LEOFF Plan 2 Retirement Board

Salary Growth

Follow-Up
September 26, 2012

Discussion Points

- Follow-Up: Salary Growth Assumption question
- Salary growth report data compared to salary growth assumption
- Differences in data and methodology

Report

- Data
  - Population: Recent retirees & expected retirees
  - Total Sample: 557 Lives
  - 10 years of salary records
  - Includes only service earnings and overtime provided by DRS; Some earning types not included

Report

- Methodology
  - A mathematical calculation
  - 4% assumption used as rough approximation for total salary growth
  - Compares expected salary growth to actual salary growth for group over two consecutive five year periods
  - Results organized into three categories
    - Within Expectation (under 25%)
    - Borderline (25% - 50%)
    - Exceeding Expectation (over 50%)

Experience Study/Assumption

- Data
  - Population: All active members
  - Total Sample: Over 220,000 lives
  - 23 years of records (1984 to 2006)
  - Includes all pensionable salary provided by DRS

Experience Study/Assumption

- Methodology
  - An actuarial calculation
  - Salary increase assumptions – two components
    - General salary assumption
    - Service-based assumption
  - General Salary Assumption is economic assumption; derived from inflation, plus small productivity factor

Experience Study/Assumption

- Methodology
  - Growth assumption formulated for all service-based salary increases
  - Salary organized and examined by service level and year
  - Actual total salary increase calculated for each service level
  - Approximate general salary increase for all service levels; Removed from initial assumption
  - Remainder is service-based increases

Summary

- Salary growth report data compared to experience study/salary growth assumption
  - Different calculation
  - Different definition of salary
  - Different time period/length
  - Different populations/salary patterns
  - Different level of precision

Any Questions?

- **Contact:**

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Office of the State Actuary

"Securing tomorrow's pensions today."

September 6, 2012

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SUBJECT: SALARY ASSUMPTION COMPARISON

Dear Tim,

As requested, we have reviewed the material from your Salary Growth presentation dated July 25, 2012, as it compares to the analysis OSA prepares for setting the salary growth assumptions for LEOFF Plan 2. We found two key differences: the data used for each salary analysis; and the method used to set the salary assumptions.

The data for the presentation included salary information for two years of recent retirees plus the next year of expected retirees (557 members). The data OSA uses to develop the salary assumptions includes 23 years of historical salary data for all active members (more than 220,000 members), at all service levels.

The presentation used a 4 percent salary growth assumption as a rough approximation for total salary increases in order to compare expected salary growth to actual salary growth for the retiree group studied. Generally speaking, members near retirement have more service and experience lower merit or step increases than members early in their careers. As such, the rough approximation used is only 0.25 percent higher than the general salary assumption for the plan of 3.75 percent.

OSA develops salary assumptions for two types of increases: general salary and service-based salary (merit or step increases). The general salary increase assumption is currently 3.75 percent and is reviewed at least every two years as part of the economic experience study. The service-based salary increase assumption ranges from 11 percent to 0 percent, as shown on page 43 of the *2010 LEOFF 2 Actuarial Valuation Report*, and is reviewed at least every six years as part of the demographic experience study. Both assumptions are considered together as part of the overall salary growth for all active members of the Plan.

A summary of the data and methods used for both the presentation and by OSA are provided in the Appendix for your reference. Additional information on the approach

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OSA takes for setting the total salary growth assumption can be found in the *2001 – 2006 Experience Study* available on our website.

If you have any questions please feel free to contact me.

Sincerely,

Lisa Won, ASA, FCA, MAAA
Actuary

Attachment
Appendix

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APPENDIX

Salary Growth Presentation

Data

1. Recent retirees for past two years (November 2009 through October 2011) or expected to retire in the next year (November 2011 through October 2012).
2. Total sample: 557 lives.
3. Includes service earnings and overtime.

Method

Uses a 4 percent salary growth assumption as a rough approximation for total salary increases in order to compare expected salary growth to actual salary growth for the retiree group studied. The results are then grouped into three categories: within expectations (under 25 percent), borderline (25 percent - 50 percent) and exceeding expectations (over 50 percent).

OSA Experience Study

Data

1. Twenty-three years of records, from 1984 to 2006.
2. Salaries of all active members.
3. Total sample: Over 220,000 lives.
4. Annual pensionable salary provided by DRS.

Method

1. Salary increase assumptions – general salary and service-based salary increases.
2. The general salary increase assumption is an economic assumption. The Board adopted the current assumption of 3.75 percent.
3. We study all other service-based salary increases to form a single assumption. These increases can include step or merit increases, promotions, overtime, or extra contracts.
4. We organize the data by service level, and year. For each service level, we divide the current year salary by the prior year salary to determine the actual total salary increase.
5. Then, we approximate an observed general salary increase for all service levels. Once we remove the general salary increase, we are left with actual, or observed, service-based salary increase assumptions.