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OPINIONS OF THE ACCOUNTING PRINCIPLES BOARD

NOVEMBER 1966

8

Accounting for the Cost of Pension Plans

CONTENTS

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INTRODUCTION

1. Pension plans have developed in an environment characterized by a complex array of social concepts and pressures, legal considerations, actuarial techniques, income tax laws and regulations, business philosophies, and accounting concepts and practices. Each plan reflects the interaction of the environment with the interests of the persons concerned with its design, interpretation and operation. From these factors have resulted widely divergent practices in accounting for the cost of pension plans.

2. An increased significance of pension cost in relation to the financial position and results of operations of many businesses has been brought about by the substantial growth of private pension plans, both in numbers of employees covered and in amounts of retirement benefits. The assets accumulated and the future benefits to employees under these plans have reached such magnitude that changes in actuarial assumptions concerning pension fund earnings, employee mortality and turnover, retirement age, etc., and the treatment of differences between such assumptions and actual experience, can have important effects on the pension cost recognized for accounting purposes from year to year.

3. In Accounting Research Bulletin No. 47, *Accounting for Costs of Pension Plans,* the committee on accounting procedure stated its preferences that "costs based on current and future services should be systematically accrued during the expected period of active service of the covered employees" and that "costs based on past services should be charged off over some reasonable period, provided the allocation is made on a systematic and rational basis and does not cause distortion of the operating results in any one year." In recognition of the divergent views then existing, however, the committee also said "as a minimum, the accounts and financial statements should reflect accruals which equal the present worth, actuarially calculated, of pension commitments to employees to the extent that pension rights have vested in the employees, reduced, in the case of the balance sheet, by any accumulated trusteed funds or

annuity contracts purchased." The committee did not explain what was meant by the term "vested" and did not make any recommendations concerning appropriate actuarial cost methods or recognition of actuarial gains and losses.

4. Despite the issuance of Accounting Research Bulletin No. 47, accounting for the cost of pension plans has varied widely among companies and has sometimes resulted in wide year-to-year fluctuations in the provisions for pension cost of a single company. Generally, companies have provided pension cost equivalent to the amounts paid to a pension fund or used to purchase annuities. In many cases such payments have included amortization of past service cost (and prior service cost arising on amendment of a plan) over periods ranging from about ten to forty years; in other cases the payments have not included amortization but have included an amount equivalent to interest (see definition of *interest* in the Glossary, Appendix B) on unfunded prior service cost. In some cases payments from year to year have varied with fluctuations in company earnings or with the availability of funds. In other cases payments have been affected by the Federal income tax rates in effect at a particular time. The recognition of actuarial gains and losses in the year of their determination, or intermittently, has also caused year-to-year variations in such payments.

5. Because of the increasing importance of pensions and the variations in accounting for them, the Accounting Principles Board authorized Accounting Research Study No. 8, *Accounting for the Cost of Pension Plans* (referred to hereinafter as the "Research Study"). The Research Study was published in May 1965 by the American Institute of Certified Public Accountants and has been widely distributed. The Board has carefully examined the recommendations of the Research Study and considered many comments and articles about it. The Board's conclusions agree in most respects with, but differ in some from, those in the Research Study.

6. The Board has concluded that this Opinion is needed to clarify the accounting principles and to narrow the practices applicable to accounting for the cost of pension plans. This

Opinion supersedes Accounting Research Bulletin No. 43, Chapter 13, Section A, *Compensation: Pension Plans — Annuity Costs Based on Past Service* and Accounting Research Bulletin No. 47, *Accounting for Costs of Pension Plans.*

7. The computation of pension cost for accounting purposes requires the use of actuarial techniques and judgment. Generally pension cost should be determined from a study by an actuary, giving effect to the conclusions set forth in this Opinion. It should be noted that the actuarial cost methods and their application for accounting purposes may differ from those used for funding purposes. A discussion of actuarial valuations, assumptions and cost methods is included in Appendix A. The terminology used in this Opinion to describe pension cost and actuarial cost methods is consistent with that generally used by actuaries and others concerned with pension plans. A Glossary of such terminology is included in Appendix B.

PENSION PLANS COVERED BY THIS OPINION

8. For the purposes of this Opinion, a pension plan is an arrangement whereby a company undertakes to provide its retired employees with benefits that can be determined or estimated in advance from the provisions of a document or documents or from the company's practices. Ordinarily, such benefits are monthly pension payments but, in many instances, they include death and disability payments. However, death and disability payments under a separate arrangement are not considered in this Opinion. The Opinion applies both to written plans and to plans whose existence may be implied from a well-defined, although perhaps unwritten, company policy. A company's practice of paying retirement benefits to selected employees in amounts determined on a case-by-case basis at or after retirement does not constitute a pension plan under this Opinion. The Opinion applies to pension cost incurred outside the United States under plans that are reasonably similar to those contemplated by this Opinion, when included in financial statements intended to conform with generally accepted accounting principles in the United States. The Opinion applies to unfunded plans as well as to insured plans and trust fund

plans. It applies to defined-contribution plans as well as to defined-benefit plans. It applies also to deferred compensation contracts with individual employees if such contracts, taken together, are equivalent to a pension plan. It does not apply to deferred profit-sharing plans except to the extent that such a plan is, or is part of, an arrangement that is in substance a pension plan.

BASIC ACCOUNTING METHOD

Discussion

9. This Opinion is concerned with the determination of the amount of pension cost for accounting purposes. In considering the discussions and conclusions in this Opinion, it is important to keep in mind that the annual pension cost to be charged to expense ("the provision for pension cost") is not necessarily the same as the amount to be funded for the year. The determination of the amount to be funded is a financial matter not within the purview of this Opinion.

10. The pension obligations assumed by some companies are different from those assumed by other companies. In some plans the company assumes direct responsibility for the payment of benefits described in the plan. In these cases, if the pension fund is inadequate to pay the benefits to which employees are entitled, the company is liable for the deficiency. In contrast, the terms of most funded plans limit the company's legal obligation for the payment of benefits to the amounts in the pension fund. In these cases, if the pension fund is inadequate to pay the benefits to which employees are otherwise entitled, such benefits are reduced in a manner stated in the plan and the company has no further legal obligation.

11. There is broad agreement that pension cost, including related administrative expense, should be accounted for on the accrual basis. There is not general agreement, however, about the nature of pension cost. Some view pensions solely as a form of supplemental benefit to employees in service at a particular time. Others see a broader purpose in pensions; they consider pensions to be in large part (a) a means of promoting efficiency by providing for the systematic retirement of older employees or

(b) the fulfillment of a social obligation expected of business enterprises, the cost of which, as a practical matter, constitutes a business expense that must be incurred. Those who hold this second viewpoint associate pension cost, to a large extent, with the plan itself rather than with specific employees. In addition, the long-range nature of pensions causes significant uncertainties about the total amount of pension benefits ultimately to be paid and the amount of cost to be recognized. These differences in viewpoint concerning the nature of pension cost, the uncertainties regarding the amount of the estimates, and the use of many actuarial approaches, compound the difficulty in reaching agreement on the total amount of pension cost over a long period of years and on the time to recognize any particular portion applicable to an employee or group of employees. It is only natural, therefore, that different views exist concerning the preferable way to recognize pension cost. The major views are described in the following four paragraphs.

12. One view is that periodic pension cost should be provided on an actuarial basis that takes into account all estimated prospective benefit payments under a plan with respect to the existing employee group, whether such payments relate to employee service rendered before or after the plan's adoption or amendment, and that no portion of the provision for such payments should be indefinitely deferred or treated as though, in fact, it did not exist. Those holding this view believe that the recurring omission of a portion of the provision, because of the time lag between making the provision and the subsequent benefit payments under a plan, is a failure to give accrual accounting recognition to the cost applicable to the benefits accrued over the service lives of all employees. Among those holding this view there is general agreement that cost relating to service following the adoption or amendment of a plan should be recognized ratably over the remaining service lives of employees. There is some difference of opinion, however, concerning the period of time to use in allocating that portion of the cost which the computations under some actuarial methods assign to employee service rendered before a plan's adoption or amendment. As to this cost, (a) those viewing pensions as relating solely to the existing

employee group believe that it should be accounted for over the remaining service lives of those in the employ of the company at the time of the plan's adoption or amendment, whereas (b) some of those holding the broader view of pensions, referred to in Paragraph 11, believe that this cost is associated to a large extent with the plan itself and hence that the period of providing for it need not be limited to the remaining service lives of a particular group of employees but may be extended somewhat beyond that period. However, this difference of opinion relates only to the period of time over which such cost should be provided.

13. An opposing view stresses that pension cost is related to the pension benefits to be paid to the continuing employee group as a whole. Those holding this view emphasize that, in the application of accrual accounting, charges against income must be based on actual transactions and events – past, present or reasonably anticipated. They stress the long-range nature of pensions, referred to in Paragraph 11, and emphasize the uncertainties concerning the total cost of future benefits. They point out that, in the great majority of cases, provision for normal cost plus an amount equivalent to interest on unfunded prior service cost will be adequate to meet, on a continuing basis, all benefit payments under a plan. Those holding this view believe that following the view expressed in Paragraph 12 can result, over a period of years, in charging income with, and recording a balance-sheet accrual for, amounts that will not be paid as benefits. They see no reason therefore to urge employers to provide more than normal cost plus an amount equivalent to interest on unfunded prior service cost in these circumstances, because additional amounts never expected to be paid by a going concern are not corporate costs, and thus are not appropriate charges against income. They acknowledge, however, that corporations can and do make payments to pension funds for past and prior service cost, with the result that reductions will be effected in future charges for the equivalent of interest on unfunded amounts, but they consider this to be solely a matter of financial management rather than a practice dictated by accounting considerations.

14. In many pension plans, cost recorded on the basis described in Paragraph 13 will accumulate an amount (whether funded or not) at least equal to the actuarially computed value of vested benefits (see definition of *vested benefits* in the Glossary, Appendix B). However, this result might not be achieved in some cases (for example, if the average age of the employee group is high in relation to that of expected future employee groups, or if benefits vest at a relatively early age). Some hold the view that when periodic provisions are based on normal cost plus an amount equivalent to interest such periodic provisions should be increased if they will not, within a reasonable period of time, accumulate an amount (whether funded or not) at least equal to the actuarially computed value of vested benefits. Others would require the increases in provisions only if the company has a legal obligation for the payment of such benefits.

15. Another view is that, if the company has no responsibility for paying benefits beyond the amounts in the pension fund, pension cost is discretionary and should be provided for a particular accounting period only when the company has made or has indicated its intent to make a contribution to the pension fund for the period. Others believe that pension cost is discretionary even if the company has a direct responsibility for the payment of benefits described in the plan.

Opinion

16. The Board recognizes that a company may limit its legal obligation by specifying that pensions shall be payable only to the extent of the assets in the pension fund. Experience shows, however, that with rare exceptions pension plans continue indefinitely and that termination and other limitations of the liability of the company are not invoked while the company continues in business. Consequently, the Board believes that, in the absence of convincing evidence that the company will reduce or discontinue the benefits called for in a pension plan, the cost of the plan should be accounted for on the assumption that the company will continue to provide such benefits. This assumption implies a long-term undertaking, the cost of

which should be recognized annually whether or not funded. Therefore, accounting for pension cost should not be discretionary.

17. All members of the Board believe that the entire cost of benefit payments ultimately to be made should be charged against income subsequent to the adoption or amendment of a plan and that no portion of such cost should be charged directly against retained earnings. Differences of opinion exist concerning the measure of the cost of such ultimate payments. The Board believes that the approach stated in Paragraph 12 is preferable for measuring the cost of benefit payments ultimately to be made. However, some members of the Board believe that the approach stated in Paragraph 13, in some cases with the modifications described in Paragraph 14, is more appropriate for such measurement. The Board has concluded, in the light of such differences in views and of the fact that accounting for pension cost is in a transitional stage, that the range of practices would be significantly narrowed if pension cost were accounted for at the present time within limits based on Paragraphs 12, 13 and 14. Accordingly, the Board believes that the annual provision for pension cost should be based on an accounting method that uses an acceptable actuarial cost method (as defined in Paragraphs 23 and 24) and results in a provision between the minimum and maximum stated below. The accounting method and the actuarial cost method should be consistently applied from year to year.

a. *Minimum.* The annual provision for pension cost should not be less than the total of (1) normal cost, (2) an amount equivalent to interest on any unfunded prior service cost and (3) if indicated in the following sentence, a provision for vested benefits. A provision for vested benefits should be made if there is an excess of the actuarially computed value of vested benefits (see definition of *vested benefits* in the Glossary, Appendix B)[1] over the total of (1) the pension fund and (2) any balance-

[1] The actuarially computed value of vested benefits would ordinarily be based on the actuarial valuation used for the year even though such valuation would usually be as of a date other than the balance sheet date.

sheet pension accruals, less (3) any balance-sheet pension prepayments or deferred charges, at the end of the year, and such excess is not at least 5 per cent less than the comparable excess at the beginning of the year. The provision for vested benefits should be the lesser of (A) the amount, if any, by which 5 per cent of such excess at the beginning of the year is more than the amount of the reduction, if any, in such excess during the year or (B) the amount necessary to make the aggregate annual provision for pension cost equal to the total of (1) normal cost, (2) an amount equivalent to amortization, on a 40-year basis, of the past service cost (unless fully amortized), (3) amounts equivalent to amortization, on a 40-year basis, of the amounts of any increases or decreases in prior service cost arising on amendments of the plan (unless fully amortized) and (4) interest equivalents under Paragraph 42 or 43 on the difference between provisions and amounts funded.[2]

b. *Maximum.* The annual provision for pension cost should not be greater than the total of (1) normal cost, (2) 10 per cent of the past service cost (until fully amortized), (3) 10 per cent of the amounts of any increases or decreases in prior service cost arising on amendments of the plan (until fully amortized) and (4) interest equivalents under Paragraph 42 or 43 on the difference between provisions and amounts funded. The 10 per cent limitation is considered necessary to prevent unreasonably large charges against income during a short period of years.

18. The difference between the amount which has been charged against income and the amount which has been paid should be shown in the balance sheet as accrued or prepaid pension cost. If the company has a legal obligation for pension cost in excess of amounts paid or accrued, the excess should be shown in the balance sheet as both a liability and a deferred charge. Except to the extent indicated in the preceding sentences of this paragraph, unfunded prior service cost is not a liability which should be shown in the balance sheet.

[2] For purposes of this sentence, amortization should be computed as a level annual amount, including the equivalent of interest.

ACTUARIAL COST METHODS

Discussion

19. A number of actuarial cost methods have been developed to determine pension cost. These methods are designed primarily as funding techniques, but many of them are also useful in determining pension cost for accounting purposes. Pension cost can vary significantly, depending on the actuarial cost method selected; furthermore, there are many variations in the application of the methods, in the necessary actuarial assumptions concerning employee turnover, mortality, compensation levels, pension fund earnings, etc., and in the treatment of actuarial gains and losses.

20. The principal actuarial cost methods currently in use are described in Appendix A. These methods include an accrued benefit cost method and several projected benefit cost methods.

a. Under the accrued benefit cost method (unit credit method), the amount assigned to the current year usually represents the present value of the increase in present employees' retirement benefits resulting from that year's service. For an individual employee, this method results in an increasing cost from year to year because both the present value of the annual increment in benefits and the probability of reaching retirement increase as the period to retirement shortens; also, in some plans, the retirement benefits are related to salary levels, which usually increase during the years. However, the aggregate cost for a total work force of constant size tends to increase only if the average age or average compensation of the entire work force increases.

b. Under the projected benefit cost methods (entry age normal, individual level premium, aggregate and attained age normal methods), the amount assigned to the current year usually represents the level amount (or an amount based on a computed level percentage of compensation) that will provide for the estimated projected retirement benefits over the service lives of either the individual employees or the employee group, depend-

ing on the method selected. Cost computed under the projected benefit cost methods tends to be stable or to decline year by year, depending on the method selected. Cost computed under the entry age normal method is usually more stable than cost computed under any other method.

21. Some actuarial cost methods (individual level premium and aggregate methods) assign to subsequent years the cost arising at the adoption or amendment of a plan. Other methods (unit credit, entry age normal and attained age normal methods) assign a portion of the cost to years prior to the adoption or amendment of a plan, and assign the remainder to subsequent years. The portion of cost assigned to each subsequent year is called *normal cost.* At the adoption of a plan, the portion of cost assigned to prior years is called *past service cost.* At any later valuation date, the portion of cost assigned to prior years (which includes any remaining past service cost) is called *prior service cost.* The amount assigned as past or prior service cost and the amount assigned as normal cost vary depending on the actuarial cost method. The actuarial assignment of cost between past or prior service cost and normal cost is not indicative of the periods in which such cost should be recognized for accounting purposes.

22. In some cases, past service cost (and prior service cost arising on amendment of a plan) is funded in total; in others it is funded in part; in still others it is not funded at all. In practice, the funding of such cost is influenced by the Federal income tax laws and related regulations, which generally limit the annual deduction for such cost to 10 per cent of the initial amount. There is no tax requirement that such cost be funded, but there are requirements that effectively prohibit the unfunded cost from exceeding the total of past service cost and prior service cost arising on amendment of the plan. The practical effect of the tax requirements is that on a cumulative basis normal cost plus an amount equivalent to the interest on any unfunded prior service cost must be funded. Funding of additional amounts is therefore discretionary for income tax purposes. However, neither funding nor the income tax laws and related regulations are controlling for accounting purposes.

Opinion

23. To be acceptable for determining cost for accounting purposes, an actuarial cost method should be rational and systematic and should be consistently applied so that it results in a reasonable measure of pension cost from year to year. Therefore, in applying an actuarial cost method that separately assigns a portion of cost as past or prior service cost, any amortization of such portion should be based on a rational and systematic plan and generally should result in reasonably stable annual amounts. The equivalent of interest on the unfunded portion may be stated separately or it may be included in the amortization; however, the total amount charged against income in any one year should not exceed the maximum amount described in Paragraph 17.

24. Each of the actuarial cost methods described in Appendix A, except terminal funding, is considered acceptable when the actuarial assumptions are reasonable and when the method is applied in conformity with the other conclusions of this Opinion. The terminal funding method is not acceptable because it does not recognize pension cost prior to retirement of employees. For the same reason, the pay-as-you-go method (which is not an actuarial cost method) is not acceptable. The acceptability of methods not discussed herein should be determined from the guidelines in this and the preceding paragraph.

ACTUARIAL GAINS AND LOSSES

Discussion

25. Actuarial assumptions necessarily are based on estimates of future events. Actual events seldom coincide with events estimated; also, as conditions change, the assumptions concerning the future may become invalid. Adjustments may be needed annually therefore to reflect actual experience, and from time to time to revise the actuarial assumptions to be used in the future. These adjustments constitute actuarial gains and losses. They may be regularly recurring (for example, minor deviations between experience and actuarial assumptions) or they

may be unusual or recurring at irregular intervals (for example, substantial investment gains or losses, changes in the actuarial assumptions, plant closings, etc.).

26. In dealing with actuarial gains and losses, the primary question concerns the timing of their recognition in providing for pension cost. In practice, three methods are in use; immediate-recognition, spreading and averaging. Under the immediate-recognition method (not ordinarily used at present for net losses), net gains are applied to reduce pension cost in the year of occurrence or the following year. Under the spreading method, net gains or losses are applied to current and future cost, either through the normal cost or through the past service cost (or prior service cost on amendment). Under the averaging method, an average of annual net gains and losses, developed from those that occurred in the past with consideration of those expected to occur in the future, is applied to the normal cost.

27. The use of the immediate-recognition method sometimes results in substantial reductions in, or the complete elimination of, pension cost for one or more years. For Federal income tax purposes, when the unit credit actuarial cost method is used, and in certain other instances, actuarial gains reduce the maximum pension-cost deduction for the year of occurrence or the following year.

28. Unrealized appreciation and depreciation in the value of investments in a pension fund are forms of actuarial gains and losses. Despite short-term market fluctuations, the overall rise in the value of equity investments in recent years has resulted in the investments of pension funds generally showing net appreciation. Although appreciation is not generally recognized at present in providing for pension cost, it is sometimes recognized through the interest assumption or by introducing an assumed annual rate of appreciation as a separate actuarial assumption. In other cases, appreciation is combined with other actuarial gains and losses and applied on the immediate-recognition, spreading or averaging method.

29. The amount of any unrealized appreciation to be recognized should also be considered. Some actuarial valuations rec-

ognize the full market value. Others recognize only a portion (such as 75 per cent) of the market value or use a moving average (such as a five-year average) to minimize the effects of short-term market fluctuations. Another method used to minimize such fluctuations is to recognize appreciation annually based on an expected long-range growth rate (such as 3 per cent) applied to the cost (adjusted for appreciation previously so recognized) of common stocks; when this method is used, the total of cost and recognized appreciation usually is not permitted to exceed a specified percentage (such as 75 per cent) of the market value. Unrealized depreciation is recognized in full or on a basis similar to that used for unrealized appreciation.

Opinion

30. The Board believes that actuarial gains and losses, including realized investment gains and losses, should be given effect in the provision for pension cost in a consistent manner that reflects the long-range nature of pension cost. Accordingly, except as otherwise indicated in Paragraphs 31 and 33, actuarial gains and losses should be spread over the current year and future years or recognized on the basis of an average as described in Paragraph 26. If this is not accomplished through the routine application of the method (for example, the unit credit method – see Paragraph 27), the spreading or averaging should be accomplished by separate adjustments of the normal cost resulting from the routine application of the method. Where spreading is accomplished by separate adjustments, the Board considers a period of from 10 to 20 years to be reasonable. Alternatively, an effect similar to spreading or averaging may be obtained by applying net actuarial gains as a reduction of prior service cost in a manner that reduces the annual amount equivalent to interest on, or the annual amount of amortization of, such prior service cost, and does not reduce the period of amortization.

31. Actuarial gains and losses should be recognized immediately if they arise from a single occurrence not directly related to the operation of the pension plan and not in the ordinary course of the employer's business. An example of such occur-

rences is a plant closing, in which case the actuarial gain or loss should be treated as an adjustment of the net gain or loss from that occurrence and not as an adjustment of pension cost for the year. Another example of such occurrences is a merger or acquisition accounted for as a purchase, in which case the actuarial gain or loss should be treated as an adjustment of the purchase price. However, if the transaction is accounted for as a pooling of interests, the actuarial gain or loss should generally be treated as described in Paragraph 30.

32. The Board believes unrealized appreciation and depreciation should be recognized in the determination of the provision for pension cost on a rational and systematic basis that avoids giving undue weight to short-term market fluctuations (as by using a method similar to those referred to in Paragraph 29). Such recognition should be given either in the actuarial assumptions or as described in Paragraph 30 for other actuarial gains and losses. Ordinarily appreciation and depreciation need not be recognized for debt securities expected to be held to maturity and redeemed at face value.

33. Under variable annuity and similar plans the retirement benefits vary with changes in the value of a specified portfolio of equity investments. In these cases, investment gains or losses, whether realized or unrealized, should be recognized in computing pension cost only to the extent that they will not be applied in determining retirement benefits.

EMPLOYEES INCLUDED IN COST CALCULATIONS

Discussion

34. Under some plans employees become eligible for coverage when they are employed; other plans have requirements of age or length of service or both. Some plans state only the conditions an employee must meet to receive benefits but do not otherwise deal with coverage. Ordinarily actuarial valuations exclude employees likely to leave the company within a short time after employment. This simplifies the actuarial calculations. Accordingly, actuarial calculations ordinarily exclude

employees on the basis of eligibility requirements and, in some cases, exclude covered employees during the early years of service.

35. If provisions are not made for employees from the date of employment, pension cost may be understated. On the other hand, the effect of including all employees would be partially offset by an increase in the turnover assumption; therefore, the inclusion of employees during early years of service may expand the volume of the calculations without significantly changing the provisions for pension cost.

Opinion

36. The Board believes that all employees who may reasonably be expected to receive benefits under a pension plan should be included in the cost calculations, giving appropriate recognition to anticipated turnover. As a practical matter, however, when the effect of exclusion is not material it is appropriate to omit certain employees from the calculations.

COMPANIES WITH MORE THAN ONE PLAN

Opinion

37. A company that has more than one pension plan need not use the same actuarial cost method for each one; however, the accounting for each plan should conform to this Opinion. If a company has two or more plans covering substantial portions of the same employee classes and if the assets in any of the plans ultimately can be used in paying present or future benefits of another plan or plans, such plans may be treated as one plan for purposes of determining pension cost.

DEFINED-CONTRIBUTION PLANS

Opinion

38. Some defined-contribution plans state that contributions will be made in accordance with a specified formula and that benefit payments will be based on the amounts accumulated from such contributions. For such a plan the contribution ap-

plicable to a particular year should be the pension cost for that year.

39. Some defined-contribution plans have defined benefits. In these circumstances, the plan requires careful analysis. When the substance of the plan is to provide the defined benefits, the annual pension cost should be determined in accordance with the conclusions of this Opinion applicable to defined-benefit plans.

INSURED PLANS

Opinion

40. Insured plans are forms of funding arrangements and their use should not affect the accounting principles applicable to the determination of pension cost. Cost under individual policy plans is ordinarily determined by the individual level premium method, and cost under group deferred annuity contracts is ordinarily determined by the unit credit method. Cost under deposit administration contracts, which operate similarly to trust-fund plans, may be determined on any of several methods. Some elements of pension cost, such as the application of actuarial gains (dividends, termination credits, etc.), may at times cause differences between the amounts being paid to the insurance company and the cost being recognized for accounting purposes. The Board believes that pension cost under insured plans should be determined in conformity with the conclusions of this Opinion.

41. Individual annuity or life insurance policies and group deferred annuity contracts are often used for plans covering small employee groups. Employers using one of these forms of funding exclusively do not ordinarily have ready access to actuarial advice in determining pension cost. Three factors to be considered in deciding whether the amount of net premiums paid is the appropriate charge to expense are dividends, termination credits and pension cost for employees not yet covered under the plan. Usually, the procedures adopted by insurance companies in arriving at the amount of dividends meet the re-

quirements of Paragraph 30; consequently, in the absence of wide year-to-year fluctuations such dividends should be recognized in the year credited. Termination credits should be spread or averaged in accordance with Paragraph 30. Unless the period from date of employment to date of coverage under the plan is so long as to have a material effect on pension cost, no provision need be made for employees expected to become covered under the plan. If such a provision is made, it need not necessarily be based on the application of an actuarial cost method.

EFFECT OF FUNDING

Opinion

42. This Opinion is written primarily in terms of pension plans that are funded. The accounting described applies also to plans that are unfunded. In unfunded plans, pension cost should be determined under an acceptable actuarial cost method in the same manner as for funded plans; however, because there is no fund to earn the assumed rate of interest, the pension-cost provision for the current year should be increased by an amount equivalent to the interest that would have been earned in the current year if the prior-year provisions had been funded.

43. For funded plans, the amount of the pension cost determined under this Opinion may vary from the amount funded. When this occurs, the pension-cost provision for the year should be increased by an amount equivalent to interest on the prior-year provisions not funded or be decreased by an amount equivalent to interest on prior-year funding in excess of provisions.

44. A pension plan may become overfunded (that is, have fund assets in excess of all prior service cost assigned under the actuarial method in use for accounting purposes) as a result of contributions or as a result of actuarial gains. In determining provisions for pension cost, the effects of such overfunding are appropriately recognized in the current and future years through the operation of Paragraph 30 or 43. As to a plan that is overfunded on the effective date of this Opinion see Paragraph 48.

INCOME TAXES

Opinion

45. When pension cost is recognized for tax purposes in a period other than the one in which recognized for financial reporting, appropriate consideration should be given to allocation of income taxes among accounting periods.

DISCLOSURE

Opinion

46. The Board believes that pension plans are of sufficient importance to an understanding of financial position and results of operations that the following disclosures should be made in financial statements or their notes:

1. A statement that such plans exist, identifying or describing the employee groups covered.
2. A statement of the company's accounting and funding policies.
3. The provision for pension cost for the period.
4. The excess, if any, of the actuarially computed value of vested benefits over the total of the pension fund and any balance-sheet pension accruals, less any pension prepayments or deferred charges.
5. Nature and effect of significant matters affecting comparability for all periods presented, such as changes in accounting methods (actuarial cost method, amortization of past and prior service cost, treatment of actuarial gains and losses, etc.), changes in circumstances (actuarial assumptions, etc.), or adoption or amendment of a plan.

An example of what the Board considers to be appropriate disclosure is as follows:

> The company and its subsidiaries have several pension plans covering substantially all of their employees, including certain employees in foreign countries. The total pension expense for

the year was $....., which includes, as to certain of the plans, amortization of prior service cost over periods ranging from 25 to 40 years. The company's policy is to fund pension cost accrued. The actuarially computed value of vested benefits for all plans as of December 31, 19...., exceeded the total of the pension fund and balance-sheet accruals less pension prepayments and deferred charges by approximately $..... A change during the year in the actuarial cost method used in computing pension cost had the effect of reducing net income for the year by approximately $.....

CHANGES IN ACCOUNTING METHOD

Opinion

47. On occasion a company may change its method of accounting for pension cost from one acceptable method under this Opinion to another. Such a change might be a change in the actuarial cost method, in the amortization of past and prior service cost, in the treatment of actuarial gains and losses, or in other factors. When such a change is made subsequent to the effective date of this Opinion, a question arises about the accounting for the difference between the cost actually provided under the old method and the cost that would have been provided under the new method. The Board believes that pension cost provided under an acceptable method of accounting in prior periods should not be changed subsequently. Therefore, the effect on prior-year cost of a change in accounting method should be applied prospectively to the cost of the current year and future years, in a manner consistent with the conclusions of this Opinion, and not retroactively as an adjustment of retained earnings or otherwise. The change and its effect should be disclosed as indicated in Paragraph 46.

TRANSITION TO RECOMMENDED PRACTICES

Opinion

48. For purposes of this Opinion, any unamortized prior service cost (computed under the actuarial cost method to be used for accounting purposes in the future) on the effective date of this Opinion may be treated as though it arose from an amend-

ment of the plan on that date rather than on the actual dates of adoption or amendment of the plan. If the pension plan is overfunded (see Paragraph 44) on the effective date of this Opinion, the amount by which it is overfunded (computed under the actuarial cost method to be used for accounting purposes in the future) should be treated as an actuarial gain realized on that date and should be accounted for as described in Paragraph 30.

49. The effect of any changes in accounting methods made as a result of the issuance of this Opinion should be applied prospectively to the cost of the current year and future years in a manner consistent with the conclusions of this Opinion, and not retroactively by an adjustment of retained earnings or otherwise. The change and its effect should be disclosed as indicated in Paragraph 46.

EFFECTIVE DATE

50. This Opinion shall be effective for fiscal periods beginning after December 31, 1966. However, where feasible the Board urges earlier compliance with this Opinion.

The Opinion entitled "Accounting for the Cost of Pension Plans" was adopted unanimously by the twenty members of the Board.

NOTES

Opinions present the considered opinion of at least two-thirds of the members of the Accounting Principles Board, reached on a formal vote after examination of the subject matter.

Except as indicated in the succeeding paragraph, the authority of the Opinions rests upon their general acceptability. While it is recognized that general rules may be subject to exception, the burden of justifying departures from Board Opinions must be assumed by those who adopt other practices.

Action of Council of the Institute (Special Bulletin, Disclosure of Departures From Opinions of Accounting Principles Board, *October 1964) provides that:*

a. *"Generally accepted accounting principles" are those principles which have substantial authoritative support.*

b. *Opinions of the Accounting Principles Board constitute "substantial authoritative support."*

c. *"Substantial authoritative support" can exist for accounting principles that differ from Opinions of the Accounting Principles Board.*

The Council action also requires that departures from Board Opinions be disclosed in footnotes to the financial statements or in independent auditors' reports when the effect of the departure on the financial statements is material.

Unless otherwise stated, Opinions of the Board are not intended to be retroactive. They are not intended to be applicable to immaterial items.

Accounting Principles Board (1966-1967)

Clifford V. Heimbucher
Chairman
Marshall S. Armstrong
Donald J. Bevis
John C. Biegler
George R. Catlett
W. A. Crichley
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Walter F. Frese
Newman T. Halvorson
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John W. Queenan
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APPENDIX A

ACTUARIAL VALUATIONS, ASSUMPTIONS AND COST METHODS

Actuarial Valuations

An actuarial valuation of a pension plan is the process used by actuaries for determining the amounts an employer is to contribute (pay, fund) under a pension plan (except where an insured arrangement calls for payment of specified premiums). A valuation is made as of a specific date, which need not coincide with the end of the period for which a payment based on the valuation will be made. Indeed, it is uncommon for such a coincidence of dates to exist. Among other factors, a time lag is necessary in order to compile the data and to permit the actuary to make the necessary calculations. Although annual valuations are, perhaps, the rule, some employers have valuations made at less frequent intervals, in some cases as infrequently as every five years. The calculations are made for a closed group – ordinarily, employees presently covered by the plan, former employees having vested rights and retired employees currently receiving benefits.

An initial step in making a valuation is to determine the present value on the valuation date of benefits to be paid over varying periods of time in the future to employees after retirement (plus any other benefits under the plan). An actuarial cost method (see description in a later section of this Appendix) is then applied to this present value to determine the contributions to be made by the employer.

The resulting determinations are estimates, since in making a valuation a number of significant uncertainties concerning future events must be resolved by making several actuarial assumptions.

Actuarial Assumptions

The uncertainties in estimating the cost of a pension plan relate to (1) interest (return on funds invested), (2) expenses

NOTE: For further discussion see Appendix C of Accounting Research Study No. 8, *Accounting for the Cost of Pension Plans* by Ernest L. Hicks, CPA, published by the American Institute of Certified Public Accountants in 1965.

of administration and (3) the amounts and timing of benefits to be paid with respect to presently retired employees, former employees whose benefits have vested and present employees.

Interest (return on funds invested)

The rate of interest used in an actuarial valuation is an expression of the average rate of earnings that can be expected on the funds invested or to be invested to provide for the future benefits. Since in most instances the investments include equity securities as well as debt securities, the earnings include dividends as well as interest; gains and losses on investments are also a factor. For simplicity, however, the rate is ordinarily called the interest rate.

Expenses of administration

In many instances the expenses of administering a pension plan – for example, fees of attorneys, actuaries and trustees, and the cost of keeping pension records – are borne directly by the employer. In other cases, such expenses, or some of them, are paid by a trust or insurance company from funds contributed by the employer. In the latter cases, expenses to be incurred in the future must be estimated in computing the employer's pension cost.

Benefits

Several assumptions must be made as to the amounts and timing of the future benefits whose present value is used in expressing the cost of a pension plan. The principal assumptions are as follows:

a. *Future compensation levels.* Benefits under some pension plans depend in part on future compensation levels. Under plans of this type, an estimate is ordinarily made of normal increases expected from the progression of employees through the various earnings-rate categories, based on the employer's experience. General earnings-level increases, such as those which may result from inflation, are usually excluded from this actuarial assumption.

b. *Cost-of-living.* To protect the purchasing power of retirement benefits, some plans provide that the benefits otherwise determined will be adjusted from time to time to reflect variations in a specific index, such as the Consumer Price Index of the United States Bureau of Labor Statistics. In estimating the cost of such a plan, expected future changes in the cost-of-living index may be included in the actuarial assumptions.

c. *Mortality.* The length of time an employee covered by a pension plan will live is an important factor in estimating the cost of the benefit payments he will receive. If an employee dies before he becomes eligible for pension benefits, he receives no payments, although in some plans his beneficiaries receive lump-sum or periodic benefits. The total amount of pension benefits for employees who reach retirement is determined in large part by how long they live thereafter. Estimates regarding mortality are based on mortality tables.

d. *Retirement age.* Most plans provide a normal retirement age, but many plans permit employees to work thereafter under certain conditions. Some plans provide for retirement in advance of the normal age in case of disability, and most plans permit early retirement at the employee's option under certain conditions. When there are such provisions, an estimate is made of their effect on the amount and timing of the benefits which will ultimately be paid.

e. *Turnover.* In many plans, some employees who leave employment with the employer before completing vesting requirements forfeit their rights to receive benefits. In estimating the amount of future benefits, an allowance for the effect of turnover may be made.

f. *Vesting.* Many plans provide that after a stated number of years of service an employee becomes entitled to receive benefits (commencing at his normal retirement age and usually varying in amount with his number of years of service) even though he leaves the company for a reason other than retirement. This is taken into consideration in estimating the effect of turnover.

g. *Social security benefits.* For plans providing for a reduction of pensions by all or part of social security benefits, it is necessary in estimating future pension benefits to estimate the effect of future social security benefits. Ordinarily, this estimate is based on the assumption that such benefits will remain at the level in effect at the time the valuation is being made.

Actuarial gains and losses

The likelihood that actual events will coincide with each of the assumptions used is so remote as to constitute an impossibility. As a result, the actuarial assumptions used may be changed from time to time as experience and judgment dictate. In addition, whether or not the assumptions as to events in the future are changed, it is often necessary to recognize in the calculations the effect of differences between actual prior experience and the assumptions used in the past.

Actuarial Cost Methods

Actuarial cost methods have been developed by actuaries as funding techniques to be used in actuarial valuations. As indicated in Paragraph 19 of the accompanying Opinion, many of the actuarial cost methods are also useful for accounting purposes. The following discussion of the principal methods describes them as funding techniques (to simplify the discussion, references to prior service cost arising on amendment of a plan have been omitted; such cost would ordinarily be treated in a manner consistent with that described for past service cost). Their application for accounting purposes is described in the accompanying Opinion.

Accrued benefit cost method—unit credit method

Under the unit credit method, future service benefits (pension benefits based on service after the inception of a plan) are funded as they accrue – that is, as each employee works out the service period involved. Thus, the normal cost under this method for a particular year is the present value of the units of future benefit credited to employees for service in that year (hence unit credit). For example, if a plan provides benefits of

$5 per month for each year of credited service, the normal cost for a particular employee for a particular year is the present value (adjusted for mortality and usually for turnover) of an annuity of $5 per month beginning at the employee's anticipated retirement date and continuing throughout his life.

The past service cost under the unit credit method is the present value at the plan's inception date of the units of future benefit credited to employees for service prior to the inception date.

The annual contribution under the unit credit method ordinarily comprises (1) the normal cost and (2) an amount for past service cost. The latter may comprise only an amount equivalent to interest on the unfunded balance or may also include an amount intended to reduce the unfunded balance.

As to an individual employee, the annual normal cost for an equal unit of benefit each year increases because the period to the employee's retirement continually shortens and the probability of reaching retirement increases; also, in some plans, the retirement benefits are related to salary levels, which usually increase during the years. As to the employees collectively, however, the step-up effect is masked, since older employees generating the highest annual cost are continually replaced by new employees generating the lowest. For a mature employee group, the normal cost would tend to be the same each year.

The unit credit method is almost always used when the funding instrument is a group annuity contract and may also be used in trusteed plans and deposit administration contracts where the benefit is a stated amount per year of service. This method is not frequently used where the benefit is a fixed amount(for example, $100 per month) or where the current year's benefit is based on earnings of a future period.

Projected benefit cost methods

As explained above, the accrued benefit cost method (unit credit method) recognizes the cost of benefits only when they have accrued (in the limited sense that the employee service on which benefits are based has been rendered). By contrast, the projected benefit cost methods look forward. That is, they

assign the entire cost of an employee's *projected* benefits to past, present and future periods. This is done in a manner not directly related to the periods during which the service on which the benefits are based has been or will be rendered. The principal projected benefit cost methods are discussed below.

a. *Entry age normal method.* Under the entry age normal method, the normal costs are computed on the assumption (1) that every employee entered the plan (thus, entry age) at the time of employment or at the earliest time he would have been eligible if the plan had been in existence and (2) that contributions have been made on this basis from the entry age to the date of the actuarial valuation. The contributions are the level annual amounts which, if accumulated at the rate of interest used in the actuarial valuation, would result in a fund equal to the present value of the pensions at retirement for the employees who survive to that time.

Normal cost under this method is the level amount to be contributed for each year. When a plan is established after the company has been in existence for some time, past service cost under this method at the plan's inception date is theoretically the amount of the fund that would have been accumulated had annual contributions equal to the normal cost been made in prior years.

In theory, the entry age normal method is applied on an individual basis. It may be applied, however, on an aggregate basis, in which case separate amounts are not determined for individual employees. Further variations in practice often encountered are (1) the use of an average entry age, (2) the use, particularly when benefits are based on employees' earnings, of a level percentage of payroll in determining annual payments and (3) the computation of past service cost as the difference between the present value of employees' projected benefits and the present value of the employer's projected normal cost contributions. In some plans, the normal cost contribution rate may be based on a stated amount per employee. In other plans the normal cost contribution itself may be stated as a flat amount.

In valuations for years other than the initial year the past service cost may be frozen (that is, the unfunded amount of

such cost is changed only to recognize payments and the effect of interest). Accordingly, actuarial gains and losses are spread into the future, entering into the normal cost for future years. If past service cost is not frozen, the unfunded amount includes the effects of actuarial gains and losses realized prior to the date of the valuation being made.

The annual contribution under the entry age normal method ordinarily comprises (1) the normal cost and (2) an amount for past service cost. The latter may comprise only an amount equivalent to interest on the unfunded balance or may also include an amount intended to reduce the unfunded balance.

The entry age normal method is often used with trusteed plans and deposit administration contracts.

b. *Individual level premium method.* The individual level premium method assigns the cost of each employee's pension in level annual amounts, or as a level percentage of the employee's compensation, over the period from the inception date of a plan (or the date of his entry into the plan, if later) to his retirement date. Thus, past service cost is not determined separately but is included in normal cost.

The most common use of the individual level premium method is with funding by individual insurance or annuity policies. It may be used, however, with trusteed plans and deposit administration contracts.

In plans using individual annuity policies, the employer is protected against actuarial losses, since premiums paid are not ordinarily subject to retroactive increases. The insurance company may, however, pass part of any actuarial gains along to the employer by means of dividends. Employee turnover may be another source of actuarial gains under such insured plans, since all or part of the cash surrender values of policies previously purchased for employees leaving the employer for reasons other than retirement may revert to the company (or to the trust). Dividends and cash surrender values are ordinarily used to reduce the premiums payable for the next period.

The individual level premium method generates annual costs which are initially very high and which ultimately drop to the level of the normal cost determined under the entry age normal

method. The high initial costs arise because the past service cost (although not separately identified) for employees near retirement when the plan is adopted is in effect amortized over a very short period.

c. *Aggregate method.* The aggregate method applies on a collective basis the principle followed for individuals in the individual level premium method. That is, the entire unfunded cost of future pension benefits (including benefits to be paid to employees who have retired as of the date of the valuation) is spread over the average future service lives of employees who are active as of the date of the valuation. In most cases this is done by the use of a percentage of payroll.

The aggregate method does not deal separately with past service cost (but includes such cost in normal cost). Actuarial gains and losses enter into the determination of the contribution rate and, consequently, are spread over future periods.

Annual contributions under the aggregate method decrease, but the rate of decrease is less extreme than under the individual level premium method. The aggregate cost method amortizes past service cost (not separately identified) over the average future service lives of employees, thus avoiding the very short individual amortization periods of the individual level premium method.

The aggregate method may be modified by introducing past service cost. If the past service cost is determined by the entry age normal method, the modified aggregate method is the same as the entry age normal method applied on the aggregate basis. If the past service cost is determined by the unit credit method, the modified aggregate method is called the attained age normal method (discussed below).

The aggregate method is used principally with trusteed plans and deposit administration contracts.

d. *Attained age normal method.* The attained age normal method is a variant of the aggregate method or individual level premium method in which past service cost, determined under the unit credit method, is recognized separately. The cost of each employee's benefits assigned to years after the inception of

the plan is spread over the employee's future service life. Normal cost contributions under the attained age normal method, usually determined as a percentage of payroll, tend to decline but less markedly than under the aggregate method or the individual level premium method.

As with the unit credit and entry age normal methods, the annual contribution for past service cost may comprise only an amount equivalent to interest on the unfunded balance or may also include an amount intended to reduce the unfunded balance.

The attained age normal method is used with trusteed plans and deposit administration contracts.

Terminal funding

Under terminal funding, funding for future benefit payments is made only at the end of an employee's period of active service. At that time the employer either purchases a single-premium annuity which will provide the retirement benefit or makes an actuarially equivalent contribution to a trust. (Note – This method is not acceptable for determining the provision for pension cost under the accompanying Opinion.)

APPENDIX B

GLOSSARY

Accrue (Accrual). When *accrue (accrual)* is used in accounting discussions in the accompanying Opinion, it has the customary accounting meaning. When used in relation to actuarial terms or procedures, however, the intended meaning differs somewhat. When actuaries say that pension benefits, actuarial costs or actuarial liabilities have *accrued,* they ordinarily mean that the amounts are associated, either specifically or by a process of allocation, with years of employee service before the date of a particular valuation of a pension plan. Actuaries do not ordinarily intend their use of the word *accrue* to have the more conclusive accounting significance.

Accrued Benefit Cost Method. An *actuarial cost method.* See Appendix A.

Actuarial Assumptions. Factors which actuaries use in tentatively resolving uncertainties concerning future events affecting pension cost; for example, mortality rate, employee turnover, compensation levels, investment earnings, etc. See Appendix A.

Actuarial Cost Method. A particular technique used by actuaries for establishing the amount and incidence of the annual actuarial cost of pension plan benefits, or benefits and expenses, and the related actuarial liability. Sometimes called *funding method.* See Appendix A.

Actuarial Gains (Losses). The effects on actuarially calculated pension cost of (a) deviations between actual prior experience and the actuarial assumptions used or (b) changes in actuarial assumptions as to future events.

Actuarial Liability. The excess of the present value, as of the date of a pension plan valuation, of prospective pension benefits and administrative expenses over the sum of (1) the amount in the pension fund and (2) the present value of future contributions for normal cost determined by any of several actuarial cost methods. (Sometimes referred to as *unfunded actuarial liability.*)

Actuarial Valuation. The process by which an actuary estimates the present value of benefits to be paid under a pension plan and calculates the amounts of employer contributions or accounting charges for pension cost. See Appendix A.

Actuarially Computed Value. See *present value.*

Actuarially Computed Value of Vested Benefits. See *vested benefits.*

Actuary. There are no statutory qualifications required for actuaries. Membership in the American Academy of Actuaries, a comprehensive organization of the profession in the United States, is generally considered to be acceptable evidence of professional qualification.

Aggregate Method. An *actuarial cost method.* See Appendix A.

Assumptions. See *actuarial assumptions.*

Attained Age Normal Method. An *actuarial cost method.* See Appendix A.

Benefits (Pension Benefits) (Retirement Benefits). The pensions and any other payments to which employees or their beneficiaries may be entitled under a pension plan.

Contribute (Contribution). When used in connection with a pension plan, *contribute* ordinarily is synonymous with pay.

Deferred Compensation Plan. An arrangement whereby specified portions of the employee's compensation are payable in the form of retirement benefits.

Deferred Profit-Sharing Plan. An arrangement whereby an employer provides for future retirement benefits for employees from specified portions of the earnings of the business; the benefits for each employee are usually the amounts which can be provided by accumulated amounts specifically allocated to him.

Defined-Benefit Plan. A pension plan stating the benefits to be received by employees after retirement, or the method of determining such benefits. The employer's contributions under such

a plan are determined actuarially on the basis of the benefits expected to become payable.

Defined-Contribution Plan. A pension plan which (a) states the benefits to be received by employees after retirement or the method of determining such benefits (as in the case of a defined-benefit plan) and (b) accompanies a separate agreement that provides a formula for calculating the employer's contributions (for example, a fixed amount for each ton produced or for each hour worked, or a fixed percentage of compensation). Initially, the benefits stated in the plan are those which the contributions expected to be made by the employer can provide. If later the contributions are found to be inadequate or excessive for the purpose of funding the stated benefits on the basis originally contemplated, either the contributions or the benefits, or both, may be subsequently adjusted. In one type of defined-contribution plan (money-purchase plan) the employer's contributions are determined for, and allocated with respect to, specific individuals, usually as a percentage of compensation; the benefits for each employee are the amounts which can be provided by the sums contributed for him.

Deposit Administration Contract. A funding instrument provided by an insurance company under which amounts contributed by an employer are not identified with specific employees until they retire. When an employee retires, the insurance company issues an annuity which will provide the benefits stipulated in the pension plan and transfers the single premium for the annuity from the employer's accumulated contributions.

Entry Age Normal Method. An *actuarial cost method.* See Appendix A.

Fund. Used as a verb, *fund* means to pay over to a funding agency. Used as a noun, *fund* refers to assets accumulated in the hands of a funding agency for the purpose of meeting retirement benefits when they become due.

Funded. The portion of pension cost that has been paid to a funding agency is said to have been *funded.*

Funding Agency. An organization or individual, such as a specific corporate or individual trustee or an insurance company, which provides facilities for the accumulation of assets to be used for the payment of benefits under a pension plan; an organization, such as a specific life insurance company, which provides facilities for the purchase of such benefits.

Funding Method. See *actuarial cost method.*

Individual Level Premium Method. An *actuarial cost method.* See Appendix A.

Interest. The return earned or to be earned on funds invested or to be invested to provide for future pension benefits. In calling the return *interest,* it is recognized that in addition to interest on debt securities the earnings of a pension fund may include dividends on equity securities, rentals on real estate, and realized and unrealized gains or (as offsets) losses on fund investments. See Appendix A.

Mortality Rate. Death rate – the proportion of the number of deaths in a specified group to the number living at the beginning of the period in which the deaths occur. Actuaries use mortality tables, which show death rates for each age, in estimating the amount of future retirement benefits which will become payable. See Appendix A.

Normal Cost. The annual cost assigned, under the actuarial cost method in use, to years subsequent to the inception of a pension plan or to a particular valuation date. See *past service cost, prior service cost.*

Past Service Cost. Pension cost assigned, under the actuarial cost method in use, to years prior to the inception of a pension plan. See *normal cost, prior service cost.*

Pay-As-You-Go. A method of recognizing pension cost only when benefits are paid to retired employees. (Note – This is not an acceptable method for accounting purposes under the accompanying Opinion.)

Pension Fund. See *fund.*

Present Value (Actuarially Computed Value). The current worth of an amount or series of amounts payable or receivable in the future. *Present value* is determined by discounting the future amount or amounts at a predetermined rate of interest. In pension plan valuations, actuaries often combine arithmetic factors representing probability (e.g., mortality, withdrawal, future compensation levels) with arithmetic factors representing discount (interest). Consequently, to actuaries, determining the present value of future pension benefits may mean applying factors of both types.

Prior Service Cost. Pension cost assigned, under the actuarial cost method in use, to years prior to the date of a particular actuarial valuation. *Prior service cost* includes any remaining past service cost. See *normal cost, past service cost.*

Projected Benefit Cost Method. A type of *actuarial cost method.* See Appendix A.

Provision (Provide). An accounting term meaning a charge against income for an estimated expense, such as pension cost.

Service. Employment taken into consideration under a pension plan. Years of employment before the inception of a plan constitute an employee's past service; years thereafter are classified in relation to the particular actuarial valuation being made or discussed. Years of employment (including past service) prior to the date of a particular valuation constitute prior service; years of employment following the date of the valuation constitute future service.

Terminal Funding. An *actuarial cost method.* See Appendix A. (Note — This is not an acceptable *actuarial cost method* for accounting purposes under the accompanying Opinion.)

Trust Fund Plan. A pension plan for which the funding instrument is a trust agreement.

Turnover. Termination of employment for a reason other than death or retirement. See *withdrawal,* Appendix A.

Unit Credit Method. An *actuarial cost method.* See Appendix A.

Valuation. See *actuarial valuation,* Appendix A.

Vested Benefits. Benefits that are not contingent on the employee's continuing in the service of the employer. In some plans the payment of the benefits will begin only when the employee reaches the normal retirement date; in other plans the payment of the benefits will begin when the employee retires (which may be before or after the normal retirement date). The *actuarially computed value of vested benefits,* as used in this Opinion, represents the present value, at the date of determination, of the sum of (a) the benefits expected to become payable to former employees who have retired, or who have terminated service with vested rights, at the date of determination; and (b) the benefits, based on service rendered prior to the date of determination, expected to become payable at future dates to present employees, taking into account the probable time that employees will retire, at the vesting percentages applicable at the date of determination. The determination of vested benefits is not affected by other conditions, such as inadequacy of the pension fund, which may prevent the employee from receiving the vested benefits.

Withdrawal. The removal of an employee from coverage under a pension plan for a reason other than death or retirement. See *turnover.*