

(iv) *Social security retirement age.* Social security retirement age means social security retirement age as defined in section 415(b)(8).

(v) *Unadjusted accrual rate.* Unadjusted accrual rate means the normal or most valuable accrual rate, whichever is being determined for the employee under § 1.401(a)(4)-3(d), expressed as a percentage of average annual compensation, without imputing permitted disparity under this section.

(5) *Employees with negative unadjusted accrual rates.* Notwithstanding the formulas in paragraph (c)(2) and (c)(3) of this section, if an employee's unadjusted accrual rate is less than zero, the employee's adjusted accrual rate is deemed to be the employee's unadjusted accrual rate.

(6) *Example.* The following example illustrates the rules in this paragraph (c):

*Example.* (a) Employees M and N participate in a defined benefit plan that uses a normal retirement age of 65. The plan is being tested for the plan year under § 1.401(a)(4)-3(c), using unadjusted accrual rates determined using a plan year measurement period under § 1.401(a)(4)-3(d)(1)(iii)(A). Employee M has an unadjusted normal accrual rate of 1.48 percent, average annual compensation of \$21,000, and an employer-provided accrual of \$311 (1.48 percent × \$21,000). Employee N has an unadjusted normal accrual rate of 1.7 percent, average annual compensation of \$106,000, and an employer-provided accrual of \$1,802 (1.7 percent × \$106,000). The covered compensation of both Employees M and N is \$25,000, and social security retirement age for both employees is 65. Neither employee has testing service of more than 35 years and neither has ever participated in another plan.

(b) Because Employee M's average annual compensation does not exceed covered compensation, Employee M's A rate is 2.96 percent (2.0 × 1.48 percent), and Employee M's B rate is 2.23 percent (1.48 percent + 0.75 percent). Thus, Employee M's adjusted accrual rate is 2.23 percent, the lesser of the A rate and the B rate.

(c) Because Employee N's average annual compensation exceeds covered compensation, Employee N's C rate is 1.93 percent  $(\$1,802 / (\$106,000 - (0.5 \times \$25,000)))$ , and Employee N's D rate is 1.88 percent  $(\$1,802 + (0.75 \text{ percent} \times \$25,000) / \$106,000)$ . Thus, Employee N's adjusted accrual rate is 1.88 percent, the lesser of the C rate and the D rate.

(d) *Rules of general application—(1) Eligible plans.* The rules in this section

may be used only for those plans to which the permitted disparity rules of section 401(l) are available. See § 1.401(l)-1(a)(3).

(2) *Exceptions from consistency requirements.* A plan does not fail to satisfy the consistency requirements of § 1.401(a)(4)-2(c)(2)(vi) or § 1.401(a)(4)-3(d)(2)(i) merely because the plan does not impute disparity for some employees to the extent required to comply with paragraph (d)(3) of this section, or because the plan does not impute disparity for any employees (including self-employed individuals within the meaning of section 401(c)(1)) who are not covered by any of the taxes under section 3111(a), section 3221, or section 1401.

(3) *Overall permitted disparity.* The annual overall permitted disparity limits of § 1.401(l)-5(b) apply to the employer-provided contributions and benefits for an employee under all plans taken into account under § 1.401(l)-5(a)(3). Thus, if an employee who benefits under the plan for the current plan year also benefits under a section 401(l) plan for the plan year ending with or within the current plan year, permitted disparity may not be imputed for that employee for the plan year. See § 1.401(l)-5(b)(9), *Example 4*. Similarly, if an employee who benefits under the plan for the current plan year also benefits under another plan of the employer for the plan year ending with or within the current plan year, disparity may be imputed for that employee under only one of the plans.

[T.D. 8485, 58 FR 46804, Sept. 3, 1993]

#### § 1.401(a)(4)-8 Cross-testing.

(a) *Introduction.* This section provides rules for testing defined benefit plans on the basis of equivalent employer-provided contributions and defined contribution plans on the basis of equivalent employer-provided benefits under § 1.401(a)(4)-1(b)(2). Paragraphs (b)(1) and (c)(1) of this section provide general tests for nondiscrimination based on individual equivalent accrual or allocation rates determined under paragraphs (b)(2) and (c)(2) of this section, respectively. Paragraphs (b)(3), (c)(3), and (d) of this section provide additional safe-harbor testing methods for target benefit plans, cash balance

plans, and defined benefit plans that are part of floor-offset arrangements, respectively, that generally may be satisfied on a design basis.

(b) *Nondiscrimination in amount of benefits provided under a defined contribution plan*—(1) *General rule.* Equivalent benefits under a defined contribution plan (other than an ESOP) are nondiscriminatory in amount for a plan year if the plan would satisfy § 1.401(a)(4)-2(c)(1) for the plan year if an equivalent accrual rate, as determined under paragraph (b)(2) of this section, were substituted for each employee's allocation rate in the determination of rate groups. A plan does not fail to satisfy this paragraph (b)(1) merely because allocations are made at the same rate for employees who are older than their testing age (determined without regard to the current-age rule in paragraph (4) of the definition of *Testing age* in § 1.401(a)(4)-(12) as they are made for employees who are at that age.

(2) *Determination of equivalent accrual rates*—(i) *Basic definition.* An employee's equivalent accrual rate for a plan year is the annual benefit that is the result of normalizing the increase in the employee's account balance during the measurement period, divided by the number of years in which the employee benefited under the plan during the measurement period, and expressed either as a dollar amount or as a percentage of the employee's average annual compensation. A measurement period that includes future years may not be used for this purpose.

(ii) *Rules of application*—(A) *Determination of account balance.* The increase in the account balance during the measurement period taken into account under paragraph (b)(2)(i) of this section does not include income, expenses, gains, or losses allocated during the measurement period that are attributable to the account balance as of the beginning of the measurement period, but does include any additional amounts that would have been included in the increase in the account balance but for the fact that they were previously distributed (including a reasonable adjustment for interest). In the case of a measurement period that is the current plan year, an employer

may also elect to disregard the income, expenses, gains, and losses allocated during the current plan year that are attributable to the increase in account balance since the beginning of the year, and thus, determine the increase in account balance during the plan year taking into account only the allocations described in § 1.401(a)(4)-2(c)(2)(ii). In addition, an employer may disregard distributions made to a NHCE as well as distributions made to any employee in plan years beginning before a selected date no later than January 1, 1986.

(B) *Normalization.* The account balances determined under paragraph (b)(2)(ii)(A) of this section are normalized by treating them as single-sum benefits that are immediately and unconditionally payable to the employee. A standard interest rate, and a straight life annuity factor that is based on the same or a different standard interest rate and on a standard mortality table, must be used in normalizing these benefits. In addition, no mortality may be assumed prior to the employee's testing age.

(iii) *Options.* Any of the optional rules in § 1.401(a)(4)-3(d)(3) (e.g., imputation of permitted disparity) may be applied in determining an employee's equivalent accrual rate by substituting the employee's equivalent accrual rate (determined without regard to the option) for the employee's normal accrual rate (i.e., not most valuable accrual rate) in that section where appropriate. For this purpose, however, the last sentence of the fresh-start alternative in § 1.401(a)(4)-3(d)(3)(iii)(A) (dealing with compensation adjustments to the frozen accrued benefit) is not applicable. No other options are available in determining an employee's equivalent accrual rate except those (e.g., selection of alternative measurement periods) specifically provided in this paragraph (b)(2). Thus, for example, none of the optional special rules in § 1.401(a)(4)-3(f) (e.g., determination of benefits on other than a plan year basis under § 1.401(a)(4)-3(f)(6)) is available.

(iv) *Consistency rule.* Equivalent accrual rates must be determined in a consistent manner for all employees for the plan year. Thus, for example,

the same measurement periods and standard interest rates must be used, and any available options must be applied consistently if at all.

(3) *Safe-harbor testing method for target benefit plans*—(i) *General rule.* A target benefit plan is a money purchase pension plan under which contributions to an employee's account are determined by reference to the amounts necessary to fund the employee's stated benefit under the plan. Whether a target benefit plan satisfies section 401(a)(4) with respect to an equivalent amount of benefits is generally determined under paragraphs (b)(1) and (b)(2) of this section. A target benefit plan is deemed to satisfy section 401(a)(4) with respect to an equivalent amount of benefits, however, if each of the following requirements is satisfied:

(A) *Stated benefit formula.* Each employee's stated benefit must be determined as the straight life annuity commencing at the employee's normal retirement age under a formula that would satisfy the requirements of §1.401(a)(4)-3(b)(4)(i)(C) (1) or (2), and that would satisfy each of the uniformity requirements in §1.401(a)(4)-3(b)(2) (taking into account the relevant exceptions provided in §1.401(a)(4)-3(b)(6)), if the plan were a defined benefit plan with the same benefit formula. In determining whether these requirements are satisfied, the rules of §1.401(a)(4)-3(f) do not apply, and, in addition, except as provided in paragraph (b)(3)(vii) of this section, an employee's stated benefit at normal retirement age under the stated benefit formula is deemed to accrue ratably over the period ending with the plan year in which the employee is projected to reach normal retirement age and beginning with the latest of: the first plan year in which the employee benefited under the plan, the first plan year taken into account in the stated benefit formula, and any plan year immediately following a plan year in which the plan did not satisfy this paragraph (b)(3). Thus, except as provided in paragraph (b)(3)(vii) of this section, under §1.401(a)(4)-3(b)(2)(v) an employee's stated benefit may not take into account service in years prior to the first plan year that the employee benefited under the plan, and an em-

ployee's stated benefit may not take into account service in plan years prior to the current plan year unless the plan satisfied this paragraph (b)(3) in all of those prior plan years.

(B) *Employer and employee contributions.* Employer contributions with respect to each employee must be based exclusively on the employee's stated benefit using the method provided in paragraph (b)(3)(iv) of this section, and forfeitures and any other amounts under the plan taken into account under §1.401(a)(4)-2(c)(2)(ii) (other than employer contributions) are used exclusively to reduce employer contributions. Employee contributions (if any) may not be used to fund the stated benefit.

(C) *Permitted disparity.* If permitted disparity is taken into account, the stated benefit formula must satisfy §1.401(1)-3. For this purpose, the 0.75-percent factor in the maximum excess or offset allowance in §1.401(1)-3(b)(2)(i) or (b)(3)(i), respectively, as adjusted in accordance with §1.401(1)-3(d)(9) (and, if the employee's normal retirement age is not the employee's social security retirement age, §1.401(1)-3(e)), is further reduced by multiplying the factor by 0.80.

(ii) *Changes in stated benefit formula.* A plan does not fail to satisfy paragraph (b)(3)(i) of this section merely because the plan determines each employee's stated benefit in the current plan year under a stated benefit formula that differs from the stated benefit formula used to determine the employee's stated benefit in prior plan years.

(iii) *Stated benefits after normal retirement age.* A target benefit plan may limit increases in the stated benefit after normal retirement age consistent with the requirements applicable to defined benefit plans under section 411(b)(1)(H) (without regard to section 411(b)(1)(H)(iii)), provided that the limitation applies on the same terms to all employees. Thus, post-normal retirement benefits required under §1.401(a)(4)-3(b)(2)(ii) must be provided under the stated benefit formula, subject to any uniformly applicable service cap under the formula.

(iv) *Method for determining required employer contributions*—(A) *General rule.*

An employer's required contribution to the account of an employee for a plan year is determined based on the employee's stated benefit and the amount of the employee's theoretical reserve as of the date the employer's required contribution is determined for the plan year (the determination date). Paragraph (b)(3)(iv)(B) of this section provides rules for determining an employee's theoretical reserve. Paragraph (b)(3)(iv)(C) and (D) of this section provides rules for determining an employer's required contributions.

(B) *Theoretical reserve—(1) Initial theoretical reserve.* An employee's theoretical reserve as of the determination date for the first plan year in which the employee benefits under the plan, the first plan year taken into account under the stated benefit formula (if that is the current plan year), or the first plan year immediately following any plan year in which the plan did not satisfy this paragraph (b)(3), is zero.

(2) *Theoretical reserve in subsequent plan years.* An employee's theoretical reserve as of the determination date for a plan year (other than a plan year described in paragraph (b)(3)(iv)(B)(1) of this section) is the employee's theoretical reserve as of the determination date for the prior plan year, plus the employer's required contribution for the prior plan year (as limited by section 415, but without regard to the additional contributions described in paragraph (b)(3)(v) of this section) both increased by interest from the determination date for the prior plan year through the determination date for the current plan year, but not beyond the determination date for the plan year that includes the employee's normal retirement date. (Thus, an employee's theoretical reserve as of the determination date for a plan year does not include the amount of the employer's required contribution for the plan year.) The interest rate for determining employer contributions that was in effect on the determination date in the prior plan year must be applied to determine the required interest adjustment for this period. For plan years beginning after the effective date applicable to the plan under § 1.401(a)(4)-13(a) or (b), a standard interest rate must be used, and may not

be changed except on the determination date for a plan year.

(C) *Required contributions for employees under normal retirement age.* The required employer contributions with respect to an employee whose attained age is less than the employee's normal retirement age must be determined for each plan year as follows:

(1) Determine the employee's fractional rule benefit (within the meaning of § 1.411(b)-1(b)(3)(ii)(A)) under the plan's stated benefit formula as if the plan were a defined benefit plan with the same benefit formula.

(2) Determine the actuarial present value of the fractional rule benefit determined in paragraph (b)(3)(iv)(C)(1) of this section as of the determination date for the current plan year, using a standard interest rate and a standard mortality table that are set forth in the plan and that are the same for all employees, and assuming no mortality before the employee's normal retirement age.

(3) Determine the excess, if any, of the amount determined in paragraph (b)(3)(iv)(C)(2) of this section over the employee's theoretical reserve for the current plan year determined under paragraph (b)(3)(iv)(B) of this section.

(4) Determine the required employer contribution for the current plan year by amortizing on a level annual basis, using the same interest rate used for paragraph (b)(3)(iv)(C)(2) of this section, the result in paragraph (b)(3)(iv)(C)(3) of this section over the period beginning with the determination date for the current plan year and ending with the determination date for the plan year in which the employee is projected to reach normal retirement age.

(D) *Required contributions for employees over normal retirement age.* The required employer contributions with respect to an employee whose attained age equals or exceeds the employee's normal retirement age is the excess, if any, of the actuarial present value, as of the determination date for the current plan year, of the employee's stated benefit for the current plan year (determined using an immediate straight life annuity factor based on a standard interest rate and a standard mortality table, for an employee whose attained

age equals the employee's normal retirement age) over the employee's theoretical reserve as of the determination date.

(v) *Effect of section 415 and 416 requirements.* A target benefit plan does not fail to satisfy this paragraph (b)(3) merely because required contributions under the plan are limited by section 415 in a plan year. Similarly, a target benefit plan does not fail to satisfy this paragraph (b)(3) merely because additional contributions are made consistent with the requirements of section 416(c)(2) (regardless of whether the plan is top-heavy).

(vi) *Certain conditions on allocations.* A target benefit plan does not fail to satisfy this paragraph (b)(3) merely because required contributions under the plan are subject to the conditions on allocations permitted under § 1.401(a)(4)-2(b)(4)(iii).

(vii) *Special rules for target benefit plans qualified under prior law—(A) Service taken into account prior to satisfaction of this paragraph.* For purposes of determining whether the stated benefit formula satisfies paragraph (b)(3)(i)(A) of this section (e.g., whether the period over which an employee's stated benefit is deemed to accrue is the same as the period taken into account under the stated benefit formula as required by paragraph (b)(3)(i)(A) of this section), a target benefit plan that was adopted and in effect on September 19, 1991, is deemed to have satisfied this paragraph (b)(3), and an employee is treated as benefiting under the plan, in any year prior to the effective date applicable to the plan under § 1.401(a)(4)-13 (a) or (b) that was taken into account in the stated benefit formula under the plan on September 19, 1991, if the plan satisfied the applicable nondiscrimination requirements for target benefit plans for that prior year.

(B) *Initial theoretical reserve.* Notwithstanding paragraph (b)(3)(iv)(B)(1) of this section, a target benefit plan under which the stated benefit formula takes into account service for an employee for plan years prior to the first plan year in which the plan satisfied this paragraph (b)(3), as permitted under paragraph (b)(3)(vii)(A) of this section, must determine an initial theoretical reserve for the employee as of

the determination date for the last plan year beginning before such plan year under the rules of § 1.401(a)(4)-13(e).

(C) *Satisfaction of prior law.* In determining whether a plan satisfied the applicable nondiscrimination requirements for target benefit plans for any period prior to the effective date applicable to the plan under § 1.401(a)(4)-13 (a) or (b), no amendments after September 19, 1991, other than amendments necessary to satisfy section 401(l), are taken into account.

(viii) *Examples.* The following examples illustrate the rules in this paragraph (b)(3):

*Example 1.* (a) Employer X maintains a target benefit plan with a calendar plan year that bases contributions on a stated benefit equal to 40 percent of each employee's average annual compensation, reduced pro rata for years of participation less than 25, payable annually as a straight life annuity commencing at normal retirement age. The UP-84 mortality table and an interest rate of 7.5 percent are used to calculate the contributions necessary to fund the stated benefit. Required contributions are determined on the last day of each plan year. The normal retirement age under the plan is 65. Employee M is 39 years old in 1994, has participated in the plan for six years, and has average annual compensation equal to \$60,000 for the 1994 plan year. Assume that Employee M's theoretical reserve as of the last day of the 1993 plan year is \$13,909, determined under § 1.401(a)(4)-13(e), and that required employer contributions for 1993 were determined using an interest rate of six percent.

(b) Under these facts, Employer X's 1994 required contribution to fund Employee M's stated benefit is \$1,318, calculated as follows:

(1) Employee M's fractional rule benefit is \$24,000 (40 percent of Employee M's average annual compensation of \$60,000).

(2) The actuarial present value of Employee M's fractional rule benefit as of the last day of the 1994 plan year is \$30,960 (Employee M's fractional rule benefit of \$24,000 multiplied by 1.290, the actuarial present value factor for an annual straight life annuity commencing at age 65 applicable to a 39-year-old employee, determined using the stated interest rate of 7.5 percent and the UP-84 mortality table, and assuming no mortality before normal retirement age).

(3) The actuarial present value of Employee M's fractional rule benefit (\$30,960) is reduced by Employee M's theoretical reserve as of the last day of the 1994 plan year. The theoretical reserve on that day is \$14,744—the \$13,909 theoretical reserve as of the last

day of the 1993 plan year, increased by interest for one year at the rate of six percent. Because the required contribution for the 1993 plan year is taken into account under § 1.401(a)(4)-13(e)(2) in determining the theoretical reserve as of the last day of the 1993 plan year, it is not added to the theoretical reserve again in this paragraph (b)(3) of this *Example 1*. The resulting difference is \$16,216 (\$30,960 - \$14,744).

(4) The \$16,216 excess of the actuarial present value of Employee M's fractional rule benefit over Employee M's theoretical reserve is multiplied by 0.0813, the amortization factor applicable to a 39-year-old employee determined using the stated interest rate of 7.5 percent. The product of \$1,318 is the amount of the required employer contribution for Employee M for the 1994 plan year.

*Example 2.* (a) The facts are the same as in *Example 1*, except that as of January 1, 1995, the plan's stated benefit formula is amended to provide for a stated benefit equal to 45 percent of average annual compensation, reduced pro rata for years of participation less than 25, payable annually as a straight life annuity commencing at normal retirement age. For the 1995 plan year, Employee M's average annual compensation continues to be \$60,000. The mortality table used for the calculation of the employer's required contributions remains the same as in the prior plan year, but the plan's stated interest rate is changed to 8.0 percent effective as of December 31, 1995.

(b) Under these facts, Employer X's required contribution for Employee M is \$1,290, calculated as follows:

(1) Employee M's fractional rule benefit is \$27,000 (45 percent of \$60,000).

(2) The actuarial present value of Employee M's fractional rule benefit as of the last day of the 1995 plan year is \$32,319 (\$27,000 multiplied by 1.197, the actuarial present value factor for an annuity commencing at age 65 applicable to a 40-year-old employee, determined using the stated interest rate of 8.0 percent and the UP-84 mortality table, and assuming no mortality before normal retirement age).

(3) The actuarial present value of Employee M's fractional rule benefit (\$32,319) is reduced by Employee M's theoretical reserve as of the last day of the 1995 plan year. The theoretical reserve as of that day is \$17,267—the \$14,744 theoretical reserve as of the last day of the 1994 plan year plus the \$1,318 required contribution for the 1994 plan year, both increased by interest for one year at the rate of 7.5 percent. The resulting difference is \$15,052 (\$32,319 - \$17,267).

(4) The result in paragraph (b)(3) of this *Example 2* is multiplied by 0.0857, the amortization factor applicable to a 40-year-old employee determined using the stated interest rate of 8.0 percent. The product, \$1,290, is the

amount of the required employer contribution for Employee M for the 1995 plan year.

(c) *Nondiscrimination in amount of contributions under a defined benefit plan—*

(1) *General rule.* Equivalent allocations under a defined benefit plan are nondiscriminatory in amount for a plan year if the plan would satisfy § 1.401(a)(4)-3(c)(1) (taking into account § 1.401(a)(4)-3(c)(3)) for the plan year if an equivalent normal and most valuable allocation rate, as determined under paragraph (c)(2) of this section, were substituted for each employee's normal and most valuable accrual rate, respectively, in the determination of rate groups.

(2) *Determination of equivalent allocation rates—*(i) *Basic definitions.* An employee's equivalent normal and most valuable allocation rates for a plan year are, respectively, the actuarial present value of the increase over the plan year in the benefit that would be taken into account in determining the employee's normal and most valuable accrual rates for the plan year, expressed either as a dollar amount or as a percentage of the employee's plan year compensation. In the case of a contributory DB plan, the rules in § 1.401(a)(4)-6(b)(1), (b)(5), or (b)(6) must be used to determine the amount of each employee's employer-provided benefit that would be taken into account for this purpose.

(ii) *Rules for determining actuarial present value.* The actuarial present value of the increase in an employee's benefit must be determined using a standard interest rate and a standard mortality table, and no mortality may be assumed prior to the employee's testing age.

(iii) *Options.* The optional rules in § 1.401(a)(4)-2(c)(2)(iv) (imputation of permitted disparity) and (v) (grouping of rates) may be applied to determine an employee's equivalent normal and most valuable allocation rates by substituting those rates (determined without regard to the option) for the employee's allocation rate in that section where appropriate. In addition, the limitations under section 415 may be taken into account under § 1.401(a)(4)-3(d)(2)(ii)(B), and qualified disability benefits may be taken into account as accrued benefits under § 1.401(a)(4)-

3(f)(2), in determining the increase in an employee's accrued benefit during a plan year for purposes of paragraph (c)(2)(i) of this section, if those rules would otherwise be available. No other options are available in determining an employee's equivalent normal and most valuable allocations rate except those (e.g., selection of alternative standard interest rates) specifically provided in this paragraph (c)(2). Thus, while all of the mandatory rules in § 1.401(a)(4)-3(d) and (f) for determining the amount of benefits used to determine an employee's normal and most valuable accrual rates (e.g., the treatment of early retirement window benefits in § 1.401(a)(4)-3(f)(4)) are applicable in determining an employee's equivalent normal and most valuable allocation rates, none of the optional rules under § 1.401(a)(4)-3 is available (except the options relating to the section 415 limits and qualified disability benefits noted above).

(iv) *Consistency rule.* Equivalent allocation rates must be determined in a consistent manner for all employees for the plan year. Thus, for example, the same standard interest rates must be used, and any available options must be applied consistently if at all.

(3) *Safe harbor testing method for cash balance plans*—(i) *General rule.* A cash balance plan is a defined benefit plan that defines benefits for each employee by reference to the employee's hypothetical account. An employee's hypothetical account is determined by reference to hypothetical allocations and interest adjustments that are analogous to actual allocations of contributions and earnings to an employee's account under a defined contribution plan. Because a cash balance plan is a defined benefit plan, whether it satisfies section 401(a)(4) with respect to the equivalent amount of contributions is generally determined under paragraphs (c)(1) and (c)(2) of this section. However, a cash balance plan that satisfies each of the requirements in paragraphs (c)(3)(ii) through (xi) of this section is deemed to satisfy section 401(a)(4) with respect to an equivalent amount of contributions.

(ii) *Plan requirements in general.* The plan must be an accumulation plan. The benefit formula under the plan

must provide for hypothetical allocations for each employee in the plan that satisfy paragraph (c)(3)(iii) of this section, and interest adjustments to these hypothetical allocations that satisfy paragraph (c)(3)(iv) of this section. The benefit formula under the plan must provide that these hypothetical allocations and interest adjustments are accumulated as a hypothetical account for each employee, determined in accordance with paragraph (c)(3)(v) of this section. The plan must provide that an employee's accrued benefit under the plan as of any date is an annuity that is the actuarial equivalent of the employee's projected hypothetical account as of normal retirement age, determined in accordance with paragraph (c)(3)(vi) of this section. In addition, the plan must satisfy paragraphs (c)(3)(vii) through (xi) of this section (to the extent applicable) regarding optional forms of benefit, past service credits, post-normal retirement age benefits, certain uniformity requirements, and changes in the plan's benefit formula, respectively.

(iii) *Hypothetical allocations*—(A) *In general.* The hypothetical allocations provided under the plan's benefit formula must satisfy either paragraph (c)(3)(iii)(B) or (C) of this section. Paragraph (c)(3)(iii)(B) of this section provides a design-based safe harbor that does not require the annual comparison of hypothetical allocations under the plan. Paragraph (c)(3)(iii)(C) of this section requires the annual comparison of hypothetical allocations.

(B) *Uniform hypothetical allocation formula.* To satisfy this paragraph (c)(3)(iii)(B), the plan's benefit formula must provide for hypothetical allocations for all employees in the plan for all plan years of amounts that would satisfy § 1.401(a)(4)-2(b)(3) for each such plan year if the hypothetical allocations were the only allocations under a defined contribution plan for the employees for those plan years. Thus, the plan's benefit formula must provide for hypothetical allocations for all employees in the plan for all plan years that are the same percentage of plan year compensation or the same dollar amount. In determining whether the hypothetical allocations satisfy

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§ 1.401(a)(4)-2(b)(3), the only provisions of § 1.401(a)(4)-2(b)(5) that apply are § 1.401(a)(4)-2(b)(5)(ii) (section 401(l) permitted disparity, (iii) (entry dates), (vi) (certain limits on allocations), and (vii) (dollar allocation per uniform unit of service). Thus, for example, the plan's benefit formula may take permitted disparity into account in a manner allowed under § 1.401(l)-2 for defined contribution plans.

(C) *Modified general test.* To satisfy this paragraph (c)(3)(iii)(C), the plan's benefit formula must provide for hypothetical allocations for all employees in the plan for the plan year that would satisfy the general test in § 1.401(a)(4)-2(c) for the plan year, if the hypothetical allocations were the only allocations for the employees taken into account under § 1.401(a)(4)-2(c)(2)(ii) under a defined contribution plan for the plan year. In determining whether the hypothetical allocations satisfy § 1.401(a)(4)-2(c), the provisions of § 1.401(a)(4)-2(c)(2)(iii) through (v) apply. Thus, for example, permitted disparity may be imputed under § 1.401(a)(4)-2(c)(2)(iv) in accordance with the rules of § 1.401(a)(4)-7(b) applicable to defined contribution plans.

(iv) *Interest adjustments to hypothetical allocations—(A) General rule.* The plan benefit formula must provide that the dollar amount of the hypothetical allocation for each employee for a plan year is automatically adjusted using an interest rate that satisfies paragraph (c)(3)(iv)(B) of this section, compounded no less frequently than annually, for the period that begins with a date in the plan year and that ends at normal retirement age. This requirement is not satisfied if any portion of the interest adjustments to a hypothetical allocation are contingent on the employee's satisfaction of any requirement. Thus, for example, the interest adjustments to a hypothetical allocation must be provided through normal retirement age, even though the employee terminates employment or commences benefits before that age.

(B) *Requirements with respect to interest rates.* The interest rate must be a single interest rate specified in the plan that is the same for all employees in the plan for all plan years. The interest rate must be either a standard

interest rate or a variable interest rate. If the interest rate is a variable interest rate, it must satisfy paragraph (c)(3)(iv)(C) of this section.

(C) *Variable interest rates—(1) General rule.* The plan must specify the variable interest rate, the method for determining the current value of the variable interest rate, and the period (not to exceed 1 year) for which the current value of the variable interest rate applies. Permissible variable interest rates are listed in paragraph (c)(3)(iv)(C)(2) of this section. Permissible methods for determining the current value of the variable interest rate are provided in paragraph (c)(3)(iv)(C)(3) of this section.

(2) *Permissible variable interest rates.* The variable interest rate specified in the plan must be one of the following—

- (i) The rate on 3-month Treasury Bills,
- (ii) The rate on 6-month Treasury Bills,
- (iii) The rate on 1-year Treasury Bills,
- (iv) The yield on 1-year Treasury Constant Maturities,
- (v) The yield on 2-year Treasury Constant Maturities,
- (vi) The yield on 5-year Treasury Constant Maturities,
- (vii) The yield on 10-year Treasury Constant Maturities,
- (viii) The yield on 30-year Treasury Constant Maturities, or

(ix) The single interest rate such that, as of a single age specified in the plan, the actuarial present value of a deferred straight life annuity of an amount commencing at the normal retirement age under the plan, calculated using that interest rate and a standard mortality table but assuming no mortality before normal retirement age, is equal to the actuarial present value, as of the single age specified in the plan, of the same annuity calculated using the section 417(e) rates applicable to distributions in excess of \$25,000 (determined under § 1.417(e)-1(d)), and the same mortality assumptions.

(3) *Current value of variable interest rate.* The current value of the variable interest rate that applies for a period must be either the value of the variable

interest rate determined as of a specified date in the period or the immediately preceding period, or the average of the values of the variable interest rate as of two or more specified dates during the current period or the immediately preceding period. The value as of a date of the rate on a Treasury Bill is the average auction rate for the week or month in which the date falls, as reported in the Federal Reserve Bulletin. The value as of a date of the yield on a Treasury Constant Maturity is the average yield for the week, month, or year in which the date falls, as reported in the Federal Reserve Bulletin. (The Federal Reserve Bulletin is published by the Board of Governors of the Federal Reserve System and is available from Publication Services, Mail Stop 138, Board of Governors of the Federal Reserve System, Washington DC 20551.) The plan may limit the current value of the variable interest rate to a maximum (not less than the highest standard interest rate), or a minimum (not more than the lowest standard interest rate), or both.

(v) *Hypothetical account*—(A) *Current value of hypothetical account*. As of any date, the current value of an employee's hypothetical account must equal the sum of all hypothetical allocations and the respective interest adjustments to each such hypothetical allocation provided through that date for the employee under the plan's benefit formula (without regard to any interest adjustments provided under the plan's benefit formula for periods after that date).

(B) *Value of hypothetical account as of normal retirement age*. Under paragraph (c)(3)(vi) of this section, the value of an employee's hypothetical account must be determined as of normal retirement age in order to determine the employee's accrued benefit as of any date at or before normal retirement age. As of any date at or before normal retirement age, the value of an employee's hypothetical account as of normal retirement age must equal the sum of each hypothetical allocation provided through that date for the employee under the plan's benefit formula, plus the interest adjustments provided through normal retirement age on each

of those hypothetical allocations for the employee under the plan's benefit formula (without regard to any hypothetical allocations that might be provided after that date under the plan's benefit formula). If the interest rate specified in the plan is a variable interest rate, the plan must specify that the determination in the preceding sentence is made by assuming that the current value of the variable interest rate for all future periods is either the current value of the variable interest rate for the current period or the average of the current values of the variable interest rate for the current period and one or more periods immediately preceding the current period (not to exceed 5 years in the aggregate).

(vi) *Determination of accrued benefit*—(A) *Definition of accrued benefit*. The plan must provide that at any date at or before normal retirement age the accrued benefit (within the meaning of section 411(a)(7)(A)(i)) of each employee in the plan is an annuity commencing at normal retirement age that is the actuarial equivalent of the employee's hypothetical account as of normal retirement age (as determined under paragraph (c)(3)(v)(B) of this section). The separate benefit that each employee accrues for a plan year is an annuity that is the actuarial equivalent of the employee's hypothetical allocation for that plan year, including the automatic adjustments for interest through normal retirement age required under paragraph (c)(3)(iv) of this section.

(B) *Normal form of benefit*. The annuity specified in paragraph (c)(3)(vi)(A) of this section must provide an annual benefit payable in the same form at the same uniform normal retirement age for all employees in the plan. The annual benefit must be the normal retirement benefit under the plan (within the meaning of section 411(a)(9)) under the plan.

(C) *Determination of actuarial equivalence*. For purposes of this paragraph (c)(3)(vi) and paragraph (c)(3)(ix) of this section, actuarial equivalence must be determined using a standard mortality table and either a standard interest rate or the interest rate specified in

the plan for making interest adjustments to hypothetical allocations. If the interest rate used is the interest rate specified in the plan, and that rate is a variable interest rate, the assumed value of the variable interest rate for all future periods must be the same value that would be assumed for purposes of paragraph (c)(3)(v)(B) of this section. The same actuarial assumptions must be used for all employees in the plan.

(D) *Effect of section 415 and 416 requirements.* A plan does not fail to satisfy this paragraph (c)(3)(vi) merely because the accrued benefits under the plan are limited by section 415, or merely because the accrued benefits under the plan are the greater of the accrued benefits otherwise determined under the plan and the minimum benefit described in section 416(c)(1) (regardless of whether the plan is top-heavy).

(vii) *Optional forms of benefit—(A) In general.* The plan must satisfy the uniform subsidies requirement of § 1.401(a)(4)-3(b)(2)(iv) with respect to all subsidized optional forms of benefit.

(B) *Limitation on subsidies.* Unless hypothetical allocations are determined under a uniform hypothetical allocation formula that satisfies paragraph (c)(3)(iii)(B) of this section, the actuarial present value of any QJSA provided under the plan must not be greater than the single sum distribution to the employee that would satisfy paragraph (c)(3)(vii)(C) of this section assuming that it was distributed to the employee on the date of commencement of the QJSA.

(C) *Distributions subject to section 417(e).* Except as otherwise required under section 415(b), if the plan provides for a distribution alternative that is subject to the interest rate restrictions under section 417(e), the actuarial present value of the benefit paid to an employee under the distribution alternative must equal the non-forfeitable percentage (determined under the plan's vesting schedule) of the greater of the following two amounts—

(1) The current value of the employee's hypothetical account as of the date the distribution commences, calculated in accordance with paragraph (c)(3)(v)(A) of this section.

(2) The actuarial present value (calculated in accordance with § 1.417(e)-1(d)) of the employee's accrued benefit.

(D) *Determination of actuarial present value.* For purposes of this paragraph (c)(3)(vii), actuarial present value must be determined using a reasonable interest rate and mortality table. A standard interest rate and a standard mortality table are considered reasonable for this purpose.

(viii) *Past service credit.* The benefit formula under the plan may not provide for hypothetical allocations in the current plan year that are attributable to years of service before the current plan year, unless each of the following requirements is satisfied—

(A) The years of past service credit are granted on a uniform basis to all current employees in the plan.

(B) Hypothetical allocations for the current plan year are determined under a uniform hypothetical allocation formula that satisfies paragraph (c)(3)(iii)(B) of this section.

(C) The hypothetical allocations attributable to the years of past service would have satisfied the uniform hypothetical allocation formula requirement of paragraph (c)(3)(iii)(B) of this section, and the interest adjustments to those hypothetical allocations would have satisfied paragraph (c)(3)(iv)(A) of this section, if the plan provision granting past service had been in effect for the entire period for which years of past service are granted to any employee. In order to satisfy this requirement, the hypothetical allocation attributable to a year of past service must be adjusted for interest in accordance with paragraph (c)(3)(iv) of this section for the period (including the retroactive period) beginning with the year of past service to which the hypothetical allocation is attributable and ending at normal retirement age. If the interest rate specified in the plan is a variable interest rate, the interest adjustments for the period prior to the current plan year either must be based on the current value of the variable interest rate for the period in which the grant of past service first becomes effective or must be reconstructed based on the then current value of the variable interest rate that would have applied during each prior period.

(ix) *Employees beyond normal retirement age.* In the case of an employee who commences receipt of benefits after normal retirement age, the plan must provide that interest adjustments continue to be made to an employee's hypothetical account until the employee's benefit commencement date. In the case of an employee described in the previous sentence, the employee's accrued benefit is defined as an annuity that is the actuarial equivalent of the employee's hypothetical account determined in accordance with paragraph (c)(3)(v)(A) of this section as of the date of benefit commencement.

(x) *Additional uniformity requirements.* In addition to any uniformity requirements provided elsewhere in this paragraph (c)(3), the plan must satisfy the uniformity requirements in §1.401(a)(4)-3(b)(2)(v) (uniform vesting and service requirements) and (vi) (no employee contributions). A plan does not fail to satisfy the uniformity requirements of this paragraph (c)(3)(x) or any other uniformity requirement provided in this paragraph (c)(3) merely because the plan contains one or more of the provisions described in §1.401(a)(4)-3(b)(8)(iv) (prior vesting schedules), (v) (certain conditions on accruals), or (xi) (multiple definitions of service).

(xi) *Changes in benefit formula, allocation formula, or interest rates.* A plan does not fail to satisfy this paragraph (c)(3) merely because the plan is amended to change the benefit formula, hypothetical allocation formula, or the interest rate used to adjust hypothetical allocations for plan years after a fresh-start date, provided that the accrued benefits for plan years beginning after the fresh-start date are determined in accordance with §1.401(a)(4)-13(c), as modified by §1.401(a)(4)-13(f).

(d) *Safe-harbor testing method for defined benefit plans that are part of a floor-offset arrangement—(1) General rule.* A defined benefit plan that is part of a floor-offset arrangement is deemed to satisfy the nondiscriminatory amount requirement of §1.401(a)(4)-1(b)(2) if all of the following requirements are satisfied:

(i) Under the floor-offset arrangement, the accrued benefit (as defined in

section 411(a)(7)(A)(i)) that would otherwise be provided to an employee under the defined benefit plan must be reduced solely by the actuarial equivalent of all or part of the employee's account balance attributable to employer contributions under a defined contribution plan maintained by the same employer (plus the actuarial equivalent of all or part of any prior distributions from that portion of the account balance). If any portion of the benefit that is being offset is nonforfeitable, that portion may be offset only by a benefit (or portion of a benefit) that is also nonforfeitable. In determining the actuarial equivalent of amounts provided under the defined contribution plan, an interest rate no higher than the highest standard interest rate must be used, and no mortality may be assumed in determining the actuarial equivalent of any prior distributions from the defined contribution plan or for periods prior to the benefit commencement date under the defined benefit plan.

(ii) The defined benefit plan may not be a contributory DB plan (unless it satisfies §1.401(a)(4)-6(b)(6)), and benefits under the defined benefit plan may not be reduced by any portion of the employee's account balance under the defined contribution plan (or prior distributions from that account) that are attributable to employee contributions.

(iii) The defined benefit plan and the defined contribution plan must benefit the same employees.

(iv) The offset under the defined benefit plan must be applied to all employees on the same terms.

(v) All employees must have available to them under the defined contribution plan the same investment options and the same options with respect to the timing of preretirement distributions.

(vi) The defined benefit plan must satisfy the uniformity requirements of §1.401(a)(4)-3(b)(2) and the unit credit safe harbor in §1.401(a)(4)-3(b)(3) without taking into account the offset described in paragraph (d)(1)(i) of this section (i.e., on a gross-benefit basis), and the defined contribution plan must satisfy any of the tests in §1.401(a)(4)-2(b) or (c). Alternatively, the defined benefit plan must satisfy any of the

tests in § 1.401(a)(4)-3(b) or (c) without taking into account the offset described in paragraph (d)(1)(i) of this section, and the defined contribution plan must satisfy the uniform allocation safe harbor in § 1.401(a)(4)-2(b)(2).

(vii) The defined contribution plan may not be a section 401(k) plan or a section 401(m) plan.

(2) *Application of safe-harbor testing method to qualified offset arrangements.* A defined benefit plan that is part of a qualified offset arrangement as defined in section 1116(f)(5) of the Tax Reform Act of 1986, Public Law No. 99-514, is deemed to satisfy the requirements of paragraph (d)(1)(vi) and (vii) of this section, if the only defined contribution plans included in the qualified offset arrangement are section 401(k) plans, section 401(m) plans, or both, and the defined benefit plan would satisfy the requirements of paragraph (d)(1)(vi) of this section assuming the elective contributions for each employee under the defined contribution plan were the same (either as a dollar amount or as a percentage of compensation) for all plan years since the establishment of the plan.

[T.D. 8360, 56 FR 47580, Sept. 19, 1991; 57 FR 4720, Feb. 7, 1992; 57 FR 10952, 10953, Mar. 31, 1992, as amended by T.D. 8485, 58 FR 46807, Sept. 3, 1993]

**§ 1.401(a)(4)-9 Plan aggregation and restructuring.**

(a) *Introduction.* Two or more plans that are permissively aggregated and treated as a single plan under §§ 1.410(b)-7(d) must also be treated as a single plan for purposes of section 401(a)(4). See § 1.401(a)(4)-12 (definition of plan). An aggregated plan is generally tested under the same rules applicable to single plans. Paragraph (b) of this section, however, provides special rules for determining whether a plan that consists of one or more defined contribution plans and one or more defined benefit plans (a DB/DC plan) satisfies section 401(a)(4) with respect to the amount of employer-provided benefits and the availability of benefits, rights, and features. Paragraph (c) of this section provides rules allowing a plan to be treated as consisting of separate component plans and allowing the component plans to

be tested separately under section 401(a)(4).

(b) *Application of nondiscrimination requirements to DB/DC plans—(1) General rule.* Except as provided in paragraph (b)(2) of this section, whether a DB/DC plan satisfies section 401(a)(4) is determined using the same rules applicable to a single plan. In addition, paragraph (b)(3) of this section provides an optional rule for demonstrating nondiscrimination in availability of benefits, rights, and features provided under a DB/DC plan.

(2) *Special rules for demonstrating nondiscrimination in amount of contributions or benefits—(i) Application of general tests.* A DB/DC plan satisfies section 401(a)(4) with respect to the amount of contributions or benefits for a plan year if it would satisfy § 1.401(a)(4)-3(c)(1) (without regard to the special rule in § 1.401(a)(4)-3(c)(3)) for the plan year if an employee's aggregate normal and most valuable allocation rates, as determined under paragraph (b)(2)(ii)(A) of this section, or an employee's aggregate normal and most valuable accrual rates, as determined under paragraph (b)(2)(ii)(B) of this section, were substituted for each employee's normal and most valuable accrual rates, respectively, in the determination of rate groups.

(ii) *Determination of aggregate rates—(A) Aggregate allocation rates.* An employee's aggregate normal and most valuable allocation rates are determined by treating all defined contribution plans that are part of the DB/DC plan as a single plan, and all defined benefit plans that are part of the DB/DC plan as a separate single plan; and determining an allocation rate and equivalent normal and most valuable allocation rates for the employee under each plan under §§ 1.401(a)(4)-2(c)(2) and 1.401(a)(4)-8(c)(2), respectively. The employee's aggregate normal allocation rate is the sum of the employee's allocation rate and equivalent normal allocation rate determined in this manner, and the employee's aggregate most valuable allocation rate is the sum of the employee's allocation rate and equivalent most valuable allocation rate determined in this manner.

(B) *Aggregate accrual rates.* An employee's aggregate normal and most