINANCIAL INFORMATION INCLUDING GAIN/LOSS ANALYSIS**

Summary of Experienced (Gain)/Loss as of July 1, 2011

1 Calculation of Experience (Gain)/Loss on Unfunded Accrued Liability as of July 1, 2011 (See Page 2, Line 20 of Report)	\$	(802,591)
2 Prior Valuation Unfunded Accrued Liability as of June 30, 2011 (See Page 2, Line 19 of Report)	\$	95,707,255
3 Ratio of (Gain)/Loss to Prior Valuation Unfunded Accrued Liability (1) / (2)		-0.8%
4 Distribution of Experience (Gain)/Loss as of July 1, 2011		
a. Impact due to change in discount rate (6% to 5%)	\$	12,465,333
b. Impact due to change in long term (ultimate) healthcare trend rate assumptions from prior valuation	\$	(14,676,746)
c. Impact due to changes in employee demographics and other assumptions	\$	<u>1,408,822</u>
d. Subtotal: (4a) + (4b) + (4c)	\$	(802,591)



**SECTION III - SUMMARY OF ASSUMPTIONS**

Valuation Date	July 1, 2011
Initial Implementation Year	July 1, 2008 to June 30, 2009
Discount Rate	5.0%
Retirement Assumptions	Valuation of active and retired population
Purpose of Work	This report is provided to the Company for the purpose of calculation results under GASB 45. Information in this report may not be appropriate to use for other purposes. Aquarius does not intend to benefit from the overall results of the report and we assume no duty, liability or obligation to parties that use this work for other reasons other than its intention, i.e., reporting of GASB45 for financial statements.
Covered Benefits	Coverage for medical only including prescription drug coverage as part of medical plan. Certain retirees are eligible for life insurance and receive on a non-contributory basis.
Retirement Benefits	Coverage for pre-65 and post-65 coverage.
Plan Design Changes	Assuming no changes in future plan designs (e.g., deductibles, coinsurance, etc.) from current benefits offered for the current plan year.
Impact of Healthcare Reform	Results for this valuation is based on the current health care environment and does not reflect any future changes due to healthcare reform or assessments in future years (e.g., cadillac tax).
Insurance Coverage Funding Basis	Medical insurance and life insurance coverage are funded on a fully insured basis.
Assets	Not valued since benefit is unfunded. Assets are zero.
Actuarial Cost Method	Projected Unit Credit.
Health Care Cost Trend Assumption	The following assumptions are used for annual healthcare cost inflation (trend):

	<u>Year</u>	<u>Pre-65</u>	<u>Post 65</u>
Initial Trend	7/1/2013	8.0%	8.0%
Ultimate Trend	7/1/2017 & Later	4.0%	4.0%
Grading Per Year		1.0%	1.0%

Starting Claim Cost Base plan costs for the past three plan years (July 1 to June 30) are illustrated below on a monthly basis by coverage tier. Rates are as follows:

<u>Aetna Plan</u>	<u>7/09 to 6/10</u>	<u>7/10 to 6/11</u>	<u>7/11 to 6/12</u>
	<u>Monthly Costs</u>	<u>Monthly Costs</u>	<u>Monthly Costs</u>
Single (Pre-65)	\$ 568.00	\$ 585.00	\$ 603.00
Family (Pre-65)	\$ 1,420.00	\$ 1,463.00	\$ 1,507.00
Single (Post-65)	\$ 511.00	\$ 527.00	\$ 543.00
Family (Post-65)	\$ 1,136.00	\$ 1,170.00	\$ 1,206.00

The assumed rate increase for 2012 plan year (July 1, 2012 to June 30, 2013) is assumed to be 3% per Consortium for valuation purposes.

The above costs are based on 100% before retiree contributions. These costs assume administrative expenses. Aetna premium rates are fully insured as determined by the Putnam Northern Westchester Health Benefits Consortium. Company offers an alternative health plan with HealthNet prior to July 1, 2010. Afterward, coverage will be provided by a different health insurance company (Emblem). Costs for the new plan are assumed to be higher for conservatism so company portion will be based on Consortium plan. Currently the alternative plan is Emblem and rates are higher than Consortium.

The above monthly cost amounts are trended forward based on the percentages which are listed under "Health Care Cost Trend Assumptions" above.

Projected Benefit Costs All costs are not adjusted for aging since underlying premium rates are community rated. This is consistent with Actuarial Standards of Practice No. 6.



**SECTION III - SUMMARY OF ASSUMPTIONS (CONTINUED)**

Retiree Contribution Rates

For employees retiring prior to June 30, 2013, retiree contribution percentages are as follows:

Contract Year	Teachers (CCT)	Clerical (COSA)	Custodians (CSEA)	Administration
2007 to 2008	5.00%	5.00%	6.00%	8.00%
7/2008 to 12/2008	6.50%	6.50%	7.00%	10.00%
1/2009 to 6/2009	6.50%	6.50%	8.00%	10.00%
2009 to 2010	7.75%	7.75%	8.00%	10.00%
2010 to 2011	9.00%	9.00%	8.00%	11.00%
2011 to 2012	10.00%	9.00%	10.50%	13.00%
2012 to 2013	11.00%	9.00%	10.50%	15.00%

Retirees contribution rates vary based on class of employees. Contribution rates are based on a percentage of premium. For the Aetna plan, contribution rate percentages are as follows for future retirees (single or family) after June 30, 2013.

Division	Future Retiree Contribution %
Teachers (CCT)	11.0%
Clerical (COSA)	9.0%
Administration	15.0%
Custodians (CSEA)	10.5%

For Clerical, assume 9% based on the prior expiring contract. For custodial, assume 10.5% based on the prior expiring contract. For Custodial, rates for the period May 1, 2011 to June 30, 2011 are 9%.

Retiree contribution rates for alternative plan are established at the Aetna premium plan rates plus the incremental cost amount in order for the company to have a net cost structure similar to the current Aetna plan. Since alternative plan premium rates are assumed than Aetna, then the net cost to the company is the same under both the Aetna and the alternative plans.

Medicare Part B Premium Reimbursement

The valuation reflects the reimbursement of Medicare Part B premium rates to retirees & spouses over age 65 that are eligible for the benefit. Employees would pay this premium and then be reimbursed by company.

Future Contributions for Medical

Assume no future contribution changes or benefit cost cap changes other than increases due to inflation as projected in the valuation. See Healthcare Cost Trend Assumptions above for factors.

Dependent Coverage Assumption

Employees electing single coverage as actives are assumed to continue with single coverage at retirement. Employees electing family coverage as actives are assumed to continue to coverage dependents 85% of the time as retirees consistent with historical enrollment patterns.

Retirement Eligibility Assumptions

Eligibility for early retirement is based on meeting a criteria of minimum age and/or years of service (YOS) requirements. For this valuation, we assumed minimum retirement age of 55 with 5 YOS, which is based on the current contracts as provided by the client.

Retirement System (ERS and TRS)

TRS and ERS assigned to employees based on provided census information.

Mortality

RP 2000 Table Male and Female Tables were used for mortality assumptions.

Turnover Assumptions

This reflects rate of separation from the active plan and excludes retirement and disability. Turnover table various by age, gender and years of service with rates of turnover based on the New York State Teachers Retirement System (TRS) and Employees' Retirement System (ERS).

Disability Assumptions

This reflects disability assumptions from the active plan and is based on age and gender. This is the assumption used for the New York State Teachers Retirement System (TRS), and Employees' Retirement System (ERS).

Retirement Assumptions

This reflects rate of retirement from the active plan and is based on age and gender. This is the assumption used for the New York State Teachers Retirement System (ERS), and Employees' Retirement System (ERS).



**SECTION III - SUMMARY OF ASSUMPTIONS (CONTINUED)**

Census Information	Participant data provided by client dated April 2012. We relied on information provided by client as being accurate and we have not conducted any data audits. Separate census files were provided for active and retirees. We compared information to the prior census information for various analysis and comparisons. All data supplied was provided by company.
Valuation of Spouses & Marital Status	Spouses are valued for benefits similar to retired employees for medical coverage. Members that are spouses are assumed to be married to those spouses at retirement. Members that are without spouses (or not covering spouses) are assumed to be single at and throughout retirement.
Surviving Spouses & Surviving Dependents	Surviving dependents do not receive subsidized benefits (e.g., health insurance).
Spouse Age Assumptions	For missing date of births, we are assuming that female spouses are three years younger than male employees and male spouses are three years old than female employees. This is applied for spouses without dates of birth. This was assumed since spouse dates of birth were not available for all actives and retirees with family coverage.
New Hires	This valuation is based on a closed group and does not reflect the impact of future new entrants (e.g., new hires after date of data collection, i.e., April 2012) into the plan.
Employees on Leave	Twelve (12) employees are currently on leave. All employees were valued assuming 50% of these employees would return to work.
Missing Census Information	
o Dates of Birth	No employees were missing date of birth, so no special adjustments were needed.
o Dates of Hire	No employees were missing date of hire, so no special adjustments were needed.
o Gender	No employees were missing gender, so no special adjustments were needed.
Medicare Tax Subsidy	The Medicare tax subsidy is reflected in valuation. Subsidy is offset in premium rates charged to employer and post-65 costs are illustrated net of subsidy.
Buy Backs (Opt Outs/Waivers)	A portion of individuals that elected buy back option (i.e., opt outs) as actives are assumed to enroll in coverage at retirement. Individuals must be covered as actives prior to retirement in order to be eligible for benefits at retirement. We are assuming 1/4 of individuals will re-enroll at open enrollment in the year prior to retirement in order to obtain retiree benefits. Individuals are assumed to be single since no spouse information was available.
Amortization of Initial UAL	Initial unfunded accrued liability (UAL) was amortized over thirty (30) years on a fixed dollar basis for a closed period.
Life Insurance	Certain retired administrators are eligible for life insurance coverage at retirement. Coverage is provided on a non-contributory basis with rates varying by specific individuals, which are reflected in the valuation.
Special Adjustments	No other special adjustments were provided since client data was complete for purposes of completing the valuation. All active and retired employees provided were valued.
Rounding of Results	Results are illustrated to the nearest dollar. In using unrounded results (exact dollars), no implication is made as to the degree of precision in those results. Clients and their auditors should apply their own judgment as to the desirability of rounding when transferring results from this valuation report to the client's financial statements.
Initial Year of Recognition of GASB 43 & 45	We have not reviewed the audited financials of client so are not providing an opinion on when client should recognize and comply with GASB 43 & 45. We will rely on the opinion of the client and its auditor for this determination.
Other Comments	Actuarial methods, considerations, and analyses used in forming this certification conform to the appropriate Standards of Practice and guidelines of the Actuarial Standards Board (ASB).



**SECTION IV - DEFINITIONS & GLOSSARY**

Actuarial Present Value of Future Benefits (PVFB)	Present value of all benefits expected to be paid by the employer, net of expected retiree contributions, based on actuarial assumptions used in the valuation. Assumptions are illustrated in Section II of this report.
Accrued Liability (AL)	This is the past service liability or present value of all benefits earned to date. Since retiree medical benefits are not accrued based on a specific formula like a pension plan, the accounting standard (GASB 45) requires the benefits to be earned ratably from date of hire to date of full eligibility for benefits. For retirees and actives that are immediately eligible to retire and receive full benefits, the AL equals the PVFB. For actives not yet eligible to retire, it equals a pro-rata portion of the PVFB based on past services to total service for that employee.
Unfunded Accrued Liability (UAL)	This is the excess of the AL over assets.
Annual Required Contribution (ARC)	The employer's periodic required contribution to a defined benefit OPEB plan. The portion, as determined by a particular Actuarial Method, of the Actuarial Present Value of the benefits and expenses, which is provided for by future Normal Costs.
Normal Cost	The proportion of the PVFB of a plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method used in the valuation. This is the cost of OPEB attributed to the current year of service.
Amortization Payment	The portion of the pension plan contribution (ARC) which is designated to pay interest on and to amortize the Actuarial Unfunded Accrued Liability (UAL)
Adjustment to ARC	For this valuation, the adjustment to the ARC reflected the gain/loss from the prior valuation. Cumulative gain/losses are amortized over fifteen years on a fixed dollar basis.
Closed Group Valuation	This means that it does not consider the Actuarial PVFB associated with future entrants.
Pay-As-You-Go	This is a method of financing a postretirement benefit plan under which the contributions to the plan are generally made at about the same time and amount as benefits and expenses become due.
Decrement Rates	This is mortality, turnover, disability and retirement rate assumptions. This is used to determine likelihood of employee qualifying for OPEB and when benefits will commence. Mortality is also used to determine probability of individuals to live and continue to receive benefits.
Discount Rate	Assumption used for converting present value of future benefits less future contributions into today's dollar amounts.
Service Cost	Accounting terminology, which is the same as the Normal Cost.
Projected Unit Credit	This is an actuarial cost method whereby the costs of benefits earned is funded each year and the value of the accrued liability reflects the benefits earned to date.
Plan Members	The individuals covered by the terms of an OPEB 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.
Other Post Employment Benefits (OPEB)	Medical, dental, vision, life and other health benefits provided to terminated or retired employees including their dependents and beneficiaries.
Substantive Plan	The terms of the OPEB plan as understood by the employer and its plan members.
Recognition Year for GASB No. 43 & 45	2007-08 Fiscal Year: This impacts public agencies with total annual revenue of \$100 million or more must comply in the fiscal year after December 15, 2006.  2008-09 Fiscal Year: This impacts public agencies with total annual revenue between \$10 million and \$100 million must comply in the fiscal year after December 15, 2007.  2009-10 Fiscal Year: This impacts public agencies with total annual revenue less than \$10 million must comply in the fiscal year after December 15, 2008.



**SECTION V - SUMMARY OF CENSUS INFORMATION**

Summary of Enrollment by Gender for Retirees, calculated as of July 1, 2011

<u>Age</u>	<u>Female</u>	<u>Male</u>	<u>Subtotal</u>	<u>% Female</u>	<u>% Male</u>
55	-	1	1	0.0%	100.0%
56	2	1	3	66.7%	33.3%
57	2	1	3	66.7%	33.3%
58	3	1	4	75.0%	25.0%
59	4	2	6	66.7%	33.3%
60	4	4	8	50.0%	50.0%
61	8	4	12	66.7%	33.3%
62	8	6	14	57.1%	42.9%
63	15	5	20	75.0%	25.0%
64	13	-	13	100.0%	0.0%
65	13	9	22	59.1%	40.9%
66	8	4	12	66.7%	33.3%
67	9	3	12	75.0%	25.0%
68	6	6	12	50.0%	50.0%
69	12	3	15	80.0%	20.0%
70	8	7	15	53.3%	46.7%
71	8	6	14	57.1%	42.9%
72	9	6	15	60.0%	40.0%
73	7	1	8	87.5%	12.5%
74	4	4	8	50.0%	50.0%
75	7	3	10	70.0%	30.0%
76	5	2	7	71.4%	28.6%
77	4	2	6	66.7%	33.3%
78	7	4	11	63.6%	36.4%
79	9	6	15	60.0%	40.0%
80	8	5	13	61.5%	38.5%
81	4	3	7	57.1%	42.9%
82	12	4	16	75.0%	25.0%
83	4	2	6	66.7%	33.3%
84	5	7	12	41.7%	58.3%
85	6	4	10	60.0%	40.0%
86	5	2	7	71.4%	28.6%
87	3	2	5	60.0%	40.0%
88	2	3	5	40.0%	60.0%
89	2	1	3	66.7%	33.3%
90	4	3	7	57.1%	42.9%
91	3	2	5	60.0%	40.0%
92	4	1	5	80.0%	20.0%
93	2	-	2	100.0%	0.0%
94	1	1	2	50.0%	50.0%
95	1	-	1	100.0%	0.0%
96	2	-	2	100.0%	0.0%
Total	243	131	374	65.0%	35.0%
Pre 65	80	38	118	67.8%	32.2%
Post 65	163	93	256	63.7%	36.3%
Subtotal	243	131	374	65.0%	35.0%
Average Age - Total	72.9	73.4	73.1		
Average Age - Pre 65	62.6	62.2	62.5		
Average Age - Post 65	78.0	78.0	78.0		



**SECTION V - SUMMARY OF CENSUS INFORMATION (CONTINUED)**

Summary of Census for Actives by Age and Years of Service, calculated as of July 1, 2011

<u>Age Band</u>	<u>Years of Service</u>								<u>Subtotal</u>	<u>% Subtotal</u>
	<u>0 to 4</u>	<u>5 to 9</u>	<u>10 to 14</u>	<u>15 to 19</u>	<u>20 to 24</u>	<u>25 to 29</u>	<u>30 to 34</u>	<u>35 +</u>		
Under 25	4	-	-	-	-	-	-	-	4	0.6%
25 to 29	26	6	-	-	-	-	-	-	32	5.1%
30 to 34	26	34	4	-	-	-	1	-	65	10.4%
35 to 39	11	33	24	1	-	-	-	-	69	11.1%
40 to 44	21	33	21	10	2	-	-	-	87	14.0%
45 to 49	14	27	28	13	7	-	1	-	90	14.4%
50 to 54	15	33	27	8	16	3	2	-	104	16.7%
55 to 59	12	24	24	18	12	7	9	1	107	17.2%
60 to 64	4	14	10	7	4	5	4	-	48	7.7%
Age 65 +	-	2	1	4	2	4	2	2	17	2.7%
Subtotal	133	206	139	61	43	19	19	3	623	100.0%
% Subtotal	21.3%	33.1%	22.3%	9.8%	6.9%	3.0%	3.0%	0.5%	100.0%	

Actives

Average Age: 46.6  
 Average Years of Service: 10.6

% by Gender

Female	460	73.8%
Male	163	26.2%
Total	623	100.0%

Actives by Service Category

Actives Not Yet Eligible for Benefits	467	75.0%
Actives Eligible for Benefits	156	25.0%
Total	623	100.0%



SECTION V - SUMMARY OF CENSUS INFORMATION (CONTINUED)

Comparison of Census Information with Prior Valuation

	<u>July 1, 2011</u>	<u>July 1, 2010</u>	<u>Difference</u>	<u>% Difference</u>
<u>Summary of Counts</u>				
Actives	623	631	(8)	-1.3%
Retirees	<u>374</u>	<u>368</u>	<u>6</u>	<u>1.6%</u>
Total	997	999	(2)	-0.2%
Retiree Counts - % Pre-65	31.6%	26.1%	5.5%	21.1%
<u>Average Age</u>				
Actives	46.6	46.4	0.2	0.4%
Retirees				
o Pre-65	62.5	61.1	1.4	2.3%
o Post-65	78.0	76.8	1.2	1.6%
o Total	73.1	72.7	0.4	0.6%
<u>Average Years of Service</u>				
Actives - Average Years of Service	10.6	10.4	0.2	1.9%
Actives Eligible for Benefits	156	146	10	6.8%
% Actives Eligible for Benefits	25.0%	23.1%	1.9%	8.2%
<u>Gender</u>				
% Female - Actives	73.8%	73.5%	0.3%	0.4%
% Female - Retirees	65.0%	64.7%	0.3%	0.5%



**SECTION VI: FORTY TWO (42) SCENARIOS FOR DISCOUNT RATES AND HEALTHCARE COST TREND RATES**

VALUATION RESULTS FOR UAL AS OF JULY 1, 2011:

Ultimate Healthcare Cost Trend Scenarios	<u>Discount Rate Scenarios</u>					
	<u>2%</u>	<u>3%</u>	<u>4%</u>	<u>5%</u>	<u>6%</u>	<u>7%</u>
3%	\$ 137,126,242	\$ 115,615,688	\$ 98,916,149	\$ 85,756,918	\$ 75,242,245	\$ 66,731,143
4%	\$ 157,433,450	\$ 130,967,089	\$ 110,687,977	\$ 94,904,664	\$ 82,439,332	\$ 72,459,012
5%	\$ 182,993,875	\$ 150,056,116	\$ 125,159,272	\$ 106,029,888	\$ 91,104,484	\$ 79,290,557
6%	\$ 215,495,892	\$ 174,024,888	\$ 143,114,541	\$ 119,679,390	\$ 101,624,167	\$ 87,502,564
7%	\$ 257,256,836	\$ 204,422,825	\$ 165,606,124	\$ 136,578,703	\$ 114,505,815	\$ 97,454,815
8%	\$ 311,484,196	\$ 243,369,473	\$ 194,057,222	\$ 157,698,248	\$ 130,420,928	\$ 109,618,541
9%	\$ 382,654,628	\$ 293,788,332	\$ 230,408,378	\$ 184,346,459	\$ 150,265,117	\$ 124,615,691

RATIO OF UAL TO CURRENT VALUATION:

Ultimate Healthcare Cost Trend Scenarios	<u>Discount Rate Scenarios</u>					
	<u>2%</u>	<u>3%</u>	<u>4%</u>	<u>5%</u>	<u>6%</u>	<u>7%</u>
3%	144.5%	121.8%	104.2%	90.4%	79.3%	70.3%
4%	165.9%	138.0%	116.6%	100.0%	86.9%	76.3%
5%	192.8%	158.1%	131.9%	111.7%	96.0%	83.5%
6%	227.1%	183.4%	150.8%	126.1%	107.1%	92.2%
7%	271.1%	215.4%	174.5%	143.9%	120.7%	102.7%
8%	328.2%	256.4%	204.5%	166.2%	137.4%	115.5%
9%	403.2%	309.6%	242.8%	194.2%	158.3%	131.3%

Notes:

1. New scenarios for healthcare cost inflation of 3% and 4% per year added, since premium rates increased 3% per year over the past three years.
2. Trend rate scenarios are for ultimate trend assumptions in Year 2017 and later. Trend rates for Years 2012 to 2016 as per valuation report.



SECTION VII: THIRTY (30) ADDITIONAL SCENARIOS BASED ON TREND AND RETIREE CONTRIBUTIONS - UAL SUMMARY

Future Retirees Contribution Rates	<u>Ultimate Healthcare Cost Trend Scenarios</u>					
	<u>4%</u>	<u>5%</u>	<u>9%</u>	<u>11%</u>	<u>13%</u>	<u>15%</u>
7.5%	\$ 96,182,313	\$ 107,553,426	\$ 187,727,232	\$ 267,339,316	\$ 402,178,765	\$ 639,945,385
10.0%	\$ 95,218,278	\$ 106,405,745	\$ 185,198,714	\$ 263,361,587	\$ 395,665,208	\$ 628,840,157
20.0%	\$ 91,362,141	\$ 101,815,021	\$ 175,084,642	\$ 247,450,673	\$ 369,610,982	\$ 584,419,248
30.0%	\$ 87,506,004	\$ 97,224,297	\$ 164,970,570	\$ 231,539,758	\$ 343,556,756	\$ 539,998,338
40.0%	\$ 83,649,867	\$ 92,633,573	\$ 154,856,498	\$ 215,628,844	\$ 317,502,529	\$ 495,577,429

INCREASE/(DECREASE) IN UAL TO CURRENT VALUATION BASED ON SCENARIO:

Current Valuation @ 7/1/11 & 5% Discount Rate: \$ 94,904,664

Future Retirees Contribution Rates	<u>Ultimate Healthcare Cost Trend Scenarios</u>					
	<u>4%</u>	<u>5%</u>	<u>9%</u>	<u>11%</u>	<u>13%</u>	<u>15%</u>
7.5%	\$ 1,277,649	\$ 12,648,762	\$ 92,822,568	\$ 172,434,652	\$ 307,274,101	\$ 545,040,721
10.0%	\$ 313,614	\$ 11,501,081	\$ 90,294,050	\$ 168,456,923	\$ 300,760,544	\$ 533,935,493
20.0%	\$ (3,542,523)	\$ 6,910,357	\$ 80,179,978	\$ 152,546,009	\$ 274,706,318	\$ 489,514,584
30.0%	\$ (7,398,660)	\$ 2,319,633	\$ 70,065,906	\$ 136,635,094	\$ 248,652,092	\$ 445,093,674
40.0%	\$ (11,254,797)	\$ (2,271,091)	\$ 59,951,834	\$ 120,724,180	\$ 222,597,865	\$ 400,672,765

SECTION III: RATIO OF UAL TO CURRENT VALUATION UAL:

Future Retirees Contribution Rates	<u>Ultimate Healthcare Cost Trend Scenarios</u>					
	<u>4%</u>	<u>5%</u>	<u>9%</u>	<u>11%</u>	<u>13%</u>	<u>15%</u>
7.5%	101.3%	113.3%	197.8%	281.7%	423.8%	674.3%
10.0%	100.3%	112.1%	195.1%	277.5%	416.9%	662.6%
20.0%	96.3%	107.3%	184.5%	260.7%	389.5%	615.8%
30.0%	92.2%	102.4%	173.8%	244.0%	362.0%	569.0%
40.0%	88.1%	97.6%	163.2%	227.2%	334.5%	522.2%

Notes:

1. New scenarios for healthcare cost inflation of 4% per year added consistent with the current valuation assumptions.
2. Trend rate scenarios are for ultimate trend assumptions in Year 2017 and later. Trend rates for Years 2012 to 2016 as per valuation report.
3. Current valuation results are based on a 5% discount rate. The prior valuation report reflected a 6% discount rate for these scenarios.