SUNY

THE STATE UNIVERSITY of NEW YORK

Development of Recommended Actuarial Assumptions for New York State/SUNY GASB 45 Valuation – *Participating Agency Version*

March 30, 2011

buckconsultants

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SECTION 1 – EXECUTIVE SUMMARY

Buck Consultants developed actuarial assumptions for use by New York State and SUNY in valuing their obligation for Postemployment Benefits other than Pension Plans (OPEB) under Governmental Accounting Standard (GASB) Statement 45 as of April 1, 2010. The basis for the development of these assumptions is outlined in our July 30, 2010 report to DCS, ***New York State/SUNY Development of Recommended Actuarial Assumptions for 4/1/2010 GASB 45 Actuarial Valuation (Revised)***, supplemented by further correspondence regarding the New York State Early Retirement Incentive Program. Employers who are Participating Agencies (PAs) of the New York State Health Insurance Program (NYSHIP) may need to value their OPEB obligation under GASB 45. In order to assist PAs with their valuation and at the request of the New York State Department of Civil Service (DCS), Buck Consultants has prepared this separate report, which presents edited excerpts of our reports that we believe may be relevant to the PAs. This report and the assumptions contained herein were developed by Robin Simon and Frank Svara, with input and review by Harvey Sobel of Buck Consultants, LLC, at the request of DCS. Both Ms. Simon and Mr. Sobel are Fellows of the Society of Actuaries and Mr. Svara is an Associate of the Society of Actuaries. All three are Members of the American Academy of Actuaries and have met the Qualification Standards of the American Academy of Actuaries to render any actuarial opinion contained herein.

Section 2 presents assumptions that we and/or DCS believe may be relevant to the PAs along with some of the basic rationale for many of the selections. The rest of the report provides more detail and support for development of certain major assumptions.

This report is being provided to PAs solely as guidance. Because Buck prepared assumptions strictly for use by the State and SUNY in valuing its OPEB obligation, the assumptions discussed herein may or may not be appropriate for an individual PA. Each agency should assess its own demographics and

healthcare environment in order to develop the actuarial assumptions most appropriate to its own population, in consultation with its own actuarial and financial advisors. Furthermore, because some agencies provide their retirees or other former employees with other post employment benefits not through NYSHIP, such as medical benefits through HMOs or other benefits such as dental and life insurance, each PA will need to determine its own actuarial assumptions appropriate for valuing these benefits.

SECTION 2 – ACTUARIAL ASSUMPTIONS

Actuarial Assumptions are assumptions as to the occurrence of future events affecting OPEB costs. We performed the April 1, 2010 GASB 45 actuarial valuation for New York State and SUNY based on the following Actuarial Assumptions:

MEASUREMENT DATE: The valuation is performed as of April 1, 2010. Results are rolled forward as necessary to establish the ARCs for the various Fiscal Years.

DISCOUNT RATE: 3.830% per annum as of April 1, 2010 – the average Short Term Investment Pool rate for the past 15 years, as developed by the Office of State Comptroller. Since the plan is not pre-funded, the Discount Rate assumption is based on the yield of unrestricted employer assets. This rate is lower than the 4.243% per annum rate assumed for the April 1, 2008 valuation.

PER-CAPITA PLAN COSTS: GASB 45 indicates that per capita plan costs should be based upon claim costs or age adjusted premiums. State enrollees comprise over 50% of the overall Empire Plan enrollment. Changes in the demographics of State employees and retirees more immediately affect overall Empire Plan costs. Therefore we believe it is more appropriate to establish per capita plan costs for the State's valuation of its liability based on the underlying Empire Plan claim costs of the retiree groups being valued.

We developed the following per capita plan costs for retirees and spouses in the Empire Plan, based on 2009 incurred claim experience (not including PAs) projected to Fiscal Year 2011 and demographically adjusted to age 65:

Coverage	Non-Medicare Eligible	Medicare Eligible
Medical	$10,349	$1,305
Drug	2,385	2,385
Total	$12,734	$3,690

Certain individuals covered by the State are enrolled in Medicare Part D Prescription Drug Plans (generally low income individuals who qualify for various additional federal benefits). NYSHIP does not provide drug benefits for these individuals. For valuation purposes, we assumed those individuals not currently receiving NYSHIP-provided drug benefits would continue in that status, but that all future retirees would qualify for NYSHIP-provided drug coverage.

Exception for PAs: *GASB 45 provides that costs for retirees should be segregated from costs for actives in developing per capita costs for valuation purposes. However, the Standard provides an exception allowing community-rated plans to use unadjusted net premium rates charged for both active employees and retirees. While the Empire Plan is experience rated at the policyholder level, it is community rated at the PA level; each agency pays a contribution to the Empire Plan based on the overall experience of the Plan, irrespective of an individual PA's claim experience.*

PAs pay the same premium rates for active employees as for non-Medicare eligible retirees, but pay different rates for Medicare eligible retirees. We believe the difference in rates between Medicare and non-Medicare retirees should not, in and of itself, cause the Empire Plan to lose its status as community rated, since the Plan is, in all other respects, community rated. It would, therefore, generally be permissible for PAs to use unadjusted premium rates to establish per capita plan costs. However, each individual PA should determine appropriate assumptions for its own valuation purposes.

Exhibit 2-1 shows the calendar 2010 and 2011 Empire Plan premium rates. The 2011 rates shown were not available when assumptions were set for the April 1, 2010 valuation. In addition, the 2010 rates are equivalent to the 2-tier rates used in the valuation.

Note for PAs: *The 2011 Empire Plan premium rates reflect the impact of Health Care Reform legislation, and would generally be a more appropriate basis for per capita claims cost assumptions going forward.*

MEDICARE PART B PREMIUM: NYSHIP requires that Participating Agencies reimburse for the Medicare Part B premium of Medicare eligible retirees, which, for FY2011, we project to be $1,247 per Medicare eligible individual.

The $1,247 amount is based on the Part B premium rate for 2010 as released in October 2009,[1] and has been adjusted for NYSHIP Medicare enrollees who receive income related premiums.

The Standard Part B premium for 2010 was $110.50. CMS noted that it anticipated that 73% of Part B participants were expected to have been paying a Part B premium of $96.40 for 2010. The lower amount was applicable to individuals who paid their standard Part B premium out of their Social Security checks in 2009. Normally, the increase in Part B premium is paid out of the increase in Social Security due to the automatic cost of living increase applicable each year. However, since there was no cost of living increase for 2010, the bulk of Medicare participants were protected from an increase in their Part B premium. Since only a minority of individuals were actually paying the increased premium, the standard 2010 premium was higher than it otherwise would have needed to be (to allow the overall amount collected to represent the appropriate share of anticipated Part B costs). We used a blend of the $110.50 and $96.40 as our base premium, to better reflect long term anticipated Part B premium reimbursement costs.[2]

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[1] A fact sheet "CMS Announces Medicare Premiums, Deductibles For 2010" may be found at http://www.cms.gov/apps/media/press/factsheet.asp?Counter=3534.

[2] Since these assumptions were initially set, the CMS has announced the 2011 Part B premium rates. As in 2010, most individuals continue to pay $96.40 since there was no COLA for 2011. The announced 2011 rates were not reflected in the valuation.

The base amount has been trended to the anticipated FY2011 level and adjusted for projected calendar year 2010 and 2011 income related premium amounts. About 2.2% of NYSHIP Medicare enrollees received additional reimbursement of varying amounts from the Program for calendar year 2009. The portion of Medicare enrollees expected to receive additional income related reimbursements is expected to increase for the next decade since the income limitations have been frozen for that period under the Health Care Reform legislation.

MEDICARE COORDINATION: Medicare is assumed to remain the primary payor for those current retirees and spouses so indicated in the data. Medicare is assumed to become primary for current retirees and spouses who are not yet age 65 when they attain that age, and for all future retirees and spouses by the time they reach age 65.

Medicare can also be the primary payor for individuals under age 65 who have been eligible to receive Social Security Disability benefits for 24 months, which in turn starts after a waiting period of 5 months of disability. For valuation purposes, Medicare is assumed to be the primary payor for current retirees and spouses under age 65 if the census data indicated that Medicare is currently the primary payor.

We reviewed the census data for disability retirees who have been retired long enough to qualify for Medicare. Based on that data, we have assumed that Medicare will ultimately be the primary payor for 35% of future disabled PFRS (Police and Fire Retirement System) participants and 75% of all other future disabled participants. We have assumed for valuation purposes that the average period for qualifying for disability retirement is five months; thus we assume that Medicare commences for disability retirees once they have been on disability retirement for 24 months. We have also assumed that Medicare will be the primary payor for the same proportions of those disability retirees who have been retired less than 24 months once they have been on disability retirement for 24

months. For the remaining participants who are currently disabled or who become disabled, we have assumed that Medicare is the primary payor at age 65.

RETIREE DRUG SUBSIDY: The value of the Retiree Drug Subsidy under Medicare Part D is not reflected in the valuation, in accordance with GASB Technical Bulletin No. 2006-1 *Accounting and Financial Reporting by Employers and OPEB Plans for Payments from the Federal Government Pursuant to the Retiree Drug Subsidy Provisions of Medicare Part D* on this issue. NYSHIP has applied for the subsidy for 2006 – 2011 for the State and for Participating Agencies.

EARLY RETIREE REINSURANCE PROGRAM: The Health Care Reform legislation included a federal subsidy for certain retirees between age 55 and 64 who are not on Medicare. We understand that NYSHIP has applied for the subsidy. The intra-governmental transfer discussion included in GASB Technical Bulletin 2006-1 would apply to the Early Retiree Reinsurance Program amounts. Thus, we assume that any subsidies for the Early Retiree Reinsurance Program would be treated similarly as those subsidies for the Retiree Drug Subsidy, and not reflected for GASB 45 purposes until actually "incurred." Therefore, we have not reflected the value of the Early Retiree Reinsurance Program in the valuation.

Note for PAs: *Our treatment of the Early Retiree Reinsurance Program was based on information applicable to New York State and SUNY. Each PA should determine what actions are appropriate based on the relevant circumstances.*

HEALTHCARE COST TREND RATE: Per-capita retiree plan costs and premiums used to establish retiree contribution rates are assumed to increase each year in accordance with the following schedule:

Fiscal Year	Medical		Drug
	Non-Medicare Eligible	Medicare Eligible	
2011/2012	10.0%	5.8%	10.0%
2012/2013	10.0%	5.5%	10.0%
2013/2014	10.0%	5.0%	10.0%
2014/2015	9.0%	5.0%	9.0%
2015/2016	8.0%	5.0%	8.0%
2016/2017	7.0%	5.0%	7.0%
2017/2018	6.0%	5.0%	6.0%
2018/2019	5.0%	5.0%	5.0%
Thereafter	5.0%	5.0%	5.0%

The drug trend shown above applies to the drug costs and premiums associated with the Empire Plan.

***Note for PAs**: The trend rates above may also be appropriate for PAs using community rated premium rates. However, PAs should reflect their own expectations of future medical plan costs.*

We assumed that average fiscal year Medicare Part B premiums will increase at the same underlying health care trends as for Medical benefits to Medicare retirees. However, beginning in 2007, the Federal Government began charging Medicare Part B premium that varies by income level. About 2.2% of NYSHIP Medicare enrollees received additional reimbursement from the Program for income related Part B premium amounts for calendar year 2009. We project that

a greater portion of Medicare eligible retirees will be required to pay income related premiums in the future, and that the additional amounts paid by each retiree will increase over time, resulting in the following Medicare Part B premium trends:

Fiscal Year	Before Income Adjustment	Income Adjustment[3]	After Income Adjustment
2011/2012	5.8%	0.1%	5.9%
2012/2013	5.5%	0.2%	5.7%
2013/2014	5.0%	0.2%	5.3%
2014/2015	5.0%	0.3%	5.3%
2015/2016	5.0%	0.3%	5.3%
2016/2017	5.0%	0.3%	5.3%
2017/2018	5.0%	0.3%	5.3%
2018/2019	5.0%	0.3%	5.3%
2019/2020	5.0%	0.3%	5.3%
2020/2021	5.0%	0.1%	5.1%
Thereafter	5.0%	0.0%	5.0%

[3] This income adjustment reflects a 10 year freeze in the income brackets used for Part B premium calculations as added by the Health Care Reform legislation.

AGE RELATED MORBIDITY: To reflect the differences in covered healthcare expenses due to aging, the increase in the per-capita plan costs for each age is assumed to be as follows:

Age	Annual Increase
Under 40	0.0%
40-49	2.5%
50-54	3.3%
55-59	3.6%
60-64	4.2%
65-69	3.0%
70-74	2.5%
75-79	2.0%
80-84	1.0%
85-89	0.5%
90 and over	0.0%

The age related morbidity is only applied to the per-capita plan costs for the Empire Plan and is used to adjust the per-capita plan costs from the age 65 level values shown earlier. Thus, for a retiree age 67, the medical per capita plan cost assumed for the period from April 1, 2010 through March 31, 2011 would be $1,384 (= $1,305 x 1.03 x 1.03 or $1,305 x $1.03^{(67-65)}$). For the following fiscal year, when that retiree would be age 68, the medical per capita plan cost would reflect one year trend plus one additional year of age to result in $1,509 (= $1,305 x $1.03^{(68-65)}$ x 1.058 or = $1,384 x 1.03 x 1.058).

The age related morbidity rates are from Table 4 of "Aging Curves for Health Care Costs in Retirement," by Jeffrey Petertil, published in the **North American Actuarial Journal**, July 2005, extended prior to age 50 based on experience with other large employers and other studies.

Note for PAs: *This assumption will most likely not apply to PAs using community rated premium rates.*

HIGH COST PLAN EXCISE TAX: The Health Care Reform legislation added a new High Cost Plan Excise Tax (also known as the "Cadillac Tax") starting in calendar year 2018. For valuation purposes, we assumed that the value of the tax will be passed back to NYSHIP in higher premium rates.

The tax is 40% of the excess of a) the cost of coverage over b) the limit. We calculated "a" (the cost of coverage) using the 2010 Empire Plan premiums, equivalent to those shown on Exhibit 2-1, projected with trend. We calculated "b" (the limit) starting with the statutory limits ($10,200 single and $27,500 family), adjusted for the following:

- Limits will increase from 2018 to 2019 by 4.0% (CPI plus 1%);
- Limits will increase after 2019 by 3.0% (CPI);
- For retirees over age 55 but not on Medicare, the limit is increased by an additional dollar amount of $1,650 for single coverage, $3,450 for family coverage[4]; and
- Accumulated non-Medicare eligible medical/drug trend for the period from 2010 through 2018 is compared with the assumed 55% trend increase for the federal standard Blue Cross/Blue Shield option, with trend in excess of 55% applied on the base amount before the additional amount for "early" retirees.

MORTALITY: Based on the experience under the New York State & Local Retirement System (ERS and PFRS) and the New York State Teachers' Retirement System (TRS), as summarized in Exhibit 2-2. SUNY Campus employees who are not clearly identifiable as PFRS members are valued using TRS assumptions. All other State and SUNY employees not clearly identifiable as PFRS members are valued using ERS assumptions.

[4] These additional amounts are available at other ages for plans sponsored by an agency where the majority of employees are engaged in high risk professions including law enforcement officers. Since only a minority of the retirees included in this valuation are police, we are assuming that this exception would not apply.

WITHDRAWAL, DISABILITY, AND RETIREMENT: Rates of decrement as summarized in Exhibits 2-3 through 2-5. The rates are based on the experience under the New York State & Local Retirement System and the New York State Teachers' Retirement System, except as noted. SUNY Campus employees who are not clearly identifiable as PFRS or Corrections participants are valued using TRS assumptions, with modifications to the TRS retirement rates. SUNY hospital employees not clearly identified as PFRS or Corrections participants are valued using withdrawal rates developed based on an experience study performed for the April 1, 2008 valuation using actual SUNY hospital experience. SUNY Syracuse Hospital employees not clearly identified as PFRS or Corrections participants are valued using a modification to the retirement rates of the NY State & Local Retirement System. New York State & Local Retirement System retirement rates are used for other employees not clearly identifiable as PFRS or Corrections.

Note for PAs: *Each individual PA should determine appropriate assumptions to use for its own valuation purposes. The original TRS retirement assumptions prior to modifications are provided in Exhibit 2-6 for convenience of the recipients of this report, for some of whom the original TRS retirement assumptions may be more appropriate than the modified version for SUNY Campus. For more information on these assumptions, please see discussion in Section 4.*

New York State established an Early Retirement Incentive Program during 2010. Based on information provided on actual New York State ERIP participation, we assumed that 7% of NYS employees other than those identified Office of Court Administration participants who are at least age 50 with 10 years of service, were targeted and terminated as Part of the Incentive Program in 2010.

Note for PAs: *Each individual PA should determine any adjustment to assumed termination rates based on their own Early Retirement Incentive Program participation, if any.*

PROJECTED SALARY INCREASE ASSUMPTION: Based on the experience under the New York State & Local Retirement System and the New York State Teachers' Retirement System, as summarized in Exhibit 2-7. To be used for measurement of the ARC under certain actuarial cost methods (if necessary).

GENERAL INFLATION: 3% assumed long-term inflation.

VESTEE COVERAGE: Vestees pay 100% of premium prior to eligibility for retiree medical benefits. Based on an analysis of Empire Plan claims vs. premiums, we estimate a deficiency of 10% of premiums. We value current vestees in the Empire Plan assuming a deficiency of 10% of premium through retirement, using the 2010 Empire Plan premium rates, equivalent to those shown in Exhibit 2-1. Beginning at age 55, we value all vestees consistent with our valuation assumption for retirees. For current vestees, we assume all will opt to switch from vestee status to retiree status at age 55.

For future vested terminations, we have assumed that the following percentage of terminated employees (excluding those terminated due to death, disability or retirement) will elect to remain in their current healthcare plan option as a vestee:

Age	Percent Electing
Under 40	0%
40-43	5%
44	20%
45-46	30%
47-48	40%
49	50%
50-51	80%
52-54	100%

We assume that all future vestees will elect to retire at age 55. For those future vestees currently in the Empire Plan, we valued the cost using the same 10% premium deficiency.

Note for PAs: *The 10% premium deficiency assumption would most likely not apply to PAs using community rated premium rates.*

COBRA/LTD COVERAGE/FULL SHARE SURVIVOR RATE DEFICIENCY: For current COBRA beneficiaries in the Empire Plan, we projected the cost to the State by valuing an assumed 82% deficiency in the premium currently being charged. We assumed that each beneficiary would continue coverage for 1/3rd of their remaining COBRA term (in general, to the end of 36 months).

To value future COBRA costs, we assumed that 14% of participants who terminate from employment who were not eligible for vestee coverage will elect Empire Plan COBRA coverage and continue coverage for 15 months after the assumed termination of employment, with an assumed 82% deficiency in premium (based on a composite Empire Plan premium of $511 per month trended).

The value of any healthcare continuation provided to LTD participants who do not qualify for disability retirement is assumed to be included in the overall value of the COBRA coverage. Likewise, the value of any healthcare continuation provided to the "full share" surviving spouses of employees who die with 10 years of service, but not within 10 years of retirement eligibility, is assumed to be included in the overall value of the COBRA coverage.

> ***Note for PAs:*** *The 82% premium deficiency assumption would most likely not apply to PAs using community rated premium rates.*

PLAN ELECTIONS: 100% of current NYSHIP active participants are assumed to participate in the retiree medical program when they retire. We assume that all retirees (i.e., current actives and current non-Medicare eligible retirees) will participate in their current medical plan option prior to Medicare eligibility.

For current non-Medicare eligible retirees and future retirees, all who currently participate in the Empire Plan are assumed to remain in the Empire Plan upon becoming eligible for Medicare.

In all instances, spouses are assumed to participate in the same medical plan option as the retiree. If the retiree is deceased, the spouse is assumed to participate in the same healthcare plan as the retiree would have been assumed to participate in if he or she were alive.

> ***Note for PAs:*** *This assumption was based on the experience of the State and SUNY retirees. Plan elections and enrollment may differ for a different population.*

DEPENDENTS: For current retirees, actual data is used regarding dependent coverage. For future retirees, we assume 65% of males and 35% of females will be married at retirement and will cover their spouses under NYSHIP. Female

dependent spouses are assumed to be 3 years younger than their husbands, and male spouses are assumed to be 2 years older than their wives. These assumptions are the same as those used in the prior valuation, except for a decrease in the percentage of females being married at retirement.

> ***Note for PAs:*** *This assumption was based on the experience of the State and SUNY retirees. Each PA should consider the demographics of its own population when developing this assumption.*

ASSETS: We assume the State will not set aside any assets to prefund its retiree medical liabilities.

CENSUS DATA: Census data was provided by New York State Department of Civil Service as of April 1, 2010. Reasonable assumptions were made if any data elements are unavailable or if any data elements are not within a reasonable range.

> ***Note for PEs:*** *Individual agency census data will be provided by DCS upon request.*

SUBSEQUENT EVENTS: We prepared our preliminary valuation results in December 2010, based on assumptions originally developed in May 2010. We have not revised our valuation to reflect updated Empire Plan claim experience, Empire Plan premiums, or Medicare Part B premiums, nor any other more recent event except as noted.

Exhibit 2-1
Empire Plan Annual Premium Rates

2010				
Option	Tier	Non Rx	Rx	Total
Empire Plan	Individual - Non-Medicare	$6,172	$1,176	$7,348
	Family - Non-Medicare	13,476	2,495	15,971
	Individual - Medicare	1,713	2,695	4,408
	Family - 1 Medicare Member	9,018	4,013	13,031
	Family - 2 or More Medicare Members	4,560	5,532	10,092
Excelsior Plan	Individual - Non-Medicare	5,578	922	6,501
	Family - Non-Medicare	12,240	1,957	14,197
	Individual - Medicare	1,562	2,124	3,686
	Family - 1 Medicare Member	8,224	3,159	11,382
	Family - 2 or More Medicare Members	4,208	4,360	8,568

2011				
Option	Tier	Non Rx	Rx	Total
Empire Plan	Individual - Non-Medicare	$7,061	$1,266	$8,327
	Family - Non-Medicare	15,470	2,697	18,167
	Individual - Medicare	1,882	2,985	4,868
	Family - 1 Medicare Member	10,291	4,416	14,707
	Family - 2 or More Medicare Members	5,112	6,135	11,248
Excelsior Plan	Individual - Non-Medicare	6,338	1,029	7,367
	Family - Non-Medicare	13,963	2,193	16,156
	Individual - Medicare	1,705	2,432	4,137
	Family - 1 Medicare Member	9,330	3,596	12,926
	Family - 2 or More Medicare Members	4,697	4,999	9,696

EXHIBIT 2-2
PRERETIREMENT MORTALITY RATES

	ERS		PFRS		TRS	
	Accidental	All Other	Accidental	All Other	Male	Female
Age	Death	Death	Death	Death	Death *	Death *
15	0.002%	0.049%	0.009%	0.051%		
16	0.002%	0.049%	0.009%	0.051%		
17	0.002%	0.049%	0.009%	0.051%		
18	0.002%	0.049%	0.009%	0.051%		
19	0.002%	0.049%	0.009%	0.051%		
20	0.002%	0.049%	0.009%	0.051%	0.0050%	0.0042%
21	0.002%	0.049%	0.009%	0.051%	0.0064%	0.0061%
22	0.002%	0.049%	0.009%	0.051%	0.0082%	0.0063%
23	0.002%	0.049%	0.009%	0.051%	0.0103%	0.0072%
24	0.002%	0.049%	0.009%	0.051%	0.0116%	0.0074%
25	0.002%	0.049%	0.009%	0.051%	0.0124%	0.0083%
26	0.002%	0.049%	0.009%	0.051%	0.0135%	0.0098%
27	0.002%	0.049%	0.009%	0.051%	0.0141%	0.0109%
28	0.002%	0.050%	0.009%	0.051%	0.0159%	0.0113%
29	0.002%	0.051%	0.009%	0.051%	0.0167%	0.0125%
30	0.002%	0.053%	0.009%	0.051%	0.0171%	0.0140%
31	0.002%	0.055%	0.009%	0.052%	0.0187%	0.0150%
32	0.002%	0.057%	0.009%	0.054%	0.0195%	0.0151%
33	0.002%	0.057%	0.009%	0.055%	0.0207%	0.0166%
34	0.002%	0.058%	0.009%	0.055%	0.0214%	0.0171%
35	0.002%	0.060%	0.009%	0.055%	0.0224%	0.0184%
36	0.002%	0.064%	0.009%	0.055%	0.0239%	0.0193%
37	0.002%	0.069%	0.009%	0.055%	0.0248%	0.0201%
38	0.002%	0.077%	0.009%	0.055%	0.0258%	0.0210%
39	0.002%	0.086%	0.009%	0.055%	0.0270%	0.0244%
40	0.002%	0.096%	0.009%	0.055%	0.0317%	0.0269%
41	0.002%	0.106%	0.009%	0.055%	0.0379%	0.0288%
42	0.002%	0.114%	0.009%	0.058%	0.0437%	0.0310%
43	0.002%	0.123%	0.009%	0.065%	0.0499%	0.0343%
44	0.002%	0.132%	0.009%	0.076%	0.0540%	0.0391%
45	0.002%	0.140%	0.009%	0.089%	0.0581%	0.0425%
46	0.002%	0.149%	0.009%	0.103%	0.0640%	0.0441%
47	0.002%	0.161%	0.009%	0.115%	0.0682%	0.0465%
48	0.002%	0.174%	0.009%	0.125%	0.0735%	0.0489%
49	0.002%	0.189%	0.009%	0.131%	0.0785%	0.0525%
50	0.002%	0.205%	0.009%	0.134%	0.0847%	0.0549%
51	0.002%	0.220%	0.009%	0.139%	0.0916%	0.0570%
52	0.002%	0.234%	0.004%	0.152%	0.1013%	0.0594%
53	0.002%	0.249%	0.004%	0.177%	0.1082%	0.0616%
54	0.002%	0.265%	0.004%	0.217%	0.1154%	0.0637%
55	0.002%	0.283%	0.004%	0.271%	0.1207%	0.0684%
56	0.002%	0.302%	0.004%	0.336%	0.1309%	0.0723%
57	0.002%	0.326%	0.004%	0.411%	0.1404%	0.0789%
58	0.002%	0.352%	0.004%	0.495%	0.1506%	0.0825%
59	0.002%	0.383%	0.004%	0.598%	0.1558%	0.0880%
60	0.002%	0.419%	0.004%	0.739%	0.1652%	0.0969%
61	0.002%	0.462%	0.004%	0.753%	0.1702%	0.1043%
62	0.002%	0.512%	0.004%	0.818%	0.1803%	0.1108%
63	0.002%	0.563%	0.004%	0.891%	0.1906%	0.1174%
64	0.002%	0.612%	0.004%	0.977%	0.2009%	0.1261%
65	0.002%	0.668%	0.004%	1.084%	0.2205%	0.1362%
66	0.002%	0.721%	0.004%	1.216%	0.2408%	0.1462%
67	0.002%	0.775%	0.004%	1.368%	0.2603%	0.1609%
68	0.002%	0.839%	0.004%	1.531%	0.3006%	0.1810%
69	0.002%	0.903%	0.004%	1.698%	0.3508%	0.2000%
70	0.000%	0.000%	0.000%	0.000%	0.5003%	0.2305%

* Assumed all deaths are non-accidental

EXHIBIT 2-2
POSTRETIREMENT MORTALITY RATES

	ERS				PFRS	
	Healthy		Disabled			
Age	Males	Females	Males	Females	Healthy	Disabled
15	0.0486%	0.0486%	0.3737%	0.0362%	0.0340%	0.0462%
16	0.0486%	0.0486%	0.3737%	0.0362%	0.0340%	0.0462%
17	0.0486%	0.0486%	0.3737%	0.0362%	0.0340%	0.0462%
18	0.0486%	0.0486%	0.3737%	0.0362%	0.0340%	0.0462%
19	0.0486%	0.0486%	0.3737%	0.0362%	0.0340%	0.0462%
20	0.0486%	0.0486%	0.3737%	0.0362%	0.0340%	0.0462%
21	0.0486%	0.0486%	0.3737%	0.0362%	0.0340%	0.0462%
22	0.0486%	0.0486%	0.3737%	0.0362%	0.0340%	0.0462%
23	0.0486%	0.0486%	0.3737%	0.0362%	0.0340%	0.0462%
24	0.0486%	0.0486%	0.3737%	0.0362%	0.0340%	0.0462%
25	0.0486%	0.0486%	0.3737%	0.0362%	0.0340%	0.0462%
26	0.0486%	0.0486%	0.3737%	0.0362%	0.0340%	0.0462%
27	0.0486%	0.0486%	0.3737%	0.0362%	0.0340%	0.0462%
28	0.0494%	0.0494%	0.3737%	0.0388%	0.0357%	0.0462%
29	0.0512%	0.0512%	0.3737%	0.0418%	0.0373%	0.0462%
30	0.0534%	0.0534%	0.3737%	0.1323%	0.0389%	0.0462%
31	0.0553%	0.0553%	0.3737%	0.2228%	0.0407%	0.0462%
32	0.0567%	0.0567%	0.3737%	0.3132%	0.0431%	0.0462%
33	0.0577%	0.0577%	0.3788%	0.4037%	0.0459%	0.0462%
34	0.0585%	0.0585%	0.4214%	0.4942%	0.0489%	0.0462%
35	0.0603%	0.0603%	0.5023%	0.5847%	0.0521%	0.0462%
36	0.0637%	0.0637%	0.6167%	0.6751%	0.0549%	0.0462%
37	0.0693%	0.0693%	0.7546%	0.7656%	0.0573%	0.0462%
38	0.0770%	0.0770%	0.9041%	0.8561%	0.0593%	0.1055%
39	0.0863%	0.0863%	1.0541%	0.9465%	0.0610%	0.1845%
40	0.0962%	0.0962%	1.1961%	1.0370%	0.0821%	0.2565%
41	0.1058%	0.1058%	1.3256%	1.0651%	0.0987%	0.2986%
42	0.1149%	0.1149%	1.4430%	1.1355%	0.1165%	0.2975%
43	0.1233%	0.1233%	1.5540%	1.2426%	0.1344%	0.2554%
44	0.1314%	0.1314%	1.6710%	1.3761%	0.1522%	0.1917%
45	0.1399%	0.1399%	1.8101%	1.5246%	0.1700%	0.1374%
46	0.1495%	0.1495%	1.9839%	1.5801%	0.1878%	0.1209%
47	0.1610%	0.1610%	2.1914%	1.8037%	0.2056%	0.1543%
48	0.1744%	0.1744%	2.4135%	2.1535%	0.2235%	0.2276%
49	0.1892%	0.1892%	2.6178%	2.5391%	0.2413%	0.3157%
50	0.2441%	0.2177%	2.7754%	2.8678%	0.2594%	0.3945%
51	0.2990%	0.2461%	2.8699%	3.0817%	0.2727%	0.4511%
52	0.3538%	0.2746%	2.8976%	3.1641%	0.3055%	0.4844%
53	0.4087%	0.3032%	2.8660%	3.1317%	0.3534%	0.4994%
54	0.4636%	0.3316%	2.7939%	3.0225%	0.4077%	0.5051%
55	0.5185%	0.3601%	2.7073%	2.8799%	0.4611%	0.5140%
56	0.5733%	0.3885%	2.6352%	2.7389%	0.5095%	0.5430%
57	0.6282%	0.4170%	2.6022%	2.6206%	0.5540%	0.6129%
58	0.6550%	0.4471%	2.6226%	2.5309%	0.5979%	0.7427%
59	0.6908%	0.4865%	2.6940%	2.4646%	0.6450%	0.9396%
60	0.7365%	0.5332%	2.8017%	2.4157%	0.6976%	1.1909%
61	0.7928%	0.5842%	2.9259%	2.3867%	0.7561%	1.4590%
62	0.8614%	0.6368%	3.0470%	2.3889%	0.8209%	1.6861%
63	0.9436%	0.6893%	3.1534%	2.4349%	0.8941%	1.8194%
64	1.0399%	0.7425%	3.2452%	2.5278%	0.9815%	1.8425%
65	1.1494%	0.7994%	3.3334%	2.6552%	1.0898%	1.7859%
66	1.2700%	0.8642%	3.4345%	2.7890%	1.2228%	1.7181%
67	1.3986%	0.9419%	3.5648%	2.8943%	1.3769%	1.7205%
68	1.5329%	1.0354%	3.7359%	2.9442%	1.5427%	1.8571%
69	1.6733%	1.1453%	3.9525%	2.9364%	1.7114%	2.1449%
70	1.8246%	1.2686%	4.2112%	2.8980%	1.8828%	2.5524%

EXHIBIT 2-2
POSTRETIREMENT MORTALITY RATES

	ERS				PFRS	
	Healthy		Disabled			
Age	Males	Females	Males	Females	Healthy	Disabled
71	1.9954%	1.4002%	4.5032%	2.8780%	2.0695%	3.0143%
72	2.1956%	1.5344%	4.8149%	2.9330%	2.2934%	3.4577%
73	2.4323%	1.6674%	5.1328%	3.1055%	2.5759%	3.8315%
74	2.7049%	1.8017%	5.4487%	3.4055%	2.9257%	4.1264%
75	3.0051%	1.9465%	5.7661%	3.8027%	3.3320%	4.3840%
76	3.3205%	2.1179%	6.1077%	4.2330%	3.7673%	4.6891%
77	3.6409%	2.3361%	6.5192%	4.6170%	4.1994%	5.1458%
78	3.9650%	2.6199%	7.0645%	4.8907%	4.6101%	5.8411%
79	4.3052%	2.9787%	7.8051%	5.0359%	5.0070%	6.8050%
80	4.6846%	3.4091%	8.7667%	5.0994%	5.4210%	7.9827%
81	5.1325%	3.8957%	9.9121%	5.1934%	5.8913%	9.2345%
82	5.6806%	4.4191%	11.1390%	5.4751%	6.4499%	10.3665%
83	6.3609%	4.9695%	12.3147%	6.1063%	7.1117%	11.1857%
84	7.2010%	5.5558%	13.3305%	7.2010%	7.8769%	11.5589%
85	8.2117%	6.2031%	14.1420%	8.7798%	8.7395%	12.4946%
86	9.3747%	6.9402%	14.7709%	10.7477%	9.6976%	13.5835%
87	10.6407%	7.7894%	15.2736%	12.9082%	10.7593%	14.6723%
88	11.9469%	8.7623%	15.6943%	15.0108%	11.9410%	15.7612%
89	13.2482%	9.8625%	16.0358%	16.8182%	13.2637%	16.8502%
90	14.5417%	11.0872%	16.2630%	18.1597%	14.7447%	17.9390%
91	15.8730%	12.4276%	16.4158%	18.9559%	16.3878%	19.0279%
92	17.3184%	13.6334%	17.4148%	19.2118%	18.1719%	20.1167%
93	18.9512%	14.7260%	18.4138%	19.3656%	20.0403%	21.2057%
94	20.3613%	15.7987%	19.4129%	20.2965%	20.8000%	22.2945%
95	21.6835%	16.8343%	20.4119%	21.2276%	22.0827%	23.3834%
96	22.9325%	17.8165%	21.4109%	22.1587%	23.3682%	24.4723%
97	24.0800%	18.7311%	22.4099%	23.0896%	24.6554%	25.5612%
98	24.9120%	20.0979%	23.4089%	24.0207%	25.4299%	26.6501%
99	25.7440%	21.4649%	24.4079%	24.9518%	26.2044%	27.7389%
100	26.5760%	22.8317%	25.4069%	25.8827%	26.9788%	28.8278%
101	27.4080%	24.1986%	26.4059%	26.8138%	27.7533%	29.9168%
102	28.2400%	25.5655%	27.4049%	27.7449%	28.5278%	31.0056%
103	29.0720%	26.9324%	28.4040%	28.6758%	29.3021%	32.0945%
104	29.9040%	28.2993%	29.4030%	29.6069%	30.0766%	33.1833%
105	30.7360%	29.6662%	30.4020%	30.5380%	30.8511%	34.2723%
106	31.5680%	31.0332%	31.4010%	31.4689%	31.6255%	35.3611%
107	32.4000%	32.4000%	32.4000%	32.4000%	32.4000%	36.4500%
108	57.6000%	57.6000%	57.6000%	57.6000%	57.6000%	64.8000%
109	82.7999%	82.7999%	82.7999%	82.7999%	82.7999%	93.1499%
110	100.0000%	100.0000%	100.0000%	100.0000%	100.0000%	100.0000%

EXHIBIT 2-2
POSTRETIREMENT MORTALITY RATES

TRS

	Healthy		Disabled	
Age	Male	Female	Male	Female
1	0.0637%	0.0571%		
2	0.0430%	0.0372%		
3	0.0357%	0.0278%		
4	0.0278%	0.0208%		
5	0.0255%	0.0188%		
6	0.0244%	0.0176%		
7	0.0234%	0.0165%		
8	0.0216%	0.0147%		
9	0.0209%	0.0140%		
10	0.0212%	0.0141%		
11	0.0219%	0.0143%		
12	0.0228%	0.0148%		
13	0.0240%	0.0155%		
14	0.0254%	0.0162%		
15	0.0269%	0.0170%		
16	0.0284%	0.0177%		
17	0.0301%	0.0184%		
18	0.0316%	0.0188%		
19	0.0331%	0.0190%		
20	0.0345%	0.0191%		
21	0.0357%	0.0192%		
22	0.0366%	0.0194%		
23	0.0373%	0.0197%		
24	0.0376%	0.0201%		
25	0.0376%	0.0207%		
26	0.0378%	0.0214%		
27	0.0382%	0.0223%		
28	0.0393%	0.0235%		
29	0.0412%	0.0248%		
30	0.0444%	0.0264%	2.5310%	3.5341%
31	0.0499%	0.0307%	2.8145%	3.6899%
32	0.0562%	0.0350%	3.2542%	3.8946%
33	0.0631%	0.0394%	3.5000%	3.9428%
34	0.0702%	0.0435%	3.8165%	4.0473%
35	0.0773%	0.0475%	4.2432%	4.1935%
36	0.0841%	0.0514%	4.8006%	4.2849%
37	0.0904%	0.0554%	5.4112%	4.2928%
38	0.0964%	0.0598%	6.0124%	4.3225%
39	0.1021%	0.0648%	6.5006%	4.4281%
40	0.1079%	0.0706%	7.2142%	4.5084%
41	0.1142%	0.0774%	7.8563%	5.0017%
42	0.1215%	0.0852%	8.8195%	5.2569%
43	0.1299%	0.0937%	9.4091%	5.7009%
44	0.1397%	0.1029%	9.8659%	6.1248%
45	0.1508%	0.1124%	10.1034%	6.5552%
46	0.1616%	0.1223%	9.9347%	6.8744%
47	0.1734%	0.1326%	9.6113%	7.1598%
48	0.1860%	0.1434%	9.3684%	7.3556%
49	0.1995%	0.1550%	9.3042%	7.5532%
50	0.2138%	0.1676%	9.2882%	7.6793%
51	0.2449%	0.1852%	9.0847%	7.6422%
52	0.2667%	0.2018%	8.6215%	7.3796%
53	0.2916%	0.2207%	7.8395%	6.9154%
54	0.3196%	0.2424%	6.8565%	6.3134%
55	0.3490%	0.2660%	5.8441%	5.6557%

EXHIBIT 2-2
POSTRETIREMENT MORTALITY RATES

	TRS			
	Healthy		Disabled	
Age	Male	Female	Male	Female
56	0.3804%	0.2900%	4.9080%	5.0331%
57	0.4108%	0.3132%	4.2276%	4.5190%
58	0.4396%	0.3352%	3.7908%	4.1109%
59	0.4704%	0.3554%	3.6513%	3.8283%
60	0.5082%	0.3803%	3.5343%	3.6275%
61	0.5591%	0.4070%	3.3208%	3.4031%
62	0.6149%	0.4354%	3.2877%	3.1506%
63	0.6824%	0.4703%	3.2076%	2.8898%
64	0.7708%	0.5173%	3.2520%	2.6691%
65	0.8710%	0.5742%	3.4208%	2.5801%
66	0.9844%	0.6373%	3.6150%	2.6486%
67	1.1123%	0.7074%	3.8988%	2.8334%
68	1.2239%	0.7852%	4.0047%	3.0330%
69	1.3464%	0.8716%	4.1535%	3.2655%
70	1.4946%	0.9762%	4.2186%	3.3325%
71	1.6590%	1.0933%	4.3699%	3.4535%
72	1.8414%	1.2136%	4.4923%	3.5391%
73	2.0256%	1.3592%	4.5511%	3.7100%
74	2.2484%	1.5360%	4.6988%	3.9842%
75	2.5182%	1.7356%	4.7350%	4.1951%
76	2.8708%	1.9439%	4.9896%	4.3826%
77	3.2724%	2.1772%	5.2758%	4.5256%
78	3.6657%	2.4384%	5.5654%	4.7337%
79	4.1239%	2.7310%	6.0161%	4.9481%
80	4.6187%	3.0861%	6.2129%	5.1959%
81	5.2192%	3.5181%	6.8638%	5.4581%
82	5.8455%	4.0458%	7.3036%	5.8699%
83	6.4885%	4.6123%	8.0164%	6.1989%
84	7.3320%	5.3041%	8.6903%	6.3698%
85	8.2118%	6.0467%	9.2528%	6.9228%
86	9.1973%	6.8932%	10.0695%	7.6222%
87	10.3929%	7.9272%	11.0949%	8.1432%
88	11.6400%	9.0370%	12.0296%	9.4991%
89	13.0369%	10.2118%	13.0369%	10.2118%
90	14.4709%	11.4372%	14.4709%	11.4372%
91	16.0627%	12.6953%	16.0627%	12.6953%
92	17.6690%	14.2188%	17.6690%	14.2188%
93	19.4359%	15.9250%	19.4359%	15.9250%
94	21.3795%	17.8360%	21.3795%	17.8360%
95	23.5174%	19.6196%	23.5174%	19.6196%
96	25.6340%	21.3854%	25.6340%	21.3854%
97	27.6847%	23.3101%	27.6847%	23.3101%
98	29.8995%	25.1749%	29.8995%	25.1749%
99	32.5904%	27.4406%	32.5904%	27.4406%
100	35.5236%	29.9103%	35.5236%	29.9103%
101	38.7207%	32.9013%	38.7207%	32.9013%
102	41.8183%	36.1914%	41.8183%	36.1914%
103	44.7456%	39.8106%	44.7456%	39.8106%
104	47.4304%	43.3935%	47.4304%	43.3935%
105	50.2762%	46.8650%	50.2762%	46.8650%
106	52.7900%	50.1456%	52.7900%	50.1456%
107	55.4295%	53.1543%	55.4295%	53.1543%
108	58.2010%	55.8120%	58.2010%	55.8120%
109	61.1110%	58.6026%	61.1110%	58.6026%
110	64.1666%	61.5327%	64.1666%	61.5327%

EXHIBIT 2-3
WITHDRAWAL RATES

	ERS					
	Years of Service					
Age	< 2	2 - 2.99	3 - 3.99	4 - 4.99	5 - 9.99	> = 10
15	16.960%	10.868%	8.421%	7.517%	7.088%	3.252%
16	16.960%	10.868%	8.421%	7.517%	7.088%	3.252%
17	16.960%	10.868%	8.421%	7.517%	7.088%	3.252%
18	16.960%	10.868%	8.421%	7.517%	7.088%	3.252%
19	16.960%	10.868%	8.421%	7.517%	7.088%	3.252%
20	16.960%	10.868%	8.421%	7.517%	7.088%	3.252%
21	16.960%	10.868%	8.421%	7.517%	7.088%	3.252%
22	16.851%	11.972%	8.817%	7.528%	7.088%	3.252%
23	16.765%	12.601%	9.098%	7.547%	7.049%	3.252%
24	16.656%	12.930%	9.262%	7.575%	6.965%	3.252%
25	16.510%	13.088%	9.330%	7.614%	6.826%	3.252%
26	16.323%	13.127%	9.334%	7.672%	6.636%	3.252%
27	16.087%	13.048%	9.303%	7.763%	6.407%	3.252%
28	15.798%	12.840%	9.249%	7.888%	6.167%	3.220%
29	15.457%	12.503%	9.172%	8.025%	5.950%	3.175%
30	15.074%	12.067%	9.056%	8.130%	5.776%	3.113%
31	14.666%	11.577%	8.879%	8.147%	5.654%	3.036%
32	14.252%	11.085%	8.626%	8.030%	5.572%	2.949%
33	13.849%	10.624%	8.293%	7.762%	5.514%	2.860%
34	13.471%	10.207%	7.898%	7.367%	5.457%	2.774%
35	13.128%	9.823%	7.479%	6.909%	5.382%	2.692%
36	12.820%	9.452%	7.084%	6.466%	5.270%	2.609%
37	12.548%	9.081%	6.752%	6.108%	5.107%	2.517%
38	12.312%	8.710%	6.506%	5.870%	4.896%	2.414%
39	12.110%	8.356%	6.340%	5.741%	4.653%	2.306%
40	11.937%	8.036%	6.227%	5.675%	4.406%	2.198%
41	11.790%	7.770%	6.130%	5.620%	4.183%	2.098%
42	11.663%	7.568%	6.023%	5.534%	4.004%	2.010%
43	11.552%	7.430%	5.892%	5.401%	3.878%	1.935%
44	11.451%	7.344%	5.740%	5.231%	3.796%	1.869%
45	11.360%	7.289%	5.583%	5.050%	3.741%	1.805%
46	11.282%	7.244%	5.440%	4.884%	3.695%	1.732%
47	11.220%	7.190%	5.329%	4.757%	3.647%	1.644%
48	11.181%	7.118%	5.260%	4.680%	3.591%	1.547%
49	11.162%	7.030%	5.231%	4.646%	3.531%	1.448%
50	11.155%	6.936%	5.231%	4.640%	3.473%	1.360%
51	11.145%	6.851%	5.246%	4.639%	3.421%	1.291%
52	11.113%	6.793%	5.263%	4.622%	3.382%	1.243%
53	11.046%	6.774%	5.275%	4.575%	3.355%	1.214%
54	10.943%	6.794%	5.286%	4.501%	3.336%	1.197%
55	10.819%	6.852%	5.307%	4.418%	3.326%	1.188%
56	10.710%	6.940%	5.366%	4.358%	3.322%	1.185%
57	10.660%	7.056%	5.490%	4.358%	3.322%	1.187%
58	10.712%	7.200%	5.706%	4.450%	3.327%	1.193%
59	10.897%	7.379%	6.035%	4.650%	3.334%	1.201%
60	11.210%	7.596%	6.476%	4.961%	3.343%	1.211%
61	11.605%	7.841%	7.008%	5.358%	3.354%	1.221%
62	11.985%	8.087%	7.578%	5.798%	3.363%	1.229%
63	12.209%	8.284%	8.101%	6.211%	3.372%	1.236%
64	12.209%	8.284%	8.101%	6.211%	3.377%	1.240%
65	12.209%	8.284%	8.101%	6.211%	3.378%	1.241%
66	12.209%	8.284%	8.101%	6.211%	3.378%	1.241%
67	12.209%	8.284%	8.101%	6.211%	3.378%	1.241%
68	12.209%	8.284%	8.101%	6.211%	3.378%	1.241%
69	12.209%	8.284%	8.101%	6.211%	3.378%	1.241%
70	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%

EXHIBIT 2-3
WITHDRAWAL RATES

Upstate (Syracuse) Medical Center

	Years of Service					
Age	< 2	2 - 2.99	3 - 3.99	4 - 4.99	5 - 9.99	> = 10
15	23.000%	18.000%	15.000%	15.000%	11.000%	7.000%
16	23.000%	18.000%	15.000%	15.000%	11.000%	7.000%
17	23.000%	18.000%	15.000%	15.000%	11.000%	7.000%
18	23.000%	18.000%	15.000%	15.000%	11.000%	7.000%
19	23.000%	18.000%	15.000%	15.000%	11.000%	7.000%
20	23.000%	18.000%	15.000%	15.000%	11.000%	7.000%
21	23.000%	18.000%	15.000%	15.000%	11.000%	7.000%
22	23.000%	18.000%	15.000%	15.000%	11.000%	7.000%
23	22.800%	18.400%	15.000%	15.000%	11.000%	7.000%
24	22.600%	18.800%	15.000%	15.000%	11.000%	7.000%
25	22.400%	19.200%	15.000%	15.000%	11.000%	7.000%
26	22.200%	19.600%	15.000%	15.000%	11.000%	7.000%
27	22.000%	20.000%	15.000%	15.000%	11.000%	7.000%
28	21.800%	20.000%	15.200%	15.200%	11.000%	7.000%
29	21.600%	20.000%	15.400%	15.400%	11.000%	7.000%
30	21.400%	20.000%	15.600%	15.600%	11.000%	7.000%
31	21.200%	20.000%	15.800%	15.800%	11.000%	7.000%
32	21.000%	20.000%	16.000%	16.000%	11.000%	7.000%
33	20.800%	19.400%	15.600%	15.600%	10.800%	6.800%
34	20.600%	18.800%	15.200%	15.200%	10.600%	6.600%
35	20.400%	18.200%	14.800%	14.800%	10.400%	6.400%
36	20.200%	17.600%	14.400%	14.400%	10.200%	6.200%
37	20.000%	17.000%	14.000%	14.000%	10.000%	6.000%
38	19.200%	16.400%	13.800%	13.800%	9.600%	5.600%
39	18.400%	15.800%	13.600%	13.600%	9.200%	5.200%
40	17.600%	15.200%	13.400%	13.400%	8.800%	4.800%
41	16.800%	14.600%	13.200%	13.200%	8.400%	4.400%
42	16.000%	14.000%	13.000%	13.000%	8.000%	4.000%
43	16.000%	13.600%	12.200%	12.200%	7.600%	4.000%
44	16.000%	13.200%	11.400%	11.400%	7.200%	4.000%
45	16.000%	12.800%	10.600%	10.600%	6.800%	4.000%
46	16.000%	12.400%	9.800%	9.800%	6.400%	4.000%
47	16.000%	12.000%	9.000%	9.000%	6.000%	4.000%
48	16.000%	11.400%	8.900%	8.900%	5.800%	4.000%
49	16.000%	10.800%	8.800%	8.800%	5.600%	4.000%
50	16.000%	10.200%	8.700%	8.700%	5.400%	4.000%
51	16.000%	9.600%	8.600%	8.600%	5.200%	4.000%
52	16.000%	9.000%	8.500%	8.500%	5.000%	4.000%
53	16.000%	8.800%	8.400%	8.400%	4.800%	4.000%
54	16.000%	8.600%	8.300%	8.300%	4.600%	4.000%
55	16.000%	8.400%	8.200%	8.200%	4.400%	0.000%
56	16.000%	8.200%	8.100%	8.100%	4.200%	0.000%
57	16.000%	8.000%	8.000%	8.000%	4.000%	0.000%
58	16.000%	8.000%	8.000%	8.000%	4.000%	0.000%
59	16.000%	8.000%	8.000%	8.000%	4.000%	0.000%
60	16.000%	8.000%	8.000%	8.000%	4.000%	0.000%
61	16.000%	8.000%	8.000%	8.000%	4.000%	0.000%
62	16.000%	8.000%	8.000%	8.000%	4.000%	0.000%
63	16.000%	8.000%	8.000%	8.000%	4.000%	0.000%
64	16.000%	8.000%	8.000%	8.000%	4.000%	0.000%
65	16.000%	8.000%	8.000%	8.000%	4.000%	0.000%
66	16.000%	8.000%	8.000%	8.000%	4.000%	0.000%
67	16.000%	8.000%	8.000%	8.000%	4.000%	0.000%
68	16.000%	8.000%	8.000%	8.000%	4.000%	0.000%
69	16.000%	8.000%	8.000%	8.000%	4.000%	0.000%
70	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%

EXHIBIT 2-3
WITHDRAWAL RATES

Brooklyn Hospital

	Years of Service					
Age	< 2	2 - 2.99	3 - 3.99	4 - 4.99	5 - 9.99	> = 10
15	23.000%	18.000%	12.000%	12.000%	9.000%	5.000%
16	23.000%	18.000%	12.000%	12.000%	9.000%	5.000%
17	23.000%	18.000%	12.000%	12.000%	9.000%	5.000%
18	23.000%	18.000%	12.000%	12.000%	9.000%	5.000%
19	23.000%	18.000%	12.000%	12.000%	9.000%	5.000%
20	23.000%	18.000%	12.000%	12.000%	9.000%	5.000%
21	23.000%	18.000%	12.000%	12.000%	9.000%	5.000%
22	23.000%	18.000%	12.000%	12.000%	9.000%	5.000%
23	22.800%	18.400%	12.000%	12.000%	9.000%	5.000%
24	22.600%	18.800%	12.000%	12.000%	9.000%	5.000%
25	22.400%	19.200%	12.000%	12.000%	9.000%	5.000%
26	22.200%	19.600%	12.000%	12.000%	9.000%	5.000%
27	22.000%	20.000%	12.000%	12.000%	9.000%	5.000%
28	21.800%	20.000%	12.400%	12.400%	9.000%	4.900%
29	21.600%	20.000%	12.800%	12.800%	9.000%	4.800%
30	21.400%	20.000%	13.200%	13.200%	9.000%	4.700%
31	21.200%	20.000%	13.600%	13.600%	9.000%	4.600%
32	21.000%	20.000%	14.000%	14.000%	9.000%	4.500%
33	20.800%	18.600%	13.600%	13.600%	9.000%	4.400%
34	20.600%	17.200%	13.200%	13.200%	9.000%	4.300%
35	20.400%	15.800%	12.800%	12.800%	9.000%	4.200%
36	20.200%	14.400%	12.400%	12.400%	9.000%	4.100%
37	20.000%	13.000%	12.000%	12.000%	9.000%	4.000%
38	19.200%	12.600%	11.000%	11.000%	8.600%	3.800%
39	18.400%	12.200%	10.000%	10.000%	8.200%	3.600%
40	17.600%	11.800%	9.000%	9.000%	7.800%	3.400%
41	16.800%	11.400%	8.000%	8.000%	7.400%	3.200%
42	16.000%	11.000%	7.000%	7.000%	7.000%	3.000%
43	16.000%	10.300%	6.600%	6.600%	6.600%	2.900%
44	16.000%	9.600%	6.200%	6.200%	6.200%	2.800%
45	16.000%	8.900%	5.800%	5.800%	5.800%	2.700%
46	16.000%	8.200%	5.400%	5.400%	5.400%	2.600%
47	16.000%	7.500%	5.000%	5.000%	5.000%	2.500%
48	16.000%	7.400%	5.000%	5.000%	4.700%	2.500%
49	16.000%	7.300%	5.000%	5.000%	4.400%	2.500%
50	16.000%	7.200%	5.000%	5.000%	4.100%	2.500%
51	16.000%	7.100%	5.000%	5.000%	3.800%	2.500%
52	16.000%	7.000%	5.000%	5.000%	3.500%	2.500%
53	16.000%	7.000%	5.000%	5.000%	3.500%	2.500%
54	16.000%	7.000%	5.000%	5.000%	3.500%	2.500%
55	16.000%	7.000%	5.000%	5.000%	3.500%	0.000%
56	16.000%	7.000%	5.000%	5.000%	3.500%	0.000%
57	16.000%	7.000%	5.000%	5.000%	3.500%	0.000%
58	16.000%	7.000%	5.200%	5.200%	3.500%	0.000%
59	16.000%	7.000%	5.400%	5.400%	3.500%	0.000%
60	16.000%	7.000%	5.600%	5.600%	3.500%	0.000%
61	16.000%	7.000%	5.800%	5.800%	3.500%	0.000%
62	16.000%	7.000%	6.000%	6.000%	3.500%	0.000%
63	16.000%	7.200%	6.200%	6.200%	3.500%	0.000%
64	16.000%	7.400%	6.400%	6.400%	3.500%	0.000%
65	16.000%	7.600%	6.600%	6.600%	3.500%	0.000%
66	16.000%	7.800%	6.800%	6.800%	3.500%	0.000%
67	16.000%	8.000%	7.000%	7.000%	3.500%	0.000%
68	16.000%	8.000%	7.000%	7.000%	3.500%	0.000%
69	16.000%	8.000%	7.000%	7.000%	3.500%	0.000%
70	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%

EXHIBIT 2-3
WITHDRAWAL RATES

Stonybrook Hospital

	Years of Service					
Age	< 2	2 - 2.99	3 - 3.99	4 - 4.99	5 - 9.99	> = 10
15	25.000%	20.000%	15.000%	15.000%	10.000%	7.000%
16	25.000%	20.000%	15.000%	15.000%	10.000%	7.000%
17	25.000%	20.000%	15.000%	15.000%	10.000%	7.000%
18	25.000%	20.000%	15.000%	15.000%	10.000%	7.000%
19	25.000%	20.000%	15.000%	15.000%	10.000%	7.000%
20	25.000%	20.000%	15.000%	15.000%	10.000%	7.000%
21	25.000%	20.000%	15.000%	15.000%	10.000%	7.000%
22	25.000%	20.000%	15.000%	15.000%	10.000%	7.000%
23	24.600%	20.600%	15.000%	15.000%	10.000%	7.000%
24	24.200%	21.200%	15.000%	15.000%	10.000%	7.000%
25	23.800%	21.800%	15.000%	15.000%	10.000%	7.000%
26	23.400%	22.400%	15.000%	15.000%	10.000%	7.000%
27	23.000%	23.000%	15.000%	15.000%	10.000%	7.000%
28	22.800%	23.400%	15.500%	15.500%	10.300%	7.000%
29	22.600%	23.800%	16.000%	16.000%	10.600%	7.000%
30	22.400%	24.200%	16.500%	16.500%	10.900%	7.000%
31	22.200%	24.600%	17.000%	17.000%	11.200%	7.000%
32	22.000%	25.000%	17.500%	17.500%	11.500%	7.000%
33	21.800%	24.200%	17.000%	17.000%	11.000%	6.800%
34	21.600%	23.400%	16.500%	16.500%	10.500%	6.600%
35	21.400%	22.600%	16.000%	16.000%	10.000%	6.400%
36	21.200%	21.800%	15.500%	15.500%	9.500%	6.200%
37	21.000%	21.000%	15.000%	15.000%	9.000%	6.000%
38	20.800%	19.800%	14.200%	14.200%	8.400%	5.400%
39	20.600%	18.600%	13.400%	13.400%	7.800%	4.800%
40	20.400%	17.400%	12.600%	12.600%	7.200%	4.200%
41	20.200%	16.200%	11.800%	11.800%	6.600%	3.600%
42	20.000%	15.000%	11.000%	11.000%	6.000%	3.000%
43	19.600%	14.600%	10.400%	10.400%	5.800%	3.000%
44	19.200%	14.200%	9.800%	9.800%	5.600%	3.000%
45	18.800%	13.800%	9.200%	9.200%	5.400%	3.000%
46	18.400%	13.400%	8.600%	8.600%	5.200%	3.000%
47	18.000%	13.000%	8.000%	8.000%	5.000%	3.000%
48	17.600%	12.200%	7.600%	7.600%	4.800%	3.000%
49	17.200%	11.400%	7.200%	7.200%	4.600%	3.000%
50	16.800%	10.600%	6.800%	6.800%	4.400%	3.000%
51	16.400%	9.800%	6.400%	6.400%	4.200%	3.000%
52	16.000%	9.000%	6.000%	6.000%	4.000%	3.000%
53	15.800%	8.800%	6.000%	6.000%	4.000%	3.000%
54	15.600%	8.600%	6.000%	6.000%	4.000%	3.000%
55	15.400%	8.400%	6.000%	6.000%	4.000%	0.000%
56	15.200%	8.200%	6.000%	6.000%	4.000%	0.000%
57	15.000%	8.000%	6.000%	6.000%	4.000%	0.000%
58	15.000%	8.000%	6.000%	6.000%	4.000%	0.000%
59	15.000%	8.000%	6.000%	6.000%	4.000%	0.000%
60	15.000%	8.000%	6.000%	6.000%	4.000%	0.000%
61	15.000%	8.000%	6.000%	6.000%	4.000%	0.000%
62	15.000%	8.000%	6.000%	6.000%	4.000%	0.000%
63	15.000%	8.000%	6.000%	6.000%	4.000%	0.000%
64	15.000%	8.000%	6.000%	6.000%	4.000%	0.000%
65	15.000%	8.000%	6.000%	6.000%	4.000%	0.000%
66	15.000%	8.000%	6.000%	6.000%	4.000%	0.000%
67	15.000%	8.000%	6.000%	6.000%	4.000%	0.000%
68	15.000%	8.000%	6.000%	6.000%	4.000%	0.000%
69	15.000%	8.000%	6.000%	6.000%	4.000%	0.000%
70	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%

EXHIBIT 2-3
WITHDRAWAL RATES

Years of Service	**PFRS**
0	7.955%
1	5.009%
2	3.084%
3	2.050%
4	1.555%
5	1.295%
6	1.135%
7	1.047%
8	0.987%
9	0.875%
10	0.726%
11	0.590%
12	0.509%
13	0.451%
14	0.386%
15	0.327%
16	0.268%
17	0.223%
18	0.223%
19	0.223%
20	0.223%
21	0.223%
22	0.223%
23	0.223%
24	0.223%
25	0.223%
26	0.223%
27	0.223%
28	0.223%
29	0.223%
30	0.223%
31	0.223%
32	0.223%
33	0.223%
34	0.223%
35	0.223%
36	0.223%
37	0.223%
38	0.223%
39	0.223%

EXHIBIT 2-3
WITHDRAWAL RATES

TRS - Male

Age	0 Years of Service	1 Year of Service	2 Years of Service	3 Years of Service	4 Years of Service	5 Years of Service	6 Years of Service	7 Years of Service	8 Years of Service	9 Years of Service	At Least 10 Years of Service
20	26.0517%	10.1803%	6.5606%	3.7313%	2.5162%	2.0051%	1.7520%	1.4856%	1.0593%	0.3281%	1.0398%
21	26.0517%	10.1803%	6.5606%	3.7313%	2.5162%	2.0051%	1.7520%	1.4856%	1.0593%	0.3281%	1.0398%
22	26.0517%	10.1803%	6.5606%	3.7313%	2.5162%	2.0051%	1.7520%	1.4856%	1.0593%	0.3281%	1.0398%
23	26.2212%	10.1803%	6.5606%	3.7313%	2.5162%	2.0051%	1.7520%	1.4856%	1.0593%	0.3281%	1.0398%
24	26.3908%	10.3029%	6.5606%	3.7313%	2.5162%	2.0051%	1.7520%	1.4856%	1.0593%	0.3281%	1.0398%
25	26.5603%	10.4254%	6.5949%	3.7313%	2.5162%	2.0051%	1.7520%	1.4856%	1.0593%	0.3281%	1.0398%
26	26.7299%	10.5480%	6.6291%	3.8886%	2.5162%	2.0051%	1.7520%	1.4856%	1.0593%	0.3281%	1.0398%
27	26.8994%	10.6706%	6.6634%	4.0459%	2.6449%	2.0051%	1.7520%	1.4856%	1.0593%	0.3281%	1.0398%
28	27.0690%	10.7931%	6.6976%	4.2032%	2.7735%	2.0787%	1.7520%	1.4856%	1.0593%	0.3281%	1.0398%
29	27.2385%	10.9157%	6.7319%	4.3605%	2.9022%	2.1523%	1.8688%	1.4856%	1.0593%	0.3281%	1.0398%
30	27.4081%	11.0383%	6.7661%	4.5178%	3.0309%	2.2260%	1.9856%	1.4940%	1.0593%	0.3281%	1.0398%
31	27.1427%	11.0812%	6.8886%	4.5112%	3.1596%	2.2996%	2.1024%	1.5025%	1.1516%	0.3281%	1.0398%
32	26.8773%	11.1241%	7.0112%	4.5046%	3.2882%	2.3732%	2.2191%	1.5109%	1.2439%	0.5117%	1.0398%
33	26.6119%	11.1670%	7.1337%	4.4979%	3.4169%	2.4468%	2.3359%	1.5194%	1.3362%	0.6954%	1.0244%
34	26.3465%	11.2100%	7.2562%	4.4913%	3.5456%	2.5205%	2.4527%	1.5279%	1.4285%	0.8790%	1.0090%
35	26.0811%	11.2529%	7.3787%	4.4847%	3.6742%	2.5941%	2.5695%	1.5363%	1.5208%	1.0627%	0.9935%
36	26.3803%	11.5408%	7.5717%	4.6966%	3.7348%	2.8379%	2.4681%	1.7463%	1.5639%	1.2464%	0.9781%
37	26.6794%	11.8287%	7.7646%	4.9086%	3.7955%	3.0816%	2.3668%	1.9563%	1.6070%	1.4300%	0.9626%
38	26.9786%	12.1165%	7.9575%	5.1206%	3.8561%	3.3254%	2.2654%	2.1662%	1.6501%	1.6137%	0.9472%
39	27.2778%	12.4044%	8.1505%	5.3326%	3.9167%	3.5692%	2.1640%	2.3762%	1.6933%	1.7973%	0.9318%
40	27.5770%	12.6923%	8.3434%	5.5446%	3.9773%	3.8129%	2.0626%	2.5862%	1.7364%	1.9810%	0.9163%
41	27.3127%	12.8411%	8.3212%	5.8174%	4.1323%	3.8680%	2.4053%	2.7373%	1.9111%	2.0298%	0.8855%
42	27.0485%	12.9899%	8.2990%	6.0902%	4.2873%	3.9231%	2.7479%	2.8884%	2.0858%	2.0786%	0.8546%
43	26.7842%	13.1388%	8.2768%	6.3631%	4.4423%	3.9782%	3.0905%	3.0394%	2.2605%	2.1275%	0.8238%
44	26.5200%	13.2876%	8.2546%	6.6359%	4.5973%	4.0333%	3.4331%	3.1905%	2.4352%	2.1763%	0.7929%
45	26.2557%	13.4364%	8.2324%	6.9088%	4.7523%	4.0884%	3.7757%	3.3416%	2.6099%	2.2251%	0.7621%
46	26.6854%	13.5077%	8.6828%	6.9149%	5.0506%	4.5896%	3.8026%	3.4646%	2.8790%	2.5757%	0.7882%
47	27.1151%	13.5791%	9.1332%	6.9211%	5.3490%	5.0909%	3.8294%	3.5877%	3.1481%	2.9263%	0.8143%
48	27.5448%	13.6504%	9.5837%	6.9272%	5.6473%	5.5921%	3.8563%	3.7107%	3.4173%	3.2769%	0.8404%
49	27.9745%	13.7218%	10.0341%	6.9334%	5.9457%	6.0934%	3.8831%	3.8338%	3.6864%	3.6275%	0.8664%
50	28.4043%	13.7931%	10.4845%	6.9395%	6.2440%	6.5946%	3.9100%	3.9568%	3.9555%	3.9781%	0.8925%
51	28.8340%	13.8644%	10.9349%	6.9456%	6.5423%	7.0958%	3.9368%	4.0799%	4.2246%	4.3286%	0.9186%
52	29.2637%	13.9358%	11.3853%	6.9518%	6.8407%	7.5971%	3.9636%	4.2029%	4.4937%	4.6792%	0.9447%
53	29.6934%	14.0071%	11.8357%	6.9579%	7.1390%	8.0983%	3.9905%	4.3260%	4.7629%	5.0298%	0.9708%
54	30.1231%	14.0785%	12.2861%	6.9641%	7.4374%	8.5996%	4.0173%	4.4490%	5.0320%	5.3804%	0.9969%

EXHIBIT 2-3
WITHDRAWAL RATES

TRS - Female

Age	0 Years of Service	1 Year of Service	2 Years of Service	3 Years of Service	4 Years of Service	5 Years of Service	6 Years of Service	7 Years of Service	8 Years of Service	9 Years of Service	At Least 10 Years of Service
20	23.9474%	10.1131%	6.1054%	4.6437%	5.2638%	5.2717%	5.0623%	5.1462%	5.0984%	5.4963%	3.7037%
21	23.9474%	10.1131%	6.1054%	4.6437%	5.2638%	5.2717%	5.0623%	5.1462%	5.0984%	5.4963%	3.7037%
22	23.9474%	10.1131%	6.1054%	4.6437%	5.2638%	5.2717%	5.0623%	5.1462%	5.0984%	5.4963%	3.7037%
23	24.5399%	10.1131%	6.1054%	4.6437%	5.2638%	5.2717%	5.0623%	5.1462%	5.0984%	5.4963%	3.7037%
24	25.1323%	10.3802%	6.1054%	4.6437%	5.2638%	5.2717%	5.0623%	5.1462%	5.0984%	5.4963%	3.7037%
25	25.7247%	10.6473%	6.6031%	4.6437%	5.2638%	5.2717%	5.0623%	5.1462%	5.0984%	5.4963%	3.7037%
26	26.3171%	10.9143%	7.1008%	5.1351%	5.2638%	5.2717%	5.0623%	5.1462%	5.0984%	5.4963%	3.7037%
27	26.9095%	11.1814%	7.5985%	5.6266%	5.4905%	5.2717%	5.0623%	5.1462%	5.0984%	5.4963%	3.7037%
28	27.5019%	11.4485%	8.0962%	6.1180%	5.7172%	5.5094%	5.0623%	5.1462%	5.0984%	5.4963%	3.7037%
29	28.0943%	11.7155%	8.5939%	6.6094%	5.9439%	5.7471%	5.3375%	5.1462%	5.0984%	5.4963%	3.7037%
30	28.6867%	11.9826%	9.0916%	7.1009%	6.1705%	5.9848%	5.6127%	5.3786%	5.0984%	5.4963%	3.7037%
31	28.0855%	12.0841%	9.1119%	7.1390%	6.3972%	6.2225%	5.8878%	5.6111%	5.3483%	5.4963%	3.7037%
32	27.4843%	12.1855%	9.1322%	7.1771%	6.6239%	6.4601%	6.1630%	5.8435%	5.5983%	5.4963%	3.7037%
33	26.8831%	12.2870%	9.1525%	7.2152%	6.8506%	6.6978%	6.4381%	6.0760%	5.8482%	5.4963%	3.7037%
34	26.2819%	12.3884%	9.1728%	7.2534%	7.0772%	6.9355%	6.7133%	6.3084%	6.0981%	5.4963%	3.7037%
35	25.6807%	12.4899%	9.1931%	7.2915%	7.3039%	7.1732%	6.9885%	6.5409%	6.3480%	5.4963%	3.7037%
36	25.1402%	11.9873%	8.8700%	6.9278%	6.7732%	6.5074%	6.4350%	6.0394%	5.8585%	5.1900%	3.3579%
37	24.5997%	11.4846%	8.5469%	6.5641%	6.2424%	5.8416%	5.8815%	5.5378%	5.3691%	4.8837%	3.0121%
38	24.0593%	10.9820%	8.2239%	6.2004%	5.7117%	5.1758%	5.3281%	5.0363%	4.8796%	4.5774%	2.6664%
39	23.5188%	10.4794%	7.9008%	5.8366%	5.1809%	4.5101%	4.7746%	4.5348%	4.3902%	4.2712%	2.3206%
40	22.9784%	9.9768%	7.5777%	5.4729%	4.6502%	3.8443%	4.2211%	4.0332%	3.9007%	3.9649%	1.9748%
41	23.0350%	10.0167%	7.5293%	5.2637%	4.5548%	3.7934%	3.9791%	3.7762%	3.5936%	3.5894%	1.8024%
42	23.0916%	10.0566%	7.4809%	5.0545%	4.4594%	3.7425%	3.7370%	3.5192%	3.2865%	3.2139%	1.6299%
43	23.1482%	10.0966%	7.4326%	4.8454%	4.3640%	3.6917%	3.4950%	3.2622%	2.9794%	2.8383%	1.4575%
44	23.2048%	10.1365%	7.3842%	4.6362%	4.2686%	3.6408%	3.2530%	3.0052%	2.6723%	2.4628%	1.2851%
45	23.2615%	10.1764%	7.3358%	4.4270%	4.1732%	3.5900%	3.0109%	2.7482%	2.3652%	2.0873%	1.1127%
46	24.0807%	10.5514%	7.6273%	4.8294%	4.3248%	3.7497%	3.1159%	2.9064%	2.4572%	2.2283%	1.1271%
47	24.9000%	10.9263%	7.9187%	5.2318%	4.4763%	3.9094%	3.2209%	3.0646%	2.5493%	2.3692%	1.1416%
48	25.7193%	11.3013%	8.2102%	5.6342%	4.6278%	4.0692%	3.3260%	3.2227%	2.6414%	2.5102%	1.1560%
49	26.5385%	11.6763%	8.5017%	6.0366%	4.7794%	4.2289%	3.4310%	3.3809%	2.7335%	2.6512%	1.1705%
50	27.3578%	12.0512%	8.7931%	6.4390%	4.9309%	4.3886%	3.5360%	3.5391%	2.8256%	2.7921%	1.1849%
51	28.1771%	12.4262%	9.0846%	6.8414%	5.0825%	4.5484%	3.6410%	3.6972%	2.9177%	2.9331%	1.1994%
52	28.9964%	12.8012%	9.3761%	7.2438%	5.2340%	4.7081%	3.7460%	3.8554%	3.0097%	3.0741%	1.2139%
53	29.8156%	13.1761%	9.6675%	7.6462%	5.3855%	4.8679%	3.8511%	4.0135%	3.1018%	3.2151%	1.2283%
54	30.6349%	13.5511%	9.9590%	8.0486%	5.5371%	5.0276%	3.9561%	4.1717%	3.1939%	3.3560%	1.2428%

EXHIBIT 2-4
DISABILITY RATES

	ERS			PFRS		TRS	
	Accidental Disability		All Other	Accidental	All Other	Male	Female
Age	Tiers 1&2	Tiers 3&4	Disability	Disability *	Disability	Disability **	Disability **
15	0.020%	0.003%	0.048%	0.137%	0.040%		
16	0.020%	0.003%	0.048%	0.137%	0.040%		
17	0.020%	0.003%	0.048%	0.137%	0.040%		
18	0.020%	0.003%	0.048%	0.137%	0.040%		
19	0.020%	0.003%	0.048%	0.137%	0.040%		
20	0.020%	0.003%	0.048%	0.137%	0.040%		
21	0.020%	0.003%	0.048%	0.137%	0.040%		
22	0.020%	0.003%	0.048%	0.137%	0.040%		
23	0.020%	0.003%	0.048%	0.137%	0.040%		
24	0.020%	0.003%	0.048%	0.137%	0.040%		
25	0.020%	0.003%	0.048%	0.137%	0.040%		
26	0.020%	0.003%	0.048%	0.137%	0.040%		
27	0.020%	0.003%	0.048%	0.137%	0.040%		
28	0.020%	0.003%	0.048%	0.137%	0.040%		
29	0.020%	0.003%	0.048%	0.137%	0.040%		
30	0.020%	0.003%	0.048%	0.137%	0.040%	0.0015%	0.0015%
31	0.020%	0.003%	0.048%	0.148%	0.040%	0.0038%	0.0025%
32	0.020%	0.003%	0.048%	0.163%	0.040%	0.0062%	0.0046%
33	0.020%	0.003%	0.057%	0.213%	0.040%	0.0065%	0.0072%
34	0.020%	0.003%	0.066%	0.271%	0.040%	0.0070%	0.0099%
35	0.020%	0.003%	0.074%	0.327%	0.040%	0.0073%	0.0133%
36	0.020%	0.003%	0.084%	0.378%	0.040%	0.0078%	0.0178%
37	0.020%	0.003%	0.095%	0.421%	0.040%	0.0085%	0.0229%
38	0.020%	0.003%	0.108%	0.454%	0.040%	0.0089%	0.0279%
39	0.020%	0.003%	0.124%	0.481%	0.042%	0.0119%	0.0319%
40	0.020%	0.003%	0.139%	0.506%	0.044%	0.0153%	0.0361%
41	0.020%	0.003%	0.155%	0.530%	0.046%	0.0202%	0.0406%
42	0.020%	0.003%	0.172%	0.555%	0.048%	0.0264%	0.0459%
43	0.020%	0.003%	0.189%	0.579%	0.050%	0.0341%	0.0522%
44	0.020%	0.004%	0.208%	0.602%	0.050%	0.0417%	0.0591%
45	0.020%	0.005%	0.229%	0.625%	0.051%	0.0484%	0.0663%
46	0.020%	0.006%	0.254%	0.646%	0.053%	0.0564%	0.0767%
47	0.020%	0.007%	0.284%	0.662%	0.055%	0.0799%	0.0914%
48	0.020%	0.008%	0.317%	0.670%	0.059%	0.1154%	0.1113%
49	0.020%	0.008%	0.355%	0.673%	0.064%	0.1401%	0.1272%
50	0.020%	0.008%	0.393%	0.677%	0.072%	0.1571%	0.1436%
51	0.020%	0.008%	0.426%	0.681%	0.086%	0.1673%	0.1564%
52	0.020%	0.008%	0.451%	0.685%	0.111%	0.1751%	0.1663%
53	0.020%	0.007%	0.496%	0.692%	0.153%	0.1811%	0.1739%
54	0.020%	0.005%	0.544%	0.700%	0.216%	0.1867%	0.1777%
55	0.020%	0.003%	0.597%	0.712%	0.300%		
56	0.020%	0.003%	0.654%	0.725%	0.398%		
57	0.020%	0.003%	0.717%	0.740%	0.501%		
58	0.020%	0.003%	0.787%	0.753%	0.591%		
59	0.020%	0.003%	0.863%	0.767%	0.656%		
60	0.020%	0.003%	0.947%	0.780%	0.720%		
61	0.020%	0.003%	1.040%	0.798%	0.785%		
62	0.020%	0.003%	1.140%	0.824%	0.849%		
63	0.020%	0.003%	1.251%	0.865%	0.914%		
64	0.020%	0.003%	1.372%	0.923%	0.978%		
65	0.020%	0.003%	1.505%	1.001%	1.043%		
66	0.020%	0.003%	1.650%	1.102%	1.107%		
67	0.020%	0.003%	1.810%	1.223%	1.171%		
68	0.020%	0.003%	1.985%	1.223%	1.235%		
69	0.020%	0.003%	2.176%	1.223%	1.300%		
70	0.000%	0.000%	0.000%	0.000%	0.000%		

* Includes performance of duty

** Assumed all disabilities are non-accidental

EXHIBIT 2-5
RETIREMENT RATES

	ERS - Tier 1			ERS - Tiers 2,3 & 4*		
	Years of Service			Years of Service		
Age	< 20	20 - 29.999	> = 30	< 20	20 - 29.999	> = 30
55	14.087%	21.760%	38.944%	5.368%	8.827%	28.216%
56	9.632%	15.181%	24.928%	4.518%	7.174%	20.938%
57	7.848%	13.186%	22.767%	4.626%	7.307%	18.393%
58	9.751%	14.383%	22.665%	4.870%	8.150%	21.279%
59	10.448%	16.200%	23.762%	5.683%	9.622%	24.370%
60	12.185%	17.497%	24.040%	6.412%	11.768%	23.707%
61	15.143%	23.394%	29.058%	11.522%	20.838%	32.988%
62	24.581%	39.194%	37.573%	20.910%	39.194%	43.710%
63	18.617%	25.830%	26.772%	14.090%	25.830%	31.095%
64	19.317%	23.372%	24.977%	14.543%	23.372%	24.977%
65	27.247%	31.101%	27.759%	19.902%	31.101%	27.759%
66	18.252%	24.229%	22.960%	15.511%	24.229%	22.960%
67	17.492%	21.717%	21.737%	14.727%	21.717%	21.737%
68	16.929%	21.250%	20.472%	14.148%	21.250%	20.472%
69	18.523%	21.035%	21.862%	15.790%	21.035%	21.862%
70	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%

* Excludes Syracuse Medical Center

	Upstate (Syracuse) Medical Center - ERS as Modified - Tiers 2,3 & 4		
	Years of Service		
Age	< 20	20 - 29.999	> = 30
55	10.736%	17.654%	28.216%
56	9.036%	14.348%	20.938%
57	9.252%	14.614%	18.393%
58	9.740%	16.300%	21.279%
59	11.366%	19.244%	24.370%
60	12.824%	23.536%	23.707%
61	20.910%	32.988%	32.988%
62	20.910%	39.194%	43.710%
63	14.090%	25.830%	31.095%
64	14.543%	23.372%	24.977%
65	19.902%	31.101%	27.759%
66	15.511%	24.229%	22.960%
67	14.727%	21.717%	21.737%
68	14.148%	21.250%	20.472%
69	15.790%	21.035%	21.862%
70	100.000%	100.000%	100.000%

EXHIBIT 2-5
RETIREMENT RATES

Years of Service	ERS (Correction Officer) - Tiers 1 &2	ERS (Correction Officer) - Tier 3
25	10.962%	26.648%
26	9.965%	14.923%
27	9.533%	15.678%
28	9.963%	17.105%
29	11.564%	18.182%
30	13.902%	18.182%
31	16.311%	18.182%
32	18.311%	18.311%
33	20.188%	20.188%
34	22.684%	22.684%
35	26.046%	26.046%
36	30.229%	30.229%
37	35.173%	35.173%
38	40.668%	40.668%
39	46.662%	46.662%
40	100.000%	100.000%

EXHIBIT 2-5
RETIREMENT RATES

Years of Service	**State Police - Tier 1**	**State Police - Tier 2**
20	7.322%	7.322%
21	7.073%	7.073%
22	8.349%	8.349%
23	5.671%	5.671%
24	5.058%	5.058%
25	8.781%	8.781%
26	8.084%	8.084%
27	10.850%	10.850%
28	13.515%	13.515%
29	15.451%	15.451%
30	18.469%	18.469%
31	18.469%	36.241%
32	18.469%	30.508%
33	18.469%	18.469%
34	18.469%	18.469%
35	18.469%	18.469%
36	18.469%	18.469%
37	18.469%	18.469%
38	18.469%	18.469%
39	18.469%	18.469%
40	100.000%	100.000%

EXHIBIT 2-5
RETIREMENT RATES

TRS As Modified for SUNY Campus

Age	Males	Females
55	9.4070%	7.6747%
56	7.7070%	6.2480%
57	6.6202%	4.7722%
58	6.4533%	4.7607%
59	7.0290%	5.0695%
60	7.5053%	5.8458%
61	7.4973%	5.9857%
62	22.5437%	18.1172%
63	19.0877%	17.9251%
64	17.6866%	17.1114%
65	19.3766%	19.5077%
66	16.4802%	17.6803%
67	16.9475%	14.8759%
68	16.4597%	17.0511%
69	14.3682%	16.6914%
70	11.2212%	15.4002%
71	100.0000%	100.0000%

EXHIBIT 2-6
ORIGINAL TRS RETIREMENT RATES

TRS as Provided - For Tier 1 Members and Tiers 2, 3 and 4 Members, at Least Age 62 or with 30 Years of Service

Age	Males	Females
55	37.6281%	30.6987%
56	30.8279%	24.9918%
57	26.4807%	19.0887%
58	25.8131%	19.0426%
59	28.1161%	20.2779%
60	30.0213%	23.3832%
61	29.9891%	23.9428%
62	37.5728%	30.1954%
63	31.8129%	29.8751%
64	29.4776%	28.5191%
65	32.2943%	32.5128%
66	27.4670%	29.4672%
67	28.2458%	24.7931%
68	27.4328%	28.4185%
69	23.9470%	27.8190%
70	18.7019%	25.6669%
71	100.0000%	100.0000%

TRS as Provided - For Tiers 2, 3 and 4 Members Less Than Age 62 and with Less Than 30 Years of Service

Age	Males	Females
55	9.4070%	7.6747%
56	7.7070%	6.2480%
57	6.6202%	4.7722%
58	6.4533%	4.7607%
59	7.0290%	5.0695%
60	7.5053%	5.8458%
61	7.4973%	5.9857%

EXHIBIT 2-7
SALARY SCALE

			TRS	
Age	**ERS**	**PFRS**	Males	Females
15	11.90%	31.16%		
16	11.90%	31.16%		
17	11.90%	31.16%		
18	12.10%	29.04%		
19	11.89%	27.03%		
20	11.47%	25.09%	12.65%	13.27%
21	10.98%	23.20%	12.45%	13.15%
22	10.49%	21.36%	12.23%	12.94%
23	10.03%	19.58%	12.04%	12.59%
24	9.61%	17.87%	11.76%	12.04%
25	9.24%	16.25%	11.30%	11.07%
26	8.90%	14.75%	10.64%	10.40%
27	8.59%	13.36%	10.19%	9.72%
28	8.30%	12.10%	9.72%	9.04%
29	8.02%	10.98%	9.28%	8.54%
30	7.76%	9.99%	8.89%	8.16%
31	7.50%	9.14%	8.55%	7.83%
32	7.26%	8.41%	8.27%	7.54%
33	7.03%	7.80%	8.02%	7.34%
34	6.81%	7.30%	7.77%	7.18%
35	6.62%	6.89%	7.51%	7.04%
36	6.43%	6.57%	7.28%	6.95%
37	6.27%	6.32%	7.06%	6.89%
38	6.12%	6.13%	6.86%	6.82%
39	5.99%	6.00%	6.66%	6.71%
40	5.87%	5.90%	6.45%	6.58%
41	5.77%	5.84%	6.26%	6.49%
42	5.67%	5.80%	6.08%	6.43%
43	5.58%	5.78%	5.92%	6.36%
44	5.49%	5.77%	5.78%	6.30%
45	5.40%	5.76%	5.65%	6.23%
46	5.32%	5.77%	5.52%	6.15%
47	5.24%	5.77%	5.34%	6.03%
48	5.16%	5.78%	5.21%	5.89%
49	5.09%	5.79%	5.11%	5.74%
50	5.01%	5.81%	5.02%	5.56%
51	4.95%	5.83%	4.90%	5.34%
52	4.89%	5.87%	4.92%	5.27%
53	4.84%	5.92%	4.72%	5.00%
54	4.79%	6.00%	4.57%	4.75%
55	4.75%	6.09%	4.32%	4.35%
56	4.71%	6.21%	4.11%	4.18%
57	4.68%	6.35%	3.98%	4.14%
58	4.65%	6.51%	3.95%	4.11%
59	4.62%	6.69%	3.86%	4.07%
60	4.59%	6.87%	3.69%	4.04%
61	4.56%	7.03%	3.63%	3.97%
62	4.53%	7.16%	3.61%	3.88%
63	4.50%	7.22%	3.60%	3.81%
64	4.46%	7.17%	3.58%	3.69%
65	4.39%	6.96%	3.57%	3.59%
66	4.26%	6.55%	3.55%	3.51%
67	4.01%	5.87%	3.54%	3.51%
68	4.01%	5.87%	3.53%	3.62%
69	4.01%	5.87%	3.51%	3.64%
70	4.01%	5.87%	3.47%	3.67%

SECTION 3 – HEALTH CARE TREND

The health care cost trend assumption is used to project the current year per capita plan costs, premium rates, and Medicare Part B premiums into the future. These costs are applied to the surviving covered population to determine the stream of future payments. GASB 45 states that "The selection of all actuarial assumptions, including the health care cost trend rate… should be guided by actuarial standards" and should be based on actual experience of the covered group to the extent the experience of the group is credible. GASB 45 defines the healthcare cost trend rate as:

> The rate of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

Unfortunately, since increases in medical costs can be volatile, this assumption is subject to wide variation and there can be a wide range of acceptable assumptions. In addition, our experience has shown that past cost increases are not necessarily indicative of future cost increases. Therefore, judgment is required in developing this assumption.

Based on a detailed analysis of the trend assumption, which considered the Actuarial Standard of Practice No. 6 (ASOP #6) - *Measuring Retiree Group Benefit Obligations*, research published by the Society of Actuaries entitled *Modeling Long Term Healthcare Cost Trends*, and other publications by actuaries and health care professionals regarding short-term medical cost increases and expected long-term health care spending, we believe that an appropriate trend assumption for valuing retiree health care liabilities should:

- Consider separate short-term trend rates for major cost components such as medical and prescription drug services;

- Be based primarily on the “core” trend components - medical inflation, utilization, and intensity of services, and exclude the impact of the aging of the covered population;
- Include short-term rates established with an emphasis towards the influences of the health care marketplace as a whole, while also considering the cost characteristics of the plan;
- Assume that over the long-term, health care costs ultimately will be constrained by the public’s ability and willingness to pay the higher cost of medical services; and
- Reflect the effect of future technology improvements on the long-term health care costs.

Generally, in practice the trend assumption is based on a select and ultimate model; that is, short-term and long-term experience will differ with rates typically decreasing in future years until an ultimate level is reached. The short-term or select rates often are based on past plan experience and external projections of the “core” trend components. Short-term trend should reflect any multi-year contractual arrangements, for example guaranteed maximum rate hikes. In some cases, this actually could result in a low initial trend, increasing to a “market” trend, before coming back down to an ultimate level. In this case, we have reflected expectations of changes in the health care environment due to health care reform.

Based on our review of past NYSHIP experience, coupled with our review of industry trend surveys, we believe a reasonable short-term trend is 10% for Prescription Drugs and 10% and 5.8% for Medical benefits for non-Medicare and Medicare eligible retirees, respectively. The short term trend for Prescription Drug costs is higher than assumed for the April 1, 2008 valuation. The trend expectation for the current fiscal year for Medical costs is higher for non-Medicare eligible retirees, while the trend expectation for the current fiscal year is lower for Medicare eligible retirees than assumed for our previous valuation. Medicare changes that have been enacted since our last valuation have resulted

in lower trends for medical benefit costs for the Medicare population. Further changes enacted with health care reform are anticipated to continue this disparity into the future. Thus, we used trend rates that distinguish between pre and post-Medicare medical costs for the 4/1/10 valuation.

We view the ultimate trend rate as the expected annual increase in plan costs once medical costs are constrained. GASB noted in GASB 45 that the ultimate trend rate generally approaches the assumed long-term rate of inflation over time. However, there is evidence from research in the actuarial field suggesting that technology improvements will have a long-term effect on health care costs, which we believe should be reflected in the ultimate trend rate.

Therefore, in developing the 5% ultimate rate we assume it is comprised of:

- 1½% real growth in per capita plan costs (which is related to real GDP growth);
- ½% long-term growth attributable to technology innovations: and
- 3% assumed long-term inflation.

This is the same ultimate trend assumption used in our April 1, 2008 valuation.

SECTION 4 – DEMOGRAPHIC ASSUMPTIONS

Demographic assumptions are rates of mortality, disability, withdrawal and retirement.

With the exception of SUNY Campus employees, most State employees are covered by the Employees' Retirement System (ERS) and, to a lesser extent, by the Police & Fire Retirement System (PFRS). We reviewed the April 1, 2009 demographic assumptions being used by the New York State & Local Retirement System to value participants in ERS and PFRS and concluded that these assumptions generally form a reasonable basis for our valuation. These assumptions remain unchanged from the assumptions reflected in our previous valuation.

We have not reflected any difference in demographic assumptions for Tier V (new retirement provisions). Very few individuals included in this valuation would be Tier V employees. Moreover, we were informed by the New York State & Local Retirement System actuary that ERS expected to use the same demographic assumptions for Tier V as they will use for Tier IV.

We did not examine the detailed experience underlying the development of those assumptions. The assumptions were based on the experience of ERS and PFRS as a whole, and do not reflect any potential differences in termination rates between State employees and employees of PAs and PEs. No adjustments were made for the possibility that an employee could terminate from the State but remain covered under ERS or PFRS with a different employer.

We made the following adjustments to the ERS and PFRS mortality rates:

- The mortality rates were developed on a dollar-weighted basis (reflecting the better longevity of higher income employees). While dollar-weighted mortality rates are appropriate for valuing pension benefits, they should be modified

when benefits are do not vary by income or pension levels. At the suggestion of the actuary for the New York State & Local Retirement System, who has studied mortality rates based on numbers of deaths, we increased all mortality rates by 8%.

- Since census data relating to job type was not readily available, we assumed that 85% of retired males were clerks and 15% of retired males were laborers to develop a blended postretirement mortality assumption. The New York State & Local Retirement System actuary determined this population spilt for male State retirees. The actuary does not use a separate postretirement mortality assumption for female clerks and laborers.

> ***Note for PAs:*** *This blended assumption was based on the proportion of State retirees who were clerks as compared to laborers. The proportion of retirees for a particular PA in each of these categories could vary based on group demographics.*

- The New York State & Local Retirement System uses a single blended postretirement mortality assumption in valuing ERS active employees rather than three separate tables (male clerks, male laborers, and females). We did not use this approximation.

- The New York State & Local Retirement System values ERS and PFRS beneficiaries using a separate mortality table. However, because the beneficiary population is not fully credible and because beneficiaries under a retirement plan can be other than the retiree's spouse, we did not use the beneficiary mortality table but rather used the retiree table.

We continue to use mortality rates adjusted as discussed above.

The ERS and PFRS valuations are based on central rates of decrement. For purposes of our calculations, the central rates were converted to rates of

decrement based on the formulas outlined in **Life Contingencies**[5], by C.W. Jordan, as suggested by the actuary for the systems.

The situation is somewhat more complex for SUNY Campus employees. While some SUNY campus employees – primarily staff and not the professors – are in ERS, many are in the New York State Teachers' Retirement System (TRS), with the majority purchasing an annuity from TIAA-CREF. No demographic assumptions are readily available for those who are in TIAA-CREF. Moreover, our valuation data is missing the retirement system information for a significant portion of the Campus employees. Given these factors, we recommended that a single set of demographic assumptions be used for the SUNY Campus employees (other than those identifiable as PFRS).

We reviewed the most recent demographic assumptions provided to us by the actuary for TRS and believe they generally form a reasonable basis for valuing SUNY Campus employees. We did not examine the detailed experience underlying the development of those assumptions for purposes of this valuation. In practice, our experience with other university employers indicates that SUNY Campus employees are likely to have higher turnover and lower retirement rates than typical TRS participants who generally teach in public grade schools.

We modified the TRS retirement assumptions based on various statistics provided to us by SUNY for our prior valuation, including counts of Campus retirements over the past few years. We did not reflect the higher retirement rates that applied to TRS employees eligible for "full" unreduced pensions.[6] We also reduced the TRS retirement rates for employees over age 62.

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[5] Jordan, Jr., Chester Wallace; ***Life Contingencies***;Society of Actuaries, 1967.

[6] TRS uses higher retirement rates at ages 55 through 61 for employees in Tier 1 and those in Tiers 2, 3 and 4 who have at least 30 years of service.

Note for PAs: *As noted above, it is our experience that university employees have different career patterns than teachers in public grade schools. The modifications in TRS retirement rates were developed to reflect university experience. The original TRS retirement rates without modifications reflect experience of the overall TRS population, consisting mainly of teachers in public grade schools.*

We did not modify the TRS withdrawal assumptions for this valuation. While the overall numbers of employees who terminated from SUNY is higher than we had anticipated, it is likely that much of that turnover is within adjunct faculty employees, many of whom never joined either a Retirement System or NYSHIP.

The valuation also reflects specific withdrawal assumptions for three SUNY hospitals. A separate retirement assumption was also used for one of the hospitals. SUNY hospital employees generally participate in ERS. However, in our experience, hospitals, especially university teaching hospitals, tend to have much higher turnover than regular state employees. SUNY provided Buck with detailed census information for the three hospitals for our previous valuation which did indicate that the hospital employees had higher turnover than assumed for overall ERS participants. Based on this census information, we developed separate withdrawal assumptions for each hospital as well as modification of ERS retirement rates for one of the hospitals.

Note for PAs: *These SUNY hospital assumptions are based on experience of particular employers and are not likely to be representative of the experience of any particular PA.*

SECTION 5 - HEALTH CARE REFORM CONSIDERATIONS

Health care delivery is going through a revolution due to the enactment of health care reform. The Patient Protection and Affordable Care Act (PPACA), was signed March 23, 2010, with further changes enacted by the Health Care and Education Affordability Reconciliation Act (HCEARA), signed March 30, 2010. This report has discussed various assumptions that were modified based on considerations under health care reform legislation. This section discusses particular legislative changes that were reflected in our assumptions. We did not identify any other specific provision of healthcare reform that would be expected to have a significant impact on the measured obligation for the State.

> ***Note for PAs:*** *Buck Consultants developed these recommended actuarial assumptions on the basis that the State would maintain grandfathered status as defined in PPACA. DCS has decided to maintain grandfathered status for the State. On the other hand, the PAs have non-grandfathered benefits, which in effect mean that the benefits must comply with other provisions in Health Care Reform that were not reflected for the NYS and SUNY valuation. The impact of the additional provisions effective now should be reflected in the 2011 premium rates being charged to the PAs. However, each PA should consider the impact of future mandates on its costs.*

- Individual Mandate for Insurance — Under health care reform, individuals (whether actively employed or otherwise) must be covered by health insurance or else pay a penalty tax to the government. While it is not anticipated that health care reform will result in universal coverage, it is expected to increase the overall portion of the population with coverage. We believe that this will result in an increased demand on health care providers, resulting in higher trend for medical services for non-Medicare eligible retirees. (Medicare costs are contained by Medicare payment mechanisms already in place, plus additional reforms added by PPACA and HCEARA.) In addition, we believe that the mandate could result in somewhat higher enrollment of dependent spouses. (We already assume 100% enrollment for

retirees). While health care reform also involves individual income based subsidies for retirees, we do not believe that those subsidies will result in any significant waiver of NYSHIP's very heavily subsidized retiree coverage.

- Employer Mandate — Health reform includes various provisions mandating employer coverage for active employees, with penalties for non-compliance. But those provisions do not directly apply to the postemployment coverage included in this valuation.

- Expansion of Child Coverage to age 26 — Health reform mandates that coverage be offered to any child, dependent or not, through age 26, consistent with coverage for any other dependent. New York State insurance law mandates coverage to age 29, but on a fully contributory basis. We estimated this provision will increase the Empire Plan per capita plan costs for non-Medicare eligible individuals by about 0.4%.

- Elimination of Annual or Lifetime Maximums — Health reform provides that annual or lifetime maximums have to be eliminated for all "essential services". We do not believe that NYSHIP includes any limits that have any significant impact on costs.

- Minimum Loss Ratio — Health reform includes a provision that provides that medical benefit costs paid under large group health insurance insured premiums must be at least 85% of the premiums. While guidance detailing how this calculation would work was not available at the time these assumptions were developed, the overall retention under the NYSHIP arrangements is generally low enough that this provision should not have any significant impact on NYSHIP benefits.

- Early Retiree Reinsurance Program — The health care reform legislation included a federal subsidy for certain retirees between age 55 and 64 who are not on Medicare. We understand that NYSHIP has applied for the subsidy.

As noted earlier, we did not reflect the value of the Early Retiree Reinsurance Program in the valuation, because of accounting rules related to the recognition of intra-governmental transfer.

- High Cost Plan Excise Tax — Health care reform includes various revenue raisers. One of the more complex revenue raisers is the high cost plan excise tax, also known as the Cadillac tax. While its stated intent is to tax only high cost plans that provide what might be considered "Cadillac" benefits, as legislated, it is likely to have much broader impact. The tax limits above which the benefits are taxed increase only at CPI, while we continue to assume that health care costs will increase faster, reflecting real growth in GDP and technology innovations. Given that assumption, any health benefit, no matter how frugal initially, will ultimately be assumed to cost more than the limit resulting in a tax. The assumptions included an explicit measure of this tax as part of the valuation.

- Medicare Payment Reforms — The legislation includes variety of reforms in the payment mechanisms for medical benefits. The changes include reduced Part A and Part B payment levels, adjustment to future "market basket" payment updates for productivity improvements, reduce disproportionate share hospital payments and implement an Independent Payment Advisory Board. All of these mechanisms control the costs of medical benefits for Medicare participants, both for Medicare and for benefits coordinated with Medicare (since costs not paid by Medicare are constrained by balance billing requirements). Since these restrictions do not apply to non-Medicare benefits, we have developed separate, lower trend assumptions for the medical benefits constrained by Medicare rules as compared to the trend assumption for medical benefits costs not constrained by Medicare.

- Medicare Advantage Changes — One of the funding sources in the legislation is a series of provisions reforming the amounts paid by the federal government to Medicare Advantage (MA) plans. The amounts provided to

MA plans for 2011 have been frozen at the 2010 level. Over a longer period the amount paid will be reduced to generally lower percentages of fee-for-service Medicare benefits. It was anticipated that MA plans, as a result of reduced federal funding, will either increase premiums to employers and members, reduce benefits, or some combination of the two. The complete set of assumptions included an expectation for the average amounts of the increase in Medicare Advantage premiums that would be paid by NYSHIP, as well as other assumptions specific to Medicare Advantage plans that we did not consider relevant to PAs.

Note for PAs: *This provision does not affect PAs since the Empire Plan is not a Medicare Advantage plan.*

- Medicare Part D changes — Health care reform included a variety of changes to the Medicare Part D program involving a gradual improvement of benefits in the coverage gap (donut hole). There is also a discount program for brand drugs in what would have been the coverage gap, with the discount amount coming directly from the drug manufacturers. The improved Medicare Part D benefits would directly affect those Medicare Advantage HMOs that provide drug benefits through Medicare Part D arrangements. The impact could result in either higher or lower costs for this prescription coverage. After consideration, we did not recommend any alteration in the trend assumption for the drug benefits provided by the Medicare Advantage Part D plans.

Note for PAs: *This provision does not affect PAs since the Empire Plan is not a Medicare Advantage plan.*

- Medicare Part B premium — The previous law included higher levels of Medicare Part B premium for individuals whose income exceeds certain limits. The limits had been indexed to cost of living. The health care reform legislation freezes those income limits for the next decade. This is expected

to result in a greater portion of retirees being affected by the increased Part B premium levels. Since NYSHIP mandates the reimbursement of the Part B premium including any income related increase amounts, the change directly affects NYSHIP coverage costs.

- Pharmacy Fees and Costs — The law includes a direct tax on pharmacy manufacturers totalling $2.5 billion in 2011, increasing to $4.2 billion in 2018. Medicaid changes in health care reform involve a significant requirement of increased pharmacy rebates that will have to come from the manufacturers. In addition, pharmaceutical manufacturers have additional costs from the discount under Medicare Part D. All of these are resulting in increased pressure on pharmaceutical costs. We considered these factors when developing the recommendation for trend for prescription drug costs.

- Other Revenue Raisers — The health care reform includes a variety of other revenue raisers that involve additional costs on providers (such as medical device manufacturers) and insurers. We considered these factors when developing the recommendation for trend assumptions.

Note for PAs: *Buck Consultants has developed these recommended actuarial assumptions solely for the purpose of valuing New York State and SUNY's obligation under GASB 45. Each PA should consider its own circumstances when determining how to reflect the impact of the legislation.*

Exhibit 2-1
Empire Plan Annual Premium Rates

2010				
Option	Tier	Non Rx	Rx	Total
Empire Plan	Individual - Non-Medicare	$6,172	$1,176	$7,348
	Family - Non-Medicare	13,476	2,495	15,971
	Individual - Medicare	1,713	2,695	4,408
	Family - 1 Medicare Member	9,018	4,013	13,031
	Family - 2 or More Medicare Members	4,560	5,532	10,092
Excelsior Plan	Individual - Non-Medicare	5,578	922	6,501
	Family - Non-Medicare	12,240	1,957	14,197
	Individual - Medicare	1,562	2,124	3,686
	Family - 1 Medicare Member	8,224	3,159	11,382
	Family - 2 or More Medicare Members	4,208	4,360	8,568

2011				
Option	Tier	Non Rx	Rx	Total
Empire Plan	Individual - Non-Medicare	$7,061	$1,266	$8,327
	Family - Non-Medicare	15,470	2,697	18,167
	Individual - Medicare	1,882	2,985	4,868
	Family - 1 Medicare Member	10,291	4,416	14,707
	Family - 2 or More Medicare Members	5,112	6,135	11,248
Excelsior Plan	Individual - Non-Medicare	6,338	1,029	7,367
	Family - Non-Medicare	13,963	2,193	16,156
	Individual - Medicare	1,705	2,432	4,137
	Family - 1 Medicare Member	9,330	3,596	12,926
	Family - 2 or More Medicare Members	4,697	4,999	9,696

SECTION 6 – QUALIFICATIONS

Buck Consultants has developed these recommended actuarial assumptions solely for the purpose of enabling New York State to value its obligation under GASB 45. The assumptions may not be appropriate for any individual PA. While these assumptions are being provided to PAs for guidance, each PA will need to consult with its actuarial and financial advisors to ensure that the assumptions are appropriate for its own use.

DCS' contractual agreement with Buck Consultants does not provide for Buck to consult directly with NYSHIP Participating Agencies. Therefore, any additional guidance with respect to this report or the establishment of actuarial assumptions would be at the expense of the agency.

In developing the assumptions, we relied upon plan provisions, premium, claim and enrollment data provided to us by the Department of Civil Service and the Empire Plan insurers. In selecting the discount rate assumption, we relied upon information provided to us by the Office of State Comptroller.

EXHIBIT 2-2
PRERETIREMENT MORTALITY RATES

	ERS		PFRS		TRS	
	Accidental	All Other	Accidental	All Other	Male	Female
Age	Death	Death	Death	Death	Death *	Death *
15	0.002%	0.049%	0.009%	0.051%		
16	0.002%	0.049%	0.009%	0.051%		
17	0.002%	0.049%	0.009%	0.051%		
18	0.002%	0.049%	0.009%	0.051%		
19	0.002%	0.049%	0.009%	0.051%		
20	0.002%	0.049%	0.009%	0.051%	0.0050%	0.0042%
21	0.002%	0.049%	0.009%	0.051%	0.0064%	0.0061%
22	0.002%	0.049%	0.009%	0.051%	0.0082%	0.0063%
23	0.002%	0.049%	0.009%	0.051%	0.0103%	0.0072%
24	0.002%	0.049%	0.009%	0.051%	0.0116%	0.0074%
25	0.002%	0.049%	0.009%	0.051%	0.0124%	0.0083%
26	0.002%	0.049%	0.009%	0.051%	0.0135%	0.0098%
27	0.002%	0.049%	0.009%	0.051%	0.0141%	0.0109%
28	0.002%	0.050%	0.009%	0.051%	0.0159%	0.0113%
29	0.002%	0.051%	0.009%	0.051%	0.0167%	0.0125%
30	0.002%	0.053%	0.009%	0.051%	0.0171%	0.0140%
31	0.002%	0.055%	0.009%	0.052%	0.0187%	0.0150%
32	0.002%	0.057%	0.009%	0.054%	0.0195%	0.0151%
33	0.002%	0.057%	0.009%	0.055%	0.0207%	0.0166%
34	0.002%	0.058%	0.009%	0.055%	0.0214%	0.0171%
35	0.002%	0.060%	0.009%	0.055%	0.0224%	0.0184%
36	0.002%	0.064%	0.009%	0.055%	0.0239%	0.0193%
37	0.002%	0.069%	0.009%	0.055%	0.0248%	0.0201%
38	0.002%	0.077%	0.009%	0.055%	0.0258%	0.0210%
39	0.002%	0.086%	0.009%	0.055%	0.0270%	0.0244%
40	0.002%	0.096%	0.009%	0.055%	0.0317%	0.0269%
41	0.002%	0.106%	0.009%	0.055%	0.0379%	0.0288%
42	0.002%	0.114%	0.009%	0.058%	0.0437%	0.0310%
43	0.002%	0.123%	0.009%	0.065%	0.0499%	0.0343%
44	0.002%	0.132%	0.009%	0.076%	0.0540%	0.0391%
45	0.002%	0.140%	0.009%	0.089%	0.0581%	0.0425%
46	0.002%	0.149%	0.009%	0.103%	0.0640%	0.0441%
47	0.002%	0.161%	0.009%	0.115%	0.0682%	0.0465%
48	0.002%	0.174%	0.009%	0.125%	0.0735%	0.0489%
49	0.002%	0.189%	0.009%	0.131%	0.0785%	0.0525%
50	0.002%	0.205%	0.009%	0.134%	0.0847%	0.0549%
51	0.002%	0.220%	0.009%	0.139%	0.0916%	0.0570%
52	0.002%	0.234%	0.004%	0.152%	0.1013%	0.0594%
53	0.002%	0.249%	0.004%	0.177%	0.1082%	0.0616%
54	0.002%	0.265%	0.004%	0.217%	0.1154%	0.0637%
55	0.002%	0.283%	0.004%	0.271%	0.1207%	0.0684%
56	0.002%	0.302%	0.004%	0.336%	0.1309%	0.0723%
57	0.002%	0.326%	0.004%	0.411%	0.1404%	0.0789%
58	0.002%	0.352%	0.004%	0.495%	0.1506%	0.0825%
59	0.002%	0.383%	0.004%	0.598%	0.1558%	0.0880%
60	0.002%	0.419%	0.004%	0.739%	0.1652%	0.0969%
61	0.002%	0.462%	0.004%	0.753%	0.1702%	0.1043%
62	0.002%	0.512%	0.004%	0.818%	0.1803%	0.1108%
63	0.002%	0.563%	0.004%	0.891%	0.1906%	0.1174%
64	0.002%	0.612%	0.004%	0.977%	0.2009%	0.1261%
65	0.002%	0.668%	0.004%	1.084%	0.2205%	0.1362%
66	0.002%	0.721%	0.004%	1.216%	0.2408%	0.1462%
67	0.002%	0.775%	0.004%	1.368%	0.2603%	0.1609%
68	0.002%	0.839%	0.004%	1.531%	0.3006%	0.1810%
69	0.002%	0.903%	0.004%	1.698%	0.3508%	0.2000%
70	0.000%	0.000%	0.000%	0.000%	0.5003%	0.2305%

* Assumed all deaths are non-accidental