method as may be required by the applicable forms and the instructions for such forms.

[T.D. 7702, 45 FR 40113, June 13, 1980]

§ 1.412(c)(1)–1 Determinations to be made under funding method—terms defined.

(a) *Actuarial cost method and funding method.* Section 3 (31) of the Employee Retirement Income Security Act of 1974 (''ERISA'') provides certain acceptable (and unacceptable) actuarial cost methods which may (or may not) be used by employee plans. The term ''funding method'' when used in section 412 has the same meaning as the term ''actuarial cost method'' in section 3 (31) of ERISA. For shortfall method for certain collectively bargained plans, see § 1.412(c)(1)–2; for principles applicable to funding methods in general, see regulations under section 412(c)(3).

(b) *Computations included in funding method.* The funding method of a plan includes not only the overall funding method used by the plan but also each specific method of computation used in applying the overall method. However, the choice of which actuarial assumptions are appropriate to the overall method or to the specific method of computation is not a part of the funding method. For example, the decision to use or not to use a mortality factor in the funding method of a plan is not a part of such funding method. Similarly, the specific mortality rate determined to be applicable to a particular plan year is not part of the funding method. See section 412(c)(5) for the requirement of approval to change the funding method used by a plan.

[T.D. 7733, 45 FR 75202, Nov. 14, 1980]

§ 1.412(c)(1)–2 Shortfall method.

(a) *In general*—(1) *Shortfall method.* The shortfall method is a funding method that adapts a plan's underlying funding method for purposes of section 412. As such, the use of the shortfall method is subject to section 412(c)(3). A plan described in paragraph (a)(2) of this section may elect to determine the charges to the funding standard account required by section 412(b) under the shortfall method. These charges are computed on the basis of an estimated number of units of service or production (for which a certain amount per unit is to be charged). The difference between the net amount charged under this method and the net amount that otherwise would have been charged under section 412 for the same period is a shortfall loss (gain) and is to be amortized over certain subsequent plan years.

(2) *Eligibility for use of shortfall.* No plan may use the shortfall method unless—

(i) The plan is a collectively bargained plan described in section 413(a), and

(ii) Contributions to the plan are made at a rate specified under the terms of a legally binding agreement applicable to the plan.

For purposes of this section, a plan maintained by a labor organization which is exempt from tax under section 501(c)(5) is treated as a collectively bargained plan and the governing rules of the organization (such as its constitution, bylaws, or other document that can be altered only through action of a convention of the organization) are treated as a collectively bargained agreement.

(b) *Computation and effect of net shortfall charge*—(1) *In general.* The ''net shortfall charge'' to the funding standard account under the shortfall method is the product of (i) the estimated unit charge described in paragraph (c) of this section that applies for a particular plan year, multiplied by (ii) the actual number of base units (for example, units of service or production) which occurred during that plan year. When the shortfall method is used, the net shortfall charge is a substitute for the specific charges and credits to the funding standard account described in section 412 (b)(2) and (3)(B).

(2) *Example.* Paragraph (b)(1) of this section may be illustrated by the following example:

Example. A pension plan uses the calendar year as the plan year and the shortfall method. Its estimated unit charge applicable to 1980 is 80 cents per hour of covered employment. During 1980, there were 125,000 hours of covered employment. The net shortfall charge for the plan year is $100,000 (*i.e.*, 125,000×$.80), regardless of the amount which would be charged and credited to the funding standard account under section 412 (b)(2) and

(3)(B) had the shortfall method not applied. The funding standard account for 1980 will be separately credited for the amount considered contributed for the plan year under section 412 (b)(3)(A). The other items which may be credited, if applicable, are a waived funding deficiency and the alternative minimum funding standard credit adjustment under section 412(b)(3)(C) and (D) because these items are not credits under section 412(b)(3)(B).

(3) *Plans with more than one contract, contribution rate, employer, or benefit level*—(i) *General rule.* A single plan with more than one contract, contribution rate, employer, or benefit level may compute a separate net shortfall charge for each contract, contribution rate, each employer, or each benefit level. The sum of these charges is the plan's total net shortfall charge. under § 1.412(c)(1)–1(b), the use of separate computations would be a specific method of computation used in applying the overall funding method. See also paragraph (f)(5) of this section.

(ii) *Single valuation.* Only one actuarial valuation shall be made for the single plan on each actuarial valuation date.

(iii) *Reasonableness test.* The specific method of computation of the net shortfall charge must be reasonable, determined in the light of the facts and circumstances.

(c) *Estimated unit charge.* The estimated unit charge is the annual computation charge described in paragraph (d) of this section divided by the estimated base units of service or production described in paragraph (e) of this section.

(d) *Annual computation charge.* The annual computation charge for a plan year is the sum of the following amounts:

(1) The net charges and credits which, but for using the shortfall method, would be made under section 412 (b)(2) and (b)(3)(B).

(2) The amount described in paragraph (g)(3) of this section, if applicable, for amortization of shortfall gain or loss.

(e) *Estimated base units*—(1) *In general.* The estimated base units are the expected units of service or production for a plan year (hours, days, tons, dollars of compensation, etc.), determined as of the base unit estimation date for that plan year under paragraph (f) of this section. This estimate must be based on the past experience of the plan and the reasonable expectations of the plan for the plan year. The specific type of unit used must be described in the statement of funding method for the plan year. (See paragraph (i)(3) of this section for reporting requirements.)

(2) *Reasonable expectations.* The reasonableness of expectations used under paragraph (e)(1) of this section is determined under the facts and circumstances of the plan for each plan year as of the relevant base unit estimation date. Expectations will be considered unreasonable if, for example, they do not reflect a consistent and substantial decline or growth in actual base units that has occurred over the course of recent years and that is likely to continue beyond the base unit estimation date. This determination of reasonableness is independent of determinations made under section 412(c)(3) of the reasonableness of actuarial assumptions.

(f) *Base unit estimation date*—(1) *In general.* The base unit estimation date for the current plan year is determined under this paragraph (f). This date shall be an actuarial valuation date no earlier than the last actuarial valuation date occurring at least one year before the earliest date any current collectively bargained agreement in existence during the plan year came into effect.

(2) *Four-month rule.* For purposes of this paragraph (f), a current collectively bargained agreement is one in effect during at least four months of the current plan year.

(3) *Effective date of agreement.* For purposes of this paragraph (f), a collectively bargained agreement shall be deemed to have come into effect on the effective date of the agreement containing the currently effective provision for contributions to the plan or the benefits provided under the plan.

(4) *Long-term contract rule.* The effective date of a collectively bargained agreement shall be deemed not to occur prior to the first day of the third plan year preceding the current year.

(5) *Special rule for plans computing separate net shortfall charge.* A plan that

computes a separate net shortfall charge for each contract, contribution rate, employer, or benefit level under paragraph (b)(3) of this section shall determine the base unit estimation date for each separate charge without regard to any collectively bargained agreement that does not relate to that contract, contribution rate, employer, or benefit level. If a collective bargaining agreement requiring contributions by a certain employer, or prescribing a certain benefit level, is in effect on December 31, 1980, the preceding sentence shall not apply to the computation of a separate net shortfall charge for that employer or benefit level until the earlier of—

(i) The first plan year beginning after the date on which expires the collective bargaining agreement requiring contributions by that employer (or the last collective bargaining agreement relating to that benefit level), or

(ii) The first plan year beginning after December 31, 1983.

(6) *Example*. The rules contained in paragraph (f) of this section are illustrated by the following table. In the table, ''V'' signifies actuarial valuation date (January 1 in each case shown); ''B'' signifies beginning of a contract; and ''E'' signifies end of a contract. The table shows the resulting earliest base unit estimation date with respect to the following assumed items:

COMPUTATION OF EARLIEST BASE UNIT ESTIMATION DATE

Example	Plan year (calendar year basis)											
	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Plan A	V			V			V			V		
Contract 1	.....	.....	E/B	.....	.....	E/B	.....	E/B	.....	.....	.....	E/B
Base unit estimation date [1]				1973	1973	1973	1976	1976	1979	1979	1979	1979
Plan B	V			V			V			V		
Contract 2	[2]	[2]	[2]	B*	.....	E/B	.....	.....	.....	E/B*	.....	.....
Contract 3	E/B	.....	.....	E/B	.....	.....	E/B	.....	.....	E/B	.....	.....
Base unit estimation date [1]	.....	.....	.....	1973	1973	1973	1976	1976	1976	1976	1979	1979
Plan C	V	V	V	V	V	V	V	V	V	V	V	V
Contract 4	.....	.....	E/B	.....	.....	E/B*	.....	.....	.....	E/B*	.....	.....
Contract 5	.....	.....	E/B	.....	.....	E/B*	.....	.....	.....	.....	E/B*	.....
Base unit estimation date [1]				1974	1974	1977	1977	1977	1977	1978	1979	1981

[1] The base unit estimation date may be on or any time after the actuarial valuation date in the year indicated on this line.
[2] No contract.
* Denotes that a prior contract ends and a new contract begins prior to the fifth month of a plan year.

(g) *Amortization of shortfall gain or loss*—(1) *Definition*. The shortfall gain for a plan is the excess for the plan year of—

(i) The net shortfall charge computed under paragraph (b) of this section over

(ii) The annual computation charge described in paragraph (d) of this section.

The shortfall loss for a plan is the excess for the plan year of the annual computation charge over the net shortfall charge.

(2) *Shortfall amortization period*—(i) *First year*. The plan year in which the amortization of a shortfall gain or loss must begin is the earlier of two years: the fifth plan year following the plan year in which the shortfall gain or loss arose, or the first plan year beginning after the latest scheduled expiration date of a collectively bargained agreement in effect with respect to the plan during the plan year in which the shortfall gain or loss arose. For purposes of this subparagraph, a contract expiring on the last day of a plan year shall be deemed to be renewed on such last day for the same period of years as the contract that succeeds the expiring contract.

(ii) *Last year*. The plan year in which the amortization of a shortfall gain or loss must end is the 15th plan year following the plan year in which the shortfall gain or loss arose. For a multiemployer plan described in section

414(f), the amortization must end with the 20th plan year instead of the 15th.

(3) *Annual amortization amount.* The shortfall gain or loss must be amortized in equal annual installments. The total amount to be amortized must be adjusted for interest at the rate used for determining the plan's normal cost.

(4) *Shortfall gain or loss under spread gain type of funding method*—(i) *In general.* A spread gain type of funding method spreads experience gains and losses over future periods as part of a plan's normal cost. (Examples of spread gain types of funding methods are the aggregate cost method, the frozen initial liability method, and the attained age normal method.) However, a shortfall gain or loss is not an experience gain or loss. Therefore, a plan using a spread gain type of funding method together with the shortfall method must amortize shortfall gains and losses and otherwise meet the requirements of paragraph (g) of this section.

(ii) *Asset adjustment for aggregate method.* A plan using the shortfall method with the aggregate cost method of funding must adjust its plan assets for a shortfall gain or loss in calculating normal cost. The unamortized portion of any shortfall gain is subtracted from plan assets. The unamortized portion of any shortfall loss is added to plan assets.

(5) *Reconciliation of shortfall gain or loss with funding standard account.* At the beginning of each year, the actual unfunded liability under the method used by the plan must equal the outstanding balance of all amortization bases, including bases for shortfall gains and losses, less the credit balance under the funding standard account at the end of the prior year.

(6) *Example.* This paragraph is illustrated by the following examples:

Example (1). A multiemployer plan described in section 414 (f) is maintained with the calendar year as the plan year and uses the shortfall method. The plan uses the frozen initial liability funding method. A five percent interest assumption is used by the plan, with payments computed as of the first day of each plan year for all items. The expiration dates of contracts in effect during plan years 1976, 1977, and 1978 are such that the amortization of gains or losses for each year must begin in the fifth following plan year. The assumed plan costs and estimated base units for selected years, and the computations under this section which follow from such assumptions are shown in the following table. In the table, ''*'' denotes an assumed item. The remaining figures have been calculated on the basis of these assumptions.

(A) COMPUTATION OF NET SHORTFALL CHARGE AND SHORTFALL GAIN OR LOSS

Plan year	1976	1977	1978
1. Normal cost*	$100,000	$100,000	$100,000
2. Amortization of unfunded liability*	50,000	50,000	50,000
3. Total annual computation charges	$150,000	$150,000	$150,000
4. Estimated base units*	100,000	100,000	100,000
5. Estimated unit charge (line 3÷line 4)	$1.50	$1.50	$1.50
6. Actual units during year*	80,000	90,000	110,000
7. Net shortfall charge for year (line 5×line 6)	120,000	135,000	165,000
8. Shortfall (gain) or loss (line 3 − line 7)	30,000	15,000	($15,000)

(B) ANNUAL AMORTIZATION AMOUNT

9. Year of shortfall gain or loss	1976	1977	1978
10. First year of amortization	1981	1982	1983
11. Last year of amortization	1996	1997	1998
12. (Gain) or loss adjusted for interest to year amortization begins (1–1–76 to 1–1–81, etc.)	$38,288	$19,144	($19,144)
13. Annual amortization (16 years)	$3,364	$1,682	($1,682)

(C) COMPUTATION OF NET SHORTFALL CHARGES FOR SELECTED YEARS (INCLUDING SHORTFALL AMORTIZATION)

Plan year	1981	1982	1983
14. Normal cost*	$120,000	$125,000	$130,000
15. Amortization of unfunded liability*	50,000	50,000	50,000
16. Shortfall amortization (see line 13) from:			
1976	3,364	3,364	3,364
1977	.....	1,682	1,682
1978	.....	.....	(1,682)
17. Total annual computation charges	173,364	180,046	183,364

(C) COMPUTATION OF NET SHORTFALL CHARGES FOR SELECTED YEARS (INCLUDING SHORTFALL AMORTIZATION)—Continued

Plan year	1981	1982	1983
18. Estimated base units*	110,000	110,000	110,000
19. Estimated unit charge (line 17÷line 18)	1.576	1.637	1.667
20. Actual units during year*	105,000	110,000	105,000
21. Net shortfall charge for year (line 19×line 20)	165,480	180,070	175,035
22. Shortfall (gain) loss (line 17 − line 21)	7,884	(24)	8,329

The amounts in line 22 will be amortized beginning 1986, 1987, and 1988, respectively. The $24 gain in 1982 results from rounding the estimated unit charge.

Example (2). Assume the facts in Example (1). Also assume that the plan uses the frozen initial liability funding method, that the unfunded liability as of January 1, 1976 (corresponding to a 40-year charge of $50,000 due at the beginning of the year) is $900,850, and that actual contributions at the rate of $1.75 per unit are paid at mid-year in 1976.

(A) COMPUTATION OF THE UNFUNDED LIABILITY AS OF DECEMBER 31, 1976

1. Unfunded liability as of 1/1/76	$900,850
2. Normal cost (that used in the calculation of the total annual computation charges)	100,000
3. Interest at 5% due on items 1 and 2	50,043
4. Contribution with interest: $1.75×80,000×1.025 (actual contribution rate times acutal base units times interest adjustment from mid-year)	143,500
5. Unfunded liability as of 12/31/76: item 1+item 2+item 3 − item 4	907,393

(B) COMPUTATION OF THE OUTSTANDING BALANCE OF THE BASES AS OF DECEMBER 31, 1976

1. Original base: ($900,850 − $50,000)×1.05	$893,393
2. Shortfall loss $30,000×1.05	31,500
3. Total	924,893

(C) COMPUTATION OF THE CREDIT BALANCE AS OF DECEMBER 31, 1976

1. Net shortfall charge (§ 1.412 (c) (1)–2 (b)) adjusted for interest: $120,000×1.05	$126,000
2. Actual contributions with interest	143,500
3. Credit balance as of 12/31/76: item 2 − item 1	17,500

(D) RECONCILIATION OF COMPUTATIONS

As of January 1, 1977, the unfunded liability ($907,393) equals the outstanding balance of the bases minus the credit balance ($924,893 − $17,500=$907,393).

(h) *Amortization of experience gain or loss*—(1) *General rule.* In the case of a plan using an immediate gain type of funding method, an experience gain or loss shall be amortized pursuant to section 412 (b)(2)(B)(iv) or (b)(3)(B)(ii). (Examples of the immediate gain type of funding method are the unit credit method, the entry age normal cost method, and the individual level premium cost method.) For purposes of this section, a shortfall gain or loss is not an experience gain or loss. The amount of the experience gain or loss must be adjusted for interest at the rate used for determining the plan's normal cost.

(2) *Experience amortization period under shortfall method*—(i) *First year.* The plan year in which the amortization of an experience gain or loss must begin in the case of a plan using the shortfall method is the earlier of two years: the fifth plan year following the plan year in which the experience gain or loss arose, or the first plan year beginning after the last scheduled expiration date of a contract in effect during the plan year in which the experience gain or loss arose. For purposes of this subparagraph a contract expiring on the last day of the plan year shall be deemed to be renewed on such last day for the same period of years as the contract that succeeds the expiring contract.

(ii) *Last year.* The plan year in which the amortization of an experience gain or loss must end in the case of a plan using the shortfall method is the 15th plan year following the plan year in which the experience gain or loss arose. For a multi-employer plan described in section 414 (f), the amortization must end with the 20th plan year instead of the 15th.

(3) *Use of annual computation charge in determining experience gain or loss.* In the case of a plan using an immediate gain type of funding method, an experience gain or loss is the difference between the expected unfunded liability and the actual unfunded liability under the plan. The expected unfunded liability as of the end of a plan year equals the actual unfunded liability as of the beginning of the year plus normal cost,

minus contributions, all adjusted for interest. If the plan adopts the shortfall method, the expected unfunded liability is computed by using the normal cost applicable for the plan year in determining the annual computation charge under paragraph (d) of this section. The same normal cost is used in computing the unfunded liability under the frozen initial liability funding method.

(4) *Example*. This paragraph is illustrated by the following example:

Example. Assume the facts in Example (2) from paragraph (g) (6) of this section, except that the entry age normal funding method is used. Also assume that as of December 31, 1976, the actual unfunded liability is $900,000.

(A) COMPUTATION OF EXPECTED UNFUNDED LIABILITY

1. Actual unfunded liability as of 1–1–76	$900,850
2. Normal cost portion of annual computation charge as of 1–1–76	100,000
3. Interest at 5% due on items 1 and 2	50,043
4. Contribution received with interest: $1.75 × 80,000 × 1.025 (actual contribution rate times actual base units times interest adjustment at mid-year)	143,500
5. Expected unfunded liability as of 12–31–76 (item 1 + item 2 + item 3 − item 4)	907,393

(B) COMPUTATION OF GAIN OR LOSS

1. Expected unfunded liability as of 12–31–76	$907,393
2. Actual unfunded liability as of 12–31–76	900,000
3. Gain (or loss) (item 1 − item 2)	7,393

(i) *Election procedure*—(1) *In general*. To elect the shortfall method, a collectively bargained plan must attach a statement to the annual report required under section 6058 (a) for the first plan year to which it is applied. The statement shall state that the shortfall method is adopted, beginning with the plan year covered by such report. Advance approval from the Internal Revenue Service is not required if the shortfall method is first adopted on or before the later of—

(i) The first plan year to which section 412 applies or

(ii) The last plan year commencing before December 31, 1981.

However, approval must be received pursuant to section 412(c)(5) prior to the adoption of the shortfall method at a later time, or the discontinuance of such method, once adopted.

(2) *Use of specific computation method*. A specific method of computation under the shortfall method is described in paragraph (b)(3) of this section, regarding the treatment of more than one contract, employer, or benefit level under the plan. This specific method may be adopted with respect to any plan year to which the shortfall method applies. Approval from the Commissioner must be received under section 412(c)(5) prior to the adoption of this specific computation method for a plan year subsequent to the first plan year to which the shortfall method applies, or prior to the discontinuance of a specific computation method, once adopted.

(3) *Reporting requirements*. Each annual report required by section 6058(a) and periodic report of the actuary required by section 6059 must include all additional information relevant to the use of the shortfall method as may be required by the applicable forms and the instructions for such forms.

(j) *Transitional rule*. In lieu of paragraphs (g)(2) and (h)(2) of this section relating to the amortization period for shortfall and experience gains and losses, for gains and losses arising in plan years beginning before January 1, 1981, a plan may rely on the prior published position of the Internal Revenue Service with respect to the amortization period for shortfall and experience gains and losses.

(k) *Supersession*. This section and § 1.412 (c) (1)–1 supersede §§ 11.412 (c) (1)–1 and (c) (1)–2 of the Temporary Income Tax Regulations Under the Employee Retirement Income Security Act of 1974.

(Secs. 412, 7805, Internal Revenue Code of 1954 (88 Stat. 914 and 68A Stat. 917; (26 U.S.C. 412 and 7805)), and sec. 3 (31) of the Employee Retirement Income Security Act of 1974 (88 Stat. 837; (29 U.S.C. 1002)))

[T.D. 7733, 45 FR 75202, Nov. 14, 1980]

§ 1.412(c)(1)–3 Applying the minimum funding requirements to restored plans.

(a) *In general*—(1) *Restoration method*. The restoration method is a funding method that adapts the underlying funding method of section 412 in the case of certain plans that are or have been terminated and are later restored