

Note: ACG No. 3 has been repealed.  
It was superseded in 2001 by ASOP No. 6, Doc. No. 084.

**ACTUARIAL COMPLIANCE  
GUIDELINE  
NO. 3**

**FOR STATEMENT OF  
FINANCIAL ACCOUNTING STANDARDS NO. 106  
EMPLOYERS' ACCOUNTING FOR POSTRETIREMENT  
BENEFITS OTHER THAN PENSIONS**

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

**Adopted by the  
Actuarial Standards Board  
October 1992**

**(Doc. No. 038)**



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October 1992

**TO:** Members of Actuarial Organizations Governed by the Standards of Practice of the Actuarial Standards Board and Other Persons Interested in Employers' Accounting for Postretirement Benefits Other Than Pensions

**FROM:** Actuarial Standards Board (ASB)

**SUBJ:** Actuarial Compliance Guideline No. 3

This booklet contains the final version of Actuarial Compliance Guideline No. 3, *For Statement of Financial Accounting Standards No. 106, Employers' Accounting for Postretirement Benefits Other Than Pensions*. It addresses actuarial professional work required under Statement of Financial Accounting Standards (SFAS) No. 106, promulgated by the Financial Accounting Standards Board (FASB). The guideline is a standard of compliance with the requirements of SFAS No. 106 rather than a standard of practice in accordance with generally accepted actuarial principles and practices.

#### Types of Actuarial Standards

The ASB has established two types of actuarial standards to guide actuaries in different types of engagements. The actuarial standard of practice (ASOP) provides guidance in the application of generally accepted actuarial principles and practices.

The actuarial compliance guideline (ACG) provides guidance in those situations where actuaries must work within a framework imposed by authorities outside the actuarial profession. In these situations the rules or requirements of other bodies may not be in accordance with generally accepted actuarial principles and practices or they may restrict the application of professional judgment by the actuary.

ACGs and ASOPs have been given equal standing by the ASB, and the actuary should apply them accordingly.

#### Background

The ASB adopted an actuarial standard of practice in October 1988 addressing the measurement and allocation of actuarial present values of retiree health care and death benefits (ASOP No. 6). In December 1990, the FASB adopted a statement of financial accounting standards addressing employers' accounting for postretirement benefits other than pensions (SFAS No. 106).

Both standards pertain to similar benefits, primarily welfare benefits for retired employees. The long-term measurements required are a relatively new and developing actuarial practice. In light of this, the ASB asked its Retiree Health Care Committee to develop a guideline for actuaries to use in providing the information needed for employers to comply with SFAS No. 106. The length of the guideline reflects the perceived need to provide more information than usual because it is designed for this relatively new area of practice.

The committee recognized that SFAS No. 106 implies more precision and accuracy than exist in this area of actuarial practice. To the extent that future experience differs from that assumed, actual results will differ from expected results. The combination of the relatively long-term nature of the obligations and the potential for significant, persistent differences between actual and expected results, coupled with the political and economic aspects of the benefits, increases the likelihood that significant variations can occur.

The guideline is not intended as the sole source of reference for actuarial practitioners. The intent in developing it was to identify areas that can cause problems, and to give general guidance.

The guideline was developed by the Retiree Health Care Committee of the ASB. The ASB approved it for exposure in October 1991. The Retiree Health Care Committee revised the document following the exposure period and composed responses to the exposure comments. The final version was adopted by the ASB in October 1992.

#### Responses to Letters of Comment on the Exposure Draft

Twenty-four comment letters were received. The comments are summarized in regular type below; the committee's responses are in **boldface**.

#### General Comments

Several topics were general in nature or applied to more than one section.



- A. One commentator asked whether “the objective of the guideline is to provide optional guidance to actuaries or to set forth a standard to which actuaries will be held accountable.”

**The guideline is a standard to which actuaries will be held accountable. It is an actuarial standard of compliance, as distinguished from an actuarial standard of practice. The distinction between these two kinds of actuarial standards is described at the beginning of this transmittal memorandum.**

- B. There were comments to the effect that too much educational material is included in the guideline.

**Some educational material was included because this is an emerging field of practice. Much of this material was put in the appendix so as to direct the body of the guideline toward SFAS No. 106 issues.**

- C. More material is needed on methods and assumptions, some said, to enable one to perform this type of work properly (for example, in sections 5.5.1, 5.5.6, 5.5.7, 5.6, A5.3.1, and A5.7.1).

**It is not the intent of this guideline to provide detailed educational or practice material. The actuary should be mindful of professional qualification standards.**

- D. Some items that need to be considered for particular topics were not included (for example, in sections 5.3.1, 5.4.2, and 5.5).

**Items that the drafting committee believed might be overlooked, or that needed a word of caution, were included. Items covered in ASOP No. 6 or that would fall within normal actuarial consideration were not included.**

- E. More detailed guidance was requested in sections 5.3.3, 5.4, 5.5, 5.5.1, 5.5.4–5.5.7, 5.5.9, 5.5.11, 5.6, 5.7, 5.9.3, 5.11, 5.12, A.5.3.1, and A5.7.2.

**The level of detail requested is beyond the purpose of the guideline.**

- F. Examples are not comprehensive enough (for example, sections 4.6 and 5.3.2–5.3.3).

**Examples were provided to illustrate particular points. They were not intended to be indicative of the only method to perform a procedure. The committee is aware of instances where practices have differed from those in the guideline. This is an area of emerging practice and other methods may exist.**

- G. Commentators noted that there are exceptions to some of the stated general accounting rules (for example, sections 5.11.8–5.11.9 and 5.11.12).

**Some good suggestions were made. Changes were made in the sections to note exceptions to the rules.**

### Specific Comments

Many helpful suggestions for minor changes were made—too numerous to list them all. The following comments warrant specific responses. The number before the comment refers to the section of the guideline.

- 2 Other definitions should be included, some should be excluded, wording should be changed.

**An introductory paragraph was added to explain the choice and format of the definitions.**

4.3, 4.4

- & 4.5 Materiality needs to be defined, said some commentators. Others questioned who determines materiality.

**Sections 4.3 and 4.4 were transposed for greater clarity. A change was made in section 4.4 to make clear that the actuary should understand the threshold of materiality established by the employer and auditor. In section 4.5, the use of other valuation methods was clarified.**

- 4.6 The relation between cash disbursed and the NPPBC needs clarification. Detailed examples were called for.

**The section was rewritten to better reflect the effect of various relationships between expense and cash disbursed. The aim of this section is to make the actuary aware of accounting situations; detailed accounting examples are beyond the scope of an actuarial guideline. Related information was added to the second paragraph of section 5.11.10.**

- 5.2 Financial disclosure is as of the measurement date, not by simple projection of beginning-of-year values. The dates should be modified.

**The section was rewritten to address the problem of the point in time when various items are to be calculated.**

5.3.1 Collectively-bargained plans were not mentioned.

**A reference was added.**

5.3.4 The issue of combining or separating plans was identified as complex.

**The committee agreed, but after reviewing the section, decided to make no substantial changes.**

5.4.6 It was pointed out that counting is on an employer basis; the counting methodology was questioned.

**For counting, the references to plans were deleted. The methodology is correct, but was clarified.**

5.5 The method for determining claims cost is too complex, and the necessary data are not available.

**The committee acknowledged that too much emphasis was placed on this method. The opening paragraphs have been rewritten to note that alternative methods are available.**

5.5.8 Stochastic methods are too complex and not appropriate.

**This section has been retitled and rewritten to clarify the method in relation to other paragraphs of section 5.5.**

5.7 The comment was made that not all actuarial assumptions were covered.

**Those assumptions deemed particularly pertinent were discussed in this section. A clarification was made in section 5.7.3. Other assumptions are discussed in the appendix.**

5.8 Questions were raised as to when the attribution period ends in different circumstances. **This section has been rewritten to differentiate general rules from exceptions. The example in A5.8 has been clarified in its treatment of front-loaded plans.**

5.10 Questions were raised relating to determining the number of participants and their service, especially when retirement probabilities are used. Examples are needed.

**Section 5.10.1 was changed. The opening of section 5.10.2 was changed to the general**

circumstance, and an example was added in the appendix, A5.10.2.

5.11 The treatment of “net amortization and deferrals” was not correct.

**The table has been revised to provide for the proper items to be included in net amortization and deferral.**

5.13 Respondents indicated difficulty with the guideline's discussion of settlements, curtailments, and special termination benefits.

**The discussion of settlements and curtailments was changed. It was noted in section 5.13 that the accounting treatment for these events may not be the same for postretirement and pension benefits. A correction was made in the calculation for special termination benefits in section 5.13.9. Changes were also made in corresponding sections of the appendix.**

6.2 Comments were made that the guideline needs to clarify the actuary's responsibility when assumptions used are not chosen by the actuary.

**The section has been revised to clarify the actuary's responsibility.**

A5.8 The example is front-loaded and contains errors.

**While the plan provisions were such that slightly more benefits could be attributed to the early years of service, it was not deemed to be a disproportionate share and therefore was not treated as a front-loaded formula. Errors were corrected, an additional employee (*K*) was added to the example, and a statement about employees with the same demographics was added.**

Retiree Health Care Committee  
(Including Past and Present Members)

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## ACTUARIAL COMPLIANCE GUIDELINE NO. 3

# FOR STATEMENT OF FINANCIAL ACCOUNTING STANDARDS NO. 106 EMPLOYERS' ACCOUNTING FOR POSTRETIREMENT BENEFITS OTHER THAN PENSIONS

### PREAMBLE

#### Section 1. Purpose, Scope, and Effective Date

1.1 Purpose—This actuarial compliance guideline provides guidance to actuaries in complying with Statement of Financial Accounting Standards (SFAS) No. 106, *Employers' Accounting for Postretirement Benefits Other than Pensions*, adopted by the Financial Accounting Standards Board (FASB) in December 1990. As in SFAS No. 106, postretirement benefits other than pensions will have the short name of *postretirement benefits* in this guideline.

1.2 Scope—SFAS No. 106 and pronouncements of the FASB set forth required practices with respect to calculations for SFAS No. 106, which applies to the employer's obligation for postretirement benefits. Benefits that cease prior to or at retirement are not included under SFAS No. 106. This guideline is believed to accurately represent current understanding of SFAS No. 106 as it pertains to actuarial calculations. In the event of a conflict between this document and SFAS No. 106 or other guidance from the FASB, the actuary should rely on the FASB for a definitive determination.

Primary emphasis in the guideline is on health care benefits. Death benefits are also a concern in the guideline, but less discussion is given to them because they are generally well defined and comparatively simpler to measure. The guideline does not specifically address other postretirement benefits covered under SFAS No. 106 such as long-term care, tuition assistance, day care, legal services, and housing subsidies provided after retirement (SFAS No. 106, ¶ 6). This guideline does not apply to income replacement benefits such as disability income. Welfare benefits provided for in pension plans and accounted for under the FASB's Statements of Accounting Standards Nos. 87 and 88 are not accounted for under SFAS No. 106.

1.3 Effective Date—This guideline is effective December 1, 1992. It is applicable on a prospective basis only.



## Section 2. Definitions

Most of the definitions in this section are extracted from SFAS No. 106 or Actuarial Standard of Practice (ASOP) No. 6, *Measuring and Allocating Actuarial Present Values of Retiree Health Care and Death Benefits* (“(SFAS No. 106)” following a definition denotes that it is an extract from the Glossary of SFAS No. 106; “(ASOP No. 6)” following a definition denotes that it is an extract from ASOP No. 6). It is important to understand the meaning given particular terms in the context in which they are used. The definitions in this section do not include all the terms defined in the two source documents, but do include those most useful to the actuary in performing SFAS No. 106 calculations.

- 2.1 Accumulated Postretirement Benefit Obligation (APBO)—The actuarial present value of benefits attributed to employee service rendered to a particular date. (SFAS No. 106)
- 2.2 Active Plan Participant—Any active employee who has rendered service during the credited service period *and is expected to receive benefits*, [emphasis added] including benefits to or for any beneficiaries and covered dependents, under the postretirement benefit plan. (SFAS No. 106)
- 2.3 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 (future changes in Medicare law shall not be anticipated (SFAS No. 106, ¶ 40)), 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. (ASOP No. 6)
- 2.4 Amortization—For the purposes of SFAS No. 106, *amortization* means the systematic reduction of the principal portion (only) of an asset or liability. This is to be distinguished from a level principal-and-interest, mortgage-type reduction scheme (see section 5.10 for a more detailed discussion).
- 2.5 Assumed Per Capita Claims Cost (by Age)—The annual per capita cost, for periods after the measurement date, of providing the postretirement health care benefits covered by the plan from the earliest age at which an individual could begin to receive benefits under the plan through the remainder of the individual's life or the covered period, if shorter. (SFAS No. 106)

- 2.6 Attribution Period—The period of an employee's service to which the expected postretirement benefit obligation for that employee is assigned. (SFAS No. 106)
- 2.7 Benefit Formula—The basis for determining benefits to which participants may be entitled under a postretirement benefit plan. A plan's benefit formula specifies the years of service to be rendered, age to be attained while in service, or a combination of both that must be met for an employee to be eligible to receive benefits under the plan. A plan's benefit formula may also define the beginning of the credited service period and the benefits earned for specific periods of service. (SFAS No. 106)
- 2.8 Contributory Plan—A plan under which retirees or active employees contribute part of the cost. (SFAS No. 106)
- 2.9 Cost-Sharing (Provisions of the Plan)—The provisions of the postretirement benefit plan that describe how the costs of the covered benefits are to be shared between the employer and the plan participants. Cost-sharing provisions describe retired and active plan participants' contributions toward their postretirement health care benefits, deductibles, coinsurance, out-of-pocket limitations on participant costs, caps on employer costs, and so forth. (SFAS No. 106)
- 2.10 Credited Service Period—Employee service period for which benefits are earned pursuant to the terms of the plan. (SFAS No. 106)
- 2.11 Curtailment (of a Postretirement Benefit Plan)—An event that significantly reduces the expected years of future service of active plan participants or eliminates the accrual of defined benefits for some or all of the future services of a significant number of active plan participants. (SFAS No. 106)
- 2.12 Discount Rate—For the purposes of SFAS No. 106, *discount rate* means the interest rate used in developing present values.
- 2.13 Expected Postretirement Benefit Obligation (EPBO)—The actuarial present value as of a particular date of the benefits expected to be paid to or for an employee, the employee's beneficiaries, and any covered dependents pursuant to the terms of the postretirement benefit plan. (SFAS No. 106)
- 2.14 Full Eligibility (for Benefits)—The status of an employee having reached the employee's full eligibility date. Full eligibility for benefits is achieved by meeting specified age, service, or age and service requirements of the postretirement benefit plan. (SFAS No. 106)
- 2.15 Full Eligibility Date—The date at which an employee has rendered all of the service necessary to have earned the right to receive all of the benefits expected to be received by

- that employee (including any beneficiaries and dependents expected to receive benefits). (SFAS No. 106)
- 2.16 Gross Eligible Charges—The cost of providing the postretirement health care benefits covered by the plan to a plan participant, before adjusting for expected reimbursements from Medicare and other providers of health care benefits plans and for the effects of cost-sharing provisions of the plan. (SFAS No. 106)
- 2.17 Health Care Cost Trend Rate (HCCTR)—An assumption about the annual rate(s) of change in the cost of health care benefits currently provided by the postretirement benefit plan, due to factors other than changes in the composition of the plan population by age and dependency status, for each year from the measurement date until the end of the period in which benefits are expected to be paid. The HCCTR implicitly considers estimates of health care inflation, changes in health care utilization or delivery patterns, technological advances, and changes in the health status of the plan participants. Differing types of services, such as hospital care and dental care, may have different trend rates. (SFAS No. 106)
- 2.18 Incurred Claims Cost (by Age)—The cost of providing the postretirement health care benefits covered by the plan to a plan participant, after adjusting for reimbursements from Medicare and other providers of health care benefits and for deductibles, coinsurance provisions, and other specific claims costs borne by the retiree. (SFAS No. 106)
- 2.19 Net Incurred Claims Cost (by Age)—The employer's share of the cost of providing the postretirement health care benefits covered by the plan to a plan participant; incurred claims cost net of retiree contributions. (SFAS No. 106)
- 2.20 Net Periodic Postretirement Benefit Cost (NPPBC)—The amount recognized in an employer's financial statements as the cost of a postretirement benefit plan for a period. Components of NPPBC include service cost, interest cost, actual return on plan assets, gain or loss, amortization of unrecognized prior service cost, and amortization of the unrecognized transition obligation or asset. (SFAS No. 106)
- 2.21 Pay-Related Plan—A plan that has a benefit formula that bases benefits or benefit coverage on compensation, such as a final-pay or career-average-pay plan. (SFAS No. 106)
- 2.22 Per Capita Claims Cost by Age—The current cost of providing postretirement health care benefits for one year at each age from the youngest age to the oldest age at which plan participants are expected to receive benefits under the plan. (SFAS No. 106)
- 2.23 Plan—An arrangement that is mutually understood by an employer and its employees, whereby an employer undertakes to provide its employees with benefits after they retire in exchange for their

services over a specified period, upon attaining a specified age while in service, or a combination of both. A plan may be written or it may be implied by a well-defined, though perhaps unwritten, practice of paying postretirement benefits or from oral representations made to current or former employees. (SFAS No. 106)

- 2.24 Plan Participant—Any employee or former employee who has rendered service in the credited service period *and is expected to receive employer-provided benefits* [emphasis added] under the postretirement benefits plan, including benefits to or for any beneficiaries and covered dependents. (SFAS No. 106)
- 2.25 Service Cost (Component of Net Periodic Postretirement Benefit Cost)—The portion of the expected postretirement benefit obligation attributed to employee service during a period. (SFAS No. 106)
- 2.26 Settlement (of a Postretirement Benefit Plan)—An irrevocable action that relieves the employer (or the plan) of primary responsibility for a postretirement benefit obligation and eliminates significant risks related to the obligation and the assets used to effect the settlement. (SFAS No. 106)
- 2.27 Substantive Plan—The terms of a postretirement benefit plan as understood by an employer that provides postretirement benefits and the employees who render services in exchange for those benefits. The substantive plan is the basis for the accounting for that exchange transaction. In some situations an employer's cost-sharing policy, as evidenced by past practice or by communication of intended changes to a plan's cost-sharing provisions, or a past practice of regular increases in certain monetary benefits, may indicate that the substantive plan differs from the extant written plan. (SFAS No. 106)
- 2.28 Termination Benefits—Benefits provided by an employer to employees in connection with their termination of employment. They may be either special termination benefits offered only for a short period of time or contractual benefits required by the terms of a plan only if a specified event, such as a plant closing, occurs. (SFAS No. 106)

### Section 3. Background and Historical Issues

The FASB promulgated SFAS No. 106, *Employers' Accounting for Postretirement Benefits Other Than Pensions*, in December 1990. SFAS No. 106 requires major changes in the way postretirement benefits are accounted for and presented in employers' financial statements. Much of the information required will have to be furnished by actuaries. Users of this guideline should be familiar with the content and terminology of SFAS No. 106, and with Actuarial Standard of Practice No. 6, *Measuring and Allocating Actuarial Present Values of Retiree Health Care and Death Benefits*.

#### Section 4. Current Practices and Alternatives

- 4.1 Use of Calculations—ASOP No. 6, section 6.3, permits unsupported deviations from the standard if required to comply with constraints imposed by “other entities with rule-making authority.” The FASB and SFAS No. 106 qualify as such authority. However, if actuarial calculations are to be used for purposes other than for SFAS No. 106, all requirements of ASOP No. 6 apply.
- 4.2 Approximations and Materiality—SFAS No. 106 allows the use of reasonable approximations (SFAS No. 106, ¶ 15). In addition, materiality is always a consideration when deciding on the amount of effort and expense that should be incurred when complying with any accounting standard (SFAS No. 106, p. 38, following ¶ 115).
- 4.3 Standard of Materiality—Actuaries are typically concerned with the valuation of a single plan. An entire plan, however, may not be material in the context of the employer's financial statements. In such a case, the actuary may be able to comply with the requirements of SFAS No. 106 in a manner that minimizes the additional effort required. Other plans will be material in total, but have relatively immaterial components of cost or disclosure. In these cases, the actuary may still be able to make use of approximations. Still other plans will be material in all respects, and the actuary should more carefully consider which approximations may be appropriate (SFAS No. 106, ¶ 15).
- 4.4 Determination of Materiality—Since the actuary may not be aware of (1) whether the employer maintains other postretirement benefit plans, (2) whether postretirement benefit matters are significant relative to the employer's total operations, or (3) whether the employer requires a more thorough SFAS No. 106 valuation regardless of materiality, the actuary should understand the threshold of materiality before determining the approximations to use when complying with SFAS No. 106. Ultimately, the employer and the auditor are responsible for determining materiality.
- 4.5 Materiality of Non-U.S. Plans—The discussion in sections 4.2, 4.3, and 4.4 of this guideline relating to materiality and approximations may be of special importance with respect to non-U.S. plans. The actuary should be aware that SFAS No. 106 applies to non-U.S. plans to the extent that they are included in U.S. financial statements prepared in accordance with generally accepted accounting principles (GAAP) (SFAS No. 106, ¶ 85). Even if postretirement benefits are material in the context of an employer's financial statements, the non-U.S. plan(s) may not be, in which case more extensive use of approximations could be appropriate (SFAS No. 106, ¶ 15). If the effect of the plan on the employer's financial statements is immaterial, use of other valuation methods to approximate the obligation is acceptable.
- 4.6 Accounting Practice—Accounting practice requires balance sheet entries when expenses charged on the income statement do not match the cash disbursements. An accrued liability is generated on

the balance sheet of the plan sponsor when the expense charged on the income statement exceeds the amount of the cash disbursed by the plan sponsor. Similarly, a prepaid expense is generated when the expense charged is less than the cash disbursed.

Before SFAS No. 106, postretirement benefits were typically accounted for by the pay-as-you-go method. Under this method, the expense charged was equal to the cash disbursed, resulting in no balance sheet entries. Under SFAS No. 106, the net periodic postretirement benefit cost (NPPBC) is likely to exceed the cash disbursed by the plan sponsor. These balance sheet items should be recognized, as required, when performing SFAS No. 106 determinations.

## COMPLIANCE GUIDELINE

### Section 5. Analysis of Issues and Recommended Compliance

5.1 Procedure to Measure Actuarial Present Values and Allocate Costs—In order to prepare these actuarial calculations, the following steps should be taken:

- a. Select a measurement (calculation) date (see section 5.2).
- b. Determine plan provisions and benefits to be valued (see section 5.3).
- c. Gather data appropriate for the calculations:
  - i. plan participant data (see section 5.4),
  - ii. benefits/claims cost (see section 5.5),
  - iii. asset data (see section 5.9), and
  - iv. transition accounting data (see section 5.11.9).
- d. Select actuarial assumptions:
  - i. health care cost trend rate (see section 5.6), and
  - ii. other assumptions (see section 5.7).
- e. Determine cost allocation procedures:
  - i. attribution (cost) method (see section 5.8),
  - ii. asset values (see section 5.9), and
  - iii. amortization methods (see section 5.10).
- f. Develop accounting information:
  - i. net periodic postretirement benefit cost (see section 5.11),
  - ii. disclosure and balance sheet items (see section 5.12), and
  - iii. effect of settlements, curtailments, and terminations (see section 5.13).

5.2 Measurement Date—The date of an employer's financial statements is the last day of the employer's fiscal year. Typically, this is the measurement date. However, SFAS No. 106 (§ 72) permits consistent use of any date as a measurement date, as long as it is within 3 months prior to the end of the fiscal year (e.g., for an employer with a calendar fiscal year, the measurement date

must be between 9/30 and 12/31). There may be interim measurements in the course of a year, but these do not change the measurement date.

Detailed actuarial calculations are usually done as of the first day of the employer's fiscal year both to set the NPPBC for the year and to serve as a starting point for determining the items to be disclosed as of the current year's measurement date.

*Example*—In many instances, the plan year and fiscal year will be a calendar year (1/1 to 12/31). In such situations, the measurement date is typically 12/31. For the 1993 fiscal year (1/1/93 to 12/31/93):

- a. NPPBC is calculated from values determined as of 1/1/93.
- b. Financial statement disclosure information as of 12/31/93 is developed from the values determined as of 1/1/93, projected to 12/31/93 (except assets, if any; actual 12/31/93 assets should be used). The projected accumulated postretirement benefit obligation (APBO) at 12/31/93 equals APBO at 1/1/93 plus service cost plus interest cost minus expected benefits from 1/1/93 to 12/31/93 plus changes in APBO due to changes in actuarial assumptions and other items as appropriate.

5.3 Plan Provisions/Benefits to Be Valued—For a brief discussion of welfare plan provisions and benefits see the appendix, section A5.3.

5.3.1 Substantive Plan—The plan to be valued is the substantive plan. The substantive plan is the plan as understood by the employer and the retirees. Generally, the written plan provides the best evidence of the substantive plan. However, often the only written evidence of the substantive plan is a summary plan description which may be incomplete or out-of-date. This is particularly true of the cost-sharing provisions, especially retiree contributions. Unwritten provisions or plans can often be discerned from past practices and oral communications with current or former employees (SFAS No. 106, ¶ 23–27). Collectively bargained plans may require special consideration (SFAS No. 106, ¶ 25, footnote 10).

5.3.2 Temporary Deviation from Substantive Plan—If the employer temporarily deviates from the substantive plan in a way that changes the employer's share of the benefit costs incurred in the current or past periods, the gain or loss resulting from such deviation should be recognized immediately, without the benefit of the corridor or other delayed recognition alternatives (SFAS No. 106, ¶ 61 and 302). Similar future decisions may indicate a practice, implying an amendment to the substantive plan.

5.3.3 “Hidden” Cost—There may also be plans where the employer's contributions are not



readily apparent. These plans should also be measured.

*Example*—Some plans purport to be “retiree-pay-all” but the retiree contribution has been set below the actual cost of the retirees' benefits. For instance, this would be the case if retirees and dependents not yet eligible for Medicare paid the average premium for a group that included a significant percentage of active employees.

- 5.3.4 Grouping of Participants and Benefits—The concept of a plan in the postretirement benefit field is not well defined. However, grouping of participants and their associated plan benefits for valuation purposes could affect the measurement amount, the amortization period, the net amount of gains and losses, or the 10% amortization corridor.

Grouping is heavily influenced by the facts and circumstances of the situation. Generally, participants and their benefits may be grouped unless there is a reason not to group them (SFAS No. 106, pars. 75–76). Asset restriction to particular participants and/or benefits would *require* separate valuations. The employer's corporate structure may or may not require separate valuations. For example, central control of the benefit levels (even though there are different benefits for various locations or subsidiaries) could allow for one valuation. On the other hand, each subsidiary may control its own benefit levels, allowing for separate valuations. The following circumstances do not necessarily require separate valuations: (1) different administrators; (2) election of benefit type (e.g., indemnity, health maintenance organization); and (3) benefits differing by geographical area. Aggregation of plans for disclosure purposes may influence the grouping. Grouping for the purpose of altering the measurement amounts is not appropriate.

- 5.4 Participant Data—The actuary should be aware of the kinds of data needed for the valuation. For a brief discussion of data sources see the appendix, section A5.4. Some considerations specific to SFAS No. 106 calculations are discussed in sections 5.4.1–5.4.5.

- 5.4.1 Pension Plan Data—The pension census data may not include certain postretirement benefit participants (e.g., pension ineligible, those who received a lump-sum payment, or those for whom annuities were purchased), or it may include individuals not eligible for postretirement benefit coverage (e.g., vested terminations).

- 5.4.2 Dependents—Specific information on the dependents of current active employees is usually ignored in favor of an assumption on the probability of having dependents at retirement. Data on spouses of actives near retirement age, or spouses of recent retirees may be useful in developing assumptions as to dependents.

- 5.4.3 Retirees—For retirees and surviving spouses, it is usually important to know whether the retiree has a covered spouse, and, if available, the date of birth of the spouse. Dependent

children are sometimes ignored in situations where retirees have very few

dependent children, the cost of their benefits is small, or their period of coverage is short.

In plans with retiree contributions, it is important to know who has chosen to participate.

- 5.4.4 Specific Benefit Provisions—Additional demographic data may be needed because of specific benefit provisions. For example, benefits may depend upon service or salary at retirement or they may depend on the location. If the retiree has a choice of plans, it is important to know which plan the retiree has chosen, and what other choices the retiree has.
- 5.4.5 Adjustments—Consideration should be given to any demographic differences that may exist between the population that is the subject of the valuation and the population upon which the data are based. It may be necessary to adjust the data for these differences.
- 5.4.6 Counting Participants to Determine Effective Date—A later effective date is allowed for plans of employers that are nonpublic enterprises and that have no more than 500 plan participants in the aggregate (SFAS No. 106, ¶ 108). Note that the 500 threshold is not simply the sum of active employees plus current retirees. Consequently, a determination of the number of participants is required. Each retiree and associated dependents count as one participant. The formula used for this determination is the second formula in section 5.10.2, plus (to offset the exclusion in Note 1 of section 5.10.2) the number of active employees who have reached  $r$  (age when probability of retirement is 1).
- 5.5 Claims Cost—As stated in SFAS No. 106, ¶ 35: “In principle, an employer's share of the expected future postretirement health care cost for a plan participant is developed by reducing the assumed per capita claims cost at each age at which the plan participant is expected to receive benefits under the plan by (a) the effects of coverage by Medicare and other providers of health care benefits, and (b) the effects of the cost-sharing provisions of the plan (deductibles, copayment provisions, out-of-pocket limitations, caps on the limits on the employer-provided payments, and retiree contributions). The resulting amount represents the assumed net incurred claims cost at each age at which the plan participant is expected to receive benefits under the plan.”

The objective of section 5.5 of this guideline is to explain the methodology in SFAS No. 106 for arriving at an assumed per capita claims cost. Frequently, however, the experience data available do not include sufficient information to allow explicit development of the factors mentioned in SFAS No. 106. Moreover, even when such information is available, it may not be credible. In such situations, the approach set forth in SFAS No. 106 can serve as a theoretical framework for selecting assumptions and/or estimation techniques.

This section is not intended to suggest or imply that the actuary is required to individually estimate the many items discussed in the section. In practice, the calculations for most employers will have to include the use of approximations and will frequently be based on net incurred per capita claims. Alternatively, it may be necessary to develop estimates of net incurred claim costs using information available from other sources such as other employers' plans, insurance company rate manuals, etc.

- 5.5.1 Per Capita Claims Cost—Per capita claims cost equals the *current* [emphasis supplied] annual incurred gross eligible charges per individual by age for postretirement benefits covered by the plan. In the development of current per capita claims cost, historical claims will usually be adjusted for the change in the level of gross eligible charges from the midpoint of the data period(s) to the midpoint of the first year of the projection period.
- 5.5.2 Health Care Cost Trend Rate—Current per capita claims cost should be trended for each future plan year on the basis of the health care cost trend rate. For a detailed discussion of trend see section 5.6.
- 5.5.3 Assumed Per Capita Claims Cost—The result of applying the health care cost trend rate to the per capita claims cost will generally be an assumed per capita claims cost for each age and each succeeding year.
- 5.5.4 Employer's Share of Assumed Per Capita Claims Cost—To determine the employer's share, the assumed per capita claims cost is reduced by (1) Medicare and other coordination-of-benefits provisions; (2) cost-sharing provisions (deductible, coinsurance, maximum benefit provisions); and (3) retiree contributions.
- 5.5.5 Factors Affecting the Calculation of Per Capita Claims Cost—In calculating per capita claims cost, the following factors may have a meaningful effect:
  - a. Different Types of Health Care Services—Per capita claims cost may be able to be subdivided into health care service areas which are expected to change at different rates over time or as participants become older (e.g. hospital, drug, or dental).
  - b. Retirees, Dependents, and Disabled Retirees—Per capita claims cost may be able to be calculated separately for retirees, dependents and disabled retirees (see section 5.5.7).
  - c. Other Demographic Factors—If appropriate data are available, costs may reflect other demographic factors, such as sex and geographic area.

- d. Incurred Basis—Per capita claims cost should be on an incurred rather than a paid basis.
- e. Plan Administration Expenses—These may either be included in the cost data or developed separately.
- f. Credibility—In general, credible claims data, if available, from the specific group being valued should be the primary source of input for the per capita claims cost.

5.5.6 Aggregate Claims Data Conversion—When claims data, as described in section 5.5.1, are not available, aggregate paid claims data for retirees under age 65 and retirees aged 65 and older will often be available. (The age break-point of 65 is important where it is the age at which plan benefits are integrated with Medicare.)

- a. Matching Claims and Participant Data—On occasion the aggregate paid claims data may be provided by the health plan administrator and the participant data may be provided by the pension plan administrator. In these, as in other instances, it is important to match both data sources. Particular attention should be paid to health maintenance organization enrollees, surviving spouses, disabled participants, retirees who have received a lump-sum pension benefit, and dependent claims. Dependent claims by age should be allocated consistently to the retiree's or dependent's age (see section 5.5.7).
- b. Conversion to Per Capita Claims Cost—Paid claims should be converted to aggregate covered charges, taking into account the plan's cost-sharing provisions and Medicare. Care should be taken to include estimates of the charges for individuals who have not met the deductible (including both submitted charges and charges incurred but not submitted). Adjustment should be made for claims not reported as paid because of coverage under stop-loss arrangements. Claim reserves should also be reflected. The adjusted aggregate covered charges data can be converted to per capita claims cost by taking into account the numbers of participants.
- c. Distribution By Age—Per capita claims cost may be distributed over each year of age (or age ranges) at which there are expected to be retirees, using a table of aging factors that reflects the differences in health care costs at different retiree ages. It is necessary to use at least two cells: participants under age 65 and 65 and older.
- d. Reconciliation—As a check, the sum of the costs developed at each age, multiplied by the number of retirees and dependents at those ages, should equal

the expected aggregate cost for retirees under age 65 and aged 65 and older for the time period used. Judgment should be used when the data contain abnormal fluctuations or are not fully credible.

5.5.7 Dependent Per Capita Claims Cost—The actuary should consider the following methods to develop dependent per capita claims cost:

- a. Direct Cost Development—Sometimes, claims data and demographic data containing the age and possibly the sex of each covered dependent are available. Dependent per capita claims cost can then be developed in a manner similar to that of retirees.
- b. Prorating of Claims—This method can be used when there are no demographic data for dependents or when dependent claims are included in retiree claims data. A pro rata share of dependent health care claim costs can be included in the average claim cost for each retiree. It should be noted that retirees not yet eligible for Medicare can have spouses eligible for Medicare and vice versa. If the proportion of surviving spouses is expected to change, this should be taken into account.
- c. Ratio of Census—This method can be used when dependent claims are known but dependent demographic data are not known. The actuary can estimate a dependent census using the ratio of numbers of dependents to number of retirees and an appropriate age set-back/-forward. Dependent per capita claims cost can then be developed in a manner similar to that of retirees.
- d. Other Considerations—In some instances, it is appropriate to ignore dependent children due to low frequency, short expected future dependency periods, data limitations, or expenses that have been considered elsewhere. Special consideration should be given to disabled dependent children who continue coverage beyond the normal dependent child termination date. If benefits for surviving spouses are not lifetime benefits, this fact should be taken into account.

5.5.8 Probability Distribution of Claims Cost—Section 5.5.1 describes a deterministic approach in which the per capita claims cost represents the mean of a probability distribution of individual claim costs by amounts.

For certain plans (for example, those with high deductibles or low annual or lifetime maximums), the distribution of individual claim costs by size takes on added significance in the measurement process. In these instances, the use of a probability distribution may be appropriate.

- 5.5.9 Data Not Available or Not Credible—Alternative methods may be appropriate when actual retiree cost data are not available or not credible, or when participant data are limited. In these instances, experience of similar retiree groups (considering demographics, industry, and location), aging of claims from the active group or retiree premiums may be appropriate.

Underwriting techniques may be used to determine current annual per capita claims cost or annual premiums by age for the specific or similar population and plan being valued. It is not necessary for the group to be insured at these rates; the purpose is rather to allocate current costs to a stand-alone retiree population without subsidy from active employees.

SFAS No. 106, ¶ 41, allows the use of historic incurred claims cost as long as the results remain the best estimate of future costs (see section 5.6.7).

The methods and assumptions used should be appropriate to the situation and should be disclosed.

- 5.5.10 Active Employee Premium Not Generally Appropriate for Retirees and Dependents under Age 65—If conventional premiums are used as a substitute for claims data, care should be taken to make certain that the data used are reasonable and appropriate to the situation. For example, some insurance companies or employers include retirees under age 65 in their active employee data base. In these instances, it would be inappropriate to use the composite average premium payable for active and retired employees under age 65 as an estimate of the claim costs for retirees under age 65. The differences in average ages of active employees and retirees under age 65, as well as differences in claim costs at the same age (since poor health may be a cause of retirement before age 65), may cause retiree claim costs to be significantly higher than average active employee claim costs. However, in some circumstances, it may be appropriate to use composite premium—for example, for participants enrolled in a community-rated plan. When health care coverage is combined with other coverages, premiums should be adjusted to the level appropriate for a plan that covers retirees only.
- 5.5.11 “Retiree-Pay-All” Benefits—SFAS No. 106 only applies to plans with employer contributions. However, an experience-rated plan in which retirees under age 65 pay the active employee rate would not be considered “retiree-pay-all” since the rate might not cover the full cost of these benefits.
- 5.5.12 Changes in Plan Election Pattern—Changes in the retiree health care election pattern should be considered. Many employers are modifying their plans to increase employee contributions and restrict eligibility. Future retirees may have different election patterns

than current retirees. In particular, the prevalence of dependent spouse coverage may decline because of dual wage earners, other demographic changes, higher dependent cost, etc.

Changes in plan election patterns and in the plan delivery system should be considered in calculating claim costs. These include the recent introduction of managed care, HMOs, preferred provider organizations (PPOs), and other cost management programs. Future retirees may be more likely to elect HMOs or PPOs because of wider availability and greater acceptance.

- 5.6 Health Care Cost Trend Rate—The objective of section 5.6 of this guideline is to explain the derivation of the health care cost trend rate (HCCTR) for SFAS No. 106 purposes. Frequently, however, the data available are not sufficient to allow for the theoretical development described in SFAS No. 106 (see section 5.6.7 for situations when only incurred claims costs are available).

A valuation of postretirement health care benefits requires a projection of net incurred claims. Theoretically, in order to project net incurred claims, it is necessary to predict both gross eligible charges and, separately, the impact of Medicare and specific plan provisions such as deductibles and copayments. Current per capita claims cost (i.e., gross eligible charges) should be projected based on explicit trend assumptions relative to the circumstances of the employer and the plan. This assumption is called the *health care cost trend rate*.

- 5.6.1 Defining the Trend Rate—In the context of SFAS No. 106, the HCCTR has been given a very narrow definition (SFAS No. 106, p. 198). This definition is not directly comparable to *medical trend* as customarily understood in the health and welfare benefit community, since HCCTR is the compound annual rate of increase in gross eligible charges, while *medical trend* commonly refers to the expected increase in incurred claims. Specifically, there are three major differences. First, medical trend customarily covers only a one- or two-year period for rating or budgeting purposes, whereas HCCTR is a long-term economic assumption. Second, *medical trend* is usually defined on a global basis (i.e., actives and retirees together). Third, medical trend and rate increases frequently contain elements not included within the definition of HCCTR, such as:

- a. leveraging due to cost-sharing features of the plan such as deductibles and out-of-pocket limits;
- b. changes in the demographics of the covered population with respect to age or family status;
- c. adverse selection due to flexible benefits election, COBRA, HMOs, etc.;

- d. recoupment of prior losses;
- e. effect of federal- or state-mandated benefits; and
- f. inclusion of margin for fluctuations, both implicit and explicit.

Although changes in costs due to these other factors are not included in the HCCTR, some of these factors should be recognized separately for valuation purposes.

For these reasons, an employer's best estimate of the HCCTR for SFAS No. 106 calculations might bear little resemblance to the increase in aggregate costs predicted by its insurer.

- 5.6.2 Leveraging—Various plan provisions can have a disparate effect on the year-to-year pattern of employer-provided benefits. For example, the existence of a fixed-dollar deductible will result in an employer's cost increasing faster than the assumed health care cost trend rate. The example in the appendix, A5.6.2, illustrates different types and effects of leveraging.

Though leveraging from fixed-dollar cost sharing provisions inflates an employer's costs, this is not included as a part of the HCCTR. The SFAS No. 106 definition restricts the HCCTR to economic and utilization assumptions largely outside the employer's control. Plan provisions are presumably within an employer's control and their effect is measured independently. However, the plan's cost-sharing provisions can have an impact on the HCCTR because of their effect on utilization of health care services.

- 5.6.3 Medicare—Claims cost for retirees eligible for Medicare are extremely sensitive to both the absolute value and the relative change in Medicare reimbursements. The manner in which Medicare payments are recognized is also significant (see the appendix, A5.3.1, for a description of the various methods).

The HCCTR is defined as the rise in gross eligible charges before Medicare reimbursement. Erosion or increase in relative Medicare reimbursements can leverage incurred claims costs faster or slower than the underlying HCCTR. However, SFAS No. 106, ¶ 40, requires that any assumptions as to future Medicare reimbursement levels be based solely upon current law.

Notwithstanding the above, some indirect effects of Medicare are actually included within the definition of HCCTR. Medicare cost-shifting occurs when providers are forced to accept artificially low reimbursement from Medicare. This shortfall has historically been offset by increases in unit prices to the non-Medicare population.



These price increases are a component of the HCCTR for ages prior to Medicare eligibility.

Recognizing the different practice patterns, pricing structures and weighting by type of service, the actuary may wish to consider different HCCTRs for the Medicare and non-Medicare populations.

- 5.6.4 GDP Constraint—Current HCCTRs are quite high. However, national health expenditures (NHE) are unlikely to continue indefinitely to exceed the rate of growth of other components of the gross domestic product (GDP) by historic differences. This reasoning will usually lead to the choice of select and ultimate HCCTRs (see section 5.6.5). Although historic differences are unlikely to continue, the length of the select period should be reasonable. However, future changes in laws concerning government programs shall not be recognized (SFAS No. 106, ¶ 40).

The actuary should be aware that health care costs that are under the scope of SFAS No. 106 are only one segment of total NHE. The HCCTR assumption for one particular employer (or group of employers) is unlikely to match the assumed rate of growth of health care expenditures in the nation as a whole (i.e., NHE).

- 5.6.5 Select and Ultimate—In most situations, select and ultimate HCCTRs (rates that vary year to year) will be used. Occasionally, it may be appropriate to use a weighted level average HCCTR for all projection years. If this method is chosen, the following precautions are appropriate:

- a. the actuary should be satisfied that the weighted average HCCTR produces results that are not materially different from the select and ultimate method; and
- b. the possibility should be recognized that the APBO by class (i.e., retirees, actives eligible to retire, and other employees) may be distorted even though the total APBO is appropriate. This shortcoming can be overcome by choosing a different level HCCTR for each class.

- 5.6.6 Type of Service—Health care costs change at different rates for different types of health care services (e.g., hospital, physicians' services, drugs, dental). In the selection of the HCCTR, the actuary should consider the various types of health care services that are covered under the plan being measured, as well as their relative weights within the plan. Separate claims costs (with separate HCCTRs) by type of service can be used or, more commonly, an aggregate claims cost can be used with a blended HCCTR across all types of services.

5.6.7 Incurred Claims Cost—SFAS No. 106, ¶ 41, allows the use of the incurred claims cost. In this context, the term *incurred* is used to distinguish net claims payable by the plan from gross claims. Under this method, the actuary would use an explicit adjustment to the HCCTR to account for the leveraging effect of the plan features. The actuary could project the incurred claims cost directly by adding an appropriate adjustment (4.0% in the leveraging example in the appendix, A5.6.2, line 6 minus line 1) to the first year HCCTR and by projecting retiree contributions separately. The adjustment would be derived by modeling future claim patterns and would usually vary by duration.

Usually, the actuary should not simply apply the HCCTR directly to the net incurred claims cost (appendix, A5.6.2, line 8). This would implicitly assume that all plan provisions (including Medicare reimbursements and retiree contributions) are automatically indexed with the HCCTR (SFAS No. 106, ¶ 41).

5.6.8 One Percent Increase in HCCTR—SFAS No. 106 requires employers to disclose the effects of a one percentage point increase in the HCCTR on the APBO and the sum of the service and interest costs. For example, if obligations are being measured with an HCCTR starting at 14% and grading down to 7%, the revised HCCTR would be 15% grading down to 8%.

When computing the effects of the change in HCCTR, the discount rate and all other independent assumptions are to be held constant. Certain other assumptions such as retiree contributions and leveraging loads under SFAS No. 106, ¶ 41, may be directly dependent on future cost levels. In particular, leveraging would ordinarily be higher, given higher trend rates. These assumptions should be adjusted accordingly to remain consistent with the higher projected cost levels.

5.7 Actuarial Assumptions Other than HCCTR—Determination of postretirement benefit costs requires the use of various actuarial assumptions. See ASOP No. 6, section 5.5, for a detailed discussion, and the appendix, A5.7, for a general discussion.

5.7.1 Consistency with SFAS No. 87—The FASB's Statement of Financial Accounting Standards No. 87, *Employers' Accounting for Pensions*, and SFAS No. 106 both require the employer to select explicit assumptions such that each assumption represents the employer's best estimate solely with respect to that assumption. This seems to imply that the assumptions should be the same for a given group of employees for measurement of their pension and postretirement obligations. However, the assumptions used for SFAS No. 87 are not a safe harbor for SFAS No. 106 purposes. A critical review should be made of each significant assumption used for SFAS No. 87 to determine if it is appropriate for SFAS No. 106 purposes.

Internal consistency of actuarial assumptions is an important step in the valuation process. Nevertheless, there may be reasons for using different assumptions. Two examples are as follows:

- a. Certain assumptions are material for one purpose but not the other (e.g., a complex salary scale for pensions can be simplified for measuring a modest postretirement life insurance plan).
- b. Certain assumptions might be weighted by salary to produce accurate SFAS No. 87 liabilities, but the weighting would need to be modified to measure SFAS No. 106 liabilities.

5.7.2 Explicit Assumptions—The requirement to use explicit assumptions (SFAS No. 106, ¶ 29) means that one assumption should not be intentionally used to offset another, e.g., setting both the discount rate and the HCCTR below expected levels. SFAS No. 106 also requires the use of “best estimates.” However, nothing requires that each assumption explicitly account for each potential variable; for example, the turnover assumption need not vary by age, sex, service, salary, etc. The assumptions used should be at a level of complexity consistent with the materiality of the assumption, the reliability and credibility of the data, and the size of the group. Assumption of a single retirement age could be appropriate for valuing a pension plan having full actuarial reduction at early retirement, while retirement decrements by age are more likely to be appropriate for valuing a postretirement health care plan providing essentially full benefits at various retirement ages (see the appendix, A5.7.1c).

5.7.3 Discount Rate—The discount rate is determined using rates of return on currently available high-quality fixed-income investments whose cash flows match the timing and amount of expected benefit payments (SFAS No. 106, ¶ 31). This rate is independent of the funded status of the plan and the cost of capital to the plan sponsor. The duration of postretirement health care liabilities may be different from the duration of the company's pension plan liabilities, thus suggesting that different discount rates may be appropriate. In addition, the effect of assumed reinvestment rates for maturities beyond the horizon of available long-term investments may differ from the effect for pensions (SFAS No. 106, ¶ 186).

5.7.4 Return on Plan Assets—The assumed return on assets is the long-term rate assumed to be earned on plan assets and contributions expected to be made during the valuation period (SFAS No. 106, ¶ 32). Determination of an appropriate rate would reflect rates of return on current assets as well as reinvestment, and is similar to the same rate determination for a pension plan. Any taxes paid by the fund, e.g., in a taxable Voluntary Employees' Beneficiary Association (VEBA) for postretirement health care benefits, should be netted

against the expected return on assets. An unfunded plan requires no assumption for return on assets. (SFAS No. 106, ¶ 32).

5.8 Attribution—Attribution is the process of assigning the expected cost of benefits to periods of employee service (SFAS No. 106, ¶ 43–44).

5.8.1 General Rules—This section describes the general attribution rules that would be expected to apply for most plans. Section 5.8.2 identifies certain exceptions to these rules.

- a. Beginning—The attribution period begins on the employee's date of hire.
- b. Ending—The attribution period ends on the employee's full eligibility date. The full eligibility date may be later than the date the employee is first eligible for benefits, and may be as late as the expected retirement date. As a result, if multiple retirement decrements are used, an employee may have more than one full eligibility date.
- c. Attribution Pattern—Within the attribution period, projected costs are recognized ratably, i.e., the APBO equals the EPBO multiplied by a fraction (not to exceed 1), the numerator of which is the years of prior service and the denominator is the total years in the attribution period. Linear attribution was selected to reduce the complexity of the calculation (SFAS No. 106, ¶ 246). Hence, for certain service-related plans, the actual accrued benefit according to the plan formula may not equal the prorated benefit accrued on the basis of the linear attribution pattern.

5.8.2 Exceptions to the General Rules—SFAS No. 106 provides for modifications of the general rules under certain exceptions. Determining when these exceptions apply, however, requires considerable care and judgment. When in doubt, it is advisable for the actuary to discuss the attribution methodology with the employer and the auditor. Seemingly subtle changes in the attribution pattern could yield significant changes in the APBO and service costs.

- a. Beginning—Certain plans specifically exclude an employee's early years of service for benefit or eligibility purposes. In these cases, a credited service period may be established whereby no costs are assigned to an employee's service prior to the beginning of the period (SFAS No. 106, ¶ 44, 409–410).
- b. Ending—If incremental benefits for additional years of service are trivial, the full eligibility date would be the date on which “substantially all” the benefits expected to be received have been earned.

- c. Attribution Pattern—Occasionally, a plan formula might attribute all or a disproportionately large share of the actual benefits to an employee's early years of service (SFAS No. 106, ¶ 412). In these cases, often called *front-loaded plans*, the attribution pattern is to follow the plan formula. Note that the formula need not be precisely proportionate in order to use linear attribution (see the appendix, A5.8, and SFAS No. 106, ¶ 246).

5.8.3 Examples—Attribution examples are given in the appendix, A5.8, and in SFAS No. 106, ¶ 412.

5.9 Plan Assets—Advance funding of postretirement benefit plans was not a common practice at the time this guideline was written. Few plans would have a significant amount of assets. Consideration should be given to whether or not assets exist, and if so, how they should be valued.

5.9.1 Current Assets—To qualify as an asset for SFAS No. 106 purposes, an asset must be segregated and its use restricted to providing postretirement benefits (SFAS No. 106, ¶ 63–64). Possible assets may be in an IRC 501(c)(9) trust, or in a pension plan under IRC 401(h), or in insurance contracts (SFAS No. 106, ¶ 67–71). The actuary should also consider the possibility that assets for postretirement benefits may have been accumulated as claim stabilization reserves, retired lives reserves, waiver-of-premium reserves, or long-term disability reserves.

5.9.2 Measurement of Assets—For cost purposes, a market-related [actuarial] value of plan assets is permitted (SFAS No. 106, ¶ 57). The market-related value can be fair (market) value or a formula amount. If a formula is used, spreading of changes in fair value is to be over not more than 5 years. A corridor could be used to assure that the market-related value remains reasonably related to fair value. The formula should treat positive and negative fluctuations in a parallel manner.

5.9.3 Use of Market-Related Value for First Year's Cost—Certain complications arise when a value other than fair value is used for the first year's postretirement benefit cost determination. This is because the net obligation (asset) at transition is required to be based on fair value. As the initial difference gets reflected in future years' market-related values, the portion related to this initial difference will require separate treatment. Specifically, the cumulative unrecognized net gain or loss subject to amortization (see section 5.11.7) has to be decreased or increased by the portion of the initial excess of market-related value over fair value which is not yet reflected in fair value. Note that this requires the actuary to be able to determine at any time how much of the initial difference has been reflected in the then-current market-related value. If the formula does not treat each year's asset fluctuation separately, it may be necessary to make an arbitrary allocation (e.g., if the initial difference were \$100, then \$20 of the total adjustment in each of the next 5 years could be assumed to be on account of the initial difference). Once the entire initial difference is assumed to

have been reflected, no further special adjustments are necessary.

5.10 Amortization—The method of determining the amortization payment is different from standard actuarial practice. Amortization amounts are not mortgage-type payments and no compound interest factors are involved. Instead, the calculation involves a separate determination of the interest and principal components. The interest component is part of interest cost (see section 5.11.2). Amortization of principal is generally over the average remaining service period *of those expected to receive benefits* [emphasis supplied]. Each year's principal amount is equal to that year's amortization fraction applied to the total to be amortized. Note that the length of the period over which a particular obligation is to be amortized may differ, depending on the source of the obligation or the plan sponsor's election to defer or not.

| Source of Obligation               | Reference and Exceptions | Average Expected Service    | Immediate Recognition Allowed? |
|------------------------------------|--------------------------|-----------------------------|--------------------------------|
| Gains or losses                    | 5.11.8                   | to expected retirement date | yes                            |
| Net transition asset or obligation | 5.11.10                  | to expected retirement date | yes                            |
| Prior service cost                 | 5.11.12                  | to full eligibility date    | no                             |

5.10.1 Projected Future Period of Service of Those Active Employees Expected to Receive Benefits (SFAS No. 106, ¶ 51–52)—Illustrations in SFAS No. 106 imply that the specific individuals who will receive benefits can be identified and their service counted. In practice, the actuary works with probabilities of various contingencies (e.g., death and termination) to exclude the fractional portion of individuals who are assumed to leave service as a result of such contingencies. The ending point for counting service is either the full eligibility date or the expected retirement date, depending on the item to be amortized.

- a. Amortization of Gains or Losses or the Net Transition Obligation or Asset—The amortization period is to the expected retirement date. An employee is counted only if the employee is expected to receive a benefit. The count added to each year from the beginning of the applicable period to the expected retirement date is only for that fraction of the employee expected to reach that retirement date. No count is added for the fractional portion of employees who are assumed to terminate before reaching the expected retirement date.
- b. Amortization of Prior Service Cost—The amortization period is to the full eligibility date. An employee is counted only if the employee reaches the full eligibility date.

and is expected to receive a benefit. The count added to each year from the beginning of the applicable period to the full eligibility date is only for that fraction of the employee expected to reach the full eligibility date with continued survival to the expected retirement date. No count is added for the fractional portion of employees who are assumed to terminate before reaching the expected retirement date, even if the employee reached the full eligibility date.

5.10.2 Calculations—The general formula for calculating each employee's expected future service is shown below. (Modifications to the formulas in section 5.10.2 are appropriate to reflect the time during the year when the decrement is assumed to occur.) Simplified examples are given in the appendix, A5.10.2.

[Ed. Note: PUT EQUATION “A” HERE]

for all decrements  $d$ , where:

$x =$  attained age.

$r =$  the age when the probability of retirement is 1.

$u =$  the ending date for counting service, i.e., either the full eligibility age (for amortizing prior service) or  $r$  (for amortizing transition items or experience differences).

$E^{(d)}_{x+s} =$  1, if a positive employer-provided benefit is projected to be payable based on termination of employment by decrement  $d$  at age  $x+s$ .  
 $=$  0, otherwise.

If decreasing amortization over the entire working lifetime is contemplated (see section 5.11.12), subtotals are required for each value of  $t$ .

If level amortization over the average future years of service is contemplated (see sections 5.11.8, 5.11.10, and 5.11.12), it is also necessary to compute the total number of employees expected to receive benefits. Each employee's contribution to the total is computed for all decrements  $d$  as:

[ED. NOTE: PLACE EQUATION “B” HERE.]

*Notes:* (1) All employees who have reached  $r$  are excluded from the count. (2) For prior service amortization, all employees who have reached the full eligibility age are excluded from the count.

Approximations will generally be satisfactory, especially where the decrements for which benefits are or are not payable are very small.

5.10.3 Regular Plan Amendment Patterns—A history of regular plan amendments may indicate a period of economic benefit shorter than the period to full eligibility of the active participants (SFAS No. 106, ¶ 54). The existence of such a history does not necessarily imply that a shorter period is required. If, however, the employer determines that the period of economic benefit is shorter, then a more rapid amortization period will have to be used.

5.11 Actuarial Calculations for Determining Reported Net Periodic Postretirement Benefit Cost—In this section the more common method of determining the NPPBC will be discussed. Less common circumstances to be considered in the development of the NPPBC are as follows:

- a. temporary deviations from the substantive plan (see section 5.3.2);
- b. settlements, curtailments, and special termination benefits (see section 5.13); and
- c. the pay-as-you-go constraint (see section 5.11.10).

Usually, the NPPBC consists of the following elements (SFAS No. 106, ¶ 46):

1. service cost;
2. interest on the accumulated postretirement benefit obligation, service cost, and distributions;
3. actual return on plan assets;
4. amortization of unrecognized prior service cost, if any;
5. gain or loss, to the extent recognized; and
6. amortization of unrecognized net obligation or asset at transition.



The NPPBC is computed at the beginning of the measurement period according to one formula, but it is disclosed at the end of the measurement period using a different formula that produces the same numerical result. There may be more than one measurement in a year—for example, because of a plan change the NPPBC for the balance of the year following an interim measurement should reflect the values determined as of that point in time. However, the gains or losses arising at interim measurement dates are not used for determining the minimum amortization for the year.

| <b>Computation at Beginning of Year</b>  | <b>Disclosure at End of Year</b>   |
|--|--|
| [a] service cost   | [a] service cost   |
| [b] + interest cost  | [b] + interest cost  |
| [c] ! expected return on market-related value of assets  | [g] ! actual return on fair value of assets  |
|  | [h] +(! ) gain (loss) from expected return on assets during year   |
| +(! ) principal amortization payments on the following:<br>[d] net obligation (asset) at transition,<br>[e] unrecognized prior service cost,<br>[f] unrecognized net loss (gain) | +(! ) principal amortization payments on the following:<br>[d] net obligation (asset) at transition,<br>[e] unrecognized prior service cost,<br>[f] unrecognized net loss (gain) |

The reported NPPBC is the same computed either way (and may be positive or negative). The first way permits the total to be determined relatively early in the year; the second way is the allocation of postretirement benefit cost components as required to be disclosed by SFAS No. 106. In disclosing the results, items [e], [f], and [h] are combined and called *net amortization and deferral*.

5.11.1 Service Cost—Service cost is calculated on a per individual basis. Each year's service cost is computed as of the beginning of the fiscal year. For plans that are not front-loaded, it is the EPBO divided by the attribution period for those who have not reached the full eligibility date (SFAS No. 106, ¶ 47). Interest on the service cost for some or all of the measurement period may be included as part of the service cost.

5.11.2 Interest Cost—The discount rate as of the beginning of the measurement period, applied to the APBO at that time and the service cost and expected distributions for the period, produces the interest cost for the year (SFAS No. 106, ¶ 48). The calculations should reflect appropriate fractions of a year for amounts that are not as of the beginning of the

measurement period. In particular, interest on the service cost must be included in the interest cost to the extent that it has not been included in the service cost.

5.11.3 Expected Return on Market-Related Value of Plan Assets—A reduction in plan costs for expected investment return is determined by applying the expected rate of return on plan assets as of the measurement date to the market-related value at the beginning of the period and to the expected contributions less distributions for the year, with appropriate fractional adjustment (SFAS No. 106, ¶ 57).

5.11.4 Actual Return on Fair Value of Plan Assets—At the end of the measurement period, the actual return on plan assets is determined based on beginning and ending fair values (SFAS No. 106, ¶ 49), as:

Ending fair value *minus* beginning fair value *minus* contributions *plus* distributions.

Once this amount is calculated, a gain or loss from return on assets is determined as:

Actual return on fair value of plan assets *minus* expected return on market-related value of plan assets.

Both the actual and expected returns should reflect the tax expense or benefit (SFAS No. 106, ¶ 49).

5.11.5 Computation of Current Gain or Loss—Each year an expected year-end APBO is computed as the beginning APBO plus service cost (see section 5.11.1) plus interest cost (see section 5.11.2) minus expected distributions plus or minus adjustments to the APBO on account of changes in prior service cost (see section 5.11.11) or due to events accounted for under the rules for settlements and curtailments (see section 5.13) (SFAS No. 106, ¶ 56–58). An expected year-end fair value of assets is computed as the starting fair value plus the expected return on market-related value (see section 5.11.3) plus actual contributions less expected distributions. The difference can be thought of as the expected unfunded APBO. The difference between that amount and the actual unfunded APBO (year-end APBO less year-end fair value) is the gain or loss for the year, and any required amortization will first be reflected in the following year's cost. Note that any change in the APBO due to changes in the discount rate or other assumptions becomes part of the computed gain or loss.

5.11.6 Cumulative Unrecognized Gain or Loss—Each year, the previous cumulative unrecognized gain or loss is increased by the current gain or loss and decreased by any amortization of principal (see section 5.11.8) (SFAS No. 106, ¶ 59). No interest adjustments are made

in this process, since they are included in the interest cost (see section 5.11.2).

- 5.11.7 Gain or Loss Subject to Amortization—Only a portion of the cumulative unrecognized gain or loss computed under section 5.11.6 is subject to being amortized (SFAS No. 106, ¶ 58). The excess of fair value over market-related value must be subtracted from the cumulative unrecognized gain or loss to get the amortizable amount. Gains or losses arising from a temporary deviation from the substantive plan are to be recognized immediately (see section 5.3.2).
- 5.11.8 Amortization of Gains or Losses—A method should be chosen to amortize the unrecognized gain or loss subject to amortization (see section 5.11.7) (SFAS No. 106, ¶ 59–60). The method should fulfill three requirements:
- a. gains and losses should be treated in a parallel manner,
  - b. the smallest total amount to be amortized is the excess of the cumulative unrecognized amount over 10% of the greater of the APBO and the market-related value of the assets, and
  - c. the amount amortized annually is at least the total to be amortized divided by the average expected future service to expected retirement age of then-present employees expected to receive benefits (or the average remaining life expectancy for plans where all or almost all of the participants are inactive).

The cumulative unrecognized amount, the 10% test, the average expected future service, and the minimum amount to be recognized are recomputed each year and are independent of prior years' amounts, so that it is possible to have amortization in one year but not in the following one.

Immediate recognition of gains and losses may require special accounting treatment (SFAS No. 106, ¶ 60).

- 5.11.9 Net Obligation or Asset at Transition—The net obligation or asset at transition (i.e., at the initial application of SFAS No. 106) is computed as the difference between (a) the APBO and (b) the asset value, where the asset value is the fair value of plan assets plus any accrued postretirement benefits liability or less any prepaid postretirement benefits cost in the employer's balance sheet (SFAS No. 106, ¶ 110). An excess of (a) over (b) results in a net obligation; an excess of (b) over (a) results in a net asset at transition. Employer contributions receivable by the plan are excluded from plan assets since they are included in the employer's balance sheet accrual. Note that if immediate recognition is elected, the

effect of certain plan changes adopted after December 21, 1990, may have to be excluded from the transition obligation (SFAS No. 106, ¶ 111).

In the event that immediate recognition has been elected, see SFAS No. 106, ¶ 111 for special rules involving purchase accounting.

- 5.11.10 Amortization of Net Obligation or Asset at Transition—If delayed recognition is elected, the net transition amount is amortized in equal installments of principal, generally over the average future service to expected retirement age of those who, as of the date of transition, are expected to receive benefits (see section 5.10.1) (SFAS No. 106, ¶ 112). If this period is less than 20 years, it is permissible to elect to use a 20-year period instead. Where all or almost all of a plan's participants are inactive, an average remaining life expectancy should be used (SFAS No. 106, ¶ 112).

In some situations, the pay-as-you-go constraint may result in the need to accelerate the amortization of any unrecognized transition obligation. (Testing for acceleration is required only if delayed recognition at transition is elected.) The apparent intent is to set a cumulative minimum on the amount of total charges under SFAS No. 106 at a level equal to the cumulative amount of benefit payments since the adoption of SFAS No. 106 (i.e., at the level of the pay-as-you-go costs under the pre-SFAS No. 106 method of setting costs). Cumulative benefit payments for this test are subject to certain adjustments (SFAS No. 106, ¶ 112).

- 5.11.11 Prior Service Cost—Since the initial unfunded actuarial accrued liability, as adjusted for accruals, is the net obligation or asset at transition, and since all experience variations and assumption changes are treated as losses or gains (SFAS No. 106, ¶ 56), prior service cost consists solely of increases or decreases in the APBO due to plan changes subsequent to transition (see SFAS No. 106, ¶ 50–51). Prior service costs should be adjusted when the commitment to make the changes is made, even if in midyear. Bargained, adopted, or publicly announced future plan changes should be included, even if they have effective dates deferred beyond the end of the current year or are not yet in the plan. Each NPPBC component reflects a proration for the fraction of a year remaining after the commitment to change (see section 5.11).

- 5.11.12 Amortization of Prior Service Cost—Whenever benefits for prior service are improved, a prior service cost is computed (see section 5.11.11) (SFAS No. 106, ¶ 52–53). Immediate recognition of an increase is not allowed. However, if a plan amendment results in a decrease, the reduction should apply first to unrecognized prior service costs, and then to unrecognized transition obligations. An amortization program for the principal amount required to be amortized is established at the time the commitment is made. The

amortization period for an amendment is the expected future service to full eligibility date of all employees expected to receive benefits, not just those who benefit from the amendment. Facts and circumstances may lead the employer to conclude that the expected period of economic benefit is shorter and the amortization period should reflect it (SFAS No. 106, ¶ 54). Each year's minimum amortization amount is a percentage of the prior service cost arising from the amendment. The percentage for the year is derived from the ratio of the expected future service to be worked in that year to the expected future service to be worked in all years from the date of amendment. Each year's minimum amortization is based on the percentage of the projected future service to full eligibility of employees expected to receive benefits (see section 5.10.1) which is projected to be worked in that year. Equal installments over the average projected future working lifetime to full eligibility date of those expected to receive benefits is allowable.

In certain circumstances, the amortization period set up when a prior service cost is established can differ from that described above. It can be shorter (see section 5.10.3 and SFAS No. 106, ¶ 54) or longer (SFAS No. 106, ¶ 52).

The entire amortization program is established at the time the commitment is made. Thereafter, it is only changed if a subsequent amendment reduces the APBO (in which case the change in APBO is used to reduce any existing unrecognized prior service cost) (SFAS No. 106, ¶ 55), or if a plan curtailment occurs (SFAS No. 106, ¶ 96–97).

5.11.13 Projections—Typically, demographic information needed as of the measurement date will not be available until some time later. Therefore, in the absence of significant changes, the actuary may be working with a projection from a prior calculation while using current economic assumptions and assets. The projections can be done by one of a number of procedures. The goal is to minimize the difference between the projection and an actual calculation. Either the data or the present values may be projected. Possible procedures include:

- a. assume no change (i.e., a stationary population);
- b. assume a one-year increase in age and service, with or without new entrants; or
- c. assume expected experience, with or without new entrants.

The choice of method will depend on the facts and circumstances of each particular case, taking into account the employer's expectations. The objective of the projection is to give a result appropriate to the measurement date. Thus, for example, adjustments to the projection process may be required where there has been a significant change during the year.

- 5.12 Actuarial Calculations for Disclosure and Balance Sheet Items—SFAS No. 106 requires that employers disclose certain other actuarial information in addition to the NPPBC and its components (SFAS No. 106, ¶ 74). Much of this information is produced as a by-product of the cost determination (see section 5.11). This section focuses on additional actuarial calculations beyond those used for calculating the cost items.
- 5.12.1 Measurement Date—The “as of” date for determining disclosure information will most often be the employer's financial statement date (SFAS No. 106, ¶ 72). This date (called the measurement date) can also be any date within the 3 months prior to the employer's financial statement date. Assumptions and asset values used are those as of the measurement date. The results may reflect projections based on prior demographic data if the result is a reasonable reflection of the present values as of the measurement date.
- 5.12.2 Accumulated Postretirement Benefit Obligation—The APBO as of the measurement date for disclosure purposes will usually be the expected APBO derived from the beginning-of-the-year APBO. The expected APBO should reflect plan and assumption changes, and other items as appropriate.
- 5.12.3 Effect of 1% Increase in HCCTR—The effect on the APBO and certain cost information of a 1% increase in the HCCTR should be disclosed. See section 5.6.8 for a discussion of the calculations.
- 5.13 Settlements, Curtailments, and Special Termination Benefits—SFAS No. 106 requires special computations whenever a settlement or curtailment occurs and when any special termination benefits are payable (SFAS No. 106, ¶ 90–103). These events generally require special calculations to determine the effect in the income statement for the accounting period in which the event occurred. Note that the accounting procedures for these special events are not necessarily the same for postretirement plans under SFAS No. 106 and for pension plans under SFAS No. 88. Costs or credits that might otherwise be deferred for an ongoing plan may be recognized earlier. The actual date of recognition will depend on the specific event, and whether the earnings impact is a charge or a credit. The special calculations may require the following three steps:
- a. update valuation results as of the date of recognition, as if the event had not taken place;
  - b. determine costs or credits associated with the event; and
  - c. revise valuation results also as of the date of recognition, fully reflecting the changes resulting from the event.
- 5.13.1 Updated Valuation—As of the date of recognition, an updated valuation should be

performed as if this date were a measurement date. No changes associated with the event should be reflected. This valuation is to be based on data and assumptions appropriate for the time at which the calculations are being performed.

- 5.13.2 Items Associated with the Event—To determine the costs of the event, various actuarial present values will be calculated. The actuarial present values will typically be of benefits before and after the event. In addition, the event may result in accelerated recognition of certain unrecognized items. This accelerated recognition may generate a need to make a new determination of the expected years of future service after the event.
- 5.13.3 Settlements—These events are typically permanent reductions in plan obligations resulting from a transfer of the obligation to an entity outside the control of the plan sponsor. Under certain circumstances, the outside entity could be the plan participants themselves. A plan amendment that reduces the value of accrued benefits, but does not transfer the obligation, will generally be accounted for as a negative plan amendment. However, if an amendment does fully eliminate the accrued benefits or the plan sponsor subsidy for accrued benefits, a settlement and a curtailment may have occurred. The facts and circumstances of any change will dictate whether settlement accounting is required (SFAS No. 106, ¶ 55, 90–95, and 100).
- 5.13.4 Curtailments—Curtailments are typically significant reductions in either the expected years of future service or the future accrual of benefits. A plan amendment that reduces the benefit accrual for both past and future service would generally be accounted for as a negative plan amendment. A plan amendment that reduces the accrual for past service, and eliminates the accruals with respect to some portion of future service, would generally be accounted for as a plan amendment with respect to the reduction of accrued benefits, but as a curtailment with respect to the reduction in future accruals. Facts and circumstances of any event will dictate whether curtailment accounting is required (SFAS No. 106, ¶ 55 and 96–100).
- 5.13.5 Special Termination Benefits—These benefits result from the acceptance of offers of enhanced postretirement benefits by active employees in exchange for retirement within a window period, or from an event, such as a plant closing, which triggers contractual benefits. The liability should be recognized when the offer is accepted (SFAS No. 106, ¶ 101). Costs for these benefits are given special treatment because they are not routine benefits of an ongoing plan. Examples include reduced retiree contributions, reduced deductibles and copayments in postretirement health benefits, or earlier eligibility.
- 5.13.6 Multiple Events—Calculations for settlements, curtailments, and special termination benefits are not mutually exclusive. Depending on the situation, any or all of the special calculations may be required, and the order in which they are performed can affect the

results. Generally the calculation order should proceed chronologically. Calculation of special termination benefits, however, should never precede curtailment calculations. If a settlement and curtailment occur simultaneously, the order of required calculations can be selected arbitrarily, but once the order is selected with respect to a plan, that order should be followed for similar situations.

- 5.13.7 Settlement Accounting—The maximum gain or loss subject to recognition is the unrecognized net gain or loss at settlement, including items in the updated valuation before settlement, combined with any remaining unrecognized transition asset. The gain or loss due to remeasurement would reflect the actual impact of the settlement.

*Notes:* (1) An unrecognized transition obligation is not included in the above calculations. (2) The amount of the asset transferred does not affect the amount of the settlement gain or loss.

The actual amount of settlement gain or loss to be recognized equals the maximum gain or loss, determined above, multiplied by the proportion of plan APBO settled. If this result is a gain, it is reduced by any unrecognized transition obligation, and the excess is recognized as a gain.

- 5.13.8 Curtailment Accounting—A flow chart for curtailment accounting is contained in the appendix, A5.13.8. A curtailment of future service can affect plans covered by SFAS No. 106 differently than it can affect pension plans under SFAS No. 88. This can occur because future service calculations will differ if the earliest date of eligibility under SFAS No. 106 differs from the expected retirement date under the pension plan.

- 5.13.9 Termination Benefits Accounting—The loss on account of special termination benefits is equal to (a) the new APBO, including the special termination benefits for the terminating participants, minus (b) the APBO without the special termination benefits for the same participants determined as if they had terminated at the same date, with the benefits assumed to commence immediately if fully eligible, or at the full eligibility date if not currently fully eligible (SFAS No. 106, ¶ 102). Note that since each participant who is terminating is known, the individual's applicable retirement date can be definitely determined. For the individual currently eligible to retire, that date is the current date; for the individual not yet eligible to retire, it is the date at which the participant would have first become eligible to retire had the participant stayed in service. In either case, such retirement date is that individual's full eligibility date for termination benefits accounting. An example of these calculations is given in the appendix, A5.13.9.





## Section 6. Communications and Disclosures

- 6.1 Disclosure of Purpose—The actuarial communication for purposes of SFAS No. 106 should be identified as such, and should disclose that the results of calculations performed for other purposes (e.g., plan reporting, government requirements, etc.) may differ significantly from the results for purposes of SFAS No. 106.
- 6.2 Disclosure of Exceptions—The actuarial communication should disclose any basis of calculations that is inconsistent with the actuary's understanding of the basis prescribed by SFAS No. 106. For example, the actuary should disclose the use of any assumption that materially affects results and that could not, in the actuary's professional judgment, reasonably be considered a best estimate as required by SFAS No. 106, ¶ 29.
- 6.3 Sample Disclosure—In the absence of exceptions or other special circumstances, the following sample disclosure is appropriate:
- Actuarial computations under Statement of Financial Accounting Standards (SFAS) No. 106 are for purposes of fulfilling certain employer accounting requirements. The calculations reported herein have been made on a basis consistent with our understanding of SFAS No. 106. Determinations for purposes other than meeting the employer financial accounting requirements of SFAS No. 106 may differ significantly from the results reported herein.
- 6.4 Deviation from Guideline—An actuary must be prepared to defend the use of a procedure which differs materially from this guideline and must include, in any actuarial communication disclosing the result of the procedure, an appropriate and explicit statement with respect to the nature, rationale, and effect of such use.

## Appendix

### Supplementary Notes and Discussion

(Paragraph numbering corresponds to sections in the text of the guideline, with the addition of “A”.)

A5.3 Plan Provisions/Benefits to Be Valued—The types of benefits to be valued are mainly health care and life insurance. The main purpose of this section is to provide background for actuaries whose experience has mainly been in pension work.

1. Health Care Plans—The provisions of health care plans vary widely. It is necessary to understand those provisions that are important to the valuation of the plan being valued. The provisions may depend upon the retiree's age, service, location, or date of retirement; the retiree may have a choice of plans.
  - a. Eligibility—May depend on eligibility for a pension; there may be other requirements such as retirement directly from active service, a longer service period, or attainment of a specific age. Many plans provide for dependents' benefits. Sometimes dependents' benefits continue beyond the death of the retiree; however, the continuation may not be for the life of the dependent but instead may be for a fixed number of years or may vary.
  - b. Covered Services—Most plans cover most hospital and physicians' services and related expenses. Plans may also cover dental, prescription drugs, vision, hearing, mental and nervous conditions, substance abuse, and long-term care. Some plans pay the Medicare Part B premium.
  - c. Cost-sharing Provisions—Include deductibles, coinsurance, out-of-pocket maximums, maximums (annual, lifetime, per service, or per cause), copayments per service and retiree contributions. Cost-sharing provisions may vary by type of benefit, and different cost-sharing provisions may be separate or combined. For example, outpatient mental and nervous coverage may be limited to \$25 per visit for 20 visits which may be combined with or be separate from a plan's overall deductible and coinsurance.
  - d. Integration with Medicare—Generally done in one or a combination of the following four ways:
    - i. Coordination of Benefits—Plan benefits are initially determined as if the retiree is not eligible for Medicare. If the initial plan benefits and the Medicare payments exceed the charges, the initial plan benefits are

reduced to the net of charges minus Medicare payments to obtain the actual plan payment.

- ii. Medicare Exclusion—Covered charges are initially reduced by the Medicare payment. Plan provisions are then applied to this net amount to obtain the actual plan payment.
  - iii. Medicare Carve-out—Plan benefits are initially determined as if the retiree is not eligible for Medicare. These initial plan benefits are then reduced by the Medicare payments to obtain the actual plan payment.
  - iv. Medicare Supplement—Plan benefits are specific additions to Medicare benefits. The benefits may cover some or all of Medicare deductibles, coinsurance, or noncovered charges such as prescription drugs.
- e. Example—Assume covered charges of \$1,000. Medicare pays \$600. The plan pays 80% after a \$100 deductible.

Coordination:

$$\text{Initial plan benefits} = (\$1,000 \text{ minus } \$100)(0.8) = \$720$$

$$\text{Actual plan payment} = \$1,000 \text{ minus } \$600 = \$400$$

Exclusion:

$$\text{Actual plan payment} = \{(\$1,000 \text{ minus } \$600) \text{ minus } \$100\}(0.8) = \$240$$

Carve-out:

$$\text{Initial plan benefits} = (\$1,000 \text{ minus } \$100)(0.8) = \$720$$

$$\text{Actual plan payment} = \$720 \text{ minus } \$600 = \$120$$

### Comparison of Examples

| <b>Integration Method</b> | <b>Paid by Medicare</b> | <b>Paid by Plan</b> | <b>Paid by Employee</b> |
|---------------------------|-------------------------|---------------------|-------------------------|
| Coordination              | \$600                   | \$400               | \$ 0                    |
| Exclusion                 | 600                     | 240                 | 160                     |
| Carve-out                 | 600                     | 120                 | 280                     |

2. Life Insurance—The amount of life insurance for retirees may depend on salary at retirement and may be reduced gradually after retirement. Accidental death and dismemberment, or dependent life insurance may also be provided.

A5.4 Participant Data—The primary source of data is the employer. However, the employer or the designated administrator often cannot provide the required detail, and other sources may be needed.

1. Employer-Provided Data—The employer should be able to provide aggregate counts of the number of retirees and the number of actives. The employer may also be able to provide other useful information, such as the average or total amount of life insurance in force, the male/female split, the number of retirees with spouses, the number of surviving spouses, and the number of retirees (and spouses) eligible for Medicare. (It is important to know whether spouses' claim costs are classified according to the spouse's age or the age of the retiree.) Even if the detail is available as of the valuation date, aggregate counts at various dates will be useful in developing current claims cost (see section 5.5).
2. Pension Plan Data—The administrator of a related pension plan may be able to provide the required detail. However, the group of people covered by the pension plan may not be the same as the group of people covered by the postretirement benefit plan. Eligibility rules may not be exactly the same. Pensioners with deferred vested pensions may not be eligible for benefits. Surviving spouses and retirees who selected a lump-sum distribution may not be in the pensioner file. There may be no information about spouses of retirees who have not selected a joint and survivor option. Some retirees may be covered by a pension plan that is not administered by the employer, e.g., as the result of an agreement related to the purchase or sale of a unit or because the retirees are covered by a multiemployer pension plan.

A5.6.2 Leveraging—This example illustrates that a 14% HCCTR can be leveraged to a 21.8% increase in per-capita employer payments due to the operation of the specific plan provisions. The 14%, however, is the value to be disclosed as the HCCTR.

|     | PER CAPITA                          | YEAR 1  | YEAR 2  | % CHANGE |
|-----|-------------------------------------|---------|---------|----------|
| [1] | Claims cost                         | \$3,000 | \$3,420 | +14.0    |
| [2] | Effective deductible                | -170    | -174    | + 2.4    |
| [3] | Effective coinsurance               | x88.0%  | x88.3%  |          |
| [4] | Incurred claims cost (pre-Medicare) | \$2,490 | \$2,886 | +15.1    |
| [5] | Medicare reimbursement              | -1,800  | -2,052  | +14.0    |
| [6] | Incurred claims cost                | \$ 690  | \$ 814  | +18.0    |
| [7] | Retiree contribution                | -120    | -120    | 0.0      |
| [8] | Net incurred claims cost            | \$ 570  | \$ 694  | +21.8    |

Plan Provisions

- a. Comprehensive plan with fixed \$200 per-person deductible.
- b. 80%/20% coinsurance with \$1,500 out-of-pocket maximum.
- c. Unlimited lifetime benefits.
- d. Integrated with Medicare on carve-out basis.
- e. Required retiree contributions of \$120 per year.

Actuarial Assumptions (may vary for different demographic cells)

- a. Initial per capita claims cost (gross eligible charges) is \$3,000.

- b. The initial health care cost trend rate is 14%.
- c. 85% of plan participants meet the deductible in Year 1 and 87% in Year 2.
- d. Effective employer coinsurance of 88.0% in the first year is increased to 88.3% in the second year.
- e. Medicare reimburses 60% of claims cost each year (i.e., no Medicare erosion is assumed).
- f. No other primary coverage is available.

Discussion of each line of the example:

- [1] This represents the initial (and second-year) assumptions for the average cost of health care expenses incurred by participants in this demographic cell. It is largely independent of how these costs will be apportioned by the various payers (retiree, Medicare, other plans, and the employer). The HCCTR is defined as the year-to-year progression in line [1].
- [2] A \$200 deductible does not reduce an employer's cost by \$200 for each participant. Some will incur no expense, or have aggregate expenses that do not exceed this threshold amount. Therefore, the actuary should recognize the probabilistic nature of meeting the deductible and assume that only a portion of participants will meet the annual deductible. This probability should vary based on the size of the deductible (fewer participants are expected to meet a \$500 deductible than a \$100 deductible) and by year (of the portion of participants whose annual expenses did not exceed the deductible in one year, the actuary may assume that because of health care inflation, more will meet it in later years.)
- [3] Few plans pay all eligible expenses at the same coinsurance rate. For example, claims paid after an individual employee reaches the out-of-pocket limit are usually paid at 100%. The effective coinsurance is the assumption as to the average reimbursement level after the deductible is satisfied. The example assumes that the plan reimburses 88.0% of charges in the first year. Health care inflation increases the likelihood that participants will reach the fixed dollar out-of-pocket limit each year. Therefore, the effective coinsurance assumption is increased to 88.3% in the second year.
- [4] The incurred claim costs (pre-Medicare) are the gross eligible charges after application of the plan provisions but before reduction from Medicare. This would be equal to the incurred claims for a pre-Medicare participant if the same gross eligible charges were assumed. Note how the incurred claim costs (pre-Medicare) grow faster than the underlying HCCTR because of the fixed-dollar deductible and out-of-pocket limits.

- [5] The Medicare reimbursement is the assumption as to the portion of total expenses paid by Medicare. Under the carve-out approach of integration with Medicare, the Medicare reimbursement is directly subtracted from the incurred claims cost (pre-Medicare) to arrive at incurred claims. Our example assumed no increase or erosion of Medicare reimbursement rates. Therefore, it represents the same portion of gross eligible charges in year 2 as in year 1.
- [6] Calculated from lines 1–5, the incurred claims represent the average per-capita benefit payment (whether funded by employer or retiree contributions). Note how the leveraging effect on cost after reflecting Medicare integration is significantly greater than the incurred claims cost on line 4.
- [7] Retiree contributions represent that portion of incurred claims funded by retiree contributions. Our example assumed that retiree contributions were frozen at \$120/year. See SFAS No. 106, ¶ 24, on the “Substantive Plan” for the conditions under which future changes in the cost-sharing amount can be anticipated.
- [8] Net incurred claims cost represents that portion of incurred claims funded by employer contributions. This forms the basis for all SFAS No. 106 calculations. It may be necessary to value incurred claims and retiree contributions directly (see section 5.6.7).

A5.7 Actuarial Assumptions Other than HCCTR—Pension and postretirement benefit plan valuations share many actuarial assumptions, including:

Demographic assumptions:

- Mortality
- Turnover
- Retirement decrements
- Dependent status

Economic assumptions:

- Discount rate
- Salary scale

In addition, two assumptions required by postretirement benefit plans which are not needed for pension valuations are:

- Participation
- Alternate plan elections



In many instances, participants in a postretirement benefit plan are covered by a defined benefit pension plan. That plan is a natural starting point in the search for actuarial assumptions to be used in valuing the postretirement benefit plan. In this section, it will often be assumed that such a plan exists.

1. Demographic Assumptions

- a. Mortality—Pension plan mortality in the United States has been intensively studied and analyzed. Mortality of pension plan participants has generally improved over time, although not in any smooth or easily analyzed manner. Such a pattern suggests that the “proper” mortality table uses death rates that are a function of both year of birth and age. Such tables are uncommon and rarely used for pension valuations. Rather, a table is chosen in which the mortality rates are lower than currently being experienced, and hopefully, represent average rates applicable to the covered group over time.

When considering a mortality table, it is necessary to recognize the back-end loading of health care claims cost payment patterns resulting from applying claim trend relative to pension payment patterns. Because of this back-end loading, postretirement health care valuation results are usually much more sensitive to assumed mortality than pension plan valuations.

Because of the potentially greater sensitivity of postretirement health care benefits to the effects of lower mortality, the use of other mortality tables might also be considered; for example, sex-distinct or generational mortality tables.

*Note:* The table on page 135 of SFAS No. 106 seems to imply that life expectancies rather than probabilities of survival are used to calculate liabilities. This example was simplified for purposes of illustration. It was not meant to illustrate actuarial practice.

- b. Turnover—When performing a postretirement benefit valuation on a group covered by a pension plan, the pension turnover assumption is a logical choice. A typical postretirement health care plan has liabilities that are effectively independent of pay level. If the companion pension plan is pay-related, the turnover assumption may or may not be appropriate for the health care valuation.

Since many pension plans exclude employees under the age of 21 or those who have less than a year of service, pension turnover assumptions for those plans may require modification for use with postretirement health care valuations.

- c. Retirement Decrements—High sensitivity to retirement age does not apply to many

pension plans because of actuarial reduction in benefits for early benefit commencement and reduced benefit amounts. It is crucial to check the retirement decrement assumption used in the pension valuation because the postretirement health care plan is subjected to the highest per capita claims cost in the years immediately prior to Medicare eligibility.

Because of the critical nature of this assumption, it is desirable that it be as realistic as possible. Therefore, explicit retirement decrements are strongly preferred to an average retirement age, even if the single age gives correct aggregate results.

- d. Dependent Status—The dependent status assumption is crucial to valuing postretirement health care benefits for most plans. It is an important assumption because half of the liability for a postretirement health care plan may come from dependents. Given the fluid nature of American family composition and differences based on age, current dependent status of active employees may not be a good indication of status at retirement. For a contributory postretirement health care plan with low participation rates, active data can be especially misleading. An analysis of the dependent population for recent retirees can provide useful information.

## 2. Economic Assumptions

- a. Discount Rate—Postretirement benefit valuations require the use of an interest rate to discount future cash flows. The theoretically correct discount rate can be determined by constructing an immunized bond portfolio which has a cash flow matching that of the postretirement benefit plan and determining the portfolio's rate of return.
- b. Consistency among Economic Assumptions—Actuarial assumptions for discount rates, return on assets, trend, and salary scale should take a consistent view of future economic activity. All four economic assumptions contain an implicit assumption for future general inflation levels. For example, if long-term corporate bonds of high quality are believed to return approximately 3% more than the expected consumer price index (CPI) inflation, it would be difficult to support an 11% return on assets in conjunction with a 2% salary scale. The implication would be that prices were rising at 8% per year but pay levels only 2%. A similar analysis should be applied to the ultimate health care inflation rate. The actuary should note that the actuarial standard of practice for valuations of postretirement benefit plans (ASOP No. 6) requires the actuary to consider the implications of the economic assumptions for health care as an ultimate percent of gross domestic product.

3. Plan-Related Assumptions

- a. Participation—Virtually all postretirement health care plans offer coverage to retirees who have had similar benefits available as active employees prior to retirement. If both the active and postretirement benefits are noncontributory, it can safely be assumed that all employees participating in the active plan will join the postretirement plan. Where contributions are required of retirees, a participation assumption is necessary. The contribution provisions of both the active and postretirement plans should be considered to be sure that the actuary has an appropriate pre- and postretirement participant valuation base.

The participation assumption for future years may differ from the assumption for more current years because of changes in retiree contribution levels.

Currently, many employers are revising postretirement health care plans to include higher retiree contributions, both immediately and anticipated in the future. The effect of these provisions on continued participation and average claim costs should be closely monitored. It may be advisable to consider a decrement in addition to death for retired participants to account for those dropping out because of high contribution levels. However, those leaving the plan may well be anticipated to have lower than average claim costs. There were little if any empirical data in this area as this was being written.

- b. Alternate Plan Elections—Some postretirement health care plans provide participants with a choice of benefit levels and/or plan types (indemnity, HMO, Blue Cross/Blue Shield, etc.). Alternative plans will often require retiree contributions to equalize employer costs for all options. This provision would seem to make the plan costs independent of retiree election. This assumption may not hold if there are substantially different maximum benefits for various plans. In particular, the actuary may have to take into account the possibility of beneficiaries exhausting indemnity plan benefits and then electing an HMO.

If the employer-provided value of benefits differs among plan options, it is necessary to make assumptions as to the percent of retirees electing the various options.

### A5.8 Attribution Examples

In all examples, PVB is defined as the present value of a benefit 100% paid by the employer, i.e., requiring no contributions from retirees.

#### Example 1.

Employer plan provides a noncontributory retiree health care benefit to employees retiring on or after age 50 with at least 20 years of service.

| <u>Employee</u> | <u>Age at Hire</u> | <u>Attained Age</u> | <u>Current Service</u> | <u>Assumed Age at Retirement</u> | <u>Age at Full Eligibility</u> | <u>Value of EPBO</u> | <u>APBO</u>   | <u>Service Cost</u> |
|-----------------|--------------------|---------------------|------------------------|----------------------------------|--------------------------------|----------------------|---------------|---------------------|
| A               | 30                 | 52                  | 22                     | 55                               | 50                             | PVB                  | EPBO          | 0                   |
| B               | 30                 | 40                  | 10                     | 55                               | 50                             | PVB                  | EPBO! (10/20) | EPBO! (1/20)        |
| C               | 25                 | 45                  | 20                     | 55                               | 50                             | PVB                  | EPBO! (20/25) | EPBO! (1/25)        |
| D               | 40                 | 50                  | 10                     | 60                               | 60                             | PVB                  | EPBO! (10/20) | EPBO! (1/20)        |

#### Example 2.

Employer plan provides a contributory health care benefit to employees retiring on or after age 55 with at least 20 years of service. Although benefits accrue somewhat more quickly in the first 20 years than thereafter, this is not considered disproportionately front-loaded, and attribution is linear.

45 The values shown for employees A, B, C, and D demonstrate the effect of changing the assumed retirement age for a single employee (or the effect of retirement decrements at those same ages), as do sets E and F, G and H, and I, J, and K.

The employer-provided benefit as a percentage of the cost of coverage is as follows:

| <u>Employee</u> | <u>Age at Hire</u> | <u>Attained Age</u> | <u>Current Service</u> | <u>Assumed Age at Retirement</u> | <u>Age at Full Eligibility</u> | <u>Value of EPBO</u> | <u>APBO</u>   | <u>Service Cost</u> |
|-----------------|--------------------|---------------------|------------------------|----------------------------------|--------------------------------|----------------------|---------------|---------------------|
| A               | 30                 | 40                  | 10                     | 55                               | 55                             | PVB! 50%             | EPBO! (10/25) | EPBO! (1/25)        |
| B               | 30                 | 40                  | 10                     | 57                               | 55                             | PVB! 50%             | EPBO! (10/25) | EPBO! (1/25)        |
| C               | 30                 | 40                  | 10                     | 60                               | 60                             | PVB! 70%             | EPBO! (10/30) | EPBO! (1/30)        |
| D               | 30                 | 40                  | 10                     | 62                               | 60                             | PVB! 70%             | EPBO! (10/30) | EPBO! (1/30)        |
| E               | 30                 | 55                  | 25                     | 55                               | 55                             | PVB! 50%             | EPBO          | 0                   |
| F               | 30                 | 55                  | 25                     | 62                               | 60                             | PVB! 70%             | EPBO! (25/30) | EPBO! (1/30)        |
| G               | 20                 | 35                  | 15                     | 55                               | 55                             | PVB! 70%             | EPBO! (15/35) | EPBO! (1/35)        |
| H               | 20                 | 35                  | 15                     | 57                               | 55                             | PVB! 70%             | EPBO! (15/35) | EPBO! (1/35)        |
| I               | 40                 | 55                  | 15                     | 60                               | 60                             | PVB! 50%             | EPBO! (15/20) | EPBO! (1/20)        |

|   |    |    |    |    |    |          |               |              |
|---|----|----|----|----|----|----------|---------------|--------------|
| J | 40 | 55 | 15 | 62 | 60 | PVB! 50% | EPBO! (15/20) | EPBO! (1/20) |
| K | 40 | 55 | 15 | 70 | 70 | PVB! 70% | EPBO! (15/30) | EPBO! (1/30) |

A5.10.2 Amortization Period Examples

The purpose of these simplified examples is to show the calculation of the average remaining service of those expected to receive benefits. They also show the calculation of the number of participants in the current active population.

Age at full eligibility is 55  
 Single assumed retirement age is 60  
 No preretirement benefit payable, e.g., disability

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| Current Age | Number of Employees | Number Expected to Survive to Retirement 1/ | <u>To Full Eligibility</u> |               | <u>To Retirement</u> |               |
|-------------|---------------------|---|----------------------------|---------------|----------------------|---------------|
|             |                     |   | Years to Full Eligibility  | Service Years | Years to Retirement  | Service Years |
| 50          | 100                 | 80  | 5                          | 400           | 10                   | 800           |
| 35          | 100                 | 15  | 20                         | 300           | 25                   | 375           |
| 25          | <u>100</u>          | <u>5</u>                                    | 30                         | <u>150</u>    | 35                   | <u>175</u>    |
| Total       | 300                 | 100   |                            | 850           |                      | 1350          |

Average remaining service to full eligibility

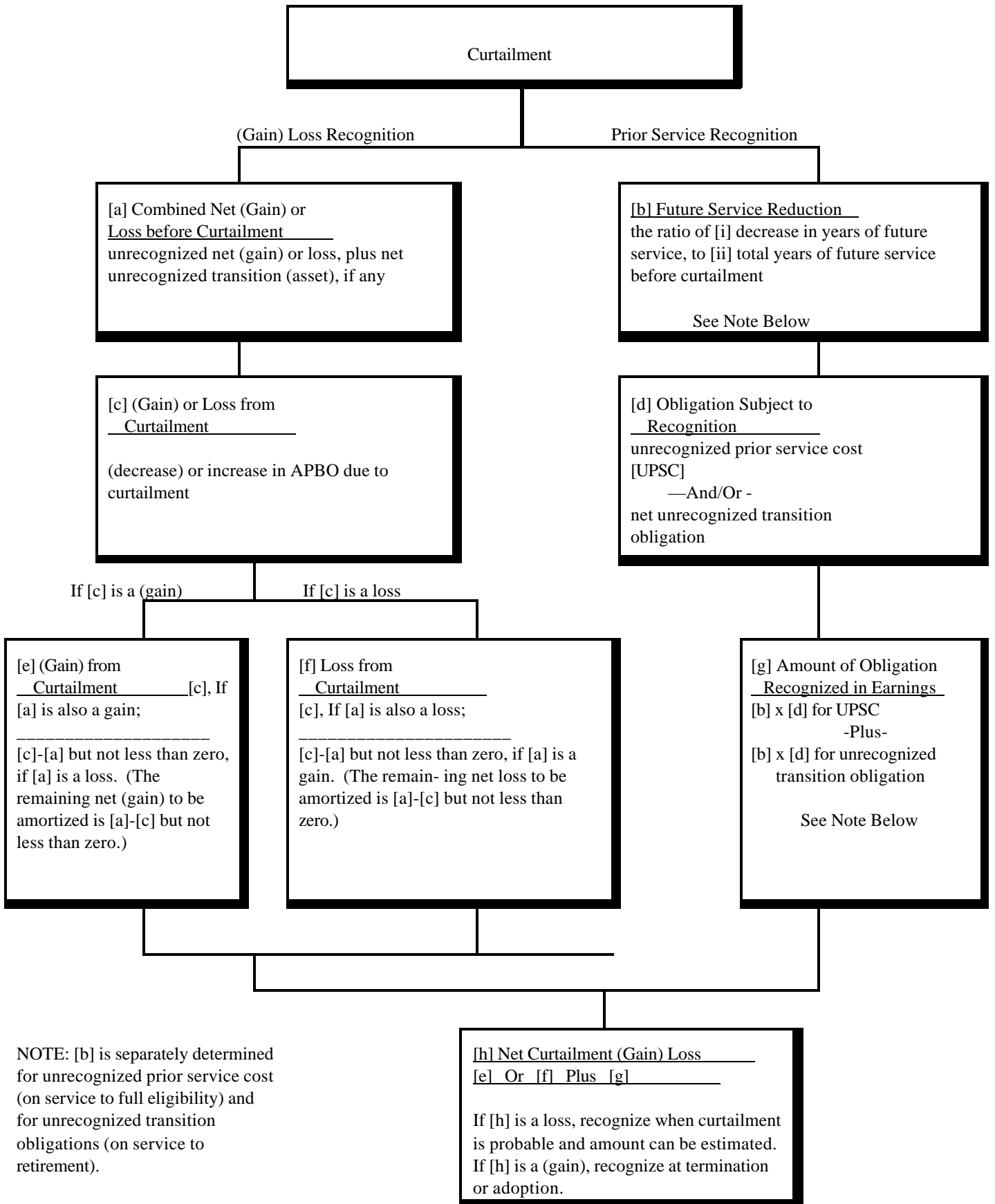
|                                |     |
|--------------------------------|-----|
| Total service years            | 850 |
| # expected to receive benefits | 100 |
| Average service                | 8.5 |

Average remaining service to retirement

|                                |      |
|--------------------------------|------|
| Total service years            | 1350 |
| # expected to receive benefits | 100  |
| Average service                | 13.5 |

1/Number Expected to Survive to Retirement are the active participants as defined in SFAS No. 106.

A5.13.8 Flow Chart for Curtailments



NOTE: [b] is separately determined for unrecognized prior service cost (on service to full eligibility) and for unrecognized transition obligations (on service to retirement).

A5.13.9 Termination Benefits Accounting—Special termination benefits are frequently part of an early retirement incentive program, also called an early retirement window (ERW). The ERW may allow some employees to retire with postretirement benefits who were not eligible to retire with such benefits prior to the ERW.

Example: The plan sponsor has a postretirement benefit program that allows participants to receive benefits if they retire from active employment with at least 15 years of service and are age 55 or older.

The sponsor's ERW allows participants to receive benefits if they retire from active employment with at least 15 years of service and are age 50 or older. The ERW also reduces the participant contributions to postretirement benefits by \$200 a year for the first 5 years of retirement.

Participant *A* is 50 years of age and has 15 years of service when he accepts the ERW.

Participant *B* is 55 years of age and has 20 years of service when he accepts the ERW (he is fully eligible).

An assumed retirement age of 60 is used in these examples.

|                                  | Items   | Participant A | Participant B |
|----------------------------------|---|---------------|---------------|
| [1]                              | Age   | 50            | 55            |
| [2]                              | Service   | 15            | 20            |
| Prior to the ERW                 |   |               |               |
| [3]                              | EPBO*   | \$70,141      | \$70,347      |
| [4]                              | APBO*   | 52,605        | 70,347        |
| [5]                              | APBO assuming retirement at eligibility**                                       | 71,447        | 95,543        |
| After the ERW                    |   |               |               |
| [6]                              | APBO for postretirement benefit   | 127,624       | 95,543        |
| [7]                              | APBO for reduced contributions  | 810           | 798           |
| [8]                              | Total APBO under ERW  | 128,434       | 96,341        |
| Effect of ERW under SFAS No. 106 |   |               |               |
| [9]                              | Loss on account of termination benefit (current cost)<br>[9] = [8] minus [5]    | 56,987        | 798           |
| [10]                             | Loss (Gain) which is part of normal amortized gain/loss<br>[10] = [5] minus [4] | 18,842        | 25,196        |

\* Based on benefit for which participant is eligible, assuming retirement at the expected retirement date.

\*\* For Participant A, APBO is based on the benefit for which A is eligible, assuming retirement at the full eligibility date (age 55); for Participant B, APBO is based on the benefit for which B is eligible if retiring immediately without the ERW.