Introduction to Appendixes

Appendix A presents the assumptions used to project the employer contribution costs and the post-retirement unfunded actuarial liabilities for the Hawaii public employees health benefit program. We use the phrase "health benefit program" to refer to all of the plans available to the employees whether they are offered by the health fund or the unions. The model computes age-specific medical claims costs for each year. The formula employed to compute the plan's anticipated claims cost varies by plan design and the availability of claims data. For example, paid claims data were available for the health fund plans, but not for the union plans. The health fund's claims experience was consistent with the premium information, so the premium information was used as the basis for benefit costs for all plans in this study.

The model used to project current and future retiree medical claims costs is similar to models used to project the corresponding current and future amounts needed for pension benefits (cash flows and present values). For each year in the future, the number of retirees at each age is estimated. The assumptions used for projecting the number of retirees were taken from the 1997 actuarial valuation by the Segal Company for the Employees' Retirement System of the State of Hawaii. These assumptions were adopted by the Board of Trustees of the retirement system, based on statutory requirements and on Segal's actuarial experience report on the retirement system covering the 1990-95 period.

New retirees are projected to enter from the active employee population based on assumed retirement and mortality rates applied to the retiree enrollment after their date of retirement. The resulting population at each age is multiplied by the assumed age-specific employer cost for each employee or retiree, including dependents. The results for each employee or retiree are summed to obtain the expected claims costs for each year. The cost for all years, are summed, taking interest into account (present values) to estimate the liability.

The significant difference in the models for pension plans and retiree medical plans comes in the mechanics of computing the age-specific claims costs. The cost of providing retiree medical benefits typically changes with each year of age and year in time, but pension benefits are usually fixed or adjusted only for inflation.

Another difference between models projecting the costs and liabilities of health benefit programs and pension plans, is that the population for which health benefits are paid must also take into account employees,

retirees, and *all* eligible dependents. However, pension plan cost and liability models only include the surviving spouse as the only dependent in the projections along with the employees and retired employees.

Appendix A, Exhibit 1 presents information on employer costs estimated on a per person monthly net cost to the employer for the year beginning July 1, 1998.

Appendix A, Exhibit 2 presents the economic assumptions used to project the future years' employer costs per employee, retiree, or family. The percentages represent the percent increase in costs for each year. Over time, the percentages generally decrease simply to try to be somewhat optimistic that health care costs in the future will not continue to increase at the high levels of today.

Appendix A, Exhibit 3 shows the demographic assumptions used to project the enrollment in future years of both active employees and retirees. Withdrawal rates refer to the probability of an active employee terminating his or her employment in a particular year. Higher rates were used for our withdrawal assumptions during the first three years of employment because there is a tendency for higher termination rates. After the third year of employment we applied lower termination rates, in which we assume that age was the only variable that affected the level of terminations.

Appendix B, Exhibits 1, 2, and 3 present the projected annual employer contribution costs and the post-retirement unfunded actuarial liabilities for the Hawaii public employees health benefit program. The assumptions used in the model to calculate these values are summarized in Appendix A. The results of the projections are shown for three scenarios based on low, intermediate, and high trend rates.

Appendix B, Exhibit 4 presents the projected number of retirees over the 15-year projection period. It shows the number of employees and retirees covered. Future retirees are the retirees from the current active employee population.

Appendix C presents information obtained from other states' public employee and retiree health benefit programs. We requested information on governance, program design, funding, administration, rate and benefit negotiation, management practices over excess contributions or reserves held by the state or carriers, and management controls. Twelve states that we contacted had readily available information about their program: Arizona, California, Colorado, Connecticut, Michigan, Missouri, New York, Oregon, Pennsylvania, South Dakota, Texas, and West Virginia.