November 10, 2010

Experience Study 2004 - 2009
Public Employees Police & Fire Fund

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November 10, 2010

Ms. Mary Most Vanek
Executive Director
Public Employees Retirement Association of Minnesota
60 Empire Drive, Suite 200
St. Paul, MN 55103

2009 Experience Study – Public Employees Police & Fire Fund

Dear Mary:

The results of the actuarial valuation are based on actuarial methods, procedures and assumptions adopted by the Legislative Commission on Pensions and Retirement (LCPR). These assumptions are used in developing employer contribution rates, disclosing employer liabilities pursuant to GASB requirements and for analyzing the fiscal impact of proposed legislative amendments.

The purpose of this report is to present the results of our review of the actuarial methods and procedures, economic assumptions, and demographic assumptions used in the June 30, 2009 actuarial valuation. Our proposals represent our best-estimate based on recent experience, future expectations and professional judgment.
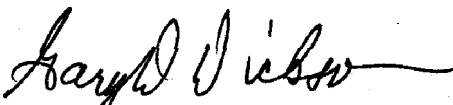
The analysis in this study was based on data for the period from July 1, 2004, to June 30, 2009, as provided by the Fund. The Fund's actuary would not customarily verify this data. We have reviewed the information for internal consistency and reasonableness and have no reason to doubt its substantial accuracy.

This report has been prepared exclusively for the Public Employees Police & Fire Fund. Mercer is not responsible for consequences arising from the use of this report for any other purposes.

We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

Sincerely,

Bonita J. Wurst, ASA, EA, MAAA   Gary D. Dickson, FSA, EA, MAAA

The information contained in this document (including any attachments) is not intended by Mercer to be used, and it cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer.

Contents

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Executive Summary

This report has been prepared by Mercer for the Public Employees Police & Fire Fund in order to analyze the Fund's experience from July 1, 2004, through June 30, 2009, and to develop proposals for changes in valuation methods, allocation procedures, economic assumptions, and demographic assumptions.

A brief summary of our proposals is as follows:

Actuarial Methods	No changes to current actuarial methods.
Economic Assumptions	Reduce the real wage growth assumption from 1.50% to 0.75%.
	Reduce the payroll growth assumption from 4.50% to 3.75%.
	Change the salary increase assumption from an age related table to a service related table.
	Reduce the investment return assumption from 8.50% to 8.00%.
Demographic Assumptions	Change the basis for several of the assumptions and make adjustments to several other current assumptions to more closely match experience.

Executive Summary

Overview of Proposed Changes

Actuarial Methods
We propose no changes to the actuarial methods.

Economic Assumptions

Real Wage Growth

Based on our analysis of actual growth in real National Average Wages over the last 50 years, we propose changing the current assumption from 1.50% to 0.75%.

Payroll Growth

Based on our proposed change in the Real Wage Growth assumption, we propose changing the current assumption from 4.50% to 3.75%.

Salary Increases

We propose changing the salary increase rates from an age based table to a service based table.

Investment Return

Based on our analysis of anticipated returns for asset classes included in the target asset allocation, we propose changing the current assumption from 8.50% to 8.00%. Please see our Experience Study for Public Employees Retirement Fund dated August 31, 2009 for the detail behind this proposal.

Demographic Assumptions

Healthy Post Retirement Mortality

Mortality rates are used to project the length of time benefits will be paid to current and future retirees and beneficiaries. We propose a change to a more recent mortality table to better anticipate current and future mortality patterns.

Disabled Post Retirement Mortality

In conjunction with our proposed change for healthy retiree mortality, we propose a change to a more recent disabled mortality table with adjustments.

Pre-retirement Mortality

In conjunction with our proposed change for healthy retiree mortality, we are proposing a change to a more recent mortality table with adjustments.

Executive Summary

Retirement from Active Status

Retirement rates for actives are used to predict when active members will elect to begin receiving retirement benefits. We propose increasing the retirement rates at ages 50 and 54 to reflect retirement patterns observed over the five-year experience study period.

Retirement from Inactive Status

Retirement rates for inactives are used to predict when vested terminated members will elect to begin receiving retirement benefits. We propose no change in the current assumption.

Annuity Form Elections at Retirement

We propose making minor adjustments to the age difference between retirees and beneficiaries for males and the percentages of retirees electing the optional forms of benefit at retirement.

Disability Retirement

We propose no adjustment in disability rates for male and female members.

Termination Rates

We propose changing the termination rates during the three-year select period to reflect higher expected turnover.

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Actuarial Methods

Overview

Actuarial methods and allocation procedures are used as part of the valuation to determine actuarial accrued liabilities, to determine normal costs, to allocate costs to individual employers and to amortize unfunded accrued liabilities (UAL). We used the following objectives to propose actuarial methods and allocation procedures:

- Transparency of costs and funded status
- Predictable and stable employer contribution rates
- Protection of the plan's funded status
- Equity across generations
- Actuarial soundness
- Compliance with GASB requirements

We propose no changes to the fundamental actuarial methods at this time. The actuarial methods used for the June 30, 2009 actuarial valuation are shown in the table on the next page.

Actuarial Methods

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Method	June 30, 2009 Method	Proposed Method
Cost method	Entry Age Normal	No change
UAL amortization method	UAL Amortized as a level percent of payroll. The UAL amortization method results in initial payments less than the "interest only" payment on the UAL. Payments less than the interest only amount will result in the UAL increasing for an initial period of time.	No change
UAL amortization period	A closed period ending June 30, 2038. If there is a negative Unfunded Actuarial Accrued Liability, the surplus amount shall be amortized over 30 years as a level percentage of payroll	No change
Asset valuation method	The assets are valued based on a five-year moving average of expected and market values (five-year average actuarial value) determined as follows: ▪ At the end of each plan year, an average asset value is calculated as the average of the market asset value at the beginning and end of the fiscal year net of investment income for the fiscal year; ▪ The investment gain or (loss) is taken as the excess of actual investment income over the expected investment income based on average asset value as calculated above; ▪ The investment gain or (loss) so determined is recognized over five years at 20% per year; ▪ The asset value is the sum of the expected asset value plus the schedule recognition of investment gains or (losses) during the current and the preceding four plan years. For the purpose of determining the actuarial value of assets, the Post Fund asset loss for the fiscal year ending June 30, 2009 is recognized incrementally over five years at 20% per year, similar to the smoothing of active fund assets. Prior to June 30, 2009, Post Fund asset gains and losses were not smoothed.	No change

The funding method is described in greater detail on the following page.

Actuarial Methods

Actuarial Cost Method

The total cost of the Fund, over time, will be equal to the benefits paid less investment earnings and is not affected directly by the actuarial cost method. The actuarial cost method is simply a tool to assign costs to past, current or future years and, thus, primarily affects the timing of contributions.

The Individual Entry Age Normal Cost Method is used to determine liabilities and contributions. This method is prescribed by Minnesota Statutes.

The objective under this method is to fund each participants' benefits under the Plan as payments which are level as a percentage of salary, starting at original participation date (or employment date), and continuing until the assumed retirement, termination, disability or death.

At any given date, a liability is calculated equal to the contributions which would have been accumulated if this method of funding had always been used, the current plan provisions had always been in place, and all assumptions had been precisely accurate. The difference between this liability and the assets (if any) which are held in the fund is the unfunded liability. The unfunded liability is typically funded over a chosen period in accordance with the amortization schedule.

A detailed description of the calculation follows:

The normal costs for each active participant under the assumed retirement age is determined by applying to earnings the level percentage of salary which, if contributed each year from date of entry into the Plan until the assumed retirement (termination, disability or death) date, is sufficient to provide the full value of the benefits expected to be payable.

The present value of future normal costs is the total of the discounted values of all active participants' normal cost, assuming these to be paid in each case from the valuation date until retirement (termination, disability or death) date.

The present value of projected benefits is calculated as the value of all benefit payments expected to be paid to the Plan's current participants, including active and retired members, beneficiaries, and terminated members with vested rights.

The accrued liability is the excess of the present value of projected benefits over the present value of future normal cost.

The unfunded liability is the excess of the accrued liability over the assets of the fund, and represents that part of the accrued liability which has not been funded by accumulated past contributions.

We propose no change to the actuarial cost method.

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Economic Assumptions

Overview

Actuaries have traditionally been involved in the selection of economic assumptions and actuarial standards provide parameters for doing so. However, while actuaries have expertise in making sure assumptions are internally consistent within a model, actuaries have no more expertise in selecting many of the economic assumptions than do certain other professionals, e.g. economists. Actuaries must make "educated guesses" using professional judgment applied to historical information and estimates of future outcomes. As such, this report contains one set of economic assumptions that we would categorize as our best estimate. However, other sets of assumptions may be equally valid.

Actuarial Standard of Practice (ASOP) No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations,* provides guidance on selecting economic assumptions used in measuring obligations under defined benefit pension plans. ASOP No. 27 suggests that economic assumptions be developed using the actuary's professional judgment, taking into consideration past experience and the actuary's expectations regarding the future. The process for selecting economic assumptions involves:

- Identifying components of each assumption and evaluating relevant data;
- Developing a best-estimate range for each economic assumption; and
- Evaluating measurement specific factors and selecting a point within the best-estimate range.

Economic Assumptions

A summary of the economic assumptions used for the June 30, 2009 actuarial valuation and proposed changes are shown below:

Assumption	June 30, 2009 Assumption	Proposed Assumption
Inflation	3.00%	No Change[1]
Real wage growth (productivity)	1.50%	0.75%
Payroll growth	4.50%	3.75%
Salary Growth	Age related table	Service related table
Regular investment return	8.50%	8.00%[1]

Where appropriate, our economic assumption analysis and proposals are consistent with our recent analysis and final assumptions for the Public Employees Retirement Fund.

Real Wage Growth

Real wage growth represents the increase in wages above inflation for the entire group due to improvements in productivity and competitive pressures. Merit and longevity wage growth, in contrast, represent the increases in wages for an individual due to factors such as performance, promotion, or seniority. Real wage growth combined with inflation represents the expected growth in total payroll for a stable population. Changes in payroll due to an increase or decline in the covered population are not captured by this assumption.

The chart below shows the real growth in national average wages over the past fifty years based on data compiled by the Social Security Administration.

Historical Real Growth in National Average Wages

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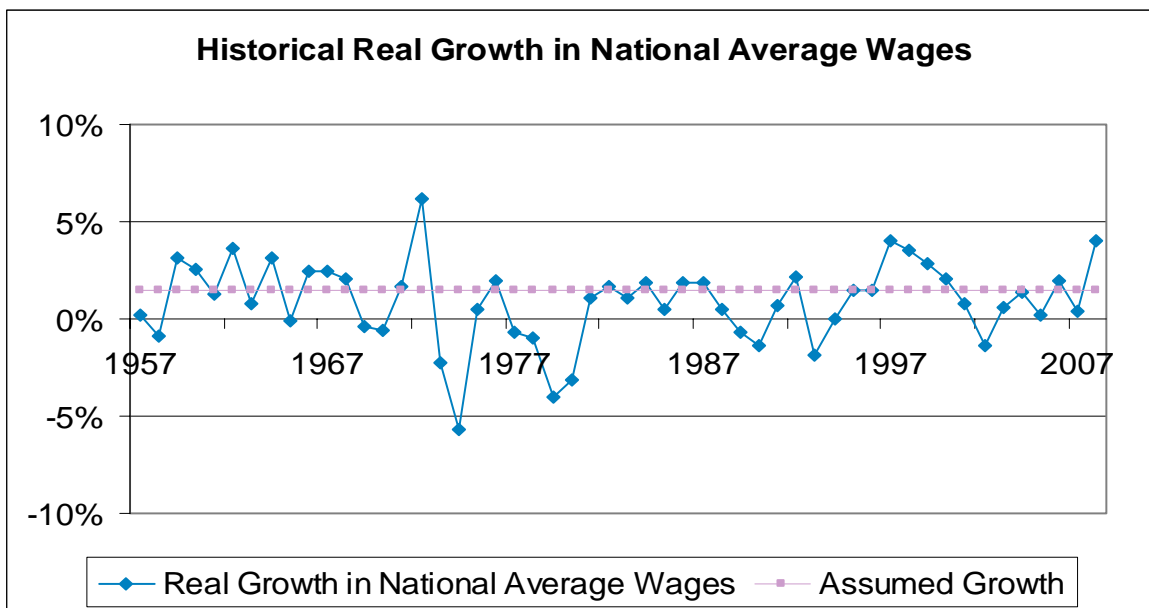
[1] Please see the Experience Study for the Public Employees Retirement Fund dated August 31, 2009 for the detail behind this proposed assumption.

Economic Assumptions

While the change in any one year has been volatile, the change over longer periods of time is more stable as shown in the table below.

Length of Period Ending June 30, 2008	Average Real Growth in National Average Wages
10 years	1.24%
20 years	0.94%
30 years	0.67%
40 years	0.56%
50 years	0.81%

Mercer's economic modeling suggests a reasonable expectation of average real growth in wages is from .50% to as much as 1.50%. Based on the table above, we propose changing the current assumption of 1.50% to 0.75%.

Payroll Growth

The payroll growth assumption is used to develop the annual amount necessary to amortize the unfunded actuarial liability as a level percentage of expected payroll.

Payroll growth is the sum of inflation and real wage growth. Since we are proposing a change in the real wage growth assumption, we propose a corresponding change in the payroll growth assumption, from 4.50% to 3.75%.

Salary Increases

Using the building block approach recommended in ASOP 27, this assumption is composed of three components;

- Inflation
- Productivity
- Merit/promotion

The inflation and productivity components are combined to produce the assumed rate of wage inflation. This rate represents the "across the board" average annual increase in salaries shown in the experience data. The merit component includes the additional increases in salary due to individual performance, seniority, promotions, etc.

We reviewed the annual salary increases for the period July 1, 2004 through June 30, 2009 by both age and service. The data group was continuing active members with two consecutive full years of employment. For the salary analysis, we excluded some of the most dramatic salary changes. We excluded the lowest 2.5% and the highest 2.5% for a total of 5.0% of records excluded. While this was a relatively small group, their salary increases distorted the experience of the overall group of continuing active members. We also excluded people with less than one year of service for the same reason.

Economic Assumptions

The following chart shows the actual and expected salary increases for 2004 to 2009.

Salary Increase

Age Group	Exposures	Observed Average	Expected Average
<25	619	11.34%	9.71%
25-29	4,882	8.90%	8.30%
30-34	8,187	6.53%	7.07%
35-39	9,705	5.71%	6.10%
40-44	8,740	5.03%	5.31%
45-49	7,277	4.66%	4.90%
50-54	4,336	4.53%	4.75%
55-59	1,297	4.33%	4.75%
60-64	254	4.49%	4.75%
65-69	27	5.78%	4.75%
70-75	8	7.21%	4.75%
75+	2	0.63%	4.75%
Total	**45,334**	**5.82%**	**6.04%**

Economic Assumptions

The actual experience shows that the current assumption is too low during at the early ages and too high at later ages. The observed salary increases tended to follow service more closely than age. Therefore, we are proposing a service based table.

Based on the experience from the last five years, and our expectations for inflation and productivity, our proposed salary increase assumption is shown below.

Service	Exposures	Observed Average	Expected Average	Proposed Assumption
1	1,083	12.79%	7.76%	13.00%
2	2,366	9.81%	7.65%	11.00%
3	2,363	9.16%	7.40%	9.00%
4	2,318	8.09%	7.16%	8.00%
5	2,433	6.44%	6.92%	6.50%
6	2,552	5.96%	6.73%	6.10%
7	2,676	5.33%	6.53%	5.80%
8	2,622	5.33%	6.35%	5.60%
9	2,521	4.98%	6.18%	5.40%
10	2,266	5.22%	6.02%	5.30%
11	2,112	5.45%	5.87%	5.20%
12	1,796	4.65%	5.74%	5.10%
13	1,618	4.94%	5.60%	5.00%
14	1,456	4.77%	5.49%	4.90%
15	1,389	4.87%	5.39%	4.80%
16	1,359	4.67%	5.30%	4.80%
17	1,378	4.55%	5.22%	4.80%
18	1,381	4.40%	5.14%	4.80%
19	1,312	4.74%	5.06%	4.80%
20	1,187	4.79%	5.01%	4.80%
21	1,061	4.43%	4.96%	4.70%
22	896	4.64%	4.91%	4.60%
23	770	4.29%	4.89%	4.50%
24	786	4.17%	4.85%	4.50%
25	774	4.24%	4.82%	4.50%
26	724	4.44%	4.80%	4.50%
27	645	3.97%	4.78%	4.50%
28	513	4.40%	4.76%	4.50%
29	381	3.94%	4.75%	4.50%
30+	596	4.16%	4.75%	4.50%
Total	**45,134**	**5.82%**	**6.04%**	**6.03%**


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Demographic Assumptions

Overview

Actuarial Standard of Practice (ASOP) No. 35, *Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations,* provides guidance on selecting demographic assumptions used in measuring obligations under defined benefit pension plans. The general process for recommending demographic assumptions as defined in ASOP No. 35 is as follows:

- Identify the types of assumptions;
- Consider the relevant assumption universe;
- Consider the assumption format;
- Select the specific assumptions; and
- Evaluate the reasonableness of the selected assumption.

The purpose of the demographic experience study is to compare actual experience against expected experience based on the assumptions used in the most recent actuarial valuation. The observation period used in this study is July 1, 2004 through June 30, 2009, and the current assumptions are those adopted by the Legislative Commission on Pensions and Retirement (LCPR) for the June 30, 2009 actuarial valuation. If the actual experience differs significantly from the overall expected experience, or if the pattern of actual decrements by age, sex, or duration does not follow the expected pattern, new assumptions are considered.

Note that the expected counts provided are rounded throughout this report, so the totals may not add up and the A/E ratios may not divide to the exact percentage shown.

Demographic Assumptions

The demographic assumptions used for the June 30, 2009, actuarial valuation and the proposed assumptions for the June 30, 2011, actuarial valuation are shown in detail in the following sections.

A summary of the proposed changes are as follows:

- Changes to the healthy mortality assumption tables
- Changes to the disabled mortality assumption tables
- Adjustments to retirement assumptions
- Adjustments to beneficiary age and annuity option elections
- Adjustments to the termination rates in the select period

The proposed assumptions, in our opinion, were selected in a manner consistent with the requirements of ASOP No. 35.

Mortality Assumptions

Mortality rates are used to project the length of time benefits will be paid to current and future retirees and beneficiaries. The selection of a mortality assumption affects plan liabilities because the value of retiree benefits depends on how long the benefit payments are expected to continue. There are clear differences in the mortality rates among males and females, healthy retired members, disabled retired members and non-retired members. As a result, each of these groups is reviewed independently.

A summary of the current and proposed mortality rates is shown below:

Assumption	Current Assumption	Proposed Assumption
Healthy Postretirement Mortality	1983 Group Annuity Mortality	RP 2000 annuitant generational mortality, white collar adjustment
Males	Set back 1 year	No adjustment
Females	Set back 1 year	No adjustment
Disabled Retired Mortality	1965 RRB rates through age 40. For ages 41 to 59, graded rates between 1965 RRB rates and the healthy postretirement mortality table. For ages 60 and later, the healthy postretirement mortality table.	RP2000 annuitant mortality table, white collar adjustment Set forward 8 years for males Set forward 8 years for females .
Healthy Pre-retirement Mortality	1983 Group Annuity Mortality	RP 2000 non-annuitant generational mortality, white collar adjustment
Males	Set back 6 years	Set back 2 years
Females	Set back 6 years	Set back 2 years

Demographic Assumptions

Healthy Postretirement Mortality

Mortality assumptions for healthy retired members are separated based on gender.

Life expectancies are expected to improve in the future, and this increased longevity should be reflected in the actuarial valuation through lower mortality rates than indicated by current experience. To determine whether the current mortality assumption remains reasonable, we calculated the ratio of actual to expected (A/E) deaths during the experience study period for each of the gender groups. For a static mortality table such as the current assumption, A/E ratios are targeted at or near 110 percent, in order to provide a margin for future mortality improvement. For a generational mortality table that incorporates improvements in mortality each year into the future, A/E ratios are targeted near 100%. If the group's A/E ratio was significantly below these thresholds, we would recommend a change to bring that A/E ratio close to the thresholds.

The following chart shows the exposures, actual deaths, expected deaths and actual to expected ratios for males and females for each of the five years in the experience study.

Healthy Postretirement Mortality	Exposures	Actual Deaths	Current (June 30, 2009) Assumption	
			Expected Deaths	A/E Ratio
Males				
July 1, 2004 to June 30, 2005	4,370	127	112	113%
July 1, 2005 to June 30, 2006	4,460	101	114	89%
July 1, 2006 to June 30, 2007	4,542	107	119	90%
July 1, 2007 to June 30, 2008	4,712	107	124	86%
July 1, 2008 to June 30, 2009	4,826	102	129	79%
July 1, 2004 to June 30, 2009	**22,910**	**544**	**598**	**91%**
Females				
July 1, 2004 to June 30, 2005	1,325	46	46	100%
July 1, 2005 to June 30, 2006	1,357	52	48	108%
July 1, 2006 to June 30, 2007	1,387	62	49	126%
July 1, 2007 to June 30, 2008	1,403	69	50	138%
July 1, 2008 to June 30, 2009	1,426	58	51	113%
July 1, 2004 to June 30, 2009	**6,898**	**287**	**244**	**117%**

The actual experience shows that the current assumption for male retirees is predicting too many retiree deaths and the current assumption for females is predicting too few retiree deaths. Given that the current table is based on experience that is over a quarter century old, we are proposing a change to the RP 2000 generational white collar mortality tables for annuitants.

Demographic Assumptions

The following chart shows the exposures, actual deaths, expected deaths under the proposed assumption and actual to expected ratios for males and females for each of the five years in the experience study.

Healthy Postretirement Mortality	Exposures	Actual Deaths	Proposed Assumption	
			Expected Deaths	A/E Ratio
Males				
July 1, 2004 to June 30, 2005	4,370	127	97	131%
July 1, 2005 to June 30, 2006	4,460	101	97	104%
July 1, 2006 to June 30, 2007	4,542	107	101	106%
July 1, 2007 to June 30, 2008	4,712	107	104	102%
July 1, 2008 to June 30, 2009	4,826	102	108	95%
July 1, 2004 to June 30, 2009	**22,910**	**544**	**507**	**107%**
Females				
July 1, 2004 to June 30, 2005	1,325	46	53	87%
July 1, 2005 to June 30, 2006	1,357	52	55	94%
July 1, 2006 to June 30, 2007	1,387	62	57	109%
July 1, 2007 to June 30, 2008	1,403	69	57	120%
July 1, 2008 to June 30, 2009	1,426	58	58	99%
July 1, 2004 to June 30, 2009	**6,898**	**287**	**281**	**102%**

A summary of the current and proposed healthy retired mortality assumptions is shown below:

Healthy Postretirement Mortality	Current (June 30, 2009) Assumption	Proposed Assumption
Basic Tables	1983 Group Annuity Mortality	RP 2000 annuitant generational mortality, white collar adjustment
Males	Set back 1 year	No adjustment
Females	Set back 1 year	No adjustment

Disabled Retired Mortality

Disabled members are expected to have a shorter life expectancy than healthy retired members. In addition, future life expectancies for disabled members are not expected to increase as significantly as the future life expectancies for healthy retirees. As a result, A/E ratios for disabled retirees have been targeted near 100 percent.

Note that PERA normally converts disabled retirees to retired status at age 65, so our disability mortality analysis is mostly limited to pre-65 experience.

Demographic Assumptions

The following chart shows the exposures, actual deaths, expected deaths and actual to expected ratios for males and females for each of the years in the experience study.

Disabled Retired Mortality	Exposures	Actual Deaths	Current (June 30, 2009) Assumption	
			Expected Deaths	A/E Ratio
Males				
July 1, 2004 to June 30, 2005	600	5	12	40%
July 1, 2005 to June 30, 2006	642	6	13	46%
July 1, 2006 to June 30, 2007	693	13	14	96%
July 1, 2007 to June 30, 2008	733	11	14	78%
July 1, 2008 to June 30, 2009	754	6	14	42%
July 1, 2004 to June 30, 2009	**3,422**	**41**	**68**	**61%**
Females				
July 1, 2004 to June 30, 2005	59	1	2	53%
July 1, 2005 to June 30, 2006	71	0	2	0%
July 1, 2006 to June 30, 2007	81	2	2	81%
July 1, 2007 to June 30, 2008	87	1	3	39%
July 1, 2008 to June 30, 2009	88	0	2	0%
July 1, 2004 to June 30, 2009	**386**	**4**	**12**	**35%**

Discussion

The actual experience shows that the current assumption for disabled male and female retirees is predicting too many deaths. We are proposing a change in this assumption to the RP2000 white collar mortality tables for annuitants, set forward 8 years. The set forward results in higher mortality rates than the standard table rates.

The following chart shows the exposures, actual deaths, expected deaths under the proposed assumption and actual to expected ratios for males and females for each of the five years in the experience study.

Due to the small numbers of disabled females in the 5 year period, the mortality experience for females is not considered statistically credible.

Demographic Assumptions

Disabled Retired Mortality	Exposures	Actual Deaths	Proposed Assumption	
			Expected Deaths	A/E Ratio
Males				
July 1, 2004 to June 30, 2005	600	5	6	84%
July 1, 2005 to June 30, 2006	642	6	7	88%
July 1, 2006 to June 30, 2007	693	13	8	153%
July 1, 2007 to June 30, 2008	733	11	10	115%
July 1, 2008 to June 30, 2009	754	6	10	57%
July 1, 2004 to June 30, 2009	**3,422**	**41**	**41**	**99%**
Females				
July 1, 2004 to June 30, 2005	59	1	<0.5	447%
July 1, 2005 to June 30, 2006	71	0	<0.5	0%
July 1, 2006 to June 30, 2007	81	2	<0.5	592%
July 1, 2007 to June 30, 2008	87	1	<0.5	255%
July 1, 2008 to June 30, 2009	88	0	<0.5	0%
July 1, 2004 to June 30, 2009	**386**	**4**	**1.7**	**240%**

A summary of current and proposed disabled retiree mortality assumptions is shown below:

Disabled Retired Mortality	Current (June 30, 2009) Assumption	Proposed Assumption
Basic Tables	1965 RRB rates through age 40. For ages 41 to 59, graded rates between 1965 RRB rates and the healthy postretirement mortality table. For ages 60 and later, the healthy postretirement mortality table.	RP2000 annuitant mortality table, white collar adjustment
Males		Set forward 8 years
Females		Set forward 8 years

Demographic Assumptions

Preretirement Mortality

The preretirement mortality assumption applies to active members and inactive members (those members who have terminated employment but are vested and entitled to a future benefit). The current pre-retirement mortality assumption is based on 1983 Group Annuity Mortality. A/E ratios for non-retired members have been targeted around 100 percent.

The following chart shows the exposures, actual deaths, expected deaths and actual to expected ratios for males and females for each of the years in the experience study.

Preretirement Mortality	Exposures	Actual Deaths	Current (June 30, 2009) Assumption	
			Expected Deaths	A/E Ratio
Males				
July 1, 2004 to June 30, 2005	9,604	11	11	102%
July 1, 2005 to June 30, 2006	9,778	7	11	63%
July 1, 2006 to June 30, 2007	10,166	9	12	77%
July 1, 2007 to June 30, 2008	10,437	11	13	85%
July 1, 2008 to June 30, 2009	10,668	10	13	74%
July 1, 2004 to June 30, 2009	**50,653**	**48**	**60**	**80%**
Females				
July 1, 2004 to June 30, 2005	1,326	3	1	503%
July 1, 2005 to June 30, 2006	1,374	0	1	0%
July 1, 2006 to June 30, 2007	1,417	1	1	150%
July 1, 2007 to June 30, 2008	1,474	0	1	0%
July 1, 2008 to June 30, 2009	1,527	0	1	0%
July 1, 2004 to June 30, 2009	**7,118**	**4**	**3**	**119%**

Discussion

With the very limited number of deaths in the experience period, especially for females, the A/E ratio tends to fluctuate year to year. Similar to our proposed change to healthy postretirement mortality, we are proposing a change to the RP 2000 generational white collar mortality tables for non-annuitants, but with a set back of 2 years for males and females. The setback results in lower mortality rates than the standard table rates.

Demographic Assumptions

Due to the small numbers of preretirement female deaths in the 5 year period, the mortality experience for females is not considered statistically credible.

The following chart shows the exposures, actual deaths, expected deaths under the proposed assumption and actual to expected ratios for males and females for each of the five years in the experience study.

			Proposed Assumption	
Preretirement Mortality	**Exposures**	**Actual Deaths**	**Expected Deaths**	**A/E Ratio**
Males				
July 1, 2004 to June 30, 2005	9,604	11	9	127%
July 1, 2005 to June 30, 2006	9,778	7	9	79%
July 1, 2006 to June 30, 2007	10,166	9	9	98%
July 1, 2007 to June 30, 2008	10,437	11	10	113%
July 1, 2008 to June 30, 2009	10,668	10	10	100%
July 1, 2004 to June 30, 2009	**50,653**	**48**	**46**	**103%**
Females				
July 1, 2004 to June 30, 2005	1,326	3	1	410%
July 1, 2005 to June 30, 2006	1,374	0	1	0%
July 1, 2006 to June 30, 2007	1,417	1	1	124%
July 1, 2007 to June 30, 2008	1,474	0	1	0%
July 1, 2008 to June 30, 2009	1,527	0	1	0%
July 1, 2004 to June 30, 2009	**7,118**	**4**	**4**	**99%**

A summary of the current and proposed pre-retirement mortality assumptions is shown below:

Preretirement Mortality	**Current (June 30, 2009) Assumption**	**Proposed Assumption**
Basic Tables	1983 Group Annuity Mortality	RP 2000 non-annuitant generational mortality, white collar adjustment
Males	Set back 6 years	Set back 2 years
Females	Set back 6 years	Set back 2 years

Demographic Assumptions

Retirement Assumptions

The retirement assumptions used in the actuarial valuation include the following assumptions:
- Regular retirement from active status
- Retirement from inactive status

Members are eligible to retire as early as age 50 and three years.

The early and normal retirement dates under the plan are as follows:

Normal Retirement Age	Early Retirement Age
Age 55 and 3 years	Age 50 and 3 years

Retirement from Active Status

The following chart shows the exposures, actual retirements, expected retirements and actual to expected ratios for each of the years in the experience study.
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			Current (June 30, 2009) Assumption	
	Exposures	Actual Retirements	Expected Retirements	A/E Ratio
Total				
July 1, 2004 to June 30, 2005	1,251	189	173	109%
July 1, 2005 to June 30, 2006	1,342	177	192	92%
July 1, 2006 to June 30, 2007	1,442	257	211	122%
July 1, 2007 to June 30, 2008	1,464	206	221	93%
July 1, 2008 to June 30, 2009	1,534	215	231	93%
July 1, 2004 to June 30, 2009	**7,033**	**1,044**	**1,027**	**102%**

Discussion

As was observed in the prior experience study analysis, the actual number of retirements is greater than is predicted by the current table. Please refer to age by age retirement experience beginning on page 50 for additional detail. Overall, the experience at most ages was fairly close to expected, and we are proposing adjustments at ages 50 and 54 only to more closely match the actual experience not only from this 5 year period but also from the previous 4 year period. Note that the proposed rates for retirements produce an actual to expected ratio of 101% for under age 55 experience. The ratio drops to 96% when we factor in the experience for ages 55 and older.

Demographic Assumptions

The following chart shows the exposures, actual retirements, expected retirements under the proposed assumption and actual to expected ratios for each of the years in the experience study.

| | | | Proposed Assumption | |
| | | Actual | Expected | |
Retirements	Exposures	Retirements	Retirements	A/E Ratio
Total				
July 1, 2004 to June 30, 2005	1,251	189	185	102%
July 1, 2005 to June 30, 2006	1,342	177	202	88%
July 1, 2006 to June 30, 2007	1,442	257	223	115%
July 1, 2007 to June 30, 2008	1,464	206	233	88%
July 1, 2008 to June 30, 2009	1,534	215	244	88%
July 1, 2004 to June 30, 2009	**7,033**	**1,044**	**1,087**	**96%**

Summary of Proposed Retirement Rates

| | Active Status | |
Age	Current	Proposed
50	10%	13%
51	10%	10%
52	10%	10%
53	10%	10%
54	10%	13%
55	30%	30%
56	20%	20%
57	20%	20%
58	20%	20%
59	20%	20%
60	25%	25%
61	25%	25%
62	35%	35%
63	35%	35%
64	35%	35%
65	50%	50%
66	50%	50%
67	50%	50%
68	50%	50%
69	50%	50%
70	100%	100%

Demographic Assumptions

Retirement from Inactive Status

Members who terminate after completing three years of service are vested and entitled to either a refund of their employee contributions with interest, or a deferred retirement benefit. The valuation currently assumes that members will elect a refund if it is more valuable than the deferred annuity. For those inactive members for whom the deferred retirement benefit is more valuable than a refund, the valuation assumes the benefit will commence at normal retirement age.

The following chart shows the exposures, actual retirements, actual percent retiring and expected percent retiring during the five years of the experience study.

				Current (June 30, 2009) Assumption
	Exposures	**Actual Retirements**	**Actual Percent Retiring**	**Expected Percent Retiring**
Age				
50	221	90	41%	0%
51	144	13	9%	0%
52	125	6	5%	0%
53	109	6	6%	0%
54	92	16	17%	0%
55+	623	82	13%	100%
Total	**1,314**	**213**	**16%**	**100%**

Discussion

The actual experience shows that a significant number of inactive participants retired at ages other than normal retirement age. However, we are not proposing a change in this assumption at this time. The recently enacted changes in the postretirement adjustment and augmentation rates, as well as the early retirement factor changes in 2007, are likely to result in different behavior in the future. Also, the liability for deferred inactive vested members comprises less than 5% of the total actuarial accrued liability of the plan, and the added complexity may not be justified.

Demographic Assumptions

Retirement Statistics

The retirement statistics used in the actuarial valuation include the following assumptions:

- Marital status (% married)
- Age of beneficiary
- Annuity form elected at retirement

Marital Status
The current (June 30, 2009) valuation assumption is 85% of male members and 65% of female members are married.

The data reported to us does not contain a marital status; beneficiary date of birth is only reported for those retirees that elect a joint and survivor form of payment. Since we do not have sufficient information to analyze the marital status of plan members, we propose no change to the 85% married for males and 65% married for females.

We also propose that marital status data be provided by PERA and analyzed in the next experience study.

Age of Beneficiary
Joint & Survivor annuity benefit amounts are determined based on the member's and beneficiary's age. The current (June 30, 2009) valuation assumption is that males are four years older than females. The following chart shows the current assumed age difference and the observed experience for members that elected a joint and survivor annuity. For purposes of this analysis, we excluded age differences of 20 years or more on the assumption that the vast majority of those included child, not spouse, beneficiaries.

Demographic Assumptions

Age of Beneficiary

	Total New Retirees	Average Age Difference	Current (June 30, 2009) Assumption	
			Expected Age Difference	A - E
Males				
July 1, 2004 to June 30, 2005	218	2.25	4.00	(1.75)
July 1, 2005 to June 30, 2006	200	2.89	4.00	(1.11)
July 1, 2006 to June 30, 2007	276	2.35	4.00	(1.65)
July 1, 2007 to June 30, 2008	220	1.97	4.00	(2.03)
July 1, 2008 to June 30, 2009	234	2.49	4.00	(1.51)
July 1, 2004 to June 30, 2009	**1,148**	**2.38**	**4.00**	**(1.62)**
Females				
July 1, 2004 to June 30, 2005	15	(7.20)	(4.00)	(3.20)
July 1, 2005 to June 30, 2006	17	(13.50)	(4.00)	(9.50)
July 1, 2006 to June 30, 2007	15	(3.57)	(4.00)	0.43
July 1, 2007 to June 30, 2008	22	(1.66)	(4.00)	2.34
July 1, 2008 to June 30, 2009	10	(8.08)	(4.00)	(4.08)
July 1, 2004 to June 30, 2009	**79**	**(4.77)**	**(4.00)**	**(0.77)**

We propose changing the age difference assumption from 4 years to 3 years for males. The female experience was significantly different year over year and due to the small numbers of new female retirees in the 5 year period, is not considered statistically credible.

Annuity Form

Upon retirement, a member can elect any of the following forms of payment:

- Straight life annuity – the benefit is paid for the lifetime of the member. No benefit is payable to a beneficiary upon member's death.

- 25% Joint & Survivor – a reduced benefit is paid for the lifetime of the member. Upon death of the member, 25% of the benefit is paid to a beneficiary. If the beneficiary predeceases the member, the benefit reverts back to the straight life annuity amount.

- 50% Joint & Survivor – a reduced benefit is paid for the lifetime of the member. Upon death of the member, 50% of the benefit is paid to a beneficiary. If the beneficiary predeceases the member, the benefit reverts back to the straight life annuity amount.

- 75% Joint & Survivor – a reduced benefit is paid for the lifetime of the member. Upon death of the member, 75% of the benefit is paid to a beneficiary. If the beneficiary predeceases the member, the benefit reverts back to the straight life annuity amount.

- 100% Joint & Survivor – a reduced benefit is paid for the lifetime of the member. Upon death of the member, 100% of the benefit is paid to a beneficiary. If the beneficiary predeceases the member, the benefit reverts back to the straight life annuity amount.

Demographic Assumptions

Annuity Form

The following chart shows the current assumed annuity selection and the observed experience:

New Retirees from July 1, 2004 to June 30, 2009	Total New Retirees	Assumed Percent Married	Assumed Married New Retirees	Actual Electing Annuity Form	Actual Percent Electing Annuity Form	Current (June 30, 2009) Assumption — Expected Percent Electing Annuity Form
Males						
25% Joint & Survivor	1,148	85%	976	97	9.9%	0%
50% Joint & Survivor	1,148	85%	976	217	22.2%	40%
75% Joint & Survivor	1,148	85%	976	180	18.4%	0%
100% Joint & Survivor	1,148	85%	976	335	34.3%	45%
Females						
25% Joint & Survivor	79	65%	51	3	5.8%	0%
50% Joint & Survivor	79	65%	51	8	15.6%	15%
75% Joint & Survivor	79	65%	51	3	5.8%	0%
100% Joint & Survivor	79	65%	51	7	13.6%	15%

The assumed Straight Life annuity selection is the sum of 100% of the non-married retirees plus those married retirees that are not assumed to elect a joint and survivor form of payment.

We propose the following changes to the annuity selection assumption:

	Percent of Married Members Electing			
	Current (June 30, 2009)		Proposed	
Annuity Form	**Males**	**Females**	**Males**	**Females**
Straight Life	15%	70%	15%	60%
25% Joint & Survivor	0%	0%	10%	5%
50% Joint & Survivor	40%	15%	20%	15%
75% Joint & Survivor	0%	0%	20%	5%
100% Joint & Survivor	45%	15%	35%	15%

Note that the increased utilization of the subsidized Joint and Survivor options would be expected to increase costs modestly.

Demographic Assumptions

Disability Assumptions

The Plan provides disability benefits to members. Members are eligible for disability benefits if they become physically or mentally unable to perform duties as a police officer or fire fighter prior to age 55 and 20 years of service.

Disability Retirement

The following chart shows the exposures, actual retirements, expected retirements under the current assumption and actual to expected ratios for males and females for each of the years in the experience study for disability retirements.

			Current (June 30, 2009) Assumption	
Disability Retirement	**Exposures**	**Actual Retirements**	**Expected Retirements**	**A/E Ratio**
Males				
July 1, 2004 to June 30, 2005	8,874	46	43	107%
July 1, 2005 to June 30, 2006	9,015	43	44	97%
July 1, 2006 to June 30, 2007	9,087	52	41	126%
July 1, 2007 to June 30, 2008	9,165	35	42	84%
July 1, 2008 to June 30, 2009	9,341	15	43	35%
July 1, 2004 to June 30, 2009	**45,482**	**191**	**213**	**90%**
Females				
July 1, 2004 to June 30, 2005	1,181	11	4	262%
July 1, 2005 to June 30, 2006	1,220	9	5	198%
July 1, 2006 to June 30, 2007	1,221	7	5	153%
July 1, 2007 to June 30, 2008	1,264	4	5	83%
July 1, 2008 to June 30, 2009	1,302	3	5	59%
July 1, 2004 to June 30, 2009	**6,188**	**34**	**23**	**146%**

Discussion

The actual experience shows that the current assumption for males is predicting too many disabilities and the current assumption for females is predicting too few. There were some significant plan changes throughout this five year period, including changes in eligibility and changes in the benefit amount. Therefore, we are not proposing a change in this assumption for either males or females at this time. We recommend reviewing again once there is more experience under the current benefit structure.

Demographic Assumptions

Termination Assumptions

The termination assumptions used in the actuarial valuation include an assumption for termination from active status prior to retirement eligibility, since not all active members are expected to continue working until retirement. Termination rates represent the probabilities that a member at any given age will leave employment at that age. Current termination rates for members are developed on an ultimate basis with a 3-year select period.

The following chart shows the exposures, actual terminations, expected terminations under the current assumption and actual to expected ratios for each of the years in the experience study during the three-year select period.

Terminations in 3-year Select Period	Exposures	Actual Terminations	Current (June 30, 2009) Assumption	
			Expected Terminations	A/E Ratio
July 1, 2004 to June 30, 2005	1,228	69	43	161%
July 1, 2005 to June 30, 2006	1,244	82	44	188%
July 1, 2006 to June 30, 2007	1,516	93	53	175%
July 1, 2007 to June 30, 2008	1,581	94	55	170%
July 1, 2008 to June 30, 2009	1,538	77	54	143%
July 1, 2004 to June 30, 2009	**7,107**	**415**	**249**	**167%**

The following chart shows the exposures, actual terminations, expected terminations and actual to expected ratios for males and females for each of the years in the experience study for withdrawals beyond the 3-year select period.

Terminations beyond 3-year Select Period	Exposures	Actual Terminations	Current (June 30, 2009) Assumption	
			Expected Terminations	A/E Ratio
July 1, 2004 to June 30, 2005	7,576	90	106	85%
July 1, 2005 to June 30, 2006	7,649	113	106	107%
July 1, 2006 to June 30, 2007	7,633	118	104	114%
July 1, 2007 to June 30, 2008	7,675	104	105	99%
July 1, 2008 to June 30, 2009	7,889	90	108	83%
July 1, 2004 to June 30, 2009	**38,422**	**515**	**528**	**98%**

Demographic Assumptions

Discussion

Our analysis of terminations indicates that the current assumption is predicting too few terminations during the three year select period, and that actual termination experience beyond the three year select period is very low and fairly close in total to the assumed numbers. Therefore, we are proposing increased rates during the select period, and no changes to the ultimate rates.

The following chart shows the exposures, actual terminations, expected terminations under the proposed assumption and actual to expected ratios for males and females for each of the select years in the experience study for withdrawals.

| | | | Proposed Assumption | |
| | | | | |
Terminations in 3-year Select Period	**Exposures**	**Actual Terminations**	**Expected Terminations**	**A/E Ratio**
July 1, 2004 to June 30, 2005	1,228	69	61	113%
July 1, 2005 to June 30, 2006	1,244	82	63	130%
July 1, 2006 to June 30, 2007	1,516	93	77	121%
July 1, 2007 to June 30, 2008	1,581	94	77	122%
July 1, 2008 to June 30, 2009	1,538	77	74	104%
July 1, 2004 to June 30, 2009	**7,107**	**415**	**352**	**118%**

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Appendix

Data

The experience analysis uses member data from July 1, 2004, through June 30, 2009, which was supplied by PERA. We have not verified the data, but have reviewed the information for internal consistency and have no reason to doubt its substantial accuracy.

The member data was summarized according to the actual and potential member decrements for each year in the study. Actual and potential decrements were grouped according to age or service depending on the demographic assumption.

Appendix

Methods and Procedures

Actuarial Cost Method

Liabilities and contributions are computed using the Individual Entry Age Normal Cost Method. This method is prescribed by Minnesota Statutes and is described on page 6.

Asset Valuation Method

The assets are valued based on a five-year moving average of expected and market values (five-year average actuarial value) determined as follows:

- At the end of each plan year, an average asset value is calculated as the average of the market asset value at the beginning and end of the fiscal year net of investment income for the fiscal year;

- The investment gain or (loss) is taken as the excess of actual investment income over the expected investment income based on the average asset value as calculated above;

- The investment gain or (loss) so determined is recognized over five years at 20% per year;

- The asset value is the sum of the expected asset value plus the scheduled recognition of investment gains or (losses) during the current and the preceding four plan years.

For the purpose of determining the actuarial value of assets, the Post Fund asset loss for the fiscal year ending June 30, 2009 is recognized incrementally over five years at 20% per year, similar to the smoothing of active fund assets. Prior to June 30, 2009, Post Fund asset gains and losses were not smoothed.

Payment on the Unfunded Actuarial Accrued Liability

A level percentage of payroll each year to the statutory amortization date of July 1, 2038 assuming payroll increases of 4.50% per annum. If there is a negative Unfunded Actuarial Accrued Liability, the surplus amount shall be amortized over 30 years as a level percentage of payroll.

Economic Assumptions

Inflation	3.00%
Real wage growth	1.50
Payroll growth	4.50
Salary scale	Age related table
Investment Return	8.50

Appendix
Assumption Tables

	Healthy Preretirement Mortality				Healthy Postretirement Mortality				Disabled Mortality			
	Current Assumption		Proposed Assumption*		Current Assumption		Proposed Assumption*		Current Assumption		Proposed Assumption	
Age	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
20	0.0317%	0.0131%	0.0211%	0.0178%	0.0365%	0.0179%	0.0231%	0.0178%	4.4060%	4.4060%	0.0312%	0.0253%
21	0.0325%	0.0140%	0.0221%	0.0178%	0.0377%	0.0189%	0.0241%	0.0177%	4.4060%	4.4060%	0.0328%	0.0267%
22	0.0333%	0.0149%	0.0231%	0.0178%	0.0392%	0.0201%	0.0249%	0.0179%	4.4060%	4.4060%	0.0353%	0.0284%
23	0.0343%	0.0159%	0.0241%	0.0177%	0.0408%	0.0212%	0.0259%	0.0183%	4.4060%	4.4060%	0.0388%	0.0325%
24	0.0353%	0.0168%	0.0249%	0.0179%	0.0424%	0.0225%	0.0266%	0.0189%	4.4060%	4.4060%	0.0431%	0.0363%
25	0.0365%	0.0179%	0.0259%	0.0183%	0.0444%	0.0238%	0.0273%	0.0196%	4.4060%	4.4060%	0.0481%	0.0401%
26	0.0377%	0.0189%	0.0266%	0.0189%	0.0464%	0.0253%	0.0285%	0.0206%	4.4060%	4.4060%	0.0534%	0.0435%
27	0.0392%	0.0201%	0.0273%	0.0196%	0.0488%	0.0268%	0.0290%	0.0215%	4.4060%	4.4060%	0.0591%	0.0466%
28	0.0408%	0.0212%	0.0285%	0.0206%	0.0513%	0.0283%	0.0299%	0.0227%	4.4060%	4.4060%	0.0649%	0.0497%
29	0.0424%	0.0225%	0.0290%	0.0215%	0.0542%	0.0301%	0.0313%	0.0239%	4.4060%	4.4060%	0.0707%	0.0527%
30	0.0444%	0.0238%	0.0299%	0.0227%	0.0572%	0.0320%	0.0337%	0.0259%	4.4060%	4.4060%	0.0766%	0.0562%
31	0.0464%	0.0253%	0.0313%	0.0239%	0.0607%	0.0342%	0.0371%	0.0302%	4.4060%	4.4060%	0.0827%	0.0599%
32	0.0488%	0.0268%	0.0337%	0.0259%	0.0645%	0.0364%	0.0412%	0.0338%	4.4060%	4.4060%	0.0890%	0.0645%
33	0.0513%	0.0283%	0.0371%	0.0302%	0.0687%	0.0388%	0.0460%	0.0370%	4.4060%	4.4060%	0.0958%	0.0699%
34	0.0542%	0.0301%	0.0412%	0.0338%	0.0734%	0.0414%	0.0511%	0.0397%	4.4060%	4.4060%	0.1035%	0.0763%
35	0.0572%	0.0320%	0.0460%	0.0370%	0.0785%	0.0443%	0.0565%	0.0422%	4.4060%	4.4060%	0.1124%	0.0837%
36	0.0607%	0.0342%	0.0511%	0.0397%	0.0860%	0.0476%	0.0621%	0.0446%	4.4070%	4.4070%	0.1225%	0.0922%
37	0.0645%	0.0364%	0.0565%	0.0422%	0.0907%	0.0502%	0.0676%	0.0469%	4.4080%	4.4080%	0.1342%	0.1016%
38	0.0687%	0.0388%	0.0621%	0.0446%	0.0966%	0.0535%	0.0726%	0.0495%	4.4090%	4.4090%	0.1458%	0.1119%
39	0.0734%	0.0414%	0.0676%	0.0469%	0.1039%	0.0573%	0.0776%	0.0523%	4.4100%	4.4100%	0.1583%	0.1229%
40	0.0785%	0.0443%	0.0726%	0.0495%	0.1128%	0.0617%	0.0828%	0.0563%	4.4120%	4.4120%	0.1711%	0.1344%
41	0.0860%	0.0476%	0.0776%	0.0523%	0.1238%	0.0665%	0.0883%	0.0610%	4.2333%	4.2105%	0.1843%	0.1463%
42	0.0907%	0.0502%	0.0828%	0.0563%	0.1370%	0.0716%	0.0946%	0.0666%	4.0546%	4.0090%	0.5983%	0.2447%
43	0.0966%	0.0535%	0.0883%	0.0610%	0.1527%	0.0775%	0.1017%	0.0730%	3.8759%	3.8075%	0.5959%	0.2530%
44	0.1039%	0.0573%	0.0946%	0.0666%	0.1715%	0.0841%	0.1099%	0.0805%	3.6972%	3.6060%	0.5864%	0.2681%
45	0.1128%	0.0617%	0.1017%	0.0730%	0.1932%	0.0919%	0.1193%	0.0879%	3.5185%	3.4045%	0.5716%	0.2898%
46	0.1238%	0.0665%	0.1099%	0.0805%	0.2183%	0.1010%	0.1284%	0.0959%	3.3398%	3.2030%	0.5559%	0.3168%
47	0.1370%	0.0716%	0.1193%	0.0879%	0.2471%	0.1117%	0.1382%	0.1044%	3.1611%	3.0015%	0.5433%	0.3489%
48	0.1527%	0.0775%	0.1284%	0.0959%	0.2790%	0.1237%	0.1480%	0.1141%	2.9824%	2.8000%	0.5407%	0.3850%
49	0.1715%	0.0841%	0.1382%	0.1044%	0.3138%	0.1366%	0.1580%	0.1243%	2.8037%	2.5985%	0.5477%	0.4253%

* Rates shown are recommended RP-2000 rates projected to 2009.

	Healthy Preretirement Mortality				Healthy Postretirement Mortality				Disabled Mortality			
	Current Assumption		Proposed Assumption*		Current Assumption		Proposed Assumption*		Current Assumption		Proposed Assumption	
Age	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
50	0.1932%	0.0919%	0.1480%	0.1141%	0.3513%	0.1505%	0.5081%	0.2097%	2.6250%	2.3970%	0.5688%	0.4685%
51	0.2183%	0.1010%	0.1580%	0.1243%	0.3909%	0.1647%	0.5014%	0.2188%	2.4463%	2.1955%	0.6055%	0.5138%
52	0.2471%	0.1117%	0.1679%	0.1362%	0.4324%	0.1793%	0.4889%	0.2362%	2.2676%	1.9940%	0.6606%	0.5617%
53	0.2790%	0.1237%	0.1777%	0.1487%	0.4755%	0.1948%	0.4766%	0.2600%	2.0889%	1.7925%	0.7318%	0.6144%
54	0.3138%	0.1366%	0.1876%	0.1641%	0.5200%	0.2119%	0.4635%	0.2894%	1.9102%	1.5910%	0.8200%	0.6736%
55	0.3513%	0.1505%	0.2000%	0.1808%	0.5660%	0.2315%	0.4571%	0.3245%	1.7315%	1.3895%	0.9232%	0.7420%
56	0.3909%	0.1647%	0.2136%	0.1997%	0.6131%	0.2541%	0.4592%	0.3647%	1.5528%	1.1880%	1.0384%	0.8211%
57	0.4324%	0.1793%	0.2312%	0.2209%	0.6618%	0.2803%	0.4694%	0.4066%	1.3741%	0.9865%	1.1634%	0.9110%
58	0.4755%	0.1948%	0.2529%	0.2454%	0.7139%	0.3103%	0.4920%	0.4478%	1.1954%	0.7850%	1.2965%	1.0112%
59	0.5200%	0.2119%	0.2783%	0.2707%	0.7719%	0.3442%	0.5237%	0.4912%	1.0167%	0.5835%	1.4353%	1.1211%
60	0.5660%	0.2315%	0.3066%	0.2970%	0.8384%	0.3821%	0.5713%	0.5369%	0.8384%	0.3821%	1.5834%	1.2394%
61	0.6131%	0.2541%	0.3359%	0.3265%	0.9158%	0.4241%	0.6387%	0.5873%	0.9158%	0.4241%	1.7431%	1.3713%
62	0.6618%	0.2803%	0.3687%	0.3589%	1.0064%	0.4702%	0.7157%	0.6438%	1.0064%	0.4702%	1.9275%	1.5185%
63	0.7139%	0.3103%	0.4087%	0.3949%	1.1133%	0.5210%	0.8132%	0.7093%	1.1133%	0.5210%	2.1400%	1.6870%
64	0.7719%	0.3442%	0.4489%	0.4339%	1.2391%	0.5769%	0.9147%	0.7849%	1.2391%	0.5769%	2.3871%	1.8784%
65	0.8384%	0.3821%	0.4965%	0.4759%	1.3868%	0.6385%	1.0248%	0.8708%	1.3868%	0.6385%	2.6710%	2.0903%
66	0.9158%	0.4241%	0.5429%	0.5205%	1.5592%	0.7064%	1.1525%	0.9666%	1.5592%	0.7064%	2.9968%	2.3218%
67	1.0064%	0.4702%	0.5923%	0.5681%	1.7579%	0.7817%	1.2759%	1.0716%	1.7579%	0.7817%	3.3634%	2.5717%
68	1.1133%	0.5210%	0.6494%	0.6182%	1.9804%	0.8681%	1.3947%	1.1847%	1.9804%	0.8681%	3.7783%	2.8489%
69	1.2391%	0.5769%	0.7024%	0.6708%	2.2229%	0.9702%	1.5354%	1.3109%	2.2229%	0.9702%	4.2356%	3.1547%
70	1.3868%	0.6385%	0.7509%	0.7256%	2.4817%	1.0921%	1.6823%	1.4515%	2.4817%	1.0921%	4.7484%	3.4963%
71	1.5592%	0.7064%	0.8075%	0.7824%	2.7530%	1.2385%	1.8679%	1.5980%	2.7530%	1.2385%	5.3177%	3.8767%
72	1.7579%	0.7817%	0.8574%	0.8412%	3.0354%	1.4128%	2.0835%	1.7794%	3.0354%	1.4128%	5.9412%	4.3080%
73	1.9804%	0.8681%	1.8679%	1.5980%	3.3370%	1.6159%	2.3313%	1.9622%	3.3370%	1.6159%	6.6782%	4.7936%
74	2.2229%	0.9702%	2.0835%	1.7794%	3.6680%	1.8481%	2.6156%	2.1795%	3.6680%	1.8481%	7.4932%	5.3367%
75	2.4817%	1.0921%	2.3313%	1.9622%	4.0388%	2.1091%	2.9626%	2.3924%	4.0388%	2.1091%	8.3976%	5.9506%
76	2.7530%	1.2385%	2.6156%	2.1795%	4.4597%	2.3992%	3.3281%	2.6502%	4.4597%	2.3992%	9.3792%	6.6389%
77	3.0354%	1.4128%	2.9626%	2.3924%	4.9388%	2.7184%	3.7650%	2.9614%	4.9388%	2.7184%	10.4665%	7.4193%
78	3.3370%	1.6159%	3.3281%	2.6502%	5.4758%	3.0672%	4.2595%	3.2821%	5.4758%	3.0672%	11.6780%	8.2835%
79	3.6680%	1.8481%	3.7650%	2.9614%	6.0678%	3.4459%	4.8138%	3.6392%	6.0678%	3.4459%	13.0193%	9.2484%
80	4.0388%	2.1091%	4.2595%	3.2821%	6.7125%	3.8549%	5.4274%	4.0441%	6.7125%	3.8549%	14.4868%	10.3011%
81	4.4597%	2.3992%	4.8138%	3.6392%	7.4070%	4.2945%	6.1563%	4.5000%	7.4070%	4.2945%	16.1095%	11.4269%
82	4.9388%	2.7184%	5.4274%	4.0441%	8.1484%	4.7655%	6.9707%	5.0097%	8.1484%	4.7655%	17.8273%	12.6151%
83	5.4758%	3.0672%	6.1563%	4.5000%	8.9320%	5.2691%	7.8120%	5.5860%	8.9320%	5.2691%	19.4975%	13.8531%

* Rates shown are recommended RP-2000 rates projected to 2009.

	Healthy Preretirement Mortality				Healthy Postretirement Mortality				Disabled Mortality			
	Current Assumption		Proposed Assumption*		Current Assumption		Proposed Assumption*		Current Assumption		Proposed Assumption	
Age	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
84	6.0678%	3.4459%	6.9707%	5.0097%	9.7525%	5.8071%	8.8046%	6.2321%	9.7525%	5.8071%	21.2056%	15.0998%
85	6.7125%	3.8549%	7.8120%	5.5860%	10.6047%	6.3807%	9.8253%	7.0282%	10.6047%	6.3807%	22.9456%	16.3445%
86	7.4070%	4.2945%	8.8046%	6.2321%	11.4836%	6.9918%	10.9625%	7.9181%	11.4836%	6.9918%	24.6431%	17.5487%
87	8.1484%	4.7655%	9.8253%	7.0282%	12.4170%	7.6570%	12.3329%	8.9207%	12.4170%	7.6570%	26.3211%	18.6923%
88	8.9320%	5.2691%	10.9625%	7.9181%	13.3870%	8.3870%	13.8477%	9.9361%	13.3870%	8.3870%	28.3905%	20.5379%
89	9.7525%	5.8071%	12.3329%	8.9207%	14.4073%	9.1935%	15.3989%	11.1220%	14.4073%	9.1935%	29.9852%	21.5240%
90	10.6047%	6.3807%	13.8477%	9.9361%	15.4859%	10.1354%	17.1956%	12.2786%	15.4859%	10.1354%	31.5296%	22.3947%
91	11.4836%	6.9918%	15.3989%	11.1220%	16.6307%	11.1750%	18.8067%	13.4835%	16.6307%	11.1750%	33.0207%	23.1387%
92	12.4170%	7.6570%	17.1956%	12.2786%	17.8214%	12.3076%	20.6399%	14.6970%	17.8214%	12.3076%	34.4556%	23.7467%
93	13.3870%	8.3870%	18.8067%	13.4835%	19.0460%	13.5630%	22.3335%	16.0527%	19.0460%	13.5630%	35.8628%	24.4834%
94	14.4073%	9.1935%	20.6399%	14.6970%	20.3007%	14.9577%	23.9857%	17.2353%	20.3007%	14.9577%	37.1685%	25.4498%
95	15.4859%	10.1354%	22.3335%	16.0527%	21.7904%	16.5103%	25.8511%	18.3585%	21.7904%	16.5103%	38.3040%	26.6044%
96	16.6307%	11.1750%	23.9857%	17.2353%	23.4086%	18.2419%	27.8835%	20.1712%	23.4086%	18.2419%	39.2003%	27.9055%
97	17.8214%	12.3076%	25.8511%	18.3585%	24.8436%	20.1757%	29.4498%	21.3311%	24.8436%	20.1757%	39.7886%	29.3116%
98	19.0460%	13.5630%	27.8835%	20.1712%	26.3954%	22.2043%	31.2470%	22.1940%	26.3954%	22.2043%	40.0000%	30.7811%
99	20.3007%	14.9577%	29.4498%	21.3311%	28.0803%	24.3899%	32.7247%	22.9313%	28.0803%	24.3899%	40.0000%	32.2725%
100	21.7904%	16.5103%	31.2470%	22.1940%	29.9154%	26.8185%	34.1467%	23.5338%	29.9154%	26.8185%	40.0000%	33.7441%

Rates shown are recommended RP-2000 rates projected to 2009.

Appendix

Ultimate Withdrawal Rates		Select Withdrawal Rates		
Age	**Current & Proposed Assumption**	**Years of Service**	**Current Assumption**	**Proposed Assumption**
20	6.01%	1	3.50%	8.00%
21	5.25%	2	3.50%	5.00%
22	4.62%	3	3.50%	3.50%
23	4.08%			
24	3.63%			
25	3.24%			
26	2.91%			
27	2.62%			
28	2.37%			
29	2.15%			
30	1.90%			
31	1.80%			
32	1.70%			
33	1.60%			
34	1.50%			
35	1.46%			
36	1.42%			
37	1.38%			
38	1.34%			
39	1.30%			
40	1.26%			
41	1.18%			
42	1.10%			
43	1.03%			
44	0.97%			
45	0.91%			
46	0.86%			
47	0.81%			
48	0.69%			
49	0.59%			
50	0.50%			
51	0.39%			
52	0.29%			
53	0.22%			
54	0.15%			
55	0.11%			
56	0.07%			
57	0.05%			
58	0.03%			
59	0.01%			
60+	0.00%			

Appendix

	Active Retirement Rates	
Age	**Current Assumption**	**Proposed Assumption**
50	10%	13%
51	10%	10%
52	10%	10%
53	10%	10%
54	10%	13%
55	30%	30%
56	20%	20%
57	20%	20%
58	20%	20%
59	20%	20%
60	25%	25%
61	25%	25%
62	35%	35%
63	35%	35%
64	35%	35%
65	50%	50%
66	50%	50%
67	50%	50%
68	50%	50%
69	50%	50%
70+	100%	100%

Appendix

Salary Scale

Current Assumption		Proposed Assumption	
Age	**Rate**	**Service**	**Rate**
20	11.00%	1	13.00%
21	11.00%	2	11.00%
22	10.50%	3	9.00%
23	10.00%	4	8.00%
24	9.50%	5	6.50%
25	9.00%	6	6.10%
26	8.70%	7	5.80%
27	8.40%	8	5.60%
28	8.10%	9	5.40%
29	7.80%	10	5.30%
30	7.50%	11	5.20%
31	7.30%	12	5.10%
32	7.10%	13	5.00%
33	6.90%	14	4.90%
34	6.70%	15	4.80%
35	6.50%	16	4.80%
36	6.30%	17	4.80%
37	6.10%	18	4.80%
38	5.90%	19	4.80%
39	5.70%	20	4.80%
40	5.50%	21	4.70%
41	5.40%	22	4.60%
42	5.30%	23	4.50%
43	5.20%	24	4.50%
44	5.10%	25	4.50%
45	5.00%	26	4.50%
46	4.95%	27	4.50%
47	4.90%	28	4.50%
48	4.85%	29	4.50%
49	4.80%	30+	4.50%
50+	4.75%		

Appendix

Detailed Experience Analysis

Salary Increases

2004-2009 Experience

Age Group	Actual Increases	Expected Increases
<25	11.34%	9.71%
25 – 29	8.90%	8.30%
30 – 34	6.53%	7.07%
35 – 39	5.71%	6.10%
40 – 44	5.03%	5.31%
45 – 49	4.66%	4.90%
50 – 54	4.53%	4.75%
55 – 59	4.33%	4.75%
60 – 64	4.49%	4.75%
65 – 69	5.78%	4.75%
70 – 75	7.21%	4.75%
75+	0.63%	4.75%
Total	**5.82%**	**6.04%**

2004-2005 Experience

Age Group	Actual Increases	Expected Increases
<25	11.06%	9.68%
25 – 29	8.76%	8.29%
30 – 34	6.27%	7.07%
35 – 39	5.34%	6.11%
40 – 44	4.33%	5.31%
45 – 49	4.15%	4.91%
50 – 54	3.86%	4.75%
55 – 59	3.20%	4.75%
60 – 64	4.95%	4.75%
65 – 69	4.25%	4.75%
70 – 75	6.12%	4.75%
75+	N/A	N/A
Total	**5.39%**	**6.07%**

Appendix

Salary Increases

2005-2006 Experience

Age Group	Actual Increases	Expected Increases
<25	12.56%	9.72%
25 – 29	9.19%	8.30%
30 – 34	6.84%	7.07%
35 – 39	6.18%	6.12%
40 – 44	5.54%	5.31%
45 – 49	5.16%	4.91%
50 – 54	5.40%	4.75%
55 – 59	4.81%	4.75%
60 – 64	5.40%	4.75%
65 – 69	2.70%	4.75%
70 – 75	7.28%	4.75%
75+	N/A	N/A
Total	**6.28%**	**6.03%**

2006-2007 Experience

Age Group	Actual Increases	Expected Increases
<25	11.13%	9.73%
25 – 29	8.93%	8.30%
30 – 34	6.45%	7.07%
35 – 39	5.49%	6.11%
40 – 44	4.69%	5.31%
45 – 49	4.49%	4.90%
50 – 54	4.25%	4.75%
55 – 59	4.83%	4.75%
60 – 64	4.11%	4.75%
65 – 69	5.52%	4.75%
70 – 75	11.69%	4.75%
75+	8.67%	4.75%
Total	**5.63%**	**6.03%**

Appendix

Salary Increases

2007-2008 Experience

Age Group	Actual Increases	Expected Increases
<25	11.53%	9.78%
25 – 29	8.90%	8.31%
30 – 34	6.64%	7.07%
35 – 39	5.04%	6.09%
40 – 44	4.74%	5.30%
45 – 49	4.15%	4.90%
50 – 54	3.52%	4.75%
55 – 59	3.96%	4.75%
60 – 64	3.53%	4.75%
65 – 69	7.29%	4.75%
70 – 75	7.85%	4.75%
75+	(7.42%)	4.75%
Total	**5.45%**	**6.04%**

2008-2009 Experience

Age Group	Actual Increases	Expected Increases
<25	10.70%	9.65%
25 – 29	8.76%	8.32%
30 – 34	6.46%	7.08%
35 – 39	6.50%	6.09%
40 – 44	5.77%	5.31%
45 – 49	5.30%	4.90%
50 – 54	5.54%	4.75%
55 – 59	4.68%	4.75%
60 – 64	5.10%	4.75%
65 – 69	9.58%	4.75%
70 – 75	4.83%	4.75%
75+	N/A	N/A
Total	**6.32%**	**6.04%**

Appendix

Postretirement Mortality

2004-2009 Experience

	Males			Females			Total		
Age Group	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected
<50	0	0.02	0.0%	0	0.18	0.0%	0	0.20	0.0%
50-54	3	8.78	34.2%	1	0.66	152.4%	4	9.43	42.4%
55-59	18	32.91	54.7%	2	1.50	133.5%	20	34.41	58.1%
60-64	41	48.68	84.2%	4	2.87	139.5%	45	51.55	87.3%
65-69	57	67.26	84.8%	11	4.97	221.3%	68	72.23	94.1%
70-74	66	83.41	79.1%	14	12.22	114.5%	80	95.64	83.7%
75-79	89	113.38	78.5%	32	33.54	95.4%	121	146.92	82.4%
80-84	126	121.04	104.1%	50	55.18	90.6%	176	176.22	99.9%
85-89	94	78.85	119.2%	76	66.06	115.0%	170	144.91	117.3%
90-94	44	39.47	111.5%	67	48.88	137.1%	111	88.35	125.6%
95+	6	4.43	135.4%	30	18.32	163.8%	36	22.75	158.2%
Total	**544**	**598.23**	**90.9%**	**287**	**244.38**	**117.4%**	**831**	**842.61**	**98.6%**

2004-2005 Experience

	Males			Females			Total		
Age Group	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected
<50	0	0.00	0.0%	0	0.04	0.0%	0	0.04	0.0%
50-54	0	1.88	0.0%	0	0.11	0.0%	0	1.99	0.0%
55-59	2	6.45	31.0%	0	0.28	0.0%	2	6.73	29.7%
60-64	8	8.94	89.5%	0	0.51	0.0%	8	9.44	84.7%
65-69	14	11.84	118.2%	1	0.98	102.1%	15	12.82	117.0%
70-74	14	16.19	86.5%	2	2.70	74.0%	16	18.89	84.7%
75-79	23	23.07	99.7%	6	6.78	88.5%	29	29.85	97.2%
80-84	29	21.04	137.8%	9	9.70	92.8%	38	30.74	123.6%
85-89	24	15.27	157.2%	14	12.51	111.9%	38	27.78	136.8%
90-94	12	6.58	182.4%	8	7.76	103.1%	20	14.34	139.5%
95+	1	0.75	134.0%	6	4.58	131.0%	7	5.33	131.4%
Total	**127**	**112.01**	**113.4%**	**46**	**45.95**	**100.1%**	**173**	**157.96**	**109.5%**

Appendix

Postretirement Mortality

2005-2006 Experience

Age Group	Males Actual Deaths	Males Expected Deaths	Males Actual/ Expected	Females Actual Deaths	Females Expected Deaths	Females Actual/ Expected	Total Actual Deaths	Total Expected Deaths	Total Actual/ Expected
<50	0	0.00	0.0%	0	0.04	0.0%	0	0.04	0.0%
50-54	2	1.82	109.9%	1	0.10	989.3%	3	1.92	156.1%
55-59	5	6.72	74.4%	0	0.30	0.0%	5	7.02	71.2%
60-64	5	9.12	54.8%	2	0.55	362.5%	7	9.67	72.4%
65-69	13	12.83	101.3%	1	1.00	99.6%	14	13.84	101.2%
70-74	12	16.18	74.2%	2	2.51	79.8%	14	18.69	74.9%
75-79	16	22.79	70.2%	2	6.78	29.5%	18	29.58	60.9%
80-84	25	21.99	113.7%	6	10.66	56.3%	31	32.64	95.0%
85-89	18	14.86	121.1%	17	13.19	128.8%	35	28.05	124.8%
90-94	4	7.04	56.8%	12	8.60	139.5%	16	15.64	102.3%
95+	1	0.54	183.6%	9	4.31	208.6%	10	4.86	205.8%
Total	**101**	**113.90**	**88.7%**	**52**	**48.06**	**108.2%**	**153**	**161.96**	**94.5%**

2006-2007 Experience

Age Group	Males Actual Deaths	Males Expected Deaths	Males Actual/ Expected	Females Actual Deaths	Females Expected Deaths	Females Actual/ Expected	Total Actual Deaths	Total Expected Deaths	Total Actual/ Expected
<50	0	0.00	0.0%	0	0.04	0.0%	0	0.04	0.0%
50-54	0	1.70	0.0%	0	0.12	0.0%	0	1.82	0.0%
55-59	7	6.75	103.7%	1	0.31	319.4%	8	7.06	113.3%
60-64	9	9.56	94.1%	0	0.56	0.0%	9	10.13	88.9%
65-69	12	13.58	88.4%	3	1.00	298.9%	15	14.58	102.9%
70-74	9	15.95	56.4%	4	2.54	157.7%	13	18.48	70.3%
75-79	23	23.11	99.5%	6	6.67	90.0%	29	29.78	97.4%
80-84	22	24.24	90.8%	10	11.48	87.1%	32	35.72	89.6%
85-89	15	15.55	96.5%	18	12.85	140.1%	33	28.40	116.2%
90-94	8	7.41	108.0%	13	10.61	122.5%	21	18.02	116.5%
95+	2	0.93	214.0%	7	3.08	227.1%	9	4.02	224.1%
Total	**107**	**118.78**	**90.1%**	**62**	**49.26**	**125.9%**	**169**	**168.04**	**100.6%**

Appendix

Postretirement Mortality

2007-2008 Experience

Age Group	Males			Females			Total		
	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected
<50	0	0.00	0.0%	0	0.03	0.0%	0	0.04	0.0%
50-54	1	1.77	56.6%	0	0.15	0.0%	1	1.92	52.1%
55-59	3	6.58	45.6%	1	0.31	325.6%	4	6.89	58.1%
60-64	11	10.15	108.4%	2	0.59	339.7%	13	10.74	121.1%
65-69	11	14.22	77.3%	5	0.94	533.2%	16	15.16	105.5%
70-74	14	17.34	80.7%	4	2.30	173.6%	18	19.65	91.6%
75-79	14	21.83	64.1%	8	6.81	117.4%	22	28.64	76.8%
80-84	26	26.36	98.6%	10	11.80	84.8%	36	38.16	94.3%
85-89	16	15.80	101.3%	16	13.46	118.9%	32	29.26	109.4%
90-94	11	9.37	117.4%	20	10.82	184.8%	31	20.19	153.5%
95+	0	0.75	0.0%	3	2.73	110.0%	3	3.48	86.2%
Total	**107**	**124.17**	**86.2%**	**69**	**49.94**	**138.2%**	**176**	**174.11**	**101.1%**

2008-2009 Experience

Age Group	Males			Females			Total		
	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected
<50	0	0.01	0.0%	0	0.04	0.0%	0	0.04	0.0%
50-54	0	1.61	0.0%	0	0.17	0.0%	0	1.78	0.0%
55-59	1	6.42	15.6%	0	0.29	0.0%	1	6.71	14.9%
60-64	8	10.92	73.3%	0	0.66	0.0%	8	11.58	69.1%
65-69	7	14.78	47.4%	1	1.05	95.6%	8	15.83	50.5%
70-74	17	17.75	95.8%	2	2.17	92.1%	19	19.92	95.4%
75-79	13	22.58	57.6%	10	6.50	153.9%	23	29.08	79.1%
80-84	24	27.41	87.6%	15	11.55	129.9%	39	38.96	100.1%
85-89	21	17.37	120.9%	11	14.05	78.3%	32	31.42	101.8%
90-94	9	9.07	99.2%	14	11.09	126.2%	23	20.16	114.1%
95+	2	1.46	137.4%	5	3.61	138.3%	7	5.07	138.1%
Total	**102**	**129.37**	**78.8%**	**58**	**51.17**	**113.3%**	**160**	**180.55**	**88.6%**

Appendix

Preretirement Mortality

2004-2009 Experience

Age Group	Males Actual Deaths	Males Expected Deaths	Males Actual/ Expected	Females Actual Deaths	Females Expected Deaths	Females Actual/ Expected	Total Actual Deaths	Total Expected Deaths	Total Actual/ Expected
<25	0	0.45	0.0%	0	0.04	0.0%	0	0.49	0.0%
25-29	2	2.25	89.0%	0	0.21	0.0%	2	2.45	81.5%
30-34	4	4.20	95.2%	0	0.38	0.0%	4	4.58	87.3%
35-39	6	6.56	91.5%	2	0.57	348.3%	8	7.13	112.2%
40-44	12	8.31	144.3%	0	0.64	0.0%	12	8.95	134.1%
45-49	8	10.76	74.4%	2	0.73	273.6%	10	11.49	87.1%
50-54	8	13.00	61.5%	0	0.51	0.0%	8	13.51	59.2%
55-59	2	8.24	24.3%	0	0.20	0.0%	2	8.43	23.7%
60-64	6	3.64	164.9%	0	0.04	0.0%	6	3.68	163.2%
65+	0	2.62	0.0%	0	0.05	0.0%	0	2.67	0.0%
Total	**48**	**60.03**	**80.0%**	**4**	**3.36**	**119.2%**	**44**	**63.38**	**69.4%**

2004-2005 Experience

Age Group	Males Actual Deaths	Males Expected Deaths	Males Actual/ Expected	Females Actual Deaths	Females Expected Deaths	Females Actual/ Expected	Total Actual Deaths	Total Expected Deaths	Total Actual/ Expected
<25	0	0.07	0.0%	0	0.01	0.0%	0	0.08	0.0%
25-29	1	0.42	236.9%	0	0.04	0.0%	1	0.46	216.4%
30-34	1	0.89	112.5%	0	0.08	0.0%	1	0.97	103.1%
35-39	1	1.22	81.7%	2	0.10	1991.7%	3	1.33	226.4%
40-44	5	1.55	323.0%	0	0.13	0.0%	5	1.67	298.6%
45-49	2	2.04	98.0%	1	0.12	833.3%	3	2.16	138.9%
50-54	1	2.52	39.6%	0	0.08	0.0%	1	2.60	38.5%
55-59	0	1.37	0.0%	0	0.03	0.0%	0	1.40	0.0%
60-64	0	0.33	0.0%	0	0.01	0.0%	0	0.34	0.0%
65+	0	0.32	0.0%	0	0.01	0.0%	0	0.33	0.0%
Total	**11**	**10.75**	**102.3%**	**3**	**0.60**	**503.2%**	**14**	**11.34**	**123.4%**

Appendix

Preretirement Mortality

2005-2006 Experience

	Males			Females			Total		
Age Group	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected
<25	0	0.08	0.0%	0	0.01	0.0%	0	0.09	0.0%
25-29	0	0.42	0.0%	0	0.04	0.0%	0	0.46	0.0%
30-34	1	0.85	118.0%	0	0.08	0.0%	1	0.92	108.2%
35-39	1	1.28	78.2%	0	0.10	0.0%	1	1.38	72.4%
40-44	2	1.59	125.8%	0	0.13	0.0%	2	1.72	116.2%
45-49	0	2.06	0.0%	0	0.13	0.0%	0	2.19	0.0%
50-54	1	2.57	38.9%	0	0.09	0.0%	1	2.66	37.6%
55-59	0	1.59	0.0%	0	0.03	0.0%	0	1.62	0.0%
60-64	2	0.42	472.2%	0	0.00	0.0%	2	0.43	468.4%
65+	0	0.34	0.0%	0	0.01	0.0%	0	0.35	0.0%
Total	**7**	**11.20**	**62.5%**	**0**	**0.63**	**0.0%**	**7**	**11.83**	**59.2%**

2006-2007 Experience

	Males			Females			Total		
Age Group	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected
<25	0	0.09	0.0%	0	0.01	0.0%	0	0.10	0.0%
25-29	1	0.45	221.2%	0	0.04	0.0%	1	0.49	202.8%
30-34	0	0.84	0.0%	0	0.07	0.0%	0	0.91	0.0%
35-39	1	1.32	75.5%	0	0.12	0.0%	1	1.44	69.4%
40-44	2	1.68	119.0%	0	0.12	0.0%	2	1.80	110.8%
45-49	3	2.13	140.7%	1	0.15	655.9%	4	2.28	175.1%
50-54	1	2.66	37.5%	0	0.11	0.0%	1	2.77	36.1%
55-59	0	1.66	0.0%	0	0.03	0.0%	0	1.70	0.0%
60-64	1	0.60	167.8%	0	0.00	0.0%	1	0.60	166.5%
65+	0	0.31	0.0%	0	0.01	0.0%	0	0.32	0.0%
Total	**9**	**11.76**	**76.5%**	**1**	**0.67**	**149.6%**	**10**	**12.43**	**80.5%**

Appendix

Preretirement Mortality

2007-2008 Experience

	Males			Females			Total		
Age Group	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected
<25	0	0.10	0.0%	0	0.01	0.0%	0	0.11	0.0%
25-29	0	0.46	0.0%	0	0.04	0.0%	0	0.50	0.0%
30-34	0	0.83	0.0%	0	0.07	0.0%	0	0.90	0.0%
35-39	2	1.37	146.3%	0	0.13	0.0%	2	1.49	133.9%
40-44	2	1.73	115.8%	0	0.12	0.0%	2	1.85	108.1%
45-49	3	2.20	136.4%	0	0.15	0.0%	3	2.35	127.4%
50-54	3	2.60	115.3%	0	0.11	0.0%	3	2.71	110.6%
55-59	0	1.76	0.0%	0	0.05	0.0%	0	1.82	0.0%
60-64	1	1.12	89.2%	0	0.01	0.0%	1	1.13	88.4%
65+	0	0.72	0.0%	0	0.01	0.0%	0	0.73	0.0%
Total	**11**	**12.89**	**85.4%**	**0**	**0.71**	**0.0%**	**11**	**13.59**	**80.9%**

2008-2009 Experience

	Males			Females			Total		
Age Group	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected	Actual Deaths	Expected Deaths	Actual/ Expected
<25	0	0.11	0.0%	0	0.01	0.0%	0	0.12	0.0%
25-29	0	0.49	0.0%	0	0.04	0.0%	0	0.53	0.0%
30-34	2	0.80	251.1%	0	0.08	0.0%	2	0.87	229.0%
35-39	1	1.36	73.5%	0	0.13	0.0%	1	1.49	67.2%
40-44	1	1.77	56.5%	0	0.13	0.0%	1	1.90	52.7%
45-49	0	2.32	0.0%	0	0.17	0.0%	0	2.49	0.0%
50-54	2	2.65	75.6%	0	0.13	0.0%	2	2.77	72.2%
55-59	2	1.85	108.2%	0	0.05	0.0%	2	1.90	105.4%
60-64	2	1.16	171.7%	0	0.01	0.0%	2	1.17	170.2%
65+	0	0.93	0.0%	0	0.01	0.0%	0	0.94	0.0%
Total	**10**	**13.44**	**74.4%**	**0**	**0.75**	**0.0%**	**10**	**14.19**	**70.5%**

Appendix

Disability Mortality

2004-2009 Experience

Age Group	Males Actual Deaths	Males Expected Deaths	Males Actual/ Expected	Females Actual Deaths	Females Expected Deaths	Females Actual/ Expected	Total Actual Deaths	Total Expected Deaths	Total Actual/ Expected
<50	3	25.3	11.8%	2	9.46	21.1%	5	34.81	14.4%
50-59	18	31.7	56.8%	2	2.00	99.9%	20	33.70	59.3%
60-69	20	9.64	207.5%	0	0.10	0.0%	20	9.74	205.3%
70-79	0	0.88	0.0%	0	0.00	0.0%	0	0.88	0.0%
80-89	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
90-99	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
100+	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
Total	**41**	**67.57**	**60.7%**	**4**	**11.57**	**34.6%**	**45**	**79.14**	**56.9%**

2004-2005 Experience

Age Group	Males Actual Deaths	Males Expected Deaths	Males Actual/ Expected	Females Actual Deaths	Females Expected Deaths	Females Actual/ Expected	Total Actual Deaths	Total Expected Deaths	Total Actual/ Expected
<50	0	5.01	0.0%	0	1.64	0.0%	0	6.65	0.0%
50-59	4	6.41	62.4%	1	0.22	456.8%	5	6.63	75.4%
60-69	1	1.00	100.4%	0	0.01	0.0%	1	1.01	99.3%
70-79	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
80-89	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
90-99	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
100+	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
Total	**5**	**12.42**	**40.3%**	**1**	**1.87**	**53.4%**	**6**	**14.29**	**42.0%**

Appendix

Disability Mortality

2005-2006 Experience

Age Group	Males Actual Deaths	Males Expected Deaths	Males Actual/ Expected	Females Actual Deaths	Females Expected Deaths	Females Actual/ Expected	Total Actual Deaths	Total Expected Deaths	Total Actual/ Expected
<50	1	4.97	20.1%	0	1.86	0.0%	1	6.83	14.6%
50-59	3	6.66	45.1%	0	0.34	0.0%	3	7.00	42.9%
60-69	2	1.29	155.4%	0	0.02	0.0%	2	1.30	153.5%
70-79	0	0.02	0.0%	0	0.00	0.0%	0	0.02	0.0%
80-89	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
90-99	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
100+	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
Total	**6**	**12.94**	**46.4%**	**0**	**2.22**	**0.0%**	**6**	**15.16**	**39.6%**

2006-2007 Experience

Age Group	Males Actual Deaths	Males Expected Deaths	Males Actual/ Expected	Females Actual Deaths	Females Expected Deaths	Females Actual/ Expected	Total Actual Deaths	Total Expected Deaths	Total Actual/ Expected
<50	1	5.25	19.1%	1	1.96	51.1%	2	7.21	27.8%
50-59	6	6.22	96.4%	1	0.48	208.3%	7	6.70	104.4%
60-69	6	1.98	302.8%	0	0.02	0.0%	6	2.00	299.6%
70-79	0	0.16	0.0%	0	0.00	0.0%	0	0.16	0.0%
80-89	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
90-99	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
100+	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
Total	**13**	**13.61**	**95.5%**	**2**	**2.46**	**81.4%**	**15**	**16.07**	**93.4%**

Appendix

Disability Mortality

2007-2008 Experience

Age Group	Males Actual Deaths	Expected Deaths	Actual/ Expected	Females Actual Deaths	Expected Deaths	Actual/ Expected	Total Actual Deaths	Expected Deaths	Actual/ Expected
<50	0	5.15	0.0%	1	2.05	48.9%	1	7.20	13.9%
50-59	3	6.28	47.8%	0	0.48	0.0%	3	6.76	44.4%
60-69	8	2.45	326.3%	0	0.02	0.0%	8	2.48	323.2%
70-79	0	0.30	0.0%	0	0.00	0.0%	0	0.30	0.0%
80-89	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
90-99	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
100+	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
Total	**11**	**14.18**	**77.6%**	**1**	**2.55**	**39.2%**	**12**	**16.73**	**71.7%**

2008-2009 Experience

Age Group	Males Actual Deaths	Expected Deaths	Actual/ Expected	Females Actual Deaths	Expected Deaths	Actual/ Expected	Total Actual Deaths	Expected Deaths	Actual/ Expected
<50	1	4.97	20.1%	0	1.95	0.0%	1	6.92	14.5%
50-59	2	6.13	32.6%	0	0.48	0.0%	2	6.61	30.3%
60-69	3	2.92	102.6%	0	0.03	0.0%	3	2.96	101.5%
70-79	0	0.40	0.0%	0	0.00	0.0%	0	0.40	0.0%
80-89	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
90-99	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
100+	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
Total	**6**	**14.42**	**41.6%**	**0**	**2.46**	**0.0%**	**0**	**16.89**	**35.5%**

Appendix

Retirement

2004-2009 Experience

Age	Actual Retirements	Expected Retirements	Actual/Expected
50	172	127.70	134.7%
51	103	109.10	94.4%
52	89	98.60	90.3%
53	99	87.30	113.4%
54	95	69.60	136.5%
55	159	171.90	92.5%
56	92	83.00	110.8%
57	51	58.20	87.6%
58	50	47.60	105.0%
59	40	36.40	109.9%
60	28	33.00	84.8%
61	16	22.50	71.1%
62	18	23.80	75.6%
63	9	12.95	69.5%
64	8	9.10	87.9%
65	4	8.50	47.1%
66	4	5.50	72.7%
67	3	4.00	75.0%
68	1	2.00	50.0%
69	0	2.00	0.0%
70+	3	14.00	21.4%
Total	**1,044**	**1,026.75**	**101.7%**

Appendix

Retirement

2004-2005 Experience

Age	Actual Retirements	Expected Retirements	Actual/Expected
50	40	27.00	148.1%
51	24	19.90	120.6%
52	18	19.90	90.5%
53	17	13.90	122.3%
54	20	12.40	161.3%
55	24	26.70	89.9%
56	17	12.80	132.8%
57	11	11.40	96.5%
58	5	8.60	58.1%
59	5	4.00	125.0%
60	3	4.50	66.7%
61	0	2.00	0.0%
62	1	2.10	47.6%
63	0	0.70	0.0%
64	2	1.05	190.5%
65	0	1.50	0.0%
66	0	0.50	0.0%
67	1	1.00	100.0%
68	0	0.00	0.0%
69	0	1.00	0.0%
70+	1	2.00	50.0%
Total	**189**	**172.95**	**109.3%**

Appendix

Retirement

2005-2006 Experience

Age	Actual Retirements	Expected Retirements	Actual/Expected
50	30	24.80	121.0%
51	20	23.30	85.8%
52	15	17.80	84.3%
53	18	19.10	94.2%
54	13	11.40	114.0%
55	33	33.00	100.0%
56	14	14.80	94.6%
57	4	9.00	44.4%
58	9	9.20	97.8%
59	8	8.60	93.0%
60	5	4.50	111.1%
61	2	3.75	53.3%
62	0	2.45	0.0%
63	3	2.80	107.1%
64	0	0.70	0.0%
65	0	1.00	0.0%
66	2	1.50	133.3%
67	0	0.50	0.0%
68	0	0.50	0.0%
69	0	0.00	0.0%
70+	1	3.00	33.3%
Total	**177**	**191.70**	**92.3%**

Appendix

Retirement

2006-2007 Experience

Age	Actual Retirements	Expected Retirements	Actual/Expected
50	30	23.50	127.7%
51	21	22.70	92.5%
52	27	21.00	128.6%
53	30	16.40	182.9%
54	24	16.30	147.2%
55	43	35.10	122.5%
56	22	17.00	129.4%
57	20	13.80	144.9%
58	11	8.40	131.0%
59	9	8.00	112.5%
60	11	9.50	115.8%
61	4	4.25	94.1%
62	2	4.55	44.0%
63	1	2.80	35.7%
64	1	1.75	57.1%
65	0	1.00	0.0%
66	0	0.50	0.0%
67	1	1.00	100.0%
68	0	0.50	0.0%
69	0	0.50	0.0%
70+	0	2.00	0.0%
Total	**257**	**210.55**	**122.1%**

Appendix

Retirement

2007-2008 Experience

Age	Actual Retirements	Expected Retirements	Actual/Expected
50	34	25.90	131.3%
51	24	20.50	117.1%
52	20	21.90	91.3%
53	15	18.10	82.9%
54	19	13.20	143.9%
55	31	41.70	74.3%
56	19	16.40	115.9%
57	8	12.40	64.5%
58	8	9.60	83.3%
59	9	7.20	125.0%
60	3	7.50	40.0%
61	6	6.75	88.9%
62	4	4.90	81.6%
63	1	3.50	28.6%
64	3	2.45	122.4%
65	1	2.50	40.0%
66	0	1.00	0.0%
67	0	0.50	0.0%
68	0	0.50	0.0%
69	0	0.00	0.0%
70+	1	4.00	25.0%
Total	**206**	**220.50**	**93.4%**

Appendix

Retirement

2008-2009 Experience

Age	Actual Retirements	Expected Retirements	Actual/Expected
50	38	26.50	143.4%
51	14	22.70	61.7%
52	9	18.00	50.0%
53	19	19.80	96.0%
54	19	16.30	116.6%
55	28	35.40	79.1%
56	20	22.00	90.9%
57	8	11.60	69.0%
58	17	11.80	144.1%
59	9	8.60	104.7%
60	6	7.00	85.7%
61	4	5.75	69.6%
62	11	9.80	112.2%
63	4	3.15	127.0%
64	2	3.15	63.5%
65	3	2.50	120.0%
66	2	2.00	100.0%
67	1	1.00	100.0%
68	1	0.50	0.0%
69	0	0.50	0.0%
70+	0	3.00	0.0%
Total	**215**	**231.05**	**93.1%**

Appendix

Disability Retirements

2004-2009 Experience

Age Group	Males			Females			Total		
	Actual Disabilities	Expected Disabilities	Actual/ Expected	Actual Disabilities	Expected Disabilities	Actual/ Expected	Actual Disabilities	Expected Disabilities	Actual/ Expected
<25	1	1.63	61.4%	0	0.27	0.0%	1	1.90	52.6%
25-29	3	7.73	38.8%	1	1.34	74.6%	4	9.07	44.1%
30-34	6	13.50	44.4%	2	2.13	93.8%	8	15.64	51.2%
35-39	16	20.14	79.4%	8	2.92	274.3%	24	23.06	104.1%
40-44	27	32.08	84.2%	11	4.28	257.0%	38	36.36	104.5%
45-50	50	50.55	98.9%	3	5.97	50.3%	53	56.51	93.8%
50-54	56	66.01	84.8%	8	5.11	156.4%	64	71.12	90.0%
55-60	23	21.26	108.2%	1	1.20	83.3%	24	22.46	106.9%
60-64	9	0	N/A	0	0	N/A	9	0	N/A
Total	**191**	**212.90**	**89.7%**	**34**	**23.22**	**146.4%**	**225**	**236.12**	**95.3%**

2004-2005 Experience

Age Group	Males			Females			Total		
	Actual Disabilities	Expected Disabilities	Actual/ Expected	Actual Disabilities	Expected Disabilities	Actual/ Expected	Actual Disabilities	Expected Disabilities	Actual/ Expected
<25	0	0.26	0.0%	0	0.05	0.0%	0	0.32	0.0%
25-29	1	1.45	69.1%	0	0.26	0.0%	1	1.71	58.4%
30-34	2	2.87	69.7%	1	0.46	217.1%	3	3.33	90.1%
35-39	4	3.78	105.8%	4	0.52	762.3%	8	4.30	185.9%
40-44	10	5.97	167.4%	3	0.85	352.6%	13	6.83	190.5%
45-50	9	9.67	93.0%	0	0.96	0.0%	9	10.64	84.6%
50-54	15	12.87	116.5%	2	0.82	244.4%	17	13.69	124.2%
55-60	4	6.15	65.0%	1	0.27	373.2%	5	6.42	77.9%
60-64	1	0	N/A	0	0	N/A	1	0	N/A
Total	**46**	**43.03**	**106.9%**	**11**	**4.20**	**261.8%**	**57**	**47.23**	**120.7%**

Appendix

Disability Retirements

2005-2006 Experience

Age Group	Males Actual Disabilities	Males Expected Disabilities	Males Actual/ Expected	Females Actual Disabilities	Females Expected Disabilities	Females Actual/ Expected	Total Actual Disabilities	Total Expected Disabilities	Total Actual/ Expected
<25	0	0.29	0.0%	0	0.04	0.0%	0	0.34	0.0%
25-29	0	1.44	0.0%	0	0.27	0.0%	0	1.71	0.0%
30-34	1	2.73	36.6%	1	0.44	226.0%	2	3.17	63.0%
35-39	3	3.94	76.1%	3	0.54	557.5%	6	4.48	133.9%
40-44	4	6.16	64.9%	3	0.88	341.8%	7	7.04	99.4%
45-50	16	9.75	164.1%	1	1.13	88.8%	17	10.87	156.3%
50-54	9	13.12	68.6%	1	0.98	101.6%	10	14.10	70.9%
55-60	8	6.96	114.9%	0	0.27	0.0%	8	7.23	110.6%
60-64	2	0	N/A	0	0	N/A	2	0	N/A
Total	**43**	**44.40**	**96.9%**	**9**	**4.55**	**197.8%**	**52**	**48.95**	**106.2%**

2006-2007 Experience

Age Group	Males Actual Disabilities	Males Expected Disabilities	Males Actual/ Expected	Females Actual Disabilities	Females Expected Disabilities	Females Actual/ Expected	Total Actual Disabilities	Total Expected Disabilities	Total Actual/ Expected
<25	0	0.33	0.0%	0	0.05	0.0%	0	0.38	0.0%
25-29	2	1.56	128.2%	1	0.26	384.2%	3	1.82	164.8%
30-34	2	2.69	74.3%	0	0.40	0.0%	2	3.09	64.8%
35-39	3	4.09	73.4%	1	0.58	171.6%	4	4.67	85.7%
40-44	6	6.52	92.1%	2	0.83	239.8%	8	7.35	108.8%
45-50	12	10.11	118.7%	1	1.26	79.4%	13	11.37	114.4%
50-54	18	13.55	132.9%	2	1.03	195.0%	20	14.57	137.2%
55-60	6	2.60	231.0%	0	0.16	0.0%	6	2.76	217.2%
60-64	3	0	N/A	0	0	N/A	3	0	N/A
Total	**52**	**41.43**	**125.5%**	**7**	**4.58**	**153.0%**	**59**	**46.01**	**128.2%**

Appendix

Disability Retirements

2007-2008 Experience

Age Group	Males Actual Disabilities	Males Expected Disabilities	Males Actual/ Expected	Females Actual Disabilities	Females Expected Disabilities	Females Actual/ Expected	Total Actual Disabilities	Total Expected Disabilities	Total Actual/ Expected
<25	0	0.35	0.0%	0	0.06	0.0%	0	0.41	0.0%
25-29	0	1.58	0.0%	0	0.28	0.0%	0	1.86	0.0%
30-34	1	2.66	37.6%	0	0.41	0.0%	1	3.07	32.6%
35-39	5	4.18	119.5%	0	0.64	0.0%	5	4.82	103.6%
40-44	5	6.60	75.8%	2	0.84	236.9%	7	7.44	94.0%
45-50	9	10.30	87.4%	0	1.25	0.0%	9	11.55	77.9%
50-54	10	13.11	76.3%	2	1.05	190.1%	12	14.16	84.7%
55-60	2	2.71	73.8%	0	0.27	0.0%	2	2.98	67.1%
60-64	3	-	N/A	0	0	N/A	3	0	N/A
Total	**35**	**41.51**	**84.3%**	**4**	**4.80**	**83.3%**	**39**	**46.31**	**84.2%**

2008-2009 Experience

Age Group	Males Actual Disabilities	Males Expected Disabilities	Males Actual/ Expected	Females Actual Disabilities	Females Expected Disabilities	Females Actual/ Expected	Total Actual Disabilities	Total Expected Disabilities	Total Actual/ Expected
<25	1	0.39	257.6%	0	0.06	0.0%	1	0.45	222.3%
25-29	0	1.70	0.0%	0	0.27	0.0%	0	1.97	0.0%
30-34	0	2.55	0.0%	0	0.43	0.0%	0	2.98	0.0%
35-39	1	4.15	24.1%	0	0.63	0.0%	1	4.78	20.9%
40-44	2	6.82	29.3%	1	0.87	114.5%	3	7.70	39.0%
45-50	4	10.72	37.3%	1	1.37	73.2%	5	12.09	41.4%
50-54	4	13.36	29.9%	1	1.23	81.1%	5	14.59	34.3%
55-60	3	2.84	105.6%	0	0.23	0.0%	3	3.07	97.7%
60-64	0	0	N/A	0	0	N/A	0	0	N/A
Total	**15**	**42.54**	**35.3%**	**3**	**5.09**	**58.9%**	**18**	**47.63**	**37.8%**

Appendix

Terminations

2004-2009 Experience

Service Group	Select Actual Terminations	Select Expected Terminations	Select Actual/ Expected		Age Group	Ultimate Actual Terminations	Ultimate Expected Terminations	Ultimate Actual/ Expected
0-1	137	44.14	310.4%		<25	0	6.02	0.0%
1-2	173	108.68	159.2%		25-29	78	92.98	83.9%
2-3	105	95.94	109.4%		30-34	104	132.85	78.3%
Total	**415**	**248.75**	**166.8%**		35-39	144	136.65	105.4%
					40-44	100	100.25	99.8%
					45-49	89	58.64	151.8%
					50-54	0	0.50	0.0%
					55-59	0	0.03	0.0%
					Total	**515**	**527.92**	**97.6%**

2004-2005 Experience

Service Group	Select Actual Terminations	Select Expected Terminations	Select Actual/ Expected		Age Group	Ultimate Actual Terminations	Ultimate Expected Terminations	Ultimate Actual/ Expected
0-1	25	9.03	276.9%		<25	0	1.32	0.0%
1-2	21	15.82	132.7%		25-29	20	19.38	103.2%
2-3	23	18.13	126.9%		30-34	24	28.93	83.0%
Total	**69**	**42.98**	**160.5%**		35-39	18	25.66	70.2%
					40-44	17	18.96	89.7%
					45-49	11	11.10	99.1%
					50-54	0	0.15	0.0%
					55-59	0	0.01	0.0%
					Total	**90**	**105.52**	**85.3%**

2005-2006 Experience

Service Group	Select Actual Terminations	Select Expected Terminations	Select Actual/ Expected		Age Group	Ultimate Actual Terminations	Ultimate Expected Terminations	Ultimate Actual/ Expected
0-1	28	8.26	339.0%		<25	0	1.05	0.0%
1-2	33	20.30	162.6%		25-29	19	18.71	101.5%
2-3	21	14.98	140.2%		30-34	25	27.68	90.3%
Total	**82**	**43.54**	**188.3%**		35-39	33	26.92	122.6%
					40-44	20	19.61	102.0%
					45-49	16	11.43	140.0%
					50-54	0	0.17	0.0%
					55-59	0	0.01	0.0%
					Total	**113**	**105.57**	**107.0%**

Appendix

Terminations

2006-2007 Experience

Service Group	Select			Age Group	Ultimate		
	Actual Terminations	Expected Terminations	Actual/ Expected		Actual Terminations	Expected Terminations	Actual/ Expected
0-1	30	10.43	287.6%	<25	0	0.77	0.0%
1-2	46	24.36	188.8%	25-29	12	17.44	68.8%
2-3	17	18.27	93.0%	30-34	17	25.93	65.5%
Total	**93**	**53.06**	**175.3%**	35-39	37	27.75	133.3%
				40-44	25	20.19	123.8%
				45-49	27	11.67	231.4%
				50-54	0	0.12	0.0%
				55-59	0	0.01	0.0%
				Total	**118**	**103.89**	**113.6%**

2007-2008 Experience

Service Group	Select			Age Group	Ultimate		
	Actual Terminations	Expected Terminations	Actual/ Expected		Actual Terminations	Expected Terminations	Actual/ Expected
0-1	24	9.21	260.7%	<25	0	1.27	0.0%
1-2	41	23.59	173.8%	25-29	16	17.72	90.3%
2-3	29	22.54	128.7%	30-34	20	25.33	79.0%
Total	**94**	**55.34**	**169.9%**	35-39	32	28.19	113.5%
				40-44	19	20.25	93.8%
				45-49	17	11.90	142.8%
				50-54	0	0.05	0.0%
				55-59	0	0.00	0.0%
				Total	**104**	**104.71**	**99.3%**

2008-2009 Experience

Service Group	Select			Age Group	Ultimate		
	Actual Terminations	Expected Terminations	Actual/ Expected		Actual Terminations	Expected Terminations	Actual/ Expected
0-1	30	7.21	416.1%	<25	0	1.61	0.0%
1-2	32	24.61	130.1%	25-29	11	19.73	55.8%
2-3	15	22.02	68.1%	30-34	18	24.97	72.1%
Total	**77**	**53.83**	**143.0%**	35-39	24	28.13	85.3%
				40-44	19	21.23	89.5%
				45-49	18	12.55	143.4%
				50-54	0	0.01	0.0%
				55-59	0	0.00	0.0%
				Total	**90**	**108.23**	**83.2%**

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