

Note: This version of ASOP No. 6 is no longer in effect.
It was superseded by ASOP No. 6, Doc. No. 084.

**ACTUARIAL STANDARD
OF PRACTICE
NO. 6**

**MEASURING AND ALLOCATING
ACTUARIAL PRESENT VALUES
OF RETIREE HEALTH CARE
AND DEATH BENEFITS**

**Developed by the
Retiree Health Care Committee of the
Actuarial Standards Board**

**Adopted by the
Actuarial Standards Board
October 1988**

Reformatted and Reprinted 1990

(Doc. No. 008)

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February 1989

TO: Members of the American Academy of Actuaries and Other Persons with an Interest in Actuarial Calculations for Retiree Health Care and Death Benefits

FROM: Actuarial Standards Board (ASB)

SUBJ: Actuarial Standard of Practice No. 6

This booklet contains the final version of Actuarial Standard of Practice No. 6, *Measuring and Allocating Actuarial Present Values of Retiree Health Care and Death Benefits*.

Background

In May 1988, the Interim Actuarial Standards Board (IASB) issued an exposure draft entitled *Recommendations for Measuring and Allocating Actuarial Present Values of Retiree Health Care and Death Benefits*. The IASB was superseded by the Actuarial Standards Board (ASB) in July 1988.

There were a total of eleven responses received to the exposure draft. These have been considered by the Retiree Health Care Committee of the ASB and certain revisions have been made, as described below. The document, as adopted by the ASB, represents a basic set of recommended practices for actuaries who provide services in the area of retiree health care and death benefits. To reflect ASB policy, the words, *Actuarial Standard of Practice*, were substituted for the word, *Recommendations*, in the title.

Following the adoption and publication of the final standard, the document was reformatted by the committee in the format adopted by the ASB. The present edition reflects the reformatting, the principal changes being the arrangement and numbering of sections and paragraphs.

Responses to Comments on Exposure Draft

The IASB specifically requested comments regarding the requirement that health care actuarial present values generally be presented in ranges of reasonable results and that the impact of key sensitivity tests be shown. The two actuaries who responded to this specific request strongly supported the requirement, considering it among the most

important aspects of the standard. One comment letter questioned the difference between ranges of results and sensitivity tests. It is expected that sensitivity tests will provide insight as to how variability among key assumptions will affect results within a reasonable range of results.

The IASB also requested specific comments regarding the interrelationships between economic assumptions and methods used for pension purposes and those used for retiree health care and death benefits. One comment suggested that the standard be strengthened to require that economic assumptions for retiree health care and death benefits be consistent with those used for related pension purposes. The standard contains minor clarifications on this point. Two comments questioned the references to *book reserves*. A definition of *book reserves* has been added for clarity.

Several comments suggested that certain terms be more clearly defined (examples included *cost*, *plan*, and *plan amendment*). It is not always possible to tighten definitions without defeating the utility of an actuarial standard, since a definition that is useful for one purpose may tend to preclude use of the standard for other purposes. Some minor changes have been made in certain definitions to aid clarity.

One comment suggested that leveraging due to deductibles and copayments should be an explicit assumption rather than a part of the health care trend. The standard would permit, but not require, explicit treatment of this or any other cost factor. As a practical matter, many plan sponsors do not have adequate data at this time to permit an explicit approach to leveraging.

Several comments were directed toward the need for an actuary to rely on others (actuaries, accountants, benefits administrators, group health underwriters, et al.) to a greater extent when performing retiree health-care-related services than might be the case in other areas of actuarial practice. A question was raised as to whether specific disclosure should be made regarding such reliance. It is the view of the ASB that this question is covered adequately by existing standards of professional conduct.

Several respondents recommended changes in various aspects of the former section 6.2, Benefit Cost (now section 5.4.1). The standard reflects minor editorial changes but does not reflect specific suggested changes that could have resulted in a standard with which compliance would have been impractical or unnecessarily complicated in many situations.

Three changes were made in the list of assumptions in section 7.2, Identification of Actuarial Assumptions (now section 5.5.2), to reflect comments received. In addition, section 13.4, Specific Requirements (now section 6.4), has been expanded to include

references to disclosure requirements that are specified elsewhere in the standard.

One respondent stated that book reserves are not plan assets in any economic sense. The ASB does not accept the concept that book reserves have no economic value, but recognizes that they may have a higher risk in comparison with externally invested assets. A cautionary comment in this regard has been added to former section 13.4(g) (now section 6.4(g)).

The standard sets forth generally accepted actuarial practices. It is not the intent of this standard to endorse or provide reconciliation with standards promulgated by other standards-setting bodies to fulfill specific purposes (ERISA compliance, accounting, etc.). When an actuary is required to prepare calculations in compliance with another body's standard, section 6.3 of this standard requires explicit disclosure of any deviations from this standard.

The ASB appreciates the comments on the exposure draft, and thanks those who submitted them.

This standard of practice was prepared by the Retiree Health Care Committee of the ASB. After its publication, it was reformatted by the committee in the format adopted by the ASB.

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ACTUARIAL STANDARD OF PRACTICE NO. 6

MEASURING AND ALLOCATING ACTUARIAL PRESENT VALUES OF RETIREE HEALTH CARE AND DEATH BENEFITS

PREAMBLE

Section 1. Purpose, Scope, and Effective Date

- 1.1 Purpose—Because measuring retiree health care benefit present values is a new practice, a standard of practice in this area is needed to provide guidelines regarding what is acceptable practice and what factors should be considered in determining such present values. This standard should be sufficiently flexible to allow for emerging understanding in this developing practice.
- 1.2 Scope—This standard sets forth generally accepted actuarial practices with respect to retiree health care and death benefit plans regarding:
- a. estimating actuarial present values,
 - b. assigning costs to time periods,
 - c. projecting future cash flow, and
 - d. funding or determining book reserves.

This standard indicates that the actuary does not have complete responsibility for each element of the funding and cost allocation decisions but shares responsibility for certain elements with the plan sponsor, attorney, accountant, and statutory authorities. Nevertheless, the actuary remains responsible for assessing the implications of overall results in terms of short- and long-range expected cost progression.

Retiree health care benefit plans covered by this standard provide health care benefits during retirement. Retiree death benefit plans provide benefits on death after retirement. Retirement income benefits are not covered herein.

Primary emphasis in this standard is on health benefits, but death benefits are also a concern. If there is less attention directed here to the question of death benefits, it is not because they are not significant but because the measurement of death benefits does not require as much discussion. Retiree death benefits levels are generally well defined, which makes measurement simpler.

1.2.1 Health Care versus Long-Term Care—The health care actuarial practices recommended herein refer primarily to health care benefit plans providing coverage for acute and chronic health care. While this standard may also be appropriate for long-term care benefits, applicability to such benefits has not been considered because long-term care may include services that are not health related.

1.2.2 Health Care versus Pension Actuarial Calculations—Pension actuarial calculations should not be used as proxy for retiree health care actuarial calculations. On the surface there may appear to be substantial commonality between the two. Both types of calculations frequently cover overlapping groups of participants with similar retirement periods, integrate with government programs, and rely on actuarial assumptions with similar-sounding names. However, the nature of the benefits, predictability of government-provided benefits, and derivation and effect of actuarial assumptions for the two types of calculations are very different.

1.3 Effective Date—This standard became effective October 17, 1988. It is intended to be applicable on a prospective basis only.

Section 2. Definitions

As used in this standard, the following terms will have the indicated definitions:

- 2.1 Actuarial Calculations—Calculations for purposes of determining actuarial cost, benefit advice, and related information such as:
- a. advice about funding, expense, or allocation of cost to time periods;
 - b. advice about the type and levels of benefits for specified cost levels;

- c. maximum contributions deductible for tax purposes;
- d. information required for the plan's or the plan sponsor's financial statements;
- e. information required about plan design;
- f. determination of progress toward a defined financial goal;
- g. actuarial present value of benefits payable in the event of plan termination;
- h. information about plan mergers, acquisitions, spin-offs, withdrawals and business discontinuances;
- i. actuarial experience gains or losses; and
- j. comparisons of accruals and cash flow requirements over various time frames.

2.2 Actuarial Present Value—The value, as of a specified date, of a future benefit cost or series of benefit costs, where each amount:

- a. is adjusted for the probable effect of events (such as changes in price levels, compensation levels, Medicare, marital status, etc.);
- b. reflects the probability of the occurrence of the event (such as survival, death, disability, termination of employment, utilization of services, etc.) on which payment is conditioned; and,
- c. is discounted according to an assumed rate (or rates) to reflect the time value of money.

2.3 Acute Health Care—Health care for conditions of relatively short duration which have a specific and foreseeable end.

2.4 Ancillary Benefit—A benefit which is incidental to a larger program and the cost of which is not material to the total program cost. For example, a retiree medical program that provides free blood pressure screening at the employer's business location may be deemed to be providing an ancillary benefit under that retiree medical program.

- 2.5 Benefit Cost—The cost to the plan for making benefits available. In situations where the plan pays part or all of the charges of health care providers for services provided to plan participants, the benefit cost consists of the plan's share of those charges and the related administrative expenses. Where the plan pays periodic fees to those providers for making their services available, the benefit cost consists of those fees and any related administrative expenses. In instances where the obligation is fully insured, the benefit cost would be the insurance premium and any administrative expenses.
- 2.6 Book Reserves—Amounts accrued (but not funded) on the financial statements of the plan sponsor. These represent a liability of the plan sponsor and, for some purposes, may be considered an asset of the plan.
- 2.7 Chronic Health Care—Health care for conditions of a relatively long duration or of a recurring nature.
- 2.8 Death Benefit—A benefit payable as a direct result of the death of a covered participant. *Death benefit* includes an amount payable as a result of accidental death or dismemberment.
- 2.9 General Economic Inflation—Price changes over the whole of the economy. The most widely used indices are the Consumer Price Index and the Gross National Product price deflator.
- 2.10 Health Care Benefit—A benefit payable as a direct result of health care services to a participant which include both acute and chronic care. Payments of capitation fees, including those for Medicare, are also health care benefits. Health care benefits may include benefits for medical, dental, vision, and other health-related services.
- 2.11 Health Care Trend—Changes over time in the per capita cost of providing health care benefits. These changes are brought about by several interrelated factors. Major factors include:
- a. Price of Services—The price of the complex array of health services has increased at rates that vary by type of services. The rate of increase differs from general inflation.
 - b. Frequency of Services—The pattern of use of health services by type of services changes over time, as does the nature of the services themselves as a result of changes in medical practice. This is further impacted by new

technology.

- c. **Leveraging due to Deductibles and Copayments**—For health benefit plan designs that included deductibles and/or copayments in the plan design, benefit cost will be leveraged. For example, consider a plan that provides 100% coverage after a \$100 deductible. In year 1, a service costs \$200; assuming no added services, the benefit is \$100. In year 2, that service costs \$220, a 10% price increase; assuming no added services, the benefit is \$120, a benefit increase of 20%. In this example, assuming the assumptions continue as stated, the leveraging effect continues in later years with diminishing impact.

Generally, present record-keeping practices do not permit each of these factors to be isolated within a plan's experience.

- 2.12 **Long-Term (Custodial) Care**—A wide array of health and other support services for people who suffer a loss of functional capacity that results in the need for continual one-to-one assistance of another person in the activities of daily living, such as walking, dressing, eating, toileting, or mobility.
- 2.13 **Participant**—For a plan providing death benefits, a participant is an individual on whose death a benefit is payable. For a plan providing health care benefits, a participant is an individual on whose behalf payment is made because health care services are rendered or are available (e.g., Medicare Part B, HMO capitation fees, etc.). A participant may include a retired employee, his or her spouse, eligible children, and eligible dependent parents.
- 2.14 **Participant Contributions**—Amounts paid by participants or withheld from pensions and required by the plan sponsor for plan participation.
- 2.15 **Range of Results**—The interval of results sufficient to reasonably illustrate the variability of the assumptions and reliability of the underlying data.
- 2.16 **Retiree Election of Optional Benefit Plans**—The choices that may be offered to retirees of differing copayments or other plan features within a health care delivery system. A participant contribution increase may be required to raise reimbursement levels or benefits.
- 2.17 **Retiree Election of Optional Health Care Delivery Systems**—The choice of health care delivery systems which may alter the cost of health care services. HMOs, retirement communities that provide medical care, and fee-for-service medical

practice are examples of different delivery systems.

Section 3. Background and Historical Issues

- 3.1 Introduction—Retiree health care benefits have been receiving increasing attention over the past several years for a number of reasons:
- a. The increasing number of retirees receiving such benefits and the mounting costs per capita have led to increasing costs for plan sponsors.
 - b. Changes in Medicare benefits and government mandates that impact employer-sponsored plans have caused significant variations in employer and participant's costs and have created uncertainty regarding the future trends in such costs.
 - c. Recent court decisions and legislative activity, which have raised questions about a plan sponsor's ability to alter retiree health care benefits, have led to uncertainty about the nature of the promise of such plans.

The valuation of retiree health care benefits is relatively new and not widely understood. There is a lack of actuarial literature on the topic. In any event, cost estimates for these benefits are likely to be more variable than for pensions, since the economic factors underlying pensions are more stable than those underlying retiree health care benefits.

- 3.2 Increasing Retiree Costs—The per capita cost for health care benefits, particularly for older individuals, has been increasing more rapidly than general inflationary costs due to the nature of the service, new technology, plant and labor cost increases, cost shifting, and increasing usage. In addition, the retired population with benefits is growing both in absolute numbers due to earlier retirements and increased longevity, and in proportion to the active work force. Both of these factors have led to increasing plan sponsors' costs.
- 3.3 Medicare and Government Mandates—Medicare changes have generally decreased the portion of medical health care costs which are borne by the government. In many cases, this has led to increases in cost borne by employer-sponsored plans. Other state and federal mandates have expanded the scope of required benefits. It is likely that changes to Medicare and government mandates will continue making the calculation of future employer costs less predictable.
- 3.4 Court Decisions—Many plan sponsors are finding that the nature of the promise

of retiree benefits is changing from the original intent. Court decisions may have limited their ability to decrease or eliminate such benefits. The full impact of these court decisions is unknown.

Section 4. Current Practices and Alternatives

Retiree health benefit measurement is still a developing practice. In the past, health care benefits were provided primarily on a pay-as-you-go basis. Because of this, there is little consensus about how to measure benefit obligations and how to select actuarial assumptions necessary to calculate such obligations. These processes are more complex than those for pensions. Complicating this situation is the variability of cost estimates that can result from the use of different actuarial assumptions.

STANDARD OF PRACTICE

Section 5. Analysis of Issues and Recommended Practices

- 5.1 Procedure to Measure Actuarial Present Values and Allocate Costs—In order to prepare actuarial calculations, the following must be performed:
- a. select a calculation date (see section 5.2);
 - b. determine plan provisions and practices applicable to the calculation (see section 5.3);
 - c. gather data appropriate for the calculation such as benefit cost, participant, and asset information (see section 5.4);
 - d. select actuarial assumptions appropriate for determining the actuarial present value of benefits applicable to the calculation (see section 5.5); and,
 - e. where appropriate for the purpose of the calculations, select a procedure to allocate costs to past and future periods. This procedure may include:
 1. an actuarial cost method (see section 5.6),
 2. an actuarial asset valuation method (see section 5.8), and
 3. an amortization method (see section 5.9).
- 5.2 Calculation Date
- 5.2.1 Calculation Date—Calculations should be made as of a specific date during the plan year with an adjustment for the time value of money if contributions or cost accruals are to be made at a different date.
- 5.2.2 Information as of a Different Date—Benefit cost, asset, and participant information at the calculation date may be estimated on the basis of information furnished as of another date with appropriate adjustments as necessary.
- 5.2.3 Events after the Calculation Date—Events may occur after the calculation

date that may affect calculation of actuarial present values. Examples of such events include plan changes, participant elections, legislative and regulatory changes, and sale of a segment of the business. These events need not be reflected until subsequent years. Disclosure of such events should be made, however, if the conclusions that would otherwise be reached would be materially affected by the events. Several calculations may be required for various purposes as of a single calculation date. It is essential that assumptions about future events be appropriate to the intended use of the calculations taking into account applicable regulatory or other external constraints.

5.3 Plan Provisions and Practices

5.3.1 Plan Provisions Taken into Account—All provisions, interpretations, claim practices, and other administrative practices of the plan adopted and effective on or before the calculation date should be taken into account to the extent deemed material in developing the costs. The actuary should also be aware of material changes to claim practices and other administrative practices that might affect the results.

5.3.2 Timing of Changes—When provisions or practices change in a material way, those changes should be treated as follows and that treatment should be appropriately disclosed:

- a. Provisions and practices adopted on or before the calculation date and effective during the plan year should be reflected in present value calculations and on at least a pro rata basis in cost allocations.
- b. Provisions and practices adopted on or before the calculation date that are not effective until future years should be reflected in present value calculations and in current year funding or cost allocations where appropriate to the result. For example, actuarial calculations would normally include a change in a plan deductible that has been adopted to be effective at a later date.
- c. Provisions and practices adopted after the calculation date need not be reflected in current year funding or cost allocations but should be reflected in subsequent funding and cost allocations.
- d. For purposes of projecting future years' funding or cost allo-

cations, anticipated future changes in provisions and practices may, but need not, be reflected. The actuary should be aware of any such anticipated changes and should disclose the treatment of each. An example of such change is a future increase in benefit payment schedules where the plan sponsor has made similar discretionary changes in the past.

5.4 Benefit Cost, Participant, and Asset Information

- 5.4.1 Benefit Cost—Benefit cost can be either retiree-specific premiums or the combination of retiree claims and related expenses. Available incurred charges or benefit cost information should be scrutinized carefully to determine its suitability in establishing the initial base from which projections of future costs will be made. The initial per capita cost may be the most important assumption in the cost projection. Accordingly, the discussion here is separate from the discussion of other assumptions in section 5.5.

Health care plan costs are not determined solely by the level of benefits or other plan design elements. For health care plans of exactly the same design, per capita costs may vary greatly depending on a variety of factors affecting the participant population including geographic location, industry, and demographics. For this reason the most consistently accurate indicator of future per capita benefit costs for a plan is generally regarded to be past costs for that plan, adjusted by actuaries and underwriters for trends and changes in population characteristics (e.g., aging). Projection of future per capita benefit costs should be related to the plan cost for the immediate past.

The actuary may determine, however, that the available data is of limited value or has no credibility. In particular, an insurance company's term premiums should not be used except where the actuary has determined that the rates reasonably reflect the actual retiree cost and would serve as an appropriate basis for projection. Where the benefit cost of current retirees is not fully credible or does not reasonably represent the likely benefit cost for future retirees, this analysis may utilize the experience of active employees, appropriately adjusted for expected differences between retirees and active employees.

As stated above, an important part of a retiree health cost projection is the determination of past per capita benefit costs. An accurate determination

is complex. Assumptions usually have to be made about the nature of the past data and various adjustments may be necessary to establish the initial per capita benefit cost at the valuation date. Per capita benefit costs frequently increase by age or age bracket with a significant decrease at the age when the person attains Medicare eligibility. The data should be examined in regard to volume available, credibility, quality, and consistency with other similar data.

Special emphasis should be considered in the actuarial analysis of benefit cost data, including items such as:

- a. date of claim payment versus date of claim incurral;
- b. primary or secondary payment status of plan;
- c. Medicare eligibility due to disability or attainment of required age;
- d. the trend in experience over time;
- e. employee, dependent, or surviving beneficiary status; and
- f. age, sex, and disability status (including dependents).

The methods used to project benefit costs should be consistent with the manner in which the initial base was determined. When actuarial calculations are completed, the projection of benefit costs should be reviewed for consistency with recent experience.

- 5.4.2 Participants—Generally, all active, or retired employees, dependents, and survivors eligible for benefits or expected to become eligible should be reflected in the actuary's calculations. In some cases, terminated employees will also be covered by the terms of the plan and should be included as participants in the calculation. An actuary should review the plan sponsor's procedures and practices, including the Summary Plan Description, to determine the full scope of eligible participants. In addition, the actuary should review applicable mandated-benefit statutes to determine if participation has been extended (e.g., to handicapped children). Under appropriate circumstances, and with proper disclosure, persons below a minimum age/service level may be excluded. Persons who are not yet employed and future dependents and survivors of those not yet employed would generally not be included unless necessary for the

calculation. Use of samples may be an appropriate basis for the calculation.

5.4.3 Accruals and Prepayments—Accrued contributions or prepayments should be reflected in assets on a basis consistent with the purpose and the reporting period for which costs are being determined. Costs should reflect the time value of money on those accruals or prepayments.

5.4.4 Reliance—The actuary will generally rely on the plan administrator, plan sponsor, insurance company, or other qualified third party for claim, asset, and participant information. While not responsible for auditing the information, the actuary should verify its reasonableness both directly and against other available information such as prior years' data and reported benefit payments.

5.5 Actuarial Assumptions

5.5.1 Basis for Assumptions—Actuarial assumptions in combination should reflect an actuary's best judgment of future events affecting retiree health care and death benefits. The actuary should consider the actual experience of a covered group but should emphasize expected long-term future trends including, for example, expectations related to future benefit cost changes.

5.5.2 Identification of Actuarial Assumptions—In performing actuarial calculations according to this standard, the actuary should consider the applicability of assumptions such as:

- a. administrative expense;
- b. age- and sex-specific morbidity;
- c. age- and sex-specific mortality;
- d. availability of primary coverage from alternative sources;
- e. benefit changes after retirement, death, or disability;
- f. disability retirement;
- g. employee, retiree, and survivor contributions;
- h. employment age;
- i. employment levels;

- j. family composition after retirement, death, or disability;
- k. general economic inflation;
- l. health care cost trend;
- m. investment return and rate for discounting projected benefit costs, including income tax implications;
- n. involuntary termination of participant;
- o. leaves, layoffs, transfers, and reinstatements;
- p. marriage, remarriage, and divorce;
- q. Medicare and other government-provided benefits;
- r. new entrants;
- s. retiree and survivor withdrawal due to participant discontinuation of required contributions;
- t. retiree election of optional benefit plans;
- u. retiree election of optional health care delivery systems;
- v. retirement incidence;
- w. salary changes; and
- x. voluntary termination of participant.

5.5.3 Assumptions Considered Individually and in Aggregate—While giving primary emphasis to the combined impact of all assumptions, the actuary should consider the reasonableness of each actuarial assumption independently on the basis of its own merits and its consistency with each other assumption. In selecting assumptions, the actuary should consider the degree of uncertainty, the potential for fluctuation, and the consequences of such fluctuation. When an aspect of the plan or a change in the plan is being valued, the actuary should consider whether or not assumptions, which in combination are appropriate for measuring overall plan costs, are also appropriate for valuing the element under study.

5.5.4 Relationships of Economic Assumptions—The actuary should give special consideration to the consistency of the actuarial assumptions regarding general inflation, health care inflation, investment return, and rates for discounting projected benefit costs. The relationships among these

assumptions should be reasonable, with due consideration to the resulting implied long-term growth in aggregate medical costs relative to that of other segments of the economy.

- 5.5.5 Investment Return and Rate for Discounting Projected Benefits Costs—The investment return assumption is used to project assets to future periods and may differ from the rate used for discounting projected benefit costs. The determination of these assumptions should consider the nature of plan assets that may be represented substantially by book reserves. The assumptions used for pensions may or may not be appropriate for this purpose. For example, the differences in investment vehicles and tax implications may suggest different net investment return assumptions (e.g., book reserves may be assumed to grow at a rate related to the company's internal rate of return, with appropriate recognition of tax implications).
- 5.5.6 Effect of Plan Changes on Assumptions—The actuary should consider that changes in plan design may significantly alter the level and trend of expected future experience. For example, the addition of required retiree contributions would generally reduce participation below the 100% level which would be expected in a noncontributory plan and possibly increase the per capita claims payments.
- 5.5.7 Plan-Specific Assumptions—In choosing actuarial assumptions, the actuary should consider specific information related to the plan, as well as information on general trends. As a result of this information, the actuary may develop assumptions which differ from plan to plan or from group to group within a plan. In particular, the actuary should consider the impact of eligibility for government programs, especially Medicare, on plan benefits.
- 5.5.8 Past Experience—Past experience of the covered group is reflected in current costs through amortization of actuarial gains and losses. It may also be useful in forming a judgment about future experience. The long-range, prospective nature of death and health care costs, however, dictates that the assumptions anticipate expected long-term future trends. For example, annual increases in health benefit cost of 20% or more are occasionally experienced. While it may be appropriate to assume a relatively high rate of cost increase in the first few projection years, it would generally be inappropriate to assume such cost would increase 20% annually over the long term, unless the rate of increase were

consistent with other economic assumptions.

- 5.5.9 Range of Results—Except as discussed in section 5.5.11, it is usually not appropriate to present merely a single result for health care benefits. Therefore, the actuary should specify a range of reasonable results.
- 5.5.10 Health Benefit Sensitivity Tests—In addition to using professional judgment in selecting assumptions, the actuary should state in the report that the results depend on the assumptions and that actual experience is likely to be different from expected. Initial assumptions may prove to be inaccurate, statutory changes in government-provided benefits may ensue, and technological changes may affect the cost of care, morbidity, or longevity of retirees. Variations in certain key assumptions are likely, and they can produce significant changes in results. Accordingly, the actuary should illustrate the sensitivity of results by disclosing the effects of using alternative key assumptions. If the actuary does not conduct sensitivity tests on assumptions, the report should include an explanation of why they were not performed.
- 5.5.11 Health Benefit Range and Sensitivity Test Exceptions—In certain situations a single set of health benefit values must be shown. Examples of such situations may include litigation, acquisitions and divestitures, pricing, funding, and expense decisions, and elsewhere when a calculation is required using a specific set of assumptions that has been selected subsequent to disclosure of ranges and sensitivity tests.

5.6 Actuarial Cost Methods

- 5.6.1 Actuarial Cost Method—An *actuarial cost method* is a procedure for allocating to periods the actuarial present value of future plan benefit costs. Such allocation may be done by using an individual or group technique. For further information on actuarial cost methods, see the actuarial standard of practice, *Recommendations for Measuring Pension Obligations*.
- 5.6.2 Allocation Process—The allocation process underlying an actuarial cost method is defined by two variables:
- a. allocation period—the time interval over which the actuarial present value of future plan benefit costs is to be allocated; and

- b. proration basis—the technique, employing a parameter such as service, compensation, or pre-retirement benefit cost, by which allocation will be carried out.

5.6.3 Criteria for an Acceptable Actuarial Cost Method—An acceptable actuarial cost method should meet the following requirements:

- a. the period over which the allocation is made for an employee should begin no earlier than the date of employment and should not extend beyond the last assumed retirement age; the period may be determined by an individual or group technique; and,
- b. the proration basis by which the allocation is made should be reasonable and produce an orderly allocation of the actuarial present value of future plan benefit costs.

5.6.4 Disclosure of Methods and Techniques—The actuary should be prepared to support the use of chosen methods and techniques, and the report should include appropriate and explicit information about such methods or techniques.

5.7 Cash Flow Projections

5.7.1 Cash Flow Projections—When an actuarial cost method is used, but little or no prefunding exists, the actuary should also project cash flow requirements for benefit cost disbursements. The actuary is encouraged to project cash flows in most other situations. In general, the projection period should be at least ten years.

5.7.2 Disclosure—In the event that the projected cash requirement is expected to exceed the annual book accrual, or significantly deplete any prefunding, the result should be disclosed.

5.8 Valuation of Assets for Actuarial Purposes

5.8.1 Relationship to Overall Results—The valuation of assets, the investment return assumption and the rate used to discount projected benefit costs, the determination of actuarial present values, and the intended use of the calculations are interdependent, and one should not be considered separate from the others.

5.8.2 Reflection of Market Value—The valuation of assets should generally reflect market value. It may, however, be appropriate to use:

- a. methods that smooth out the effects of short-term volatility in market value,
- b. amortized cost values for evidence of indebtedness, and
- c. methods that relate to the rate used in determining actuarial present values, such as determining the present value of the expected future cash flow generated by investments.

If current market value is not used directly, it should nonetheless be disclosed, as should details of the method used.

5.8.3 Market Value Not Determinable—Not all types of assets have a readily determinable market value. Examples include certain insurance contracts and real estate. If market values are not available with respect to significant portions of the assets, the actuary should disclose this fact and the asset valuation method used for such assets.

5.8.4 Book Reserves—Where appropriate for the intended purpose of the calculation, an amount equal to the book reserves for the plan reflected in the plan sponsor's audited financial statements may be included as an asset of the plan.

5.8.5 Insurance Contracts—Some benefits may be covered by insurance contracts. The actuary may elect to exclude both assets and liabilities associated with these contracts from the analysis, provided the plan sponsor has no responsibility to pay future premiums for such benefits. If the plan sponsor is entitled to future gains under such contracts, the actuarial present value of expected gains should be included in assets.

5.9 Amortization Method

5.9.1 Factors Considered—Some actuarial cost methods allocate a portion of the actuarial present value to past periods. Generally, the amount so allocated will differ from the amounts previously costed or funded. The difference is amortized over future periods. The choice of amortization methods and period or range of periods should reflect:

- a. known limitations in the continuing ability of the plan sponsor to fund or accrue cost of the plan,
- b. the period over which the plan sponsor derives economic benefit from the plan provision giving rise to the actuarial present value being amortized,
- c. progress toward a desired funding or costing goal, and
- d. permissible smoothing of costs or contributions.

5.9.2 Patterns of Amortization within Selected Period—The pattern of amortization during each selected period should be rational and systematic, such as a level annual dollar amount, a level percentage of participants' payroll, or constant percentage of pre-retirement benefit costs.

5.10 Approximations

5.10.1 Acceptability—The actuary may use appropriate approximations consistent with the intent of this standard. Approximations, including use of samples, are only acceptable if the results can reasonably be expected not to differ significantly from the results of detailed calculations, given the intended use of the calculations. If a sampling approach is used, appropriate techniques should be employed to minimize sampling bias. The sampling variance should be considered when determining ranges of results and performing sensitivity tests.

5.10.2 Adjustment of Prior Calculation—In deciding whether an approximation based on a prior calculation may be used in lieu of detailed calculation, the actuary should consider items such as:

- a. changes in incurred claim levels versus assumptions;
- b. changes in number and compositions of participants;
- c. changes in covered payroll;
- d. changes in the age and service of participants;
- e. amendments to plan provisions;

- f. changes in law, e.g., Medicare;
- g. the length of time since a detailed actuarial valuation was performed; and
- h. differences in retirement and turnover patterns versus assumptions.

In approximating results based on prior actuarial calculations, the actuary should project assets and calculate actuarial present values in a consistent manner.

5.10.3 Ancillary Benefits—In deciding whether an approximation may be used in lieu of a detailed calculation for ancillary benefits, the actuary should consider items such as:

- a. the magnitude of the benefit and its associated actuarial present values, and
- b. the pattern of cost allocation in the approximation.

5.10.4 Disclosure—The fact that a report is based on approximation rather than detailed calculations and the approximation techniques used should be disclosed in the report.

Section 6. Communications and Disclosures

6.1 Existing Standards—Interpretative Opinion 3 of the *Guides to Professional Conduct* of the American Academy of Actuaries applies to all written communications by actuaries on actuarial subjects and, unless clearly inapplicable, to oral communication as well. Section (a)(2) of the Opinion states,

The form and content of any actuarial communication should meet the needs of the particular circumstances, taking into account the knowledge and understanding of the users and the actuary's relationship to the users.

A retiree health care or death benefit actuarial communication provides information directed toward plan sponsors, government bodies, employee groups, accountants, or other members of the public in connection with the design, revision, valuation, expense determination, or pricing of retiree health care or death

benefit plans. This section supplements Opinion 3 with respect to such actuarial communications.

- 6.2 General Requirements—Not all the information set forth in this section needs to be presented in every retiree health care or death benefit actuarial communication; information that must be included depends on the situation. The communication should include, either directly or by reference to accessible prior communications, sufficient information so that:
- a. it would be properly interpreted and applied by the person or persons to whom the communication is directed, and
 - b. another actuary practicing in this field could form an opinion about the reasonableness of the results.
- 6.3 Disclosure of Exceptions—If procedures are used that deviate materially from this standard, the actuary should be prepared to support the particular use of such procedures, and should disclose such deviation in accordance with section 6.4(1). Support of deviations is not needed if the deviations are made solely to comply with constraints imposed by government (e.g., those applicable to insurance company reserves) or other entities with rulemaking authority (e.g., the Financial Accounting Standards Board) provided that it is clear that the calculations are for the purpose of satisfying the requirements of those entities. However, if these actuarial calculations are also to be used for other purposes, such as guiding the plan sponsor as to future funding and cost allocation patterns, the actuary should be prepared to support the deviations as stated above.
- 6.4 Specific Requirements—The actuarial communication, in addition to including the name of the actuary responsible for its content, should contain, either directly or by reference to accessible prior communications, the following elements, where pertinent:
- a. The name of the person or firm retaining the actuary and the purposes that the communication is intended to serve.
 - b. An outline of the benefits discussed or valued and of any significant benefits not included in the actuarial determinations.
 - c. A statement as to the effective date of the calculations, the date on which the participant and financial information were compiled, and the source of such information.

- d. If the information used is not substantially complete and accurate, including the situation where a sample has been used, a statement including the following items:
 - 1. the type and expected significance of unknown or unused information;
 - 2. the assumptions and techniques applied with respect to such information;
 - 3. the likely relationship between the information used and the universe it is intended to represent; and
 - 4. the probable effect of such information on the adequacy of the results in the context of their intended use.
- e. A summary of the participant information, separated into significant categories such as active, retired with Medicare, and retired without Medicare. Actuaries are encouraged to include a detailed display of the characteristics of each category and a reconciliation with prior reported information.
- f. A summary of asset information (including reserves, where applicable) by financial institution or other reporting source and a derivation of the actuarial value of assets. Actuaries are encouraged to include an asset summary by category of investment and a reconciliation with prior reported assets, showing total contributions, benefits, investment return, and other reconciliation items.
- g. A comparative analysis of asset information and actuarial present values of projected benefit costs, if appropriate. In those circumstances where an amount equal to the book reserves is included as an asset, this amount should be clearly identified as such, and the actuary should be careful not to imply that plan participants enjoy the same level of benefit security as would exist if such an amount were externally invested.
- h. A description of the actuarial assumptions, cost method, and asset valuation method. Changes in assumptions and methods from those used in previous communications should be stated and their effects noted.
- i. A statement of the findings, conclusions, or recommendations necessary

to satisfy the purposes of the communication and a summary of the actuarial determinations on which these are based.

- j. A disclosure of (1) deviations from this standard in the preparation of the material presented in the communication, and (2) facts which, if not disclosed, might reasonably be expected to cause misunderstanding of the communication.

- k. If the actuary has assumed a continuing plan situation, a statement that the inclusion of such an assumption does not necessarily imply that an obligation to continue such plan actually exists, and
 - l. Other disclosures that may be required by other sections of this standard. Those disclosures may include: events after the calculation date (see section 5.2.3); changes in plan provisions and practices (see section 5.3.2); exclusions from participation (see section 5.4.2); health benefits sensitivity tests (see section 5.5.10); actuarial cost methods (see section 5.6.4); cash flow projections (see section 5.7.2); non-use of current market value (see sections 5.8.2 and 5.8.3); approximations (see section 5.10.4); and funding pattern inconsistent with this standard (see section 6.5).
- 6.5 Funding Policy—The extent to which benefits of a plan should be funded or costed in advance of the date when they must be paid is a decision to be made by the plan sponsor, with the assistance of the actuary, in light of many factors, including regulatory requirements, collective bargaining considerations, income tax considerations, and alternative uses of money. If the funding pattern actually used by the plan sponsor is inconsistent with this standard, the actuary should disclose the trend of the funding pattern and should indicate, at least approximately, the expected effect of such funding patterns on future health care and death benefit costs.