February 3, 2012

Experience Study 2007 - 2011
Judges Retirement Fund

MERCER

February 3, 2012

Minnesota State Retirement System
Judges Retirement Fund
St. Paul, MN 55103

2007 to 2011 Experience Study – Judges Retirement Fund

Dear Dave:

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, 2011 actuarial valuation. Our proposals represent our best-estimate based on recent experience, future expectations and professional judgment.
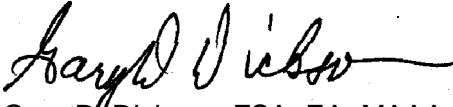
The analysis in this study was based on data for the period from July 1, 2007, to June 30, 2011, as provided by the Fund. The Fund's actuary would not customarily verify this data. We have reviewed the information for internal consistency and reasonableness and have no reason to doubt its substantial accuracy.

This report has been prepared exclusively for the Minnesota State Retirement System. 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.
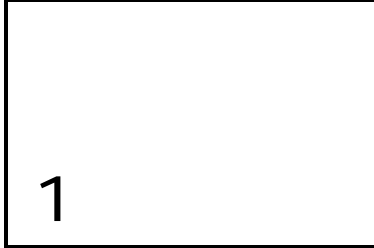
Sincerely,

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 Judges Retirement Fund in order to analyze the Fund's experience from July 1, 2007, through June 30, 2011, 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 1.00% to 0.00%.
	Reduce the payroll growth assumption from 4.00% to 3.00%.
	Change the salary increase assumption from 4.00% to 3.00%.
	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 experience in this Fund, we propose changing the current assumption from 1.00% to 0.00%.

Payroll Growth

Based on our analysis of actual experience, we propose changing the current assumption from 4.00% to 3.00%.

Salary Increases

We propose changing the salary increase assumption from 4.00% to 3.00%.

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 State 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 Retired Mortality

We propose a change to the healthy post-retirement mortality table.

Pre-retirement Mortality

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

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 changing the retirement rates to reflect retirement patterns observed over the four-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 no changes to the current assumptions.

Percent Married and Beneficiary Age

We propose no changes to the current assumptions.

Disability Retirement

We propose that disability rates for male and female members be reduced.

Combined Service Annuity Assumptions

Currently, liabilities for deferred members not in pay status are increased 30.0% to account for the effect of some members being eligible for a Combined Service Annuity. Based on the unique demographics of this plan, we recommend that this liability adjustment be eliminated.

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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, 2011 actuarial valuation are shown in the table on the next page.

Actuarial Methods

Method	June 30, 2011 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

Actuarial Accrued Liability and required contributions in this report are computed using the Individual Entry Age Normal Cost Method. This method is prescribed by Minnesota Statutes.

The objective under this method is to fund each member's 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 date of retirement termination, disability or death. For valuation purposes, entry age for each member is determined as the age at valuation minus years of service as of the valuation date.

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 cost for each active member 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 members' 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 members, 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 costs.

- 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.

Current Benefit Obligation is computed to be the present value of benefits earned to the valuation date, based on current service and including future salary increases to retirement.

Actuarial Methods

Decrement timing

All decrements are assumed to occur on the anniversary of the valuation date, beginning on the valuation date. Decrement timing is a fundamental part of the computer programming underlying actuarial calculations. Mercer's valuation systems use beginning of year decrements, a generally accepted actuarial practice. The Legislative Commission on Pensions and Retirement approved this modification to the Standards for Actuarial Work prior to the preparation of the 2011 valuation report in order to ensure consistency and comparability.

3

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, 2011 actuarial valuation and proposed changes are shown below:

Assumption	June 30, 2011 Assumption	Proposed Assumption
Inflation	3.00%	No change[1]
Real wage growth (productivity)	1.00%	0.00%
Payroll growth	4.00%	3.00%
Salary Growth	4.00%	3.00%
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 State 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.

We understand that salary increases for Judges are defined in Minnesota statutes and do not vary on an individual basis. Based on the unique nature of Judges compensation as well as a review of actual salary increases, we propose that real wage growth (the increase in wages above inflation for the entire group due to improvements in productivity and competitive pressures) does not exist for the Judges in the plan, and that the assumption be changed from 1.00% to 0.00%.

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 to 0.00%, we propose a payroll growth assumption equal to inflation, which is 3.00%.

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

Economic Assumptions

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, if applicable, includes the additional increases in salary due to individual performance, seniority, promotions, etc.

We reviewed the annual salary increases for the period July 1, 2007 through June 30, 2011 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.

The following chart shows the actual and expected salary increases for 2007 to 2011.

Salary Increase

Age Group	Exposures	Observed Average	Expected Average
<35	0	N/A	N/A
35-39	3	1.00%	4.00%
40-44	44	1.44%	4.00%
45-49	126	1.76%	4.00%
50-54	186	1.48%	4.00%
55-59	296	1.44%	4.00%
60-64	328	1.50%	4.00%
65-69	91	1.28%	4.00%
70+	0	N/A	N/A
Total	**1,074**	**1.49%**	**4.00%**

The observed salary increases tended to follow a set pay increase percentage for all members during a given year, regardless of age or service, which indicates that merit/productivity is not influencing Judges' salaries. The pay increases over the past two years were flat, and the pay increases for the first two years was approximately 3.00%. This is consistent with the statutory nature of Judges compensation.

Economic Assumptions

MSRS previously provided a history of annual salary increases for Judges from 1972 to 2006. Based on this historical salary increase data and actual salary increases for the past four years, the average annual salary increase for the last 10 years has been 2.5%.

Based on this analysis, and our expectations for inflation and productivity, we propose changing the salary increase assumption from 4.00% to 3.00%.

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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, 2007 through June 30, 2011, and the current assumptions are those adopted by the Legislative Commission on Pensions and Retirement (LCPR) for the June 30, 2011 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, 2011, actuarial valuation and the proposed assumptions for the June 30, 2012, 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 disability retirement assumptions
- Elimination of Combined Service Annuity assumption

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 Post-retirement Mortality	RP 2000 Combined mortality, no collar adjustment, projected 8 years	RP 2000 annuitant generational mortality, white collar adjustment
Males	No set back	Set back 1 year
Females	No set back	Set back 2 years
Disabled Retired Mortality	Combined Annuity Mortality	Same as healthy post-retirement mortality
Healthy Pre-retirement Mortality	1983 Group Annuity Mortality	RP 2000 non-annuitant generational mortality, white collar
Males	Set back 4 years	No set back
Females	Set back 2 years	No set back

Demographic Assumptions

Healthy Post-retirement 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 Post-retirement Mortality	Exposures	Actual Deaths	Current (June 30, 2011) Assumption	
			Expected Deaths	A/E Ratio
Males				
July 1, 2007 to June 30, 2008	141	6	7	80%
July 1, 2008 to June 30, 2009	150	5	8	65%
July 1, 2009 to June 30, 2010	149	7	8	84%
July 1, 2010 to June 30, 2011	155	11	9	127%
July 1, 2007 to June 30, 2011	**595**	**29**	**32**	**90%**
Females				
July 1, 2007 to June 30, 2008	97	3	6	54%
July 1, 2008 to June 30, 2009	101	2	5	38%
July 1, 2009 to June 30, 2010	109	7	5	128%
July 1, 2010 to June 30, 2011	109	6	5	117%
July 1, 2007 to June 30, 2011	**416**	**18**	**21**	**84%**

Not all numbers may add due to rounding.

The actual experience shows that the current assumption for male and female retirees is predicting too many retiree deaths. We are proposing a change to the RP 2000 generational white collar mortality tables for annuitants, with male rates set back one year and female rates set back two years. A set back results in lower mortality rates than the standard table.

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 Post-retirement Mortality	Exposures	Actual Deaths	Proposed Assumption	
			Expected Deaths	A/E Ratio
Males				
July 1, 2007 to June 30, 2008	141	6	6	95%
July 1, 2008 to June 30, 2009	150	5	6	78%
July 1, 2009 to June 30, 2010	149	7	7	101%
July 1, 2010 to June 30, 2011	155	11	7	157%
July 1, 2007 to June 30, 2011	**595**	**29**	**27**	**106%**
Females				
July 1, 2007 to June 30, 2008	97	3	3	91%
July 1, 2008 to June 30, 2009	101	2	4	54%
July 1, 2009 to June 30, 2010	109	7	4	175%
July 1, 2010 to June 30, 2011	109	6	4	153%
July 1, 2007 to June 30, 2011	**416**	**18**	**18**	**99%**

Not all numbers may add due to rounding.

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

Healthy Post-retirement Mortality	Current (June 30, 2011) Assumption	Proposed Assumption
Basic Tables	RP 2000 Combined mortality, no collar adjustment, projected 8 years	RP 2000 annuitant generational mortality, white collar adjustment
Males	No set back	Set back 1 year
Females	No set back	Set back 2 years

Disabled Retired Mortality

Generally, 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.

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.

			Current (June 30, 2011) Assumption	
Disabled Retired Mortality	**Exposures**	**Actual Deaths**	**Expected Deaths**	**A/E Ratio**
Males				
July 1, 2007 to June 30, 2008	23	0	2	0%
July 1, 2008 to June 30, 2009	25	1	2	58%
July 1, 2009 to June 30, 2010	24	0	2	0%
July 1, 2010 to June 30, 2011	24	2	2	101%
July 1, 2007 to June 30, 2011	**96**	**3**	**7**	**42%**
Females				
July 1, 2007 to June 30, 2008	2	0	0	0%
July 1, 2008 to June 30, 2009	3	0	0	0%
July 1, 2009 to June 30, 2010	3	0	0	0%
July 1, 2010 to June 30, 2011	3	0	0	0%
July 1, 2007 to June 30, 2011	**11**	**0**	**0**	**0%**

Not all numbers may add due to rounding.

Discussion

The actual experience shows that the current assumption for disabled retirees is predicting too many deaths. The number of disabled retirees is too small to be considered statistically credible. We are proposing a change in this assumption to the proposed post-retirement mortality table.

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 four years in the experience study.

Demographic Assumptions

Disabled Retired Mortality	Exposures	Actual Deaths	Proposed Assumption	
			Expected Deaths	A/E Ratio
Males				
July 1, 2007 to June 30, 2008	23	0	1	0%
July 1, 2008 to June 30, 2009	25	1	1	139%
July 1, 2009 to June 30, 2010	24	0	1	0%
July 1, 2010 to June 30, 2011	24	2	1	224%
July 1, 2007 to June 30, 2011	**96**	**3**	**3**	**99%**
Females				
July 1, 2007 to June 30, 2008	2	0	0	0%
July 1, 2008 to June 30, 2009	3	0	0	0%
July 1, 2009 to June 30, 2010	3	0	0	0%
July 1, 2010 to June 30, 2011	3	0	0	0%
July 1, 2007 to June 30, 2011	**11**	**0**	**0**	**0%**

Not all numbers may add due to rounding.

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

Disabled Retired Mortality	Current (June 30, 2011) Assumption	Proposed Assumption
Basic Tables	Combined Annuity Mortality	RP 2000 annuitant generational mortality, white collar adjustment
Males	No set back	Set back 1 year
Females	No set back	Set back 2 years

Demographic Assumptions

Pre-retirement Mortality

The pre-retirement 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, with a set back of 4 years for males and 2 years for females. 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.

Pre-retirement Mortality	Exposures	Actual Deaths	Current (June 30, 2011) Assumption	
			Expected Deaths	A/E Ratio
Males				
July 1, 2007 to June 30, 2008	222	0	1	0%
July 1, 2008 to June 30, 2009	218	4	1	298%
July 1, 2009 to June 30, 2010	216	0	1	0%
July 1, 2010 to June 30, 2011	212	0	1	0%
July 1, 2007 to June 30, 2011	**868**	**4**	**6**	**73%**
Females				
July 1, 2007 to June 30, 2008	86	1	0	536%
July 1, 2008 to June 30, 2009	90	0	0	0%
July 1, 2009 to June 30, 2010	96	0	0	0%
July 1, 2010 to June 30, 2011	100	0	0	0%
July 1, 2007 to June 30, 2011	**372**	**1**	**1**	**113%**

Not all numbers may add due to rounding.

Discussion

With the very limited number of deaths in the experience period, the A/E ratio tends to fluctuate year to year. Similar to our proposed change to healthy post-retirement mortality, we are proposing a change to the RP 2000 generational white collar mortality tables for non-annuitants.

Demographic Assumptions

Due to the small numbers of pre-retirement deaths in the 4 year period, the mortality experience 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 four years in the experience study.

Pre-retirement Mortality	Exposures	Actual Deaths	Proposed Assumption	
			Expected Deaths	A/E Ratio
Males				
July 1, 2007 to June 30, 2008	222	0	1	0%
July 1, 2008 to June 30, 2009	218	4	1	543%
July 1, 2009 to June 30, 2010	216	0	1	0%
July 1, 2010 to June 30, 2011	212	0	1	0%
July 1, 2007 to June 30, 2011	**868**	**4**	**3**	**134%**
Females				
July 1, 2007 to June 30, 2008	86	1	0	529%
July 1, 2008 to June 30, 2009	90	0	0	0%
July 1, 2009 to June 30, 2010	96	0	0	0%
July 1, 2010 to June 30, 2011	100	0	0	0%
July 1, 2007 to June 30, 2011	**372**	**1**	**1**	**112%**

Not all numbers may add due to rounding.

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

Pre-retirement Mortality	Current (June 30, 2011) Assumption	Proposed Assumption
Basic Tables	1983 Group Annuity Mortality	RP 2000 non-annuitant generational mortality, white collar
Males	Set back 4 years	No set back
Females	Set back 2 years	No set back

Demographic Assumptions

Retirement Assumptions

Members are eligible to retire as early as age 60 with five years of service.

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

Normal Retirement Age	Early Retirement Age
Age 65 and five years of service	Age 60 and five years of service

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.
.

| | Exposures | Actual Retirements | Current (June 30, 2011) Assumption | |
			Expected Retirements	A/E Ratio
Total				
July 1, 2007 to June 30, 2008	110	17	14	125%
July 1, 2008 to June 30, 2009	111	5	11	46%
July 1, 2009 to June 30, 2010	121	13	14	95%
July 1, 2010 to June 30, 2011	125	16	17	96%
July 1, 2007 to June 30, 2011	**467**	**51**	**55**	**93%**

Not all numbers may add due to rounding.

Discussion

The actual number of retirements is lower than predicted by the current table. Please refer to age by age retirement experience beginning on page 49 for additional detail. We are proposing adjustments to more closely match the pattern of actual experience.

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, 2007 to June 30, 2008	110	17	13	132%
July 1, 2008 to June 30, 2009	111	5	9	58%
July 1, 2009 to June 30, 2010	121	13	13	101%
July 1, 2010 to June 30, 2011	125	16	15	104%
July 1, 2007 to June 30, 2011	**467**	**51**	**50**	**102%**

Not all numbers may add due to rounding.

Summary of Proposed Retirement Rates

	Active Status	
Age	**Current**	**Proposed**
60	0%	0%
61	0%	0%
62	10%	8%
63	10%	5%
64	5%	8%
65	20%	25%
66	20%	20%
67	20%	10%
68	30%	30%
69	30%	10%
70+	100%	100%

Demographic Assumptions

Retirement from Inactive Status

Members who terminate after completing five 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.

Discussion

We are not proposing a change in this assumption at this time. There is not enough experience to be considered statistically credible, and the liability for deferred inactive vested members comprises less than 2% of the total actuarial accrued liability of the plan.

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, 2011) valuation procedure is to utilize actual marital status as reported by MSRS. We propose no change to this practice.

Age of Beneficiary
Joint & Survivor annuity benefit amounts are determined based on the member's and beneficiary's age. The current (June 30, 2011) valuation assumption is that males are three years older than females.

We propose no change in the current age difference assumption of three years.

Demographic Assumptions

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.

- 10-Year Certain and Life – a reduced benefit is paid for the lifetime of the member. If the member dies before 120 payments have been made, the benefit continues to be paid to a beneficiary until 120 payments have been made.

- 15-Year Certain and Life – a reduced benefit is paid for the lifetime of the member. If the member dies before 180 payments have been made, the benefit continues to be paid to a beneficiary until 180 payments have been made.

- 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 bounce back feature is elected, and 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 bounce back feature is elected, and 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 bounce back feature is elected, and the beneficiary predeceases the member, the benefit reverts back to the straight life annuity amount.

* Joint & Survivor optional forms are available with and without bounceback on an actuarially equivalent basis. If member does not elect the benefit with the bounceback, the benefit is unchanged if the beneficiary predeceases the member.

We currently assume that all members elect a life annuity. Since all optional forms are determined on an actuarially equivalent basis, we are not proposing a change to this assumption.

Demographic Assumptions

Disability Assumptions

The Plan does not provide disability benefits to members. Upon disability, salary is continued for one year, but not beyond age 70.

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, 2011) Assumption	
Disability Retirement	**Exposures**	**Actual Retirements**	**Expected Retirements**	**A/E Ratio**
Males				
July 1, 2007 to June 30, 2008	222	2	1	190%
July 1, 2008 to June 30, 2009	218	0	1	0%
July 1, 2009 to June 30, 2010	216	0	1	0%
July 1, 2010 to June 30, 2011	212	0	1	0%
July 1, 2007 to June 30, 2011	**868**	**2**	**5**	**43%**
Females				
July 1, 2007 to June 30, 2008	86	1	0	284%
July 1, 2008 to June 30, 2009	90	0	0	0%
July 1, 2009 to June 30, 2010	96	0	0	0%
July 1, 2010 to June 30, 2011	100	0	0	0%
July 1, 2007 to June 30, 2011	**372**	**1**	**2**	**65%**

Not all numbers may add due to rounding.

Demographic Assumptions

Discussion

The actual experience shows that the current assumption is predicting too many disabilities. This was also observed in the previous experience study. We propose changing the disability assumption to 50% of the current rates.

			Proposed Assumption	
Disability Retirement	**Exposures**	**Actual Retirements**	**Expected Retirements**	**A/E Ratio**
Males				
July 1, 2007 to June 30, 2008	222	2	1	381%
July 1, 2008 to June 30, 2009	218	0	1	0%
July 1, 2009 to June 30, 2010	216	0	1	0%
July 1, 2010 to June 30, 2011	212	0	1	0%
July 1, 2007 to June 30, 2011	**868**	**2**	**2**	**86%**
Females				
July 1, 2007 to June 30, 2008	86	1	0	569%
July 1, 2008 to June 30, 2009	90	0	0	0%
July 1, 2009 to June 30, 2010	96	0	0	0%
July 1, 2010 to June 30, 2011	100	0	0	0%
July 1, 2007 to June 30, 2011	**372**	**1**	**1**	**130%**

Not all numbers may add due to rounding.

Demographic Assumptions

Termination Assumptions

The assumptions used in an actuarial valuation may include an assumption for termination from active status prior to retirement eligibility, since all active members may not be expected to continue working until retirement. Termination rates represent the probabilities that a member at any given age will leave employment at that age. For the Judges Retirement Fund, the current valuation assumption is no judges will terminate prior to retirement eligibility.

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.

Terminations	Exposures	Actual Terminations	Current (June 30, 2011) Assumption	
			Expected Terminations	A/E Ratio
Males				
July 1, 2007 to June 30, 2008	132	0	0	N/A
July 1, 2008 to June 30, 2009	129	1	0	N/A
July 1, 2009 to June 30, 2010	120	0	0	N/A
July 1, 2010 to June 30, 2011	112	2	0	N/A
July 1, 2007 to June 30, 2011	**493**	**3**	**0**	**N/A**
Females				
July 1, 2007 to June 30, 2008	66	1	0	N/A
July 1, 2008 to June 30, 2009	68	1	0	N/A
July 1, 2009 to June 30, 2010	71	0	0	N/A
July 1, 2010 to June 30, 2011	75	2	0	N/A
July 1, 2007 to June 30, 2011	**280**	**4**	**0**	**N/A**

Not all numbers may add due to rounding.

Due to the low termination experience over the prior four years, as well as during the previous experience study, we are recommending no change to the current assumption of no withdrawals prior to retirement eligibility. If there are terminations, they will result in small actuarial gains that will favorably impact valuation results.

Demographic Assumptions

Combined Service Annuity Assumptions

Members with service in more than one Minnesota public pension plan are eligible for combined service benefits if they have sufficient allowable service in total that satisfies the vesting requirement of each plan, have at least six months of service in each plan, and are not in receipt of benefits from another plan. Members who meet these requirements have their benefit based on allowable service in total from all plans in order to meet early retirement eligibility and average salary based on highest salary for all plans.

The current valuation procedure is to apply a 30 percent load to the liability for deferred members to account for the effect of some participants having eligibility for a Combined Service Annuity. Deferred members in the Judges plan typically do not go on to higher paying positions in other State of Minnesota retirement plans. Therefore, we propose eliminating the Combined Service Annuity load for deferred members of the Judges Retirement Fund.

Appendix

Data

The experience analysis uses member data from July 1, 2007, through June 30, 2011, which was supplied by MSRS. 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, 2011 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 4.00% 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	1.00%
Payroll growth	4.00%
Salary scale	Age related table
Investment Return	8.50%

Appendix

Assumption Tables

The RP 2000 non-annuitant mortality table as published by the Society of Actuaries (SOA) contains mortality rates for ages 15 to 70 and the annuitant mortality table contains mortality rates for ages 50 to 95. Mercer applies the annuitant mortality table for active members beyond age 70 until the assumed retirement age and the non-annuitant mortality table for annuitants younger than age 50. Similarly, the SOA's white collar adjustment is published for ages 30 to 70 for non-annuitants and ages 50 to 95 for annuitants; Mercer applies the age 30 adjustment to active members younger than 30 and made no adjustment for annuitants past age 95. Rates shown in the table below under Proposed Assumption are RP 2000 projected to 2011.

	Healthy Pre-retirement Mortality			
	Current Assumption		**Proposed Assumption**	
Age	**Male**	**Female**	**Male**	**Female**
20	0.03%	0.02%	0.02%	0.02%
21	0.03%	0.02%	0.02%	0.02%
22	0.04%	0.02%	0.02%	0.02%
23	0.04%	0.02%	0.03%	0.02%
24	0.04%	0.02%	0.03%	0.02%
25	0.04%	0.02%	0.03%	0.02%
26	0.04%	0.02%	0.03%	0.02%
27	0.04%	0.03%	0.03%	0.02%
28	0.04%	0.03%	0.03%	0.02%
29	0.05%	0.03%	0.03%	0.02%
30	0.05%	0.03%	0.03%	0.03%
31	0.05%	0.03%	0.04%	0.03%
32	0.05%	0.03%	0.04%	0.03%
33	0.06%	0.04%	0.05%	0.04%
34	0.06%	0.04%	0.05%	0.04%
35	0.06%	0.04%	0.06%	0.04%
36	0.07%	0.04%	0.06%	0.04%
37	0.07%	0.05%	0.07%	0.05%
38	0.08%	0.05%	0.07%	0.05%
39	0.09%	0.05%	0.08%	0.05%
40	0.09%	0.06%	0.08%	0.05%
41	0.10%	0.06%	0.09%	0.06%
42	0.10%	0.07%	0.09%	0.06%
43	0.11%	0.07%	0.10%	0.07%
44	0.12%	0.08%	0.11%	0.08%
45	0.14%	0.08%	0.02%	0.09%
46	0.15%	0.09%	0.02%	0.09%
47	0.17%	0.10%	0.13%	0.10%
48	0.19%	0.11%	0.14%	0.11%
49	0.22%	0.12%	0.15%	0.12%
50	0.25%	0.14%	0.16%	0.13%
51	0.28%	0.15%	0.17%	0.14%
52	0.31%	0.16%	0.18%	0.16%
53	0.35%	0.18%	0.19%	0.18%
54	0.39%	0.19%	0.21%	0.20%
55	0.43%	0.21%	0.22%	0.22%

Appendix
Assumption Tables

Healthy Pre-retirement Mortality

Age	Current Assumption		Proposed Assumption	
	Male	**Female**	**Male**	**Female**
56	0.48%	0.23%	0.24%	0.24%
57	0.52%	0.25%	0.27%	0.27%
58	0.57%	0.28%	0.30%	0.29%
59	0.61%	0.31%	0.33%	0.32%
60	0.66%	0.34%	0.36%	0.36%
61	0.71%	0.38%	0.40%	0.39%
62	0.77%	0.42%	0.44%	0.43%
63	0.84%	0.47%	0.48%	0.47%
64	0.92%	0.52%	0.53%	0.51%
65	1.01%	0.58%	0.58%	0.56%
66	1.11%	0.64%	0.63%	0.61%
67	1.24%	0.71%	0.68%	0.66%
68	1.39%	0.78%	0.73%	0.72%
69	1.56%	0.87%	0.79%	0.77%
70	1.76%	0.97%	0.83%	0.83%

Appendix

Assumption Tables

The RP 2000 non-annuitant mortality table as published by the Society of Actuaries (SOA) contains mortality rates for ages 15 to 70 and the annuitant mortality table contains mortality rates for ages 50 to 95. Mercer applies the annuitant mortality table for active members beyond age 70 until the assumed retirement age and the non-annuitant mortality table for annuitants younger than age 50. Similarly, the SOA's white collar adjustment is published for ages 30 to 70 for non-annuitants and ages 50 to 95 for annuitants; Mercer applies the age 30 adjustment to active members younger than 30 and made no adjustment for annuitants past age 95. Rates shown in the table below under Proposed Assumption are RP 2000 projected to 2011.

| | Healthy Post-retirement Mortality | | | | Disabled Mortality | | | |
| | Current Assumption | | Proposed Assumption | | Current Assumption | | Proposed Assumption | |
	Male	Female	Male	Female	Male	Female	Male	Female
50	0.18%	0.15%	0.15%	0.11%	1.04%	1.04%	0.15%	0.11%
51	0.21%	0.16%	0.49%	0.12%	1.12%	1.12%	0.49%	0.12%
52	0.23%	0.18%	0.48%	0.20%	1.22%	1.22%	0.48%	0.20%
53	0.25%	0.20%	0.47%	0.21%	1.32%	1.32%	0.47%	0.21%
54	0.27%	0.22%	0.46%	0.23%	1.43%	1.43%	0.46%	0.23%
55	0.31%	0.25%	0.45%	0.25%	1.55%	1.55%	0.45%	0.25%
56	0.36%	0.29%	0.44%	0.28%	1.67%	1.67%	0.44%	0.28%
57	0.41%	0.33%	0.44%	0.32%	1.81%	1.81%	0.44%	0.32%
58	0.46%	0.38%	0.45%	0.36%	1.96%	1.96%	0.45%	0.36%
59	0.52%	0.43%	0.48%	0.40%	2.13%	2.13%	0.48%	0.40%
60	0.59%	0.49%	0.51%	0.44%	2.30%	2.30%	0.51%	0.44%
61	0.68%	0.56%	0.55%	0.49%	2.49%	2.49%	0.55%	0.49%
62	0.78%	0.64%	0.62%	0.53%	2.70%	2.70%	0.62%	0.53%
63	0.89%	0.73%	0.69%	0.58%	2.92%	2.92%	0.69%	0.58%
64	1.01%	0.83%	0.79%	0.64%	3.16%	3.16%	0.79%	0.64%
65	1.14%	0.93%	0.89%	0.70%	3.43%	3.43%	0.89%	0.70%
66	1.30%	1.05%	1.00%	0.78%	3.71%	3.71%	1.00%	0.78%
67	1.45%	1.17%	1.12%	0.86%	4.01%	4.01%	1.12%	0.86%
68	1.60%	1.29%	1.24%	0.96%	4.34%	4.34%	1.24%	0.96%
69	1.77%	1.43%	1.36%	1.06%	4.70%	4.70%	1.36%	1.06%
70	1.97%	1.61%	1.49%	1.17%	5.08%	5.08%	1.49%	1.17%
71	2.18%	1.77%	1.63%	1.30%	5.50%	5.50%	1.63%	1.30%
72	2.42%	1.97%	1.81%	1.44%	5.94%	5.94%	1.81%	1.44%
73	2.69%	2.17%	2.02%	1.58%	6.43%	6.43%	2.02%	1.58%
74	3.00%	2.41%	2.26%	1.76%	6.95%	6.95%	2.26%	1.76%
75	3.38%	2.64%	2.54%	1.93%	7.51%	7.51%	2.54%	1.93%
76	3.77%	2.90%	2.88%	2.15%	8.11%	8.11%	2.88%	2.15%
77	4.22%	3.22%	3.24%	2.35%	8.76%	8.76%	3.24%	2.35%
78	4.73%	3.55%	3.67%	2.61%	9.46%	9.46%	3.67%	2.61%
79	5.30%	3.92%	4.16%	2.92%	10.21%	10.21%	4.16%	2.92%
80	5.94%	4.34%	4.71%	3.24%	11.02%	11.02%	4.71%	3.24%
81	6.70%	4.80%	5.32%	3.59%	11.89%	11.89%	5.32%	3.59%
82	7.55%	5.32%	6.05%	3.99%	12.82%	12.82%	6.05%	3.99%
83	8.41%	5.91%	6.86%	4.44%	13.81%	13.81%	6.86%	4.44%
84	9.43%	6.57%	7.69%	4.94%	14.88%	14.88%	7.69%	4.94%
85	10.47%	7.38%	8.68%	5.51%	16.03%	16.03%	8.68%	5.51%
86	11.61%	8.30%	9.69%	6.15%	17.25%	17.25%	9.69%	6.15%
87	12.96%	9.33%	10.81%	6.94%	18.55%	18.55%	10.81%	6.94%
88	14.47%	10.39%	12.19%	7.84%	19.94%	19.94%	12.19%	7.84%
89	15.99%	11.63%	13.71%	8.85%	21.43%	21.43%	13.71%	8.85%
90	17.76%	12.86%	15.25%	9.86%	23.00%	23.00%	15.25%	9.86%
91	19.35%	14.12%	17.06%	11.06%	24.67%	24.67%	17.06%	11.06%

Appendix
Assumption Tables

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	Healthy Post-retirement Mortality				Disabled Mortality			
	Current Assumption		Proposed Assumption		Current Assumption		Proposed Assumption	
	Male	Female	Male	Female	Male	Female	Male	Female
92	21.15%	15.39%	18.66%	12.21%	26.44%	26.44%	18.66%	12.21%
93	22.81%	16.77%	20.52%	13.40%	28.31%	28.31%	20.52%	13.40%
94	24.47%	17.99%	22.20%	14.61%	30.29%	30.29%	22.20%	14.61%
95	26.32%	19.14%	23.84%	15.99%	32.36%	32.36%	23.84%	15.99%
96	27.94%	20.21%	25.75%	17.17%	34.55%	34.55%	25.75%	17.17%
97	29.51%	21.35%	27.77%	18.29%	36.84%	36.84%	27.77%	18.29%
98	31.28%	22.22%	29.33%	20.09%	39.23%	39.23%	29.33%	20.09%
99	32.76%	22.95%	31.18%	21.29%	41.71%	41.71%	31.18%	21.29%
100	34.18%	23.56%	32.66%	22.15%	44.29%	44.29%	32.66%	22.15%

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Appendix
Assumption Tables

Age	Active Retirement Rates	
	Current Assumption	Proposed Assumption
60	0%	0%
61	0%	0%
62	10%	8%
63	10%	5%
64	5%	8%
65	20%	25%
66	20%	20%
67	20%	10%
68	30%	30%
69	30%	10%
70+	100%	100%

Appendix
Assumption Tables

Active Disability Rates

Age	Current Assumption		Proposed Assumption	
	Male	**Female**	**Male**	**Female**
30	0.02%	0.00%	0.00%	0.00%
31	0.02%	0.00%	0.01%	0.00%
32	0.02%	0.00%	0.01%	0.00%
33	0.02%	0.00%	0.01%	0.00%
34	0.02%	0.00%	0.01%	0.00%
35	0.02%	0.01%	0.01%	0.00%
36	0.02%	0.01%	0.01%	0.01%
37	0.02%	0.01%	0.01%	0.01%
38	0.02%	0.01%	0.01%	0.01%
39	0.02%	0.02%	0.01%	0.01%
40	0.02%	0.02%	0.01%	0.01%
41	0.02%	0.02%	0.01%	0.01%
42	0.02%	0.04%	0.01%	0.02%
43	0.03%	0.04%	0.02%	0.02%
44	0.03%	0.04%	0.02%	0.02%
45	0.03%	0.05%	0.02%	0.03%
46	0.05%	0.06%	0.03%	0.03%
47	0.07%	0.07%	0.04%	0.04%
48	0.09%	0.07%	0.05%	0.04%
49	0.11%	0.10%	0.06%	0.05%
50	0.14%	0.10%	0.07%	0.05%
51	0.16%	0.12%	0.08%	0.06%
52	0.20%	0.14%	0.10%	0.07%
53	0.24%	0.16%	0.12%	0.08%
54	0.28%	0.20%	0.14%	0.10%
55	0.34%	0.24%	0.17%	0.12%
56	0.40%	0.30%	0.20%	0.15%
57	0.46%	0.36%	0.23%	0.18%
58	0.56%	0.44%	0.28%	0.22%
59	0.66%	0.52%	0.33%	0.26%
60	0.76%	0.62%	0.38%	0.31%
61	0.90%	0.74%	0.45%	0.37%
62	1.10%	0.88%	0.55%	0.44%
63	1.36%	1.04%	0.68%	0.52%
64	1.74%	1.22%	0.87%	0.61%
65+	0.00%	0.00%	0.00%	0.00%

Appendix

Detailed Experience Analysis

Salary Increases

2007-2011 Experience

Age Group	Observed Average	Expected Average
<35	N/A	N/A
35 – 39	1.00%	4.00%
40 – 44	1.44%	4.00%
45 – 49	1.76%	4.00%
50 – 54	1.48%	4.00%
55 – 59	1.44%	4.00%
60 – 64	1.50%	4.00%
65 – 69	1.28%	4.00%
70+	N/A	N/A
Total	**1.49%**	**4.00%**

2007-2008 Experience

Age Group	Observed Average	Expected Average
<35	N/A	N/A
35 – 39	3.00%	4.00%
40 – 44	3.00%	4.00%
45 – 49	3.04%	4.00%
50 – 54	3.06%	4.00%
55 – 59	2.69%	4.00%
60 – 64	3.04%	4.00%
65 – 69	2.98%	4.00%
70+	N/A	N/A
Total	**2.93%**	**4.00%**

Appendix

Salary Increases

2008-2009 Experience

Age Group	Observed Average	Expected Average
<35	N/A	N/A
35 – 39	N/A	N/A
40 – 44	3.00%	4.00%
45 – 49	3.00%	4.00%
50 – 54	3.07%	4.00%
55 – 59	2.93%	4.00%
60 – 64	3.11%	4.00%
65 – 69	3.00%	4.00%
70+	N/A	N/A
Total	**3.03%**	**4.00%**

2009-2010 Experience

Age Group	Observed Average	Expected Average
<35	N/A	N/A
35 – 39	N/A	N/A
40 – 44	0.07%	4.00%
45 – 49	0.00%	4.00%
50 – 54	0.01%	4.00%
55 – 59	0.05%	4.00%
60 – 64	0.19%	4.00%
65 – 69	-0.01%	4.00%
70+	N/A	N/A
Total	**0.08%**	**4.00%**

Appendix

Salary Increases

2010-2011 Experience

Age Group	Observed Average	Expected Average
<35	N/A	N/A
35 – 39	N/A	N/A
40 – 44	-0.03%	4.00%
45 – 49	0.14%	4.00%
50 – 54	0.00%	4.00%
55 – 59	0.01%	4.00%
60 – 64	-0.05%	4.00%
65 – 69	-0.11%	4.00%
70+	N/A	N/A
Total	**-0.01%**	**4.00%**

Appendix

Post-retirement Mortality

2007-2011 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	N/A	0	0.00	N/A	0	0.00	N/A
50-54	0	0.00	N/A	0	0.01	0.0%	0	0.01	0.0%
55-59	0	0.03	0.0%	0	0.07	0.0%	0	0.10	0.0%
60-64	0	0.14	0.0%	1	0.21	468.4%	1	0.36	279.5%
65-69	4	1.81	221.4%	0	0.33	0.0%	4	2.13	187.6%
70-74	4	3.55	56.4%	0	0.53	0.0%	4	4.08	49.0%
75-79	4	4.97	40.3%	1	1.82	55.0%	5	6.78	44.2%
80-84	10	9.39	106.4%	1	5.27	19.0%	11	14.66	75.0%
85-89	6	7.74	77.5%	4	4.51	88.7%	10	12.25	81.6%
90-94	4	3.86	103.6%	6	4.40	136.3%	10	8.27	121.0%
95+	1	0.62	160.3%	5	4.19	119.3%	6	4.81	124.6%
Total	**29**	**32.11**	**90.3%**	**18**	**21.34**	**84.3%**	**47**	**53.46**	**87.9%**

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	N/A	0	0.00	N/A	0	0.00	N/A
50-54	0	0.00	N/A	0	0.01	0.0%	0	0.00	0.0%
55-59	0	0.00	0.0%	0	0.02	0.0%	0	0.02	0.0%
60-64	0	0.04	0.0%	1	0.04	2,293.0%	1	0.10	1,257.7%
65-69	0	0.42	0.0%	0	0.10	0.0%	0	0.47	0.0%
70-74	0	0.55	0.0%	0	0.13	0.0%	0	1.22	0.0%
75-79	1	1.58	63.3%	1	0.66	152.6%	2	1.43	89.4%
80-84	3	2.38	125.8%	1	1.58	63.3%	4	3.51	100.9%
85-89	2	1.51	132.5%	0	1.22	0.0%	2	3.21	73.2%
90-94	0	1.00	0.0%	0	0.72	0.0%	0	2.50	0.0%
95+	0	0.00	N/A	0	1.08	0.0%	0	1.30	0.0%
Total	**6**	**7.49**	**80.1%**	**3**	**5.56**	**54.0%**	**9**	**13.04**	**69.0%**

Not all numbers may add due to rounding.

Appendix

Post-retirement Mortality

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	0.00	N/A	0	0.00	N/A	0	0.00	N/A
50-54	0	0.00	N/A	0	0.00	0.0%	0	0.00	0.0%
55-59	0	0.01	0.0%	0	0.02	0.0%	0	0.03	0.0%
60-64	0	0.04	0.0%	0	0.04	0.0%	0	0.09	0.0%
65-69	3	0.50	604.1%	0	0.07	0.0%	3	0.56	531.0%
70-74	0	0.88	0.0%	0	0.10	0.0%	0	0.98	0.0%
75-79	1	1.18	84.4%	0	0.46	0.0%	1	1.65	60.7%
80-84	1	2.62	38.2%	0	1.26	0.0%	1	3.87	25.8%
85-89	0	1.44	0.0%	0	1.04	0.0%	0	2.48	0.0%
90-94	0	1.00	0.0%	0	1.04	0.0%	0	2.04	0.0%
95+	0	0.00	0.0%	2	1.20	167.0%	2	1.20	167.0%
Total	**5**	**7.67**	**65.2%**	**2**	**5.22**	**38.3%**	**7**	**12.90**	**54.3%**

2009-2010 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	N/A	0	0.00	N/A	0	0.00	N/A
50-54	0	0.00	N/A	0	0.00	0.0%	0	0.00	0.0%
55-59	0	0.01	0.0%	0	0.02	0.0%	0	0.02	0.0%
60-64	0	0.03	0.0%	0	0.07	0.0%	0	0.10	0.0%
65-69	1	0.40	248.1%	0	0.07	0.0%	1	0.47	213.2%
70-74	0	1.07	0.0%	0	0.15	0.0%	0	1.22	0.0%
75-79	0	1.12	0.0%	0	0.31	0.0%	0	1.43	0.0%
80-84	4	2.27	176.1%	0	1.24	0.0%	4	3.51	114.0%
85-89	1	2.20	45.5%	1	1.01	98.6%	2	3.21	62.3%
90-94	1	1.01	98.8%	4	1.49	269.3%	5	2.50	200.2%
95+	0	0.20	0.0%	2	1.10	181.7%	2	1.30	153.4%
Total	**7**	**8.31**	**84.2%**	**7**	**5.46**	**128.3%**	**14**	**13.77**	**101.7%**

Not all numbers may add due to rounding.

Appendix

Post-retirement Mortality

2010-2011 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	N/A	0	0.00	N/A	0	0.00	N/A
50-54	0	0.00	N/A	0	0.00	0.0%	0	0.00	0.0%
55-59	0	0.01	0.0%	0	0.02	0.0%	0	0.03	0.0%
60-64	0	0.04	0.0%	0	0.06	0.0%	0	0.09	0.0%
65-69	0	0.48	0.0%	0	0.09	0.0%	0	0.58	0.0%
70-74	2	1.06	188.9%	0	0.15	0.0%	2	1.21	165.1%
75-79	0	1.08	0.0%	0	0.39	0.0%	0	1.46	0.0%
80-84	2	2.12	94.2%	0	1.19	0.0%	2	3.32	60.3%
85-89	3	2.59	115.9%	3	1.24	242.7%	6	3.82	156.9%
90-94	3	0.85	354.5%	2	1.16	173.0%	5	2.00	249.8%
95+	1	0.42	237.6%	1	0.81	122.9%	2	1.23	162.0%
Total	**11**	**8.64**	**127.3%**	**6**	**5.11**	**117.4%**	**17**	**13.75**	**123.6%**

Not all numbers may add due to rounding.

Appendix

Pre-retirement Mortality

2007-2011 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	0.00	N/A	0	0.00	N/A	0	0.00	N/A
25-29	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
30-34	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
35-39	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
40-44	0	0.02	0.0%	0	0.03	0.0%	0	0.05	0.0%
45-49	0	0.15	0.0%	0	0.07	0.0%	0	0.22	0.0%
50-54	0	0.41	0.0%	0	0.13	0.0%	0	0.53	0.0%
55-59	1	1.23	81.1%	1	0.20	488.3%	2	1.44	139.1%
60-64	1	2.17	46.1%	0	0.35	0.0%	1	2.52	39.7%
65-69	2	1.38	144.7%	0	0.10	0.0%	2	1.49	134.6%
70+	0	0.16	0.0%	0	0.00	N/A	0	0.16	0.0%
Total	**4**	**5.52**	**72.5%**	**1**	**0.89**	**112.5%**	**5**	**6.41**	**78.0%**

2007-2008 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	0.00	N/A	0	0.00	N/A	0	0.00	N/A
25-29	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
30-34	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
35-39	0	0.00	N/A	0	0.00	0.0%	0	0.00	0.0%
40-44	0	0.01	0.0%	0	0.01	0.0%	0	0.01	0.0%
45-49	0	0.05	0.0%	0	0.02	0.0%	0	0.07	0.0%
50-54	0	0.11	0.0%	0	0.03	0.0%	0	0.14	0.0%
55-59	0	0.32	0.0%	1	0.05	1,989.7%	1	0.38	266.6%
60-64	0	0.46	0.0%	0	0.08	0.0%	0	0.54	0.0%
65-69	0	0.36	0.0%	0	0.00	0.0%	0	0.36	0.0%
70+	0	0.05	0.0%	0	0.00	0.0%	0	0.05	0.0%
Total	**0**	**1.37**	**0.0%**	**1**	**0.19**	**535.9%**	**1**	**1.56**	**64.2%**

Not all numbers may add due to rounding.

Appendix

Pre-retirement Mortality

2008-2009 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	0.00	N/A	0	0.00	N/A	0	0.00	N/A
25-29	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
30-34	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
35-39	0	0.00	N/A	0	0.00	0.0%	0	0.00	0.0%
40-44	0	0.00	0.0%	0	0.01	0.0%	0	0.01	0.0%
45-49	0	0.04	0.0%	0	0.02	0.0%	0	0.06	0.0%
50-54	0	0.11	0.0%	0	0.03	0.0%	0	0.14	0.0%
55-59	1	0.33	306.8%	0	0.05	0.0%	1	0.38	266.1%
60-64	1	0.54	184.4%	0	0.09	0.0%	1	0.63	157.5%
65-69	2	0.31	655.5%	0	0.01	0.0%	2	0.32	631.7%
70+	0	0.02	0.0%	0	0.00	N/A	0	0.02	0.0%
Total	**4**	**1.34**	**297.8%**	**0**	**0.21**	**0.0%**	**4**	**1.55**	**257.7%**

2009-2010 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	0.00	N/A	0	0.00	N/A	0	0.00	N/A
25-29	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
30-34	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
35-39	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
40-44	0	0.00	0.0%	0	0.01	0.0%	0	0.01	0.0%
45-49	0	0.03	0.0%	0	0.01	0.0%	0	0.05	0.0%
50-54	0	0.08	0.0%	0	0.04	0.0%	0	0.12	0.0%
55-59	0	0.32	0.0%	0	0.05	0.0%	0	0.36	0.0%
60-64	0	0.59	0.0%	0	0.11	0.0%	0	0.69	0.0%
65-69	0	0.30	0.0%	0	0.02	0.0%	0	0.32	0.0%
70+	0	0.05	0.0%	0	0.00	N/A	0	0.05	0.0%
Total	**0**	**1.38**	**0.0%**	**0**	**0.24**	**0.0%**	**0**	**1.62**	**0.0%**

Not all numbers may add due to rounding.

Appendix

Pre-retirement Mortality

2010-2011 Experience

Age Group	Males			Females			Total		
	Actual Deaths	**Expected Deaths**	**Actual/ Expected**	**Actual Deaths**	**Expected Deaths**	**Actual/ Expected**	**Actual Deaths**	**Expected Deaths**	**Actual/ Expected**
<25	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
25-29	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
30-34	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
35-39	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
40-44	0	0.01	0.0%	0	0.01	0.0%	0	0.02	0.0%
45-49	0	0.03	0.0%	0	0.02	0.0%	0	0.05	0.0%
50-54	0	0.10	0.0%	0	0.03	0.0%	0	0.14	0.0%
55-59	0	0.26	0.0%	0	0.06	0.0%	0	0.32	0.0%
60-64	0	0.57	0.0%	0	0.07	0.0%	0	0.64	0.0%
65-69	0	0.41	0.0%	0	0.07	0.0%	0	0.48	0.0%
70+	0	0.04	0.0%	0	0.00	N/A	0	0.04	0.0%
Total	**0**	**1.42**	**0.0%**	**0**	**0.26**	**0.0%**	**0**	**1.68**	**0.0%**

Not all numbers may add due to rounding.

Appendix

Disability Mortality

2007-2011 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	N/A	0	0.00	N/A	0	0.00	N/A
50-54	0	0.01	0.0%	0	0.00	N/A	0	0.01	0.0%
55-59	0	0.09	0.0%	0	0.08	0.0%	0	0.17	0.0%
60-64	1	0.43	230.4%	0	0.20	0.0%	1	0.63	157.6%
65-69	0	0.70	0.0%	0	0.00	N/A	0	0.70	0.0%
70-74	0	1.53	0.0%	0	0.00	N/A	0	1.53	0.0%
75-79	1	0.59	169.3%	0	0.00	N/A	1	0.59	169.3%
80-84	0	1.92	0.0%	0	0.00	N/A	0	1.92	0.0%
85-89	0	1.61	0.0%	0	0.00	N/A	0	1.61	0.0%
90-94	1	0.23	434.8%	0	0.00	N/A	1	0.23	434.8%
95+	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
Total	**3**	**7.13**	**42.1%**	**0**	**0.28**	**0.0%**	**3**	**7.40**	**40.5%**

2007-2008 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	N/A	0	0.00	N/A	0	0.00	N/A
50-54	0	0.01	0.0%	0	0.00	N/A	0	0.01	0.0%
55-59	0	0.02	0.0%	0	0.02	0.0%	0	0.04	0.0%
60-64	0	0.10	0.0%	0	0.02	0.0%	0	0.13	0.0%
65-69	0	0.16	0.0%	0	0.00	N/A	0	0.16	0.0%
70-74	0	0.33	0.0%	0	0.00	N/A	0	0.33	0.0%
75-79	0	0.08	0.0%	0	0.00	N/A	0	0.08	0.0%
80-84	0	0.65	0.0%	0	0.00	N/A	0	0.65	0.0%
85-89	0	0.19	0.0%	0	0.00	N/A	0	0.19	0.0%
90-94	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
95+	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
Total	**0**	**1.55**	**0.0%**	**0**	**0.04**	**0.0%**	**0**	**1.59**	**0.0%**

Not all numbers may add due to rounding.

Appendix

Disability Mortality

2008-2009 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
	Males			**Females**			**Total**		
<50	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
50-54	0	0.00	0.0%	0	0.00	N/A	0	0.00	0.0%
55-59	0	0.04	0.0%	0	0.02	0.0%	0	0.05	0.0%
60-64	1	0.14	726.1%	0	0.05	0.0%	1	0.19	521.6%
65-69	0	0.16	0.0%	0	0.00	N/A	0	0.16	0.0%
70-74	0	0.41	0.0%	0	0.00	N/A	0	0.41	0.0%
75-79	0	0.09	0.0%	0	0.00	N/A	0	0.09	0.0%
80-84	0	0.54	0.0%	0	0.00	N/A	0	0.54	0.0%
85-89	0	0.36	0.0%	0	0.00	N/A	0	0.36	0.0%
90-94	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
95+	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
Total	**1**	**1.74**	**57.6%**	**0**	**0.07**	**0.0%**	**1**	**1.81**	**55.3%**

2009-2010 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
	Males			**Females**			**Total**		
<50	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
50-54	0	0.00	0.0%	0	0.00	N/A	0	0.00	0.0%
55-59	0	0.02	0.0%	0	0.02	0.0%	0	0.04	0.0%
60-64	0	0.11	0.0%	0	0.06	0.0%	0	0.17	0.0%
65-69	0	0.21	0.0%	0	0.00	N/A	0	0.21	0.0%
70-74	0	0.44	0.0%	0	0.00	N/A	0	0.44	0.0%
75-79	0	0.09	0.0%	0	0.00	N/A	0	0.09	0.0%
80-84	0	0.43	0.0%	0	0.00	N/A	0	0.43	0.0%
85-89	0	0.55	0.0%	0	0.00	N/A	0	0.55	0.0%
90-94	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
95+	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
Total	**0**	**1.85**	**0.0%**	**0**	**0.08**	**0.0%**	**0**	**1.92**	**0.0%**

Not all numbers may add due to rounding.

Appendix

Disability Mortality

2010-2011 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	N/A	0	0.00	N/A	0	0.00	N/A
50-54	0	0.00	0.0%	0	0.00	N/A	0	0.00	0.0%
55-59	0	0.02	0.0%	0	0.02	0.0%	0	0.04	0.0%
60-64	0	0.08	0.0%	0	0.06	0.0%	0	0.15	0.0%
65-69	0	0.16	0.0%	0	0.00	N/A	0	0.16	0.0%
70-74	0	0.35	0.0%	0	0.00	N/A	0	0.35	0.0%
75-79	1	0.33	305.5%	0	0.00	N/A	1	0.33	305.5%
80-84	0	0.30	0.0%	0	0.00	N/A	0	0.30	0.0%
85-89	0	0.52	0.0%	0	0.00	N/A	0	0.52	0.0%
90-94	1	0.23	434.8%	0	0.00	N/A	1	0.23	434.8%
95+	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
Total	**2**	**1.99**	**100.5%**	**0**	**0.08**	**0.0%**	**2**	**2.07**	**96.4%**

Not all numbers may add due to rounding.

Appendix

Retirement

2007-2011 Experience

Age	Actual Retirements	Expected Retirements	Actual/Expected
60	0	0.00	N/A
61	2	0.00	N/A
62	5	7.70	64.9%
63	2	6.80	29.4%
64	4	2.45	163.3%
65	11	8.40	131.0%
66	7	6.80	102.9%
67	2	3.60	55.6%
68	8	7.20	111.1%
69	1	3.00	33.3%
70+	9	9.00	100.0%
Total	**51**	**54.95**	**92.8%**

2007-2008 Experience

Age	Actual Retirements	Expected Retirements	Actual/Expected
60	0	0.00	N/A
61	1	0.00	N/A
62	1	2.20	45.5%
63	1	1.00	100.0%
64	1	0.30	333.3%
65	2	1.80	111.1%
66	3	2.20	136.4%
67	0	0.40	0.0%
68	5	2.40	208.3%
69	0	0.30	0.0%
70+	3	3.00	100.0%
Total	**17**	**13.60**	**125.0%**

Not all numbers may add due to rounding.

Appendix

Retirement

2008-2009 Experience

Age	Actual Retirements	Expected Retirements	Actual/Expected
60	0	0.00	N/A
61	0	0.00	N/A
62	1	1.90	52.6%
63	0	2.00	0.0%
64	0	0.50	0.0%
65	0	1.00	0.0%
66	0	1.40	0.0%
67	2	1.40	142.9%
68	1	0.60	166.7%
69	0	1.20	0.0%
70+	1	1.00	100.0%
Total	**5**	**11.00**	**45.5%**

2009-2010 Experience

Age	Actual Retirements	Expected Retirements	Actual/Expected
60	0	0.00	N/A
61	1	0.00	N/A
62	2	1.90	105.3%
63	0	1.70	0.0%
64	2	0.95	210.5%
65	5	2.20	227.3%
66	0	1.00	0.0%
67	0	1.40	0.0%
68	0	1.50	0.0%
69	0	0.00	0.0%
70+	3	3.00	100.0%
Total	**13**	**13.65**	**95.2%**

Not all numbers may add due to rounding.

Appendix

Retirement

2010-2011 Experience

Age	Actual Retirements	Expected Retirements	Actual/Expected
60	0	0.00	N/A
61	0	0.00	N/A
62	1	1.70	58.8%
63	1	2.10	47.6%
64	1	0.70	142.9%
65	4	3.40	117.6%
66	4	2.20	181.8%
67	0	0.40	0.0%
68	2	2.70	74.1%
69	1	1.50	66.7%
70+	2	2.00	100.0%
Total	**16**	**16.70**	**95.8%**

Not all numbers may add due to rounding.

Appendix

Disability Retirements

2007-2011 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	0.00	N/A	0	0.00	N/A	0	0.00	N/A
25-29	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
30-34	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
35-39	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
40-44	0	0.01	0.0%	0	0.01	0.0%	0	0.02	0.0%
45-50	0	0.06	0.0%	0	0.05	0.0%	0	0.12	0.0%
50-54	0	0.27	0.0%	0	0.15	0.0%	0	0.42	0.0%
55-60	0	1.16	0.0%	0	0.38	0.0%	0	1.54	0.0%
60-64	1	3.17	31.6%	1	0.95	105.6%	2	4.11	48.6%
65-69	1	0.00	N/A	0	0.00	N/A	1	0.00	N/A
Total	**2**	**4.66**	**42.9%**	**1**	**1.54**	**64.7%**	**3**	**6.21**	**48.3%**

2007-2008 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	0.00	N/A	0	0.00	N/A	0	0.00	N/A
25-29	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
30-34	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
35-39	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
40-44	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
45-50	0	0.02	0.0%	0	0.02	0.0%	0	0.03	0.0%
50-54	0	0.08	0.0%	0	0.04	0.0%	0	0.11	0.0%
55-60	0	0.31	0.0%	0	0.09	0.0%	0	0.40	0.0%
60-64	1	0.65	154.8%	1	0.20	488.8%	2	0.85	235.1%
65-69	1	0.00	N/A	0	0.00	N/A	1	0.00	N/A
Total	**2**	**1.05**	**190.4%**	**1**	**0.35**	**284.4%**	**3**	**1.40**	**214.0%**

Not all numbers may add due to rounding.

Appendix

Disability Retirements

2008-2009 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	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
25-29	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
30-34	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
35-39	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
40-44	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
45-50	0	0.02	0.0%	0	0.02	0.0%	0	0.03	0.0%
50-54	0	0.07	0.0%	0	0.03	0.0%	0	0.11	0.0%
55-60	0	0.30	0.0%	0	0.09	0.0%	0	0.40	0.0%
60-64	0	0.78	0.0%	0	0.25	0.0%	0	1.03	0.0%
65-69	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
Total	**0**	**1.18**	**0.0%**	**0**	**0.39**	**0.0%**	**0**	**1.57**	**0.0%**

2009-2010 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	0.00	N/A	0	0.00	N/A	0	0.00	N/A
25-29	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
30-34	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
35-39	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
40-44	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
45-50	0	0.01	0.0%	0	0.01	0.0%	0	0.03	0.0%
50-54	0	0.05	0.0%	0	0.05	0.0%	0	0.10	0.0%
55-60	0	0.30	0.0%	0	0.08	0.0%	0	0.38	0.0%
60-64	0	0.87	0.0%	0	0.30	0.0%	0	1.17	0.0%
65-69	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
Total	**0**	**1.24**	**0.0%**	**0**	**0.44**	**0.0%**	**0**	**1.68**	**0.0%**

Not all numbers may add due to rounding.

Appendix

Disability Retirements

2010-2011 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	0.00	N/A	0	0.00	N/A	0	0.00	N/A
25-29	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
30-34	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
35-39	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
40-44	0	0.00	0.0%	0	0.00	0.0%	0	0.00	0.0%
45-50	0	0.01	0.0%	0	0.01	0.0%	0	0.02	0.0%
50-54	0	0.07	0.0%	0	0.04	0.0%	0	0.11	0.0%
55-60	0	0.25	0.0%	0	0.11	0.0%	0	0.36	0.0%
60-64	0	0.86	0.0%	0	0.20	0.0%	0	1.07	0.0%
65-69	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
Total	**0**	**1.20**	**0.0%**	**0**	**0.36**	**0.0%**	**0**	**1.56**	**0.0%**

Not all numbers may add due to rounding.

Appendix

Terminations

2007-2011 Experience

	Males			Females			Total		
Age Group	Actual Terminations	Expected Terminations	Actual/ Expected	Actual Terminations	Expected Terminations	Actual/ Expected	Actual Terminations	Expected Terminations	Actual/ Expected
<25	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
25-29	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
30-34	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
35-39	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
40-44	0	0.00	N/A	1	0.00	N/A	1	0.00	N/A
45-49	1	0.00	N/A	2	0.00	N/A	3	0.00	N/A
50-54	1	0.00	N/A	0	0.00	N/A	1	0.00	N/A
55-59	1	0.00	N/A	1	0.00	N/A	2	0.00	N/A
60-64	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
65+	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
Total	**3**	**0.00**	**N/A**	**4**	**0.00**	**N/A**	**7**	**0.00**	**N/A**

2007-2008 Experience

	Males			Females			Total		
Age Group	Actual Terminations	Expected Terminations	Actual/ Expected	Actual Terminations	Expected Terminations	Actual/ Expected	Actual Terminations	Expected Terminations	Actual/ Expected
<25	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
25-29	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
30-34	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
35-39	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
40-44	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
45-49	0	0.00	N/A	1	0.00	N/A	1	0.00	N/A
50-54	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
55-59	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
60-64	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
65+	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
Total	**0**	**0.00**	**N/A**	**1**	**0.00**	**N/A**	**1**	**0.00**	**N/A**

Not all numbers may add due to rounding.

Appendix

Terminations

2008-2009 Experience

Age Group	Males Actual Terminations	Males Expected Terminations	Males Actual/ Expected	Females Actual Terminations	Females Expected Terminations	Females Actual/ Expected	Total Actual Terminations	Total Expected Terminations	Total Actual/ Expected
<25	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
25-29	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
30-34	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
35-39	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
40-44	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
45-49	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
50-54	1	0.00	N/A	0	0.00	N/A	1	0.00	N/A
55-59	0	0.00	N/A	1	0.00	N/A	1	0.00	N/A
60-64	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
65+	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
Total	**1**	**0.00**	**N/A**	**1**	**0.00**	**N/A**	**2**	**0.00**	**N/A**

2009-2010 Experience

Age Group	Males Actual Terminations	Males Expected Terminations	Males Actual/ Expected	Females Actual Terminations	Females Expected Terminations	Females Actual/ Expected	Total Actual Terminations	Total Expected Terminations	Total Actual/ Expected
<25	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
25-29	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
30-34	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
35-39	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
40-44	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
45-49	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
50-54	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
55-59	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
60-64	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
65+	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
Total	**0**	**0.00**	**N/A**	**0**	**0.00**	**N/A**	**0**	**0.00**	**N/A**

Not all numbers may add due to rounding.

Appendix

Terminations

2010-2011Experience

Age Group	Males			Females			Total		
	Actual Terminations	**Expected Terminations**	**Actual/ Expected**	**Actual Terminations**	**Expected Terminations**	**Actual/ Expected**	**Actual Terminations**	**Expected Terminations**	**Actual/ Expected**
<25	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
25-29	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
30-34	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
35-39	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
40-44	0	0.00	N/A	1	0.00	N/A	1	0.00	N/A
45-49	1	0.00	N/A	1	0.00	N/A	2	0.00	N/A
50-54	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
55-59	1	0.00	N/A	0	0.00	N/A	1	0.00	N/A
60-64	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
65+	0	0.00	N/A	0	0.00	N/A	0	0.00	N/A
Total	**2**	**0.00**	**N/A**	**2**	**0.00**	**N/A**	**4**	**0.00**	**N/A**

Not all numbers may add due to rounding.

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