Baseline – CAS 412 as Published on March 30, 1995 plus Technical Corrections
Harmonization Additions shown in **RED Bold** and Deletions shown in ~~**Blue Strikeout**~~
PH indicates Pension Harmonization; **TC** indicates Technical Correction

9904.412 Cost accounting standard for composition and measurement of pension cost.

9904.412-10 [Reserved]

9904.412-20 Purpose.

The purpose of this Standard is to provide guidance for determining and measuring the components of pension cost. The Standard establishes the basis on which pension costs shall be assigned to cost accounting periods. The provisions of this Cost Accounting Standard should enhance uniformity and consistency in accounting for pension costs and thereby increase the probability that those costs are properly allocated to cost objectives.

9904.412-30 Definitions.

(a) The following are definitions of terms which are prominent in this Standard. Other terms defined elsewhere in this chapter 99 shall have the meanings ascribed to them in those definitions unless paragraph (b) of this subsection requires otherwise.

TC (1) Accrued benefit cost method means an actuarial cost method under which units of benefits are assigned to each cost accounting period and are valued as they accrue; that is, based on the services performed by each employee in the period involved. The measure of normal cost under this method for each cost accounting period is the present value of the units of benefit deemed to be credited to employees for service in that period. The measure of the actuarial accrued liability at a plan's ~~**inception**~~ **measurement** date is the present value of the units of benefit credited to employees for service prior to that date. (This method is also known as the Unit Credit cost method without salary projection.)

(2) Actuarial accrued liability means pension cost attributable, under the actuarial cost method in use, to years prior to the current period considered by a particular actuarial valuation.

As of such date, the actuarial accrued liability represents the excess of the present value of future benefits and administrative expenses over the present value of future normal costs for all plan participants and beneficiaries. The excess of the actuarial accrued liability over the actuarial value of the assets of a pension plan is the Unfunded Actuarial Liability. The excess of the actuarial value of the assets of a pension plan over the actuarial accrued liability is an actuarial surplus and is treated as a negative unfunded actuarial liability.

(3) Actuarial assumption means an estimate of future conditions affecting pension cost; for example, mortality rate, employee turnover, compensation levels, earnings on pension plan assets, changes in values of pension plan assets.

(4) Actuarial cost method means a technique which uses actuarial assumptions to measure the present value of future pension benefits and pension plan administrative expenses, and which assigns the cost of such benefits and expenses to cost accounting periods. The actuarial cost method includes the asset valuation method used to determine the actuarial value of the assets of a pension plan.

(5) Actuarial gain and loss means the effect on pension cost resulting from differences between actuarial assumptions and actual experience.

(6) Actuarial valuation means the determination, as of a specified date, of the normal cost, actuarial accrued liability, actuarial value of the assets of a pension plan, and other relevant values for the pension plan.

(7) Assignable cost credit means the decrease in unfunded actuarial liability that results when the pension cost computed for a cost accounting period is less than zero.

(8) Assignable cost deficit means the increase in unfunded actuarial liability that results when the pension cost computed for a qualified defined-benefit pension plan exceeds the maximum tax-deductible amount for the cost accounting period determined in accordance with the Employee Retirement Income Security Act of 1974 (ERISA), 29 U.S.C. 1001 et seq., as amended.

TC (9) Assignable cost limitation means the excess, if any, of the actuarial accrued liability plus the ~~**current**~~ normal cost **for the current period** over the actuarial value of the assets of the pension plan.

(10) Defined-benefit pension plan means a pension plan in which the benefits to be paid or the basis for determining such benefits are established in advance and the contributions are intended to provide the stated benefits.

(11) Defined-contribution pension plan means a pension plan in which the contributions are established in advance and the benefits are determined thereby.

(12) Funded pension cost means the portion of pension cost for a current or prior cost accounting period that has been paid to a funding agency.

(13) Funding agency means an organization or individual which provides facilities to receive and accumulate assets to be used either for the payment of benefits under a pension plan, or for the purchase of such benefits, provided such accumulated assets form a part of a pension plan established for the exclusive benefit of the plan participants and their beneficiaries. The fair market value of the assets held by the funding agency as of a specified date is the Funding Agency Balance as of that date.

(14) Immediate-gain actuarial cost method means any of the several cost methods under which actuarial gains and losses are included as part of the unfunded actuarial liability of the pension plan, rather than as part of the normal cost of the plan.

(15) Market value of the assets means the sum of the funding agency balance plus the accumulated value of any permitted unfunded accruals belonging to a pension plan. The Actuarial Value of the Assets means the value of cash, investments, permitted unfunded accruals, and other property belonging to a pension plan, as used by the actuary for the purpose of an actuarial valuation.

(16) Multiemployer pension plan means a plan to which more than one employer contributes and which is maintained pursuant to one or more collective bargaining agreements between an employee organization and more than one employer.

(17) Nonforfeitable means a right to a pension benefit, either immediate or deferred, which arises from an employee's service, which is unconditional, and which is legally enforceable against the pension plan or the contractor. Rights to benefits that do not satisfy this definition are considered forfeitable. A right to a pension benefit is not forfeitable solely because it may be affected by the employee's or beneficiary's death, disability, or failure to achieve vesting requirements. Nor is a right considered forfeitable because it can be affected by the unilateral actions of the employee.

(18) Normal cost means the annual cost attributable, under the actuarial cost method in use, to current and future years as of a particular valuation date, excluding any payment in respect of an unfunded actuarial liability.

(19) Pay-as-you-go cost method means a method of recognizing pension cost only when benefits are paid to retired employees or their beneficiaries.

(20) Pension plan means a deferred compensation plan established and maintained by one or more employers to provide systematically for the payment of benefits to plan participants after their retirement, provided that the benefits are paid for life or are payable for life at the option of the employees. Additional benefits such as permanent and total disability and death payments, and survivorship payments to beneficiaries of deceased employees may be an integral part of a pension plan.

(21) Pension plan participant means any employee or former employee of an employer, or any member or former member of an employee organization, who is or may become eligible to receive a benefit from a pension plan which covers employees of such employer or members of such organization who have satisfied the plan's participation requirements, or whose beneficiaries are receiving or may be eligible to receive any such benefit. A participant whose employment status with the employer has not been terminated is an active participant of the employer's pension plan.

(22) Permitted unfunded accrual means the amount of pension cost for nonqualified defined-benefit pension plans that is not required to be funded under 9904.412-50(d)(2). The Accumulated Value of Permitted Unfunded Accruals means the value, as of the measurement date, of the permitted unfunded accruals adjusted for imputed earnings and for benefits paid by the contractor.

PH (23) Prepayment credit means the amount funded in excess of the pension cost assigned to a cost accounting period that is carried forward for future recognition. The Accumulated Value of Prepayment Credits means the value, as of the measurement date, of the prepayment credits adjusted for **investment returns and administrative expenses** ~~**interest at the valuation rate**~~ and decreased for amounts used to fund pension costs or liabilities, whether assignable or not.

(24) Projected benefit cost method means either (i) any of the several actuarial cost methods which distribute the estimated total cost of all of the employees' prospective benefits over a period of years, usually their working careers, or (ii) a modification of the accrued benefit cost method that considers projected compensation levels.

(25) Qualified pension plan means a pension plan comprising a definite written program communicated to and for the exclusive benefit of employees which meets the criteria deemed essential by the Internal Revenue Service as set forth in the Internal Revenue Code for preferential tax treatment regarding contributions, investments, and distributions. Any other plan is a Nonqualified Pension Plan.

(b) The following modifications of terms defined elsewhere in this Chapter 99 are applicable to this Standard: None.

9904.412-40 Fundamental requirement.

(a) Components of pension cost.

(1) For defined-benefit pension plans, except for plans accounted for under the pay-as-you-go cost method, the components of pension cost for a cost accounting period are:

(i) the normal cost of the period,

(ii) a part of any unfunded actuarial liability,

(iii) an interest equivalent on the unamortized portion of any unfunded actuarial liability, and

(iv) an adjustment for any actuarial gains and losses.

(2) For defined-contribution pension plans, the pension cost for a cost accounting period is the net contribution required to be made for that period, after taking into account dividends and other credits, where applicable.

(3) For defined-benefit pension plans accounted for under the pay-as-you-go cost method, the components of pension cost for a cost accounting period are:

(i) The net amount of periodic benefits paid for that period, and

(ii) An amortization installment, including an interest equivalent on the unamortized settlement amount, attributable to amounts paid to irrevocably settle an obligation for periodic benefits due in current and future cost accounting periods.

(b) Measurement of pension cost.

(1) For defined-benefit pension plans other than those accounted for under the pay-as-you-go cost method, the amount of pension cost of a cost accounting period shall be determined by use of an immediate-gain actuarial cost method.

(2) Each actuarial assumption used to measure pension cost shall be separately identified and shall represent the contractor's best estimates of anticipated experience under the plan, taking into account past experience and reasonable expectations. The validity of each assumption used shall be evaluated solely with respect to that assumption. Actuarial assumptions used in

calculating the amount of an unfunded actuarial liability shall be the same as those used for other components of pension cost.

PH (3) For qualified defined benefit pension plans, the measurement of pension costs shall recognize the requirements of 9904.412-50(b)(7) for periods beginning with the "Applicability Date of the Harmonization Rule."

(c) Assignment of pension cost. Except costs assigned to future periods by 9904.412-50(c)(2) and (5), the amount of pension cost computed for a cost accounting period is assignable only to that period. For defined-benefit pension plans other than those accounted for under the pay-as-you-go cost method, the pension cost is assignable only if the sum of (1) the unamortized portions of assignable unfunded actuarial liability developed and amortized pursuant to 9904.412-50(a)(1), and (2) the unassignable portions of unfunded actuarial liability separately identified and maintained pursuant to 9904.412-50(a)(2) equals the total unfunded actuarial liability.

(d) Allocation of pension cost. Pension costs assigned to a cost accounting period are allocable to intermediate and final cost objectives only if they meet the requirements for allocation in 9904.412-50(d). Pension costs not meeting these requirements may not be reassigned to any future cost accounting period.

9904.412-50 Techniques for application.

(a) Components of pension cost.

(1) The following portions of unfunded actuarial liability shall be included as a separately identified part of the pension cost of a cost accounting period and shall be included in equal annual installments. Each installment shall consist of an amortized portion of the unfunded actuarial liability plus an interest equivalent on the unamortized portion of such liability. The period of amortization shall be established as follows:

(i) If amortization of an unfunded actuarial liability has begun prior to the date this Standard first becomes applicable to a contractor, no change in the amortization period is required by this Standard.

(ii) If amortization of an unfunded actuarial liability has not begun prior to the date this Standard first becomes applicable to a contractor, the amortization period shall begin with the period in which the Standard becomes applicable and shall be no more than 30 years nor less than 10 years. However, if the plan was in existence as of January 1, 1974, the amortization period shall be no more than 40 years nor less than 10 years.

(iii) Each increase or decrease in unfunded actuarial liability resulting from the institution of new pension plans, from the adoption of improvements, or other changes to pension plans subsequent to the date this Standard first becomes applicable to a contractor shall be amortized over no more than 30 years nor less than 10 years.

(iv) If any assumptions are changed during an amortization period, the resulting increase or decrease in unfunded actuarial liability shall be separately amortized over no more than 30 years nor less than 10 years.

PH (v) Actuarial gains and losses shall be identified separately from unfunded actuarial liabilities that are being amortized pursuant to the provisions of this Standard. The accounting treatment to be afforded to such gains and losses shall be in accordance with Cost Accounting Standard 9904.413. **The change in the unfunded actuarial liability attributable to the liability adjustment amount computed in accordance with 9904.412-50(b)(7)(i)(A), including a liability adjustment amount of zero if the provisions of 9904.412-50(b)(7) do not apply for the period, shall be identified and included in the actuarial gain or loss established in accordance with 9904.412-50(a)(1)(v) and 9904.413-50(a)(1) and (2) and amortized accordingly.**

(vi) Each increase or decrease in unfunded actuarial liability resulting from an assignable cost deficit or credit, respectively, shall be amortized over a period of 10 years.

(vii) Each increase or decrease in unfunded actuarial liability resulting from a change in actuarial cost method, including the asset valuation method, shall be amortized over a period of 10 to 30 years. This provision shall not affect the requirements of 9903.302 to adjust previously priced contracts.

PH (2) **(i)** Except as provided in 9904.412-50(d)(2), any portion of unfunded actuarial liability attributable to either ~~**(i)**~~ pension costs applicable to prior years that were specifically unallowable in accordance with then existing Government contractual provisions or ~~**(ii)**~~ pension costs assigned to a cost accounting period that were not funded in that period, shall be separately identified and eliminated from any unfunded actuarial liability being amortized pursuant to paragraph (a)(1) of this subsection.

(ii) Such portions of unfunded actuarial liability shall be adjusted for interest at the ~~**valuation**~~ **assumed** rate of interest **in accordance with 9904.412-50(b)(4) without regard to 9904.412-50(b)(7)**. The contractor may elect to fund, and thereby reduce, such portions of unfunded actuarial liability and future interest adjustments thereon. Such funding shall not be recognized for purposes of 9904.412-50(d).

(3) A contractor shall establish and consistently follow a policy for selecting specific amortization periods for unfunded actuarial liabilities, if any, that are developed under the actuarial cost method in use. Such policy may give consideration to factors such as the size and nature of the unfunded actuarial liabilities. Except as provided in 9904.412-50(c)(2) or 9904.413-50(c)(12), once the amortization period for a portion of unfunded actuarial liability is selected, the amortization process shall continue to completion.

PH (4) Any amount funded in excess of the pension cost assigned to a cost accounting period shall be accounted for as a prepayment credit. The accumulated value of such prepayment credits shall be adjusted for **investment returns and administrative expenses in accordance with 9904.413-50(c)(7)** ~~**interest at the valuation rate of interest**~~ until applied towards pension cost in a future accounting period. The accumulated value of prepayment credits shall be reduced for portions of the accumulated value of prepayment credits used to fund pension costs or to fund portions of unfunded actuarial liability separately identified and maintained in accordance with 9904.412-50(a)(2). The accumulated value of any prepayment credits shall be excluded from the actuarial value of the assets used to compute pension costs for purposes of this Standard and Cost Accounting Standard 9904.413.

(5) An excise tax assessed pursuant to a law or regulation because of excess, inadequate, or delayed funding of a pension plan is not a component of pension cost. Income taxes paid from the funding agency of a nonqualified defined-benefit pension plan on earnings or other asset appreciation of such funding agency shall be treated as an administrative expense of the fund and not as a reduction to the earnings assumption.

(6) For purposes of this Standard, defined-benefit pension plans funded exclusively by the purchase of individual or group permanent insurance or annuity contracts, and thereby exempted from ERISA's minimum funding requirements, shall be treated as defined-contribution pension plans. However, all other defined-benefit pension plans administered wholly or in part through insurance company contracts shall be subject to the provisions of this Standard relative to defined-benefit pension plans.

(7) If a pension plan is supplemented by a separately-funded plan which provides retirement benefits to all of the participants in the basic plan, the two plans shall be considered as a single plan for purposes of this Standard. If the effect of the combined plans is to provide defined-benefits for the plan participants, the combined plans shall be treated as a defined-benefit plan for purposes of this Standard.

(8) A multiemployer pension plan established pursuant to the terms of a collective bargaining agreement shall be considered to be a defined-contribution pension plan for purposes of this Standard.

(9) A pension plan applicable to a Federally-Funded Research and Development Center (FFRDC) that is part of a State pension plan shall be considered to be a defined-contribution pension plan for purposes of this Standard.

(b) Measurement of pension cost.

(1) For defined-benefit pension plans other than those accounted for under the pay-as-you-go cost method, the amount of pension cost assignable to cost accounting periods shall be measured by an immediate-gain actuarial cost method.

(2) Where the pension benefit is a function of salaries and wages, the normal cost shall be computed using a projected benefit cost method. The normal cost for the projected benefit shall be expressed either as a percentage of payroll or as an annual accrual based on the service attribution of the benefit formula. Where the pension benefit is not a function of salaries and wages, the normal cost shall be based on employee service.

(3) For defined-benefit plans accounted for under the pay-as-you-go cost method, the amount of pension cost assignable to a cost accounting period shall be measured as the sum of:

(i) The net amount for any periodic benefits paid for that period, and

(ii) The level annual installment required to amortize over 15 years any amounts paid to irrevocably settle an obligation for periodic benefits due in current or future cost accounting periods.

(4) Actuarial assumptions shall reflect long-term trends so as to avoid distortions caused by short-term fluctuations.

PH (5) Pension cost shall be based on provisions of existing pension plans. This shall not preclude contractors from making salary projections for plans whose benefits are based on salaries and wages, or from considering improved benefits for plans which provide that such improved benefits must be made. **For qualified defined benefit plans that ERISA permits recognition of historical patterns of benefit improvements under a plan covered by a collectively bargained agreement, the contractor may recognize the same benefit improvements.**

(6) If the evaluation of the validity of actuarial assumptions shows that any assumptions were not reasonable, the contractor shall:

(i) Identify the major causes for the resultant actuarial gains or losses, and

(ii) Provide information as to the basis and rationale used for retaining or revising such assumptions for use in the ensuing cost accounting period(s).

PH (7) "CAS 412 Harmonization Rule": For qualified defined benefit pension plans, in any period that the minimum required amount, measured for the plan as a whole, exceeds the pension cost, measured for the plan as a whole and limited in accordance with 9904.412-50(c)(2)(i), then the actuarial accrued liability and normal cost are subject to adjustment in accordance with the provisions of paragraph (b)(7)(i) of this section, and the measured cost shall be adjusted if the criteria of paragraph (b)(7)(ii) of this section are met.

(i) Actuarial accrued liability and normal cost adjustment: In any period that the sum of the minimum actuarial liability plus the minimum normal cost exceeds the sum of the unadjusted actuarial accrued liability plus the unadjusted normal cost, the contractor shall adjust the actuarial accrued liability and normal cost as follows:

(A) The actuarial accrued liability and normal cost determined without regard to this paragraph are the unadjusted actuarial accrued liability and normal cost, respectively:

(B) The liability adjustment amount shall be equal to the minimum actuarial liability, as defined by paragraph (b)(7)(iii)(A) of this section, minus the unadjusted actuarial accrued liability. The liability adjustment amount shall be added to the unadjusted actuarial accrued liability to determine the adjusted actuarial accrued liability. If the liability adjustment amount is a negative amount, that amount shall be subtracted from unadjusted actuarial accrued liability to determine the adjusted actuarial accrued liability:

(C) The normal cost adjustment amount shall be equal to the minimum normal cost, as defined by paragraph (b)(7)(iii)(B) of this section, minus the unadjusted normal cost. The normal cost adjustment amount shall be added to the unadjusted normal cost to determine the adjusted normal cost. If the normal cost adjustment amount is a negative amount, that amount shall be subtracted from unadjusted normal cost to determine the adjusted normal cost; and

(D) The contractor shall measure and assign the pension cost for the period in accordance with 9904.412 and 9904.413 by using the values of the adjusted actuarial accrued liability and adjusted normal cost as the values of the actuarial accrued liability and normal cost.

(ii) The pension cost for the period shall be the greater of either the pension

cost, measured for the period in accordance with paragraph (b)(7)(i) of this section, or the pension cost measured without regard to this paragraph. For purposes of this paragraph (b)(7)(ii), the pension costs measured for the period shall be compared before limiting the cost in accordance with 9904.412-50(c)(2)(ii) and (iii).

(iii) Special definitions to be used for this paragraph:

(A) The minimum actuarial liability shall be the actuarial accrued liability measured under the accrued benefit cost method and using an interest rate assumption as described in 9904.412-50(b)(7)(iv).

(B) The minimum normal cost shall be measured as the normal cost measured under the accrued benefit cost method and using an interest rate assumption as described in 9904.412-50(b)(7)(iv).

(C) Minimum required amount means the contribution required to satisfy the minimum funding requirements of ERISA. For purposes of this paragraph, the minimum required contribution shall not include any additional contribution requirements or elections based upon the plan's ratio of actuarial or market value of assets to the actuarial accrued liabilities measured for ERISA purposes. The minimum required amount shall be measured without regard to any prepayment credits that have been accumulated for ERISA purposes (*i.e.*, prefunding balances).

(iv) Actuarial Assumptions: The actuarial assumptions used to measure the minimum actuarial liability and minimum normal cost shall meet the following criteria:

(A) The interest assumption used to measure the pension cost for the current period shall reflect the contractor's best estimate of rates at which the pension benefits could effectively be settled based on the current period rates of return on investment grade fixed-income investments of similar duration to the pension benefits:

(B) The contractor may elect to use the same rate or set of rates, for investment grade corporate bonds of similar duration to the pension benefits, as published or defined by the Government for ERISA purposes. The contractor's cost accounting practice includes any election to use a specific table or set of such rates and must be consistently followed:

(C) For purposes of this paragraph, use of the current period rates of

return on investment grade corporate bonds of similar duration to the pension benefits shall not violate the provisions of 9904.412-40(b)(2) and 9904.412-50(b)(4) regarding the interest rate used to measure the minimum actuarial liability and minimum normal cost: and

(D) All other actuarial assumptions used to measure the minimum actuarial liability and minimum normal cost shall be the same as the assumptions used elsewhere in this Standard.

(c) Assignment of pension cost.

TC (1) Amounts funded in excess of the pension cost **assigned to** ~~**computed for**~~ a cost accounting period pursuant to the provisions of this Standard shall be accounted for as a prepayment credit and carried forward to future accounting periods.

TC (2) For qualified defined-benefit pension plans, the pension cost ~~**computed**~~ **measured** for a cost accounting period is assigned to that period subject to the following adjustments, in order of application:

TC (i) Any amount of ~~**computed**~~ pension cost **measured for the period** that is less than zero shall be assigned to future accounting periods as an assignable cost credit. The amount of pension cost assigned to the period shall be zero.

(ii) When the pension cost equals or exceeds the assignable cost limitation:

TC (A) The amount of ~~**computed**~~ pension cost, adjusted pursuant to paragraph (c)(2)(i) of this subsection, shall not exceed the assignable cost limitation,

(B) All amounts described in 9904.412-50(a)(1) and 9904.413-50(a), which are required to be amortized, shall be considered fully amortized, and

TC (C) Except for portions of unfunded actuarial liability separately identified and maintained in accordance with 9904.**412**~~**413**~~-50(a)(2), any portion of unfunded actuarial liability, which occurs in the first cost accounting period after the pension cost has been limited by the assignable cost limitation, shall be considered an actuarial gain or loss for purposes of this Standard. Such actuarial gain or loss shall exclude any increase or decrease in unfunded actuarial liability resulting from a plan amendment, change in actuarial assumptions, or change in actuarial cost method effected after the pension cost has been limited by the assignable cost limitation.

TC (iii) An amount of ~~**computed**~~ pension cost of a qualified pension plan, adjusted pursuant to paragraphs (c)(2)(i) and (ii) of this subsection that exceeds the sum of (A) the maximum tax-deductible amount, determined in accordance with ERISA, and (B) the accumulated value of prepayment credits shall be assigned to future accounting periods as an assignable cost deficit. The amount of pension cost assigned to the current period shall not exceed the sum of the maximum tax-deductible amount plus the accumulated value of prepayment credits.

(3) The cost of nonqualified defined-benefit pension plans shall be assigned to cost accounting periods in the same manner as qualified plans (with the exception of paragraph (c)(2)(iii) of this subsection) under the following conditions:

(i) The contractor, in disclosing or establishing his cost accounting practices, elects to have a plan so accounted for;

(ii) The plan is funded through the use of a funding agency; and

(iii) The right to a pension benefit is nonforfeitable and is communicated to the participants.

(4) The costs of nonqualified defined-benefit pension plans that do not meet all of the requirements in 9904.412-50(c)(3) shall be assigned to cost accounting periods using the pay-as-you-go cost method.

TC (5) Any portion of pension cost ~~**computed for**~~ **measured** for a cost accounting period **and adjusted in accordance with 9904.412-50(c)(2)** that exceeds the amount required to be funded pursuant to a waiver granted under the provisions of ERISA shall not be assigned to the current period. Rather, such excess shall be treated as an assignable cost deficit, except that it shall be assigned to future cost accounting periods using the same amortization period as used for ERISA purposes.

(d) Allocation of pension costs. The amount of pension cost assigned to a cost accounting period allocated to intermediate and final cost objectives shall be limited according to the following criteria:

(1) Except for nonqualified defined-benefit plans, the costs of a pension plan assigned to a cost accounting period are allocable to the extent that they are funded.

(2) For nonqualified defined-benefit pension plans that meet the criteria set forth at 9904.412-50(c)(3), pension costs assigned to a cost accounting period are fully allocable if they are funded at a level at least equal to the percentage of the complement (i.e., 100% - tax rate % =

percentage of assigned cost to be funded) of the highest published Federal corporate income tax rate in effect on the first day of the cost accounting period. If the contractor is not subject to Federal income tax, the assigned costs are allocable to the extent such costs are funded. Funding at other levels and benefit payments of such plans are subject to the following:

(i) Funding at less than the foregoing levels shall result in proportional reductions of the amount of assigned cost that can be allocated within the cost accounting period.

(ii) (A) Payments to retirees or beneficiaries shall contain an amount drawn from sources other than the funding agency of the pension plan that is, at least, proportionately equal to the accumulated value of permitted unfunded accruals divided by an amount that is the market value of the assets of the pension plan excluding any accumulated value of prepayment credits.

(B) The amount of assigned cost of a cost accounting period that can be allocated shall be reduced to the extent that such payments are drawn in a higher ratio from the funding agency.

(iii) The permitted unfunded accruals shall be identified and accounted for year to year, adjusted for benefit payments directly paid by the contractor and for interest at the actual annual earnings rate on the funding agency balance.

(3) For nonqualified defined-benefit pension plans accounted for under the pay-as-you-go method, pension costs assigned to a cost accounting period are allocable in that period.

(4) Funding of pension cost shall be considered to have taken place within the cost accounting period if it is accomplished by the corporate tax filing date for such period including any permissible extensions thereto.

9904.412-60 Illustrations.

(a) <u>Components of pension cost</u>.

(1) Contractor A has insured pension plans for each of two small groups of employees. One plan is exclusively funded through a group permanent life insurance contract and is exempt from the minimum funding requirements of ERISA. The other plan is funded through a deposit administration contract, which is a form of group deferred annuity contract that is not exempt from ERISA's minimum funding requirements. Both plans provide for defined benefits. Pursuant to 9904.412-50(a)(6), for purposes of this Standard the plan financed through a group permanent insurance contract shall be considered to be a defined-contribution pension plan; the

net premium required to be paid for a cost accounting period (after deducting dividends and any credits) shall be the pension cost for that period. However, the deposit administration contract plan is subject to the provisions of this Standard that are applicable to defined-benefit plans.

(2) Contractor B provides pension benefits for certain hourly employees through a multiemployer defined-benefit plan. Under the collective bargaining agreement, the contractor pays six cents into the fund for each hour worked by the covered employees. Pursuant to 9904.412-50(a)(8), the plan shall be considered to be a defined-contribution pension plan. The payments required to be made for a cost accounting period shall constitute the assignable pension cost for that period.

(3) Contractor C provides pension benefits for certain employees through a defined-contribution pension plan. However, the contractor has a separate fund that is used to supplement pension benefits for all of the participants in the basic plan in order to provide a minimum monthly retirement income to each participant. Pursuant to 9904.412-50(a)(7), the two plans shall be considered as a single plan for purposes of this Standard. Because the effect of the supplemental plan is to provide defined-benefits for the plan's participants, the provisions of this Standard relative to defined-benefit pension plans shall be applicable to the combined plan.

(4) Contractor D provides supplemental benefits to key management employees through a nonqualified defined-benefit pension plan funded by a so-called "Rabbi Trust." The trust agreement provides that Federal income taxes levied on the earnings of the Rabbi trust may be paid from the trust. The contractor's actuarial cost method recognizes the administrative expenses of the plan and trust, such as broker and attorney fees, by adding the prior year's expenses to the current year's normal cost. The income taxes paid by the trust on trust earnings shall be accorded the same treatment as any other administrative expense in accordance with 9904.412-50(a)(5).

(5) (i) Contractor E has been using the entry age normal actuarial cost method to compute pension costs. The contractor has three years remaining under a firm fixed price contract subject to this Standard. The contract was priced using the unfunded actuarial liability, normal cost, and net amortization installments developed using the entry age normal method. The contract was priced as follows:

	Entry Age Normal Values		
Cost Component	Year 1	Year 2	Year 3
Normal Cost	$ 100,000	$ 105,000	$ 110,000
Amortization	50,000	50,000	50,000
Pension Cost	$ 150,000	$ 155,000	$ 160,000

(ii) The contractor, after notifying the cognizant Federal official, switches to the projected unit credit actuarial cost method. The unfunded actuarial liability and normal cost decreased when redetermined under the projected unit credit method. Pursuant to 9904.412-50(a)(1)(vii), the contractor determines that an annual installment credit of $20,000 will amortize the decrease in unfunded actuarial liability (UAL) over ten years. The following pension costs are determined under the projected unit credit method:

	Projected Unit Credit Values		
Cost Component	Year 1	Year 2	Year 3
Normal Cost	$ 80,000	$ 85,000	$ 90,000
Amortization			
Prior Method	50,000	50,000	50,000
UAL Decrease	(20,000)	(20,000)	(20,000)
Pension Cost	$ 110,000	$ 115,000	$ 120,000

(iii) The change in cost method is a change in accounting method that decreased previously priced pension costs by $40,000 per year. In accordance with 9903.302, Contractor E shall adjust the cost of the firm fixed-price contract for the remaining three years by $120,000 ($40,000 x 3 years).

(6) Contractor F has a defined-benefit pension plan for its employees. Prior to being subject to this Standard the contractor's policy was to compute and fund as annual pension cost normal cost plus only interest on the unfunded actuarial liability. Pursuant to 9904.412-40(a)(1), the components of pension cost for a cost accounting period must now include not only the normal cost for the period and interest on the unfunded actuarial liability, but also an amortized portion of the unfunded actuarial liability. The amortization of the liability and the interest equivalent on the unamortized portion of the liability must be computed in equal annual installments.

(b) Measurement of pension cost.

(1) Contractor G has a pension plan whose costs are assigned to cost accounting periods by use of an actuarial cost method that does not separately identify actuarial gains and losses or the effect on pension cost resulting from changed actuarial assumptions. Contractor G's method is not an immediate-gain cost method and does not comply with the provisions of 9904.412-50(b)(1).

PH (2) For several years Contractor H has had an unfunded nonqualified pension plan which

provides for payments of $200 a month to employees after retirement. The contractor is currently making such payments to several retired employees and recognizes those payments as its pension cost. The contractor paid monthly annuity benefits totaling $24,000 during the current year. During the prior year, Contractor H made lump sum payments to irrevocably settle the benefit liability of several participants with small benefits. The annual installment to amortize these lump sum payments over fifteen years at the **long-term** ~~**valuation**~~ interest rate assumption is $5,000. Since the plan does not meet the criteria set forth in 9904.412-50(c)(3)(ii), pension cost must be accounted for using the pay-as-you-go cost method. Pursuant to 9904.412-50(b)(3), the amount of assignable cost allocable to cost objectives of that period is $29,000, which is the sum of the amount of benefits actually paid in that period ($24,000) plus the second annual installment to amortize the prior year's lump sum settlements ($5,000).

PH (3) Contractor I has two qualified defined-benefit pension plans that provide for fixed dollar payments to hourly employees. Under the first plan, the contractor's actuary believes that the contractor will be required to increase the level of benefits by specified percentages over the next several years **based on an established pattern of benefit improvements**. In calculating pension costs, the contractor may not assume future benefits greater than that currently required by the plan. **However, if ERISA permits the recognition of the established pattern of benefit improvements, 9904.412-50(b)(5) permits the contractor to include the same recognition of expected benefit improvements in computing the pension cost for contract costing purposes.** With regard to the second plan, a collective bargaining agreement negotiated with the employees' labor union provides that pension benefits will increase by specified percentages over the next several years. Because the improved benefits are required to be made, the contractor can consider such increased benefits in computing pension costs for the current cost accounting period in accordance with 9904.412-50(b)(5).

(4) In addition to the facts of 9904.412-60(b)(3), assume that Contractor I was required to contribute at a higher level for ERISA purposes because the plan was underfunded. To compute pension costs that are closer to the funding requirements of ERISA, Contractor I decides to "fresh start" the unfunded actuarial liability being amortized pursuant to 9904.412-50(a)(1); i.e., treat the entire amount as a newly established portion of unfunded actuarial liability, which is amortized over 10 years in accordance with 9904.412-50(a)(1)(ii). Because the contractor has changed the periods for amortizing the unfunded actuarial liability established pursuant to 9904.412-50(a)(3), the contractor has made a change in accounting practice subject to the provisions of Cost Accounting Standard 9903.302.

(c) Assignment of pension cost.

PH (1) Contractor J maintains a qualified defined-benefit pension plan. **The actuarial accrued liability for the plan is $20 million and has been adjusted based on the minimum actuarial liability required by 9904.412-50(b)(7).** The actuarial value of the assets of $18

million is subtracted from the actuarial accrued liability of $20 million to determine the total unfunded actuarial liability of $2 million. Pursuant to 9904.412-50(a)(1), Contractor J has identified and is amortizing twelve separate portions of unfunded actuarial liabilities. The sum of the unamortized balances for the twelve separately maintained portions of unfunded actuarial liability equals $1.8 million. In accordance with 9904.412-50(a)(2), the contractor has separately identified, and eliminated from the computation of pension cost, $200,000 attributable to a pension cost assigned to a prior period that was not funded. The sum of the twelve amortization bases maintained pursuant to 9904.412-50(a)(1) and the amount separately identified under 9904.412-50(a)(2) equals $2 million ($1,800,000 + 200,000). Because the sum of all identified portions of unfunded actuarial liability equals the total unfunded actuarial liability, the plan is in actuarial balance and Contractor J can assign pension cost to the current cost accounting period in accordance with 9904.412-40(c).

PH (2) Contractor K's pension cost computed for **2016** ~~**1996**~~, the current year, is $1.5 million. This computed cost is based on the components of pension cost described in 9904.412-40(a) and 9904.412-50(a) and is measured in accordance with 9904.412-40(b) and 9904.412-50(b). **The pension cost measured for the total plan exceeds the minimum contribution amount for the period, and therefore the actuarial accrued liability and normal cost were not required to be adjusted in accordance with 9904.412-50(b)(7).** The assignable cost limitation, which is defined at 9904.412-30(a)(9), is $1.3 million. In accordance with the provisions of 9904.412-50(c)(2)(ii)(A), Contractor K's assignable pension cost for **2016** ~~**1996**~~ is limited to $1.3 million. In addition, all amounts that were previously being amortized pursuant to 9904.412-50(a)(1) and 9904.413-50(a) are considered fully amortized in accordance with 9904.412-50(c)(2)(ii)(B). The following year, **2017** ~~**1997**~~, Contractor K computes an unfunded actuarial liability of $4 million. Contractor K has not changed his actuarial assumptions nor amended the provisions of his pension plan. Contractor K has not had any pension costs disallowed or unfunded in prior periods. Contractor K must treat the entire $4 million of unfunded actuarial liability as an actuarial loss to be amortized over **ten** ~~**fifteen**~~ years beginning in **2017** ~~**1997**~~ in accordance with 9904.412-50(c)(2)(ii)(C) **and 9904.413-50(a)(2)**.

PH (3) Assume the same facts shown in illustration 9904.412-60(c)(2), except that in ~~**1995**~~ **2015**, the prior year, Contractor K's assignable pension cost was $800,000, but Contractor K only funded and allocated $600,000. Pursuant to 9904.412-50(a)(2), the $200,000 of unfunded assignable pension cost was separately identified and eliminated from other portions of unfunded actuarial liability. This portion of unfunded actuarial liability was adjusted for 8% interest, which is the interest assumption for ~~**1995**~~ **2015** and ~~**1996**~~ **2016**, and was brought forward to ~~**1996**~~ **2016** in accordance with 9904.412-50(a)(2). Therefore, $216,000 ($200,000 x 1.08) is excluded from the amount considered fully amortized in ~~**1996**~~ **2016**. The next year, ~~**1997**~~ **2017**, Contractor K must eliminate $233,280 ($216,000 x 1.08) from the $4 million so that only $3,766,720 is treated as an actuarial loss in accordance with 9904.412-50(c)(2)(ii)(C).

PH (4) Assume, as in 9904.412-60(c)(2), the ~~**1996**~~ **2016** pension cost computed for Contractor K's qualified defined-benefit pension plan is $1.5 million and the assignable cost limitation is $1.7 million. **The accumulated value of prepayment credits is $0.** However, because of the ERISA limitation on tax-deductible contributions, Contractor K cannot fund more than $1 million without incurring an excise tax, which 9904.412-50(a)(5) does not permit to be a component of pension cost. In accordance with the provisions of 9904.412-50(c)(2)(iii), Contractor K's assignable pension cost for the period is limited to $1 million. The $500,000 ($1.5 million - $1 million) of pension cost not funded is reassigned to the next ten cost accounting periods beginning in ~~**1997**~~ **2017** as an assignable cost deficit in accordance with 9904.412-50(a)(1)(vi).

PH (5) Assume the same facts for Contractor K in 9904.412-60(c)(4), except that the accumulated value of prepayment credits equals $700,000. Therefore, in addition to the $1 million **tax-deductible contribution**, Contractor K can **also** apply **the** $700,000 ~~**of the**~~ accumulated value of prepayment credits**, which is available for funding as of the first day of the plan year,** towards the pension cost computed for the period. In accordance with the provisions of 9904.412-50(c)(2)(iii), Contractor K's assignable pension cost for the period is the full $1.5 million ~~**($1 million + $500,000)**~~ computed for the period. ~~**The**~~ **A new prepayment credit** of $200,000 **is created by the excess funding after** ~~**of remaining**~~ **applying the full $700,000** accumulated value of prepayment credits**, plus $800,000 of the $1 million tax deductible contribution, towards the assigned cost of $1.5 million creating a new prepayment credit** ($700,000 ~~**– $500,000**~~ **+ $1 million - $1.5 million**). **The remaining $200,000 prepayment credit** is adjusted for **$14,460 of investment returns allocated in accordance with 9904.412-50(c)(1) and 9904.413-50(c)(7)** ~~**interest at the valuation rate**~~ and **the sum of $214,460 is** carried forward until needed in future accounting periods in accordance with 9904.412-50(a)(4**)**.

(6) Assume the same facts for Contractor K in 9904.412-60(c)(4), except that the assignable cost limitation is $1.3 million. Pension cost of $1.5 million is computed for the cost accounting period, but the assignable cost is limited to $1.3 million in accordance with 9904.412-50(c)(2)(ii)(A). Pursuant to 9904.412-50(c)(2)(ii)(B), all existing amortization bases maintained in accordance with 9904.412-50(a)(1) are considered fully amortized. The assignable cost of $1.3 million is then compared to the maximum tax-deductible amount of $1 million. Pursuant to 9904.412-50(c)(2)(iii), Contractor K's assignable pension cost for the period is limited to $1 million. The $300,000 ($1.3 million - $1 million) excess of the assignable cost limitation over the tax-deductible maximum is assigned to future periods as an assignable cost deficit.

(7) Contractor L is currently amortizing a large decrease in unfunded actuarial liability over a period of ten years. A similarly large increase in unfunded actuarial liability is being amortized over 30 years. The absolute value of the resultant net amortization credit is greater

than the normal cost so that the pension cost computed for the period is a negative $200,000. Contractor L first applies the provisions of 9904.412-50(c)(2)(i) and determines the assignable pension cost is $0. The negative pension cost of $200,000 is assigned to the next ten cost accounting periods as an assignable cost credit in accordance with 9904.412-50(a)(1)(vi). However, when Contractor L applies the provisions of 9904.412-50(c)(2)(ii), the assignable cost limitation is also $0. Because the assignable cost of $0 determined under 9904.412-50(c)(2)(i) is equal to the assignable cost limitation, the assignable cost credit of $200,000 is considered fully amortized along with all other portions of unfunded actuarial liability being amortized pursuant to 9904.412-50(a)(1). Conversely, if the assignable cost limitation had been greater than zero, the assignable cost credit of $200,000 would have carried-forward and amortized in future periods.

(8) Contractor M has a qualified defined-benefit pension plan which is funded through a funding agency. It computes $1 million of pension cost for a cost accounting period. However, pursuant to a waiver granted under the provisions of ERISA, Contractor M is required to fund only $800,000. Under the provisions of 9904.412-50(c)(5), the remaining $200,000 shall be accounted for as an assignable cost deficit and assigned to the next five cost accounting periods in accordance with the terms of the waiver.

(9) Contractor N has a company-wide defined-benefit pension plan, wherein benefits are calculated on one consistently applied formula. That part of the formula defining benefits within ERISA limits is administered and reported as a qualified plan and funded through a funding agency. The remainder of the benefits are considered to be a supplemental or excess plan which, while it meets the criteria at 9904.412-50(c)(3)(iii) as to nonforfeitability and communication, is not funded. The costs of the qualified portion of the plan shall be comprised of those elements of costs delineated at 9904.412-40(a)(1), while the supplemental or excess portion of the plan shall be accounted for and assigned to cost accounting periods under the pay-as-you-go cost method provided at 9904.412-40(a)(3) and 9904.412-50(c)(4).

(10) Assuming the same facts as in 9904.412-60(c)(9), except that Contractor N funds its supplemental or excess plan using a so-called "Rabbi Trust" vehicle. Because the nonqualified plan is funded, the plan meets the criteria set forth at 9904.412-50(c)(3)(ii). Contractor N may account for the supplemental or excess plan in the same manner as its qualified plan, if it elects to do so pursuant to 9904.412-50(c)(3)(i).

(11) Assuming the same facts as in 9904.412-60(c)(10), except that under the nonqualified portion of the pension plan a former employee will forfeit his pension benefit if the employee goes to work for a competitor within three years of terminating employment. Since the right to a benefit cannot be affected by the unilateral action of the contractor, the right to a benefit is considered to be nonforfeitable for purposes of 9904.412-30(a)(17). The nonqualified plan still meets the criteria set forth at 9904.412-50(c)(3)(iii), and Contractor N may account for the

supplemental or excess plan in the same manner as its qualified plan, if it elects to do so.

(12) Assume the same facts as in 9904.412-60(c)(11), except that Contractor N, while maintaining a "Rabbi Trust" funding vehicle elects to have the plan accounted for under the pay-as-you-go cost method so as to have greater latitude in annual funding decisions. It may so elect pursuant to 9904.412-50(c)(3)(i).

TC (13) The assignable pension cost for Contractor O's qualified defined-benefit plan is $600,000. For the same period Contractor O contributes $700,000 which is the minimum funding requirement under ERISA. In addition, there exists $75,000 of unfunded actuarial liability that has been separately identified pursuant to 9904.412-50(a)(2). Contractor O may use $75,000 of the contribution in excess of the assignable pension cost to fund this separately identified unfunded actuarial liability, if he so chooses. The effect of the funding is to eliminate the unassignable $75,000 portion of unfunded actuarial liability that had been separately identified and thereby eliminated from the computation of pension costs. Contractor O shall then account for the remaining $25,000 **([$700,000 - $600,000] - $75,000)** of excess contribution as a prepayment credit in accordance with 9904.412-50(a)(4).

(d) Allocation of pension cost.

(1) Assume the same set of facts for Contractor M in 9904.412-60(c)(8) except there was no ERISA waiver; i.e., only $800,000 was funded against $1 million of assigned pension cost for the period. Under the provisions of 9904.412-50(d)(1), only $800,000 may be allocated to Contractor M's intermediate and final cost objectives. The remaining $200,000 of assigned cost, which has not been funded, shall be separately identified and maintained in accordance with 9904.412-50(a)(2) so that it will not be reassigned to any future accounting periods.

(2) Contractor P has a nonqualified defined-benefit pension plan which covers benefits in excess of the ERISA limits. Contractor P has elected to account for this plan in the same manner as its qualified plan and, therefore, has established a "Rabbi Trust" as the funding agency. For the current cost accounting period, the contractor computes and assigns $100,000 as pension cost. The contractor funds $65,000, which is equivalent to a funding level equal to the complement of the highest published Federal corporate income tax rate of 35%. Under the provisions of 9904.412-50(d)(2), the entire $100,000 is allocable to cost objectives of the period.

(3) Assume the set of facts in 9904.412-60(d)(2), except that Contractor P's contribution to the Trust is $59,800. In that event, the provisions of 9904.412-50(d)(2)(i) would limit the amount of assigned cost allocable within the cost accounting period to the percentage of cost funded (i.e., $59,800/$65,000 = 92%). This results in allocable cost of $92,000 (92% of $100,000) for the cost accounting period. Under the provisions of 9904.412-40(c) and 9904.412-50(d)(2)(i), respectively, the unallocable $8,000 may not be assigned to any future cost

accounting period. In addition, in accordance with 9904.412-50(a)(2), the $8,000 must be separately identified and no amount of interest on such separately identified $8,000 shall be a component of pension cost in any future cost accounting period.

PH (4) Again, assume the set of facts in 9904.412-60(d)(2) except that, Contractor P's contribution to the Trust is $105,000 based on a **long-term assumed** ~~**valuation**~~ interest assumption of 8%. Under the provisions of 9904.412-50(d)(2) the entire $100,000 is allocable to cost objectives of the period. In accordance with the provisions of 9904.412-50(c)(1) Contractor P has funded $5,000 ($105,000 - $100,000) in excess of the assigned pension cost for the period. The $5,000 shall be accounted for as a prepayment credit. Pursuant to 9904.412-50(a)(4), the $5,000 shall be adjusted **for an allocated portion of the total investment earnings and expenses in accordance with 9904.412-50(a)(4) and 9904.413-50(c)(7).** ~~**interest at the 8% valuation rate of interest and**~~ **The prepayment credit plus allocated earnings and expenses shall be** excluded from the actuarial value of assets used to compute the next year's pension cost ~~**computations**~~. The accumulated value of prepayment credits of $5,400 (5,000 x 1.08) may be used to fund the next year's assigned pension cost, if needed.

(5) Contractor Q maintains a nonqualified defined-benefit pension plan which satisfies the requirements of 9904.412-50(c)(3). As of the valuation date, the reported funding agency balance is $3.4 million excluding any accumulated value of prepayment credits. When the adjusted funding agency balance is added to the accumulated value of permitted unfunded accruals of $1.6 million, the market value of assets equals $5.0 million ($3.4 million + $1.6 million) in accordance with 9904.412-30(a)(15). During the plan year, retirees receive monthly benefits totalling $350,000. Pursuant to 9904.412-50(d)(2)(ii)(A), at least 32% ($1.6 million divided by $5 million) of these benefit payments shall be made from sources other than the funding agency. Contractor Q, therefore, draws $238,000 from the funding agency assets and pays the remaining $112,000 using general corporate funds.

(6) Assume the same facts as 9904.412-60(d)(5), except that by the time Contractor Q receives its actuarial valuation it has paid retirement benefits equaling $288,000 from funding agency assets. The contractor has made deposits to the funding agency equal to the tax complement of the $500,000 assignable pension cost for the period. Pursuant to 9904.412-50(d)(2)(ii)(B), the assignable $500,000 shall be reduced by the $50,000 ($288,000 - $238,000) of benefits paid from the funding agency in excess of the permitted $238,000, unless the contractor makes a deposit to replace the $50,000 inadvertently drawn from the funding agency. If this corrective action is not taken within the time permitted by 9904.412-50(d)(4), Contractor Q shall allocate only $450,000 ($500,000-$50,000) to final cost objectives. Furthermore, the $50,000, which was thereby attributed to benefit payments instead of funding, must be separately identified and maintained in accordance with 9904.412-50(a)(2).

(7) Contractor R has a nonqualified defined-benefit plan that meets the criteria of

9904.412-50(c)(3). For 1996, the funding agency balance was $1,250,000 and the accumulated value of permitted unfunded accruals was $600,000. During 1996 the earnings and appreciation on the assets of the funding agency equaled $125,000, benefit payments to participants totaled $300,000, and administrative expenses were $60,000. All transactions occurred on the first day of the period. In accordance with 9904.412-50(d)(2)(ii)(A), $200,000 of benefits were paid from the funding agency and $100,000 were paid directly from corporate assets. Pension cost of $400,000 was assigned to 1996. Based on the current corporate tax rate of 35%, $260,000 ($400,000 x (1-35%)) was deposited into the funding agency at the beginning of 1996. For 1997 the funding agency balance is $1,375,000 ($1,250,000 + $260,000 + $125,000 - $200,000 - $60,000). The actual annual earnings rate of the funding agency was 10% for 1996. Pursuant to 9904.412-50(d)(2)(iii), the accumulated value of permitted unfunded accruals is updated from 1996 to 1997 by: (i) adding $140,000 (35% x $400,000), which is the unfunded portion of the assigned cost; (ii) subtracting the $100,000 of benefits paid directly by the contractor; and (iii) increasing the value of the assets by $64,000 for imputed earnings at 10% (10% x ($600,000 + $140,000 - $100,000)). The accumulated value of permitted unfunded accruals for 1997 is $704,000 ($600,000 + $140,000 - $100,000 + $64,000).

PH 9904.412-60.1 Illustrations – CAS Harmonization Rule.

The following illustrations address the measurement, assignment and allocation of pension cost on or after the Applicability Date of the Harmonization Rule. The first series of illustrations present the measurement, assignment and allocation of pension cost for a contractor with an under-funded segment, followed by another series of illustrations which present the measurement, assignment and allocation of pension cost for a contractor with an over-funded segment. The actuarial gain and loss recognition of changes between the long-term liability and the settlement liability bases are illustrated in 9904.412-60.1(h). The structural format for 9904.412.60.1 differs from the format for 9904.412-60.

(a) Description of the pension plan, actuarial assumptions and actuarial methods used for 9904.412-60.1 Illustrations.

(1) Introduction: Harmony Corporation has a defined-benefit pension plan covering employees at seven segments, all of which have some contracts subject to this Standard and 9904.413. The demographic experience for employees of the Segment 1 is materially different from that of the other six segments so that pursuant to 9904.413-50(c)(2)(iii) the contractor must separately compute the pension cost for Segment 1. Because the factors comprising pension cost for Segments 2 through 7 are relatively equal, the contractor computes pension cost for these six segments on a composite basis. The contractor does not separately account for pension costs related to its inactive employees. The contractor has received its annual actuarial valuation for its qualified defined benefit pension plan, which

bases the pension benefit on the employee's final average salary. The plan's Enrolled Actuary has provided the following disclosure concerning the methods (Table 1) and assumptions (Table 2) used to perform the valuation. The Contractor has accepted and adopted these methods and assumptions as its cost accounting practice for this pension plan.

Table 1

Actuarial Methods for CAS 412 and 413 Computations

Valuation Date	January 1, 2016
Actuarial Cost Methods:	
CAS 412 & 413 and Tax Deductibility	Projected Unit Credit Cost Method
Minimum Required Amount	Unit Credit Cost Method without Salary Projection
Asset Valuation Methods (Actuarial Value of Assets)	
CAS 412 and 413	5-Year delayed recognition of realized and unrealized gains and losses; but within 80% to 120% of Market Value of Assets
ERISA	24-Month Average Value of Assets but within 90% to 110% of Market Value

Table 2

Actuarial Assumptions for CAS 412 and 413 Computations

Long-term expected interest rate:	
Basis:	Based on expected long-term return on investment for each class of investment and on the investment mix and policy.

Long-term best-estimate:	7.50%
Corporate Bond "Settlement" Rate:	
Basis:	24-Month Average 3-Segment Yield Curve as of preceding November 1
Current Value (Effective Rate):	6.20%
Future Salary Increases:	3.00%
Mortality:	RP2000 Generational Tables as published by the Secretary of Treasury
Expense Load on Liability or Normal Cost:	
Long-term liability & Normal Cost	Included as decrement to long-term interest assumption
Minimum liability & Normal Cost	0.5% of market value of assets added to minimum normal cost
All other assumptions:	Based on the long-term best estimate of future events. Same set of assumptions is used for ERISA without regard to "At Risk" status.
Change in assumptions since last year:	None

(2) Actuarial Methods and Assumptions:

(i) Salary Projections: As permitted by 9904.412-50(b)(5), the contractor includes a projection of future salary increases and uses the projected unit credit cost method, which is an immediate gain actuarial cost method that satisfies the requirements of 9904.412-40(b)(1) for measuring the actuarial accrued liability and normal cost. The unit credit cost method (also known as the accrued benefit cost method) measures the liability for benefits earned prior to and during the current

plan year and is also an immediate gain cost method that satisfies 9904.412-40(b)(1) and 50(b)(1).

(ii) Interest Rate:

(A) Long-Term Interest Rate: The contractor's basis for establishing the long-term interest rate assumption satisfies the criteria of 9904.412-40(b)(2) and 9904.412-50(b)(4).

(B) "Settlement" Rate: For purposes of measuring the minimum actuarial liability and minimum normal cost the contractor has elected to use a set of investment grade corporate bond yield rates published by the Secretary of the Treasury. The basis and set of corporate bond rates meet the requirements of 9904.412-50(b)(7)(iv)(A), (B) and (C).

(iii) Mortality: Mortality is based on a table of generational mortality rates published by the Secretary of the Treasury and reflects recent mortality improvements. This table satisfies 9904.412-40(b)(4) which requires assumptions to "represent the contractor's best estimates of anticipated experience under the plan, taking into account past experience and reasonable expectations." Alternatively, use of the annually updated and published static mortality table would also satisfy this requirement, but in that case the contractor should disclose the source and annual nature of the mortality rate rather than the specific table. The specific table used for each valuation shall be identified.

(iv) Actuarial Value of Assets:

(A) The valuation of the actuarial value of assets used for CAS 412 and 413 is based on a recognized smoothing technique that "provides equivalent recognition of appreciation and depreciation of the market value of the assets of the pension plan." The disclosed method also constrains the asset value to a corridor bounded by 80% to 120% of the market value of assets. This method for measuring the actuarial value of assets satisfies the provisions of 9904.413-50(b)(2).

(B) The Actuarial value of assets used for ERISA purposes limits the expected interest to a specific corporate bond rate regardless of the investment mix and actual expectations. This method fails the criteria of 9904.413-50(b)(2) by not allowing for recognition of potential appreciation. The actuarial value of assets derived under this method cannot be used for CAS 412 and 413 purposes. This actuarial value of assets may be used to determine the minimum required

amount since that amount is measured in accordance with ERISA rather than CAS 412 and 413.

(v) An actuarial cost method, as defined at 9904.412-30(a)(4), recognizes current and future administrative expenses. For contract costing purposes, administrative expenses are implicitly recognized as a decrement to the assumed interest rate. Since the published sets of corporate bond rates are not decremented for expenses, the expected expense is explicitly added to the minimum normal cost.

(b) Underfunded Segment - Measurement of Pension Costs. Based on the pension plan, actuarial methods and actuarial assumptions described in 9904.412-60.1(a), the Harmony Corporation determines that Segment 1 and Segments 2 - 7 each have an unfunded actuarial liability and measures its pension cost for plan year 2016 as follows:

(1) Asset Values:

(i) Market Values of Assets: The contractor adjusts the prior period's market value of assets in accordance with 9904.413-50(c)(7). The accumulated value of prepayment credits are separately identified from the assets allocated to segments and are adjusted in accordance with 9904.412-50(a)(4) and 9904.413-50(c)(7). The adjustment of the market value of assets, including the accumulated value of prepayment credits is summarized in Table 3.

Table 3

January 1, 2016 Market Value of Assets					
	Total Plan	Segment 1	Segments 2 - 7	Accumulated Prepayments	Note
Market Value at January 1, 2015	$ 3,190,000	$ 1,503,000	$10,633,000	$ 1,054,000	1
Prepayment Credit Applied	-	49,000	390,700	(439,700)	1
Contribution	940,080	104,400	835,680	-	1
Benefit Payments	(864,800)	(80,600)	(784,200)	n/a	1
Investment Earnings	1,068,600	126,341	892,633	49,626	2
Administrative Expenses	(76,000)	(8,986)	(63,485)	(3,529)	3
Market Value at January 1, 2016	$ 4,257,880	$ 1,693,155	$11,904,328	$ 660,397	
Weighted Average Asset Values	$13,227,640	$ 1,563,900	$ 11,049,440	$ 614,300	4

Note 1: Information taken directly from the actuarial valuation report prepared for CAS 412 and 413 purposes and supporting documentation.

Note 2: The investment earnings are allocated among segments and the accumulated value of prepayment credits based on average weighted asset values in accordance with 9904.413-50(c)(7) and 9904.412-50(a)(4).

Note 3: The administrative expenses are allocated among segments and the accumulated value of prepayment credits based on average weighted asset values in accordance with 9904.413-50(c)(7) and 9904.412-50(a)(4).

Note 4: The prepayment credits were transferred and applied on the first day of the plan year. The contribution deposit and benefit payments occurred on July 1, 2015. The weighted average asset value for each segment and the accumulated value of prepayment credits was computed by giving 100% weight to the prepayment credit transfer amounts and 50% weighting to the contribution and benefit payments.

(ii) Actuarial Value of Assets: Based on the contractor's disclosed asset valuation method, recognition of the realized and unrealized appreciation and depreciation from the current and four prior periods is delayed and amortized over a 5-year period. The portion of the appreciation and depreciation that is deferred until future periods is subtracted from the market value of assets to determine the actuarial value of assets for CAS 412 and 413 purposes. Table 4 summarizes the determination of the actuarial value of assets by segment as of January 1, 2016.

Table 4

January 1, 2016 Actuarial Value of Assets

	Total Plan	Segment 1	Segments 2 – 7	Notes
CAS 413 Actuarial Value of Assets	(Note 1)			
Market Value at January 1, 2016		$ 1,693,155	$11,904,328	2
Total Deferred Appreciation		(4,398)	(31,400)	3
Unlimited Actuarial Value of Assets		$ 1,688,757	$11,872,928	
CAS 413 Asset Corridor				
80% of Market Value of Assets		$ 1,354,526	$ 9,523,462	
Market Value at January 1, 2016		$ 1,693,155	$ 1,904,328	2
120% of Market Value of Assets		$ 2,031,788	$14,285,194	
CAS Actuarial Value of Assets	$13,561,685	$ 1,688,757	$11,872,928	4

Note 1: Because the actuarial value of assets is determined at the segment level, no values are shown for the Total Plan except as a summation at the end of the computation.

Note 2: See Table 3.

Note 3: Information taken directly from the actuarial valuation report prepared for CAS 412 and 413 purposes and supporting documentation.

Note 4: CAS Actuarial Value of Assets cannot be less than 80% of Market Value of Assets or more than 120% of Market Value of Assets.

(2) Liabilities and Normal Costs: (i) Long-Term Liabilities and Normal Costs: Based on the plan population data and the disclosed methods and assumptions for CAS 412 ad 413 purposes, the contractor measures the liability and normal cost on a going-concern basis using a long-term interest assumption. The liability and normal cost are shown in

Table 5.

Table 5
"Long-Term" Liabilities as of January 1, 2016

	Total Plan	Segment 1	Segments 2 – 7	Notes
Actuarial Accrued Liability	$ 16,525,000	$ 2,100,000	$ 14,425,000	1
Normal Cost	$ 947,700	$ 94,100	$ 853,600	1
Expense Load on Normal	$ -	$ -	$ -	1

Note 1: Information taken directly from the actuarial valuation report prepared for CAS 412 and 413 purposes and supporting documentation.

(ii) Likewise, based on the plan population data and the disclosed methods and assumptions for CAS 412 and 413 purposes, the contractor measures the minimum actuarial liability and minimum normal cost on a "settlement" basis using a set of investment grade corporate bond yield rates published by the Secretary of the Treasury. This measurement is shown in Table 6.

Table 6
"Settlement" Liabilities as of January 1, 2016

	Total Plan	Segment 1	Segments 2 – 7	Notes
Minimum Actuarial Liability	$ 5,557,000	$ 2,194,000	$13,363,000	1
Minimum Normal Cost	$ 933,700	$ 93,000	$ 840,700	1
Expense Load on Normal	$ 82,000	$ 8,840	$ 73,160	1

Note 1: Information taken directly from the actuarial valuation report prepared for ERISA purposes and supporting documentation.

(3) ERISA Contribution Range: For ERISA purposes, the contractor can deposit any amount that satisfies the minimum contribution requirement and does not exceed the maximum tax deductible contribution amount. The ERISA minimum required and maximum tax-deductible contributions are computed for the plan as a whole. ERISA does not recognize segments or business units.

(i) Funding Shortfall (Surplus):

(A) The contractor computes the funding shortfall (the unfunded actuarial liability for ERISA purposes) as shown in Table 7.

Table 7

PPA Funding Shortfall as of January 1, 2016		
	Total Plan	Notes
Funding Target	$ 15,557,000	1
Actuarial Value of Assets for ERISA	(13,469,400)	2
Total Shortfall (Asset Surplus)	$ 2,087,600	

Note 1: See Table 6.

Note 2: Information taken directly from the actuarial valuation report prepared for ERISA purposes and supporting documentation.

(B) The ERISA actuarial value of assets does not meet the criteria for measuring the actuarial value of assets for CAS purposes. Accordingly, there is a difference of $88,894 between the actuarial value of assets used for ERISA purposes ($13,469,400) and the asset value used for CAS purposes ($13,561,685) as developed in Table 4. However, for purposes of this computation the contractor uses the actuarial value of assets developed for ERISA purposes since this is an ERISA computation.

(ii) Minimum Required Amount: In accordance with 9904.412-50(b)(7)(iii)(C), the minimum required amount is the gross minimum contribution required by ERISA, *i.e.* the minimum required contribution unreduced by any prefunding balances. The contractor can satisfy the ERISA minimum funding requirement by depositing an amount at least equal to the minimum required contribution minus any prefunding balances, subject to certain ERISA restrictions on use of the prefunding balances. This calculation is done at the plan level in accordance with 9904.413-50(c)(7). Table 8 shows the contractor's computation of the minimum required amount (the unreduced minimum required contribution for ERISA purposes) for CAS purposes.

Table 8

Minimum Required Contribution		
	Total Plan	Notes

Target Normal Cost	$ 933,700	1
Expense Load on Target Normal Cost	2,000	1
Shortfall Amortization Amount	576,225	2
Minimum Required Contribution	$ 1,591,925	3
Available Prefunding Balance	(500,000)	4
ERISA Minimum Deposit	$ 1,091,925	5

Note 1: See Table 6.

Note 2: Net amortization installment required for the various portions of the Funding Shortfall of $2,087,600 (Table 7) in accordance with ERISA.

Note 3: The ERISA Minimum Required Contribution is the CAS 9904.412-50(b)(7)(iii)(C) "Minimum Required Amount."

Note 4: Information taken directly from the actuarial valuation report prepared for ERISA purposes and supporting documentation

Note 5: This is the minimum deposit the contractor must make to satisfy ERISA.

(iii) Maximum Tax-Deductible Contribution: In accordance with 9904.412-50(c)(2)(iii), the assigned pension cost may not exceed the ERISA maximum tax-deductible contribution plus any accumulated value of prepayment credits. Presuming the tax-deductible contribution rules have not changed since 2008, the contractor computes the maximum tax-deductible contribution as shown in Table 9.

Table 9

Tax-Deductible Maximum

	Total Plan	Notes
Funding Target	$ 15,557,000	1
Target Normal Cost	933,700	1
Expense Load on Target Normal Cost	82,000	1
PPA Cushion (50% Funding Target)	7,778,500	
Projected Liability Increment	2,505,000	2
Liability for Deduction Limit	$ 26,856,200	
Actuarial Value of Assets for ERISA	(13,469,400)	3
Tax-Deductible Maximum	$ 13,386,800	4

Note 1: See Table 6.

Note 2: Increase in Funding Target if salaries increases are projected.

Note 3: See Table 7.

Note 4: The Tax-Deductible Maximum Contribution cannot be less than the ERISA minimum required contribution developed in Table 8.

(4) Initial Measurement of Assigned Pension Cost: Before considering if any adjustment are required by 9904.412-50(b)(7), the contractor must first measure the pension cost for the period based on the actuarial accrued liability and normal cost valued with the long-term interest assumption and the actuarial value of assets.

(i) Measurement of the unfunded actuarial liability: The contractor measures the unfunded actuarial liability in order to compute any portions of unfunded actuarial liability to be amortized in accordance with 9904.412-50(a)(1) and 9904.412-50(a)(2). (Note that the accumulated value of prepayment credits is accounted for separately and is not included in the actuarial value of assets allocated to segments.) See Table 10.

Table 10

Initial Unfunded Actuarial Liability

	Total Plan	Segment 1	Segments 2 - 7	Notes
Actuarial Accrued Liability	$16,525,000	$ 2,100,000	$ 4,425,000	1
CAS Actuarial Value of Assets	(13,561,685)	(1,688,757)	(11,872,928)	2
Unfunded Actuarial Liability	$ 2,963,315	$ 411,243	$ 2,552,072	

Note 1: See Table 5.

Note 2: See Table 4.

(ii) Measurement of pension cost: The new amortization installment(s) are added to the amortization installments remaining from prior years. The pension cost for the period is measured as the normal cost plus the sum of the amortization installments. Because the long-term interest assumption implicitly recognizes expected administrative expenses, there is no separately identified increment for administrative expenses added to the normal cost. See Table 11.

Table 11

Initial Measured Pension Cost

	Total Plan	Segment 1	Segments 2 - 7	Notes
Normal Cost	(Note 1)	$ 94,100	$ 853,600	2
Expense Load on Normal Cost		-	-	2
Net Amortization Installment		75,387	467,856	3
Measured Pension Cost	$ 1,490,943	$ 169,487	$ 1,321,456	

Note 1: Because the pension cost is measured at the segment level, no values are shown for the Total Plan except as a summation at the end of the computation.

Note 2: See Table 5.

Note 3: Net annual installment required to amortize the portions of unfunded actuarial liability, $411,243 for Segment 1 and $2,552,072 for Segments 2 - 7, in accordance with 9904.412-50(a)(1).

(5) Harmonization Tests:

(i) Harmonization Threshold Test:

(A) The pension cost measured for the period is only subject to the adjustments of 9904.412-50(b)(7) if the minimum required amount for the plan exceeds the pension cost, measured for the plan as a whole. See Table 12.

Table 12

Harmonization Threshold Test		
	Total Plan	Notes
	(Note 1)	
CAS Measured Pension Cost	$ 1,490,943	2
ERISA Minimum Required Amount	$ 1,591,925	3

Note 1: The ERISA Minimum Required Amount is measured for the Total Plan, therefore the Harmonization Threshold Test is performed for the plan as a whole.

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Note 2: See Table 11. CAS Measured Cost cannot be less than $0.

Note 3: See Table 8. The ERISA minimum required contribution unreduced for any prefunding balance.

(B) In this case, the minimum required amount is larger, and therefore the contractor proceeds to determine whether the pension cost must be adjusted in accordance with 9904.412-50(b)(7). If the minimum required amount had been equal to or less than the assigned pension cost, then the pension cost measured for the period would not be subject to the adjustment provisions of 9904.412-50(b)(7).

(ii) (A) Actuarial Liability and Normal Cost Threshold Test: The contractor

compares the sum of the actuarial accrued liability plus normal cost, including any expense load, to the minimum actuarial liability plus minimum normal cost to determine whether the assigned cost for the segment must be adjusted in accordance with 9904.412-50(b)(7)(i). This comparison and determination is separately performed at the segment level in accordance with 9904.413-50(c)(2)(iii). See Table 13.

Table 13

Harmonization "Liability" Test

	Total Plan	Segment 1	Segments 2 - 7	Notes
	Note(1)			
CAS Long-Term Liabilities				
Actuarial Accrued Liability		$ 2,100,000	$ 14,425,000	2
Normal Cost		94,100	853,600	2
Expense Load on Normal Cost		-	-	2, 3
Total Liability for Period		$ 2,194,100	$ 15,278,600	
"Settlement Liabilities"				
Minimum Actuarial Liability		$ 2,194,000	$ 13,363,000	4
Minimum Normal Cost		93,000	840,700	4
Expense Load on Normal Cost		8,840	73,160	4, 5
Total Liability for Period		$ 2,295,840	$ 14,276,860	

Note 1: Because the liability and normal cost used to measure the pension cost is determined at the segment level, no values are shown for the Total Plan except as a summation at the end of the computation.

Note 2: See Table 5.

Note 3: Because the long-term interest assumption implicitly recognizes expected admin expense there is no explicit amount added to the long-term normal cost.

Note 4: See Table 6.

Note 5: For settlement valuation purposes the contractors explicitly identifies the expected expenses as a separate component of normal cost.

(B) As shown in Table 13, the minimum actuarial liability plus minimum normal cost ($2,295,840) exceeds the actuarial accrued liability plus normal cost ($2,194,100) for Segment 1 but not for Segments 2 through 7. Therefore, the contractor must measure the adjusted pension cost for Segment 1 only.

(6) Measurement of Potentially Adjusted Pension Cost: To determine whether the

pension cost measured for the period must be adjusted in accordance with 9904.412-50(b)(7)(ii), the contractor measures the unfunded actuarial liability, basic pension cost, and the assignable cost limitation by substituting the minimum actuarial liability and minimum normal cost for the actuarial accrued liability and normal cost.

(i) Re-measured Unfunded Actuarial Liability (Table 14):

Table 14

Re-measured Unfunded Actuarial Liability

	Total Plan	Segment 1	Segments 2 - 7	Notes
Minimum Actuarial Liability		$ 2,194,000		1
CAS Actuarial Value of Assets		(1,688,757)		2
Unfunded Actuarial Liability		$ 505,243		

Note 1: See Table 6.

Note 2: See Table 4.

(ii) Measurement of the Adjusted Pension Cost (Table 15):

Table 15

Adjusted Pension Cost

	Total Plan	Segment 1	Segments 2 - 7	Notes
Minimum Normal Cost		$ 93,000		1
Expense Load on Normal Cost		8,840		1, 2
Re-measured Amortization Installments		88,126		3
Adjusted Pension Cost		$ 189,966		

Note 1: See Table 6.

Note 2: For PPA purposes the contractors explicitly identifies the expected expenses as part of the normal cost.

Note 3: Net amortization installment based on the remeasured unfunded actuarial liability of $505,243 for Segment 1.

(7) Harmonization of Measured Pension Cost: For Segment 1 the contractor compares the unadjusted pension cost measured by the unadjusted actuarial accrued liability and normal cost with the adjusted pension cost re-measured by the minimum actuarial liability and minimum normal cost. Because the adjusted pension cost exceeds the unadjusted pension cost, the adjusted pension cost determines the measured pension

cost for Segment 1. For Segments 2 through 7 the measured pension cost was not required to be adjusted. See Table 16.

Table 16

Harmonization Test				
	Total Plan	Segment 1	Segments 2 - 7	Notes
	(Note 1)			
(A) Unadjusted Pension Cost		$ 169,487	$ 1,321,456	2
(B) Adjusted Pension Cost		$ 189,966	n/a	3
Harmonized Pension Cost	$ 1,511,422	$ 189,966	$ 1,321,456	4

Note 1: Because the comparison of the unadjusted and adjusted pension cost is performed separately at the segment level, no values are shown for the Total Plan except as a summation at the end of the computation.

Note 2: See Table 11.

Note 3: See Table 15.

Note 4: Greater of (A) or (B).

(c) Underfunded Segment - Assignment of Pension Cost. In 9904.412-60.1(b) the Harmony Corporation measured the total pension cost to be $1,511,422, which is the total of the adjusted pension cost of $189,966 for Segment 1 and the unadjusted pension cost of $1,321,456 for Segments 2 through 7. The contractor must now determine if any of the limitations of 9904.412-50(c)(2) apply.

(1) Zero Dollar Floor: The contractor compares the measured pension cost to a zero dollar floor as required by 9904.412-50(c)(2)(i). In this case, the measured pension cost is greater than zero and no assignable cost credit is established. See Table 17.

Table 17

CAS 412-50(c)(2)(i) Zero Dollar Floor				
	Total Plan	Segment 1	Segments 2 - 7	Notes
	(Note 1)			
Measured Pension Cost • $0		$ 189,966	$ 1,321,456	2
Assignable Cost Credit		$ -	$ -	3

Note 1: Because the provisions of CAS 412-50(2)(i) are applied at the segment level, no values are shown for the Total Plan except as a summation at the end of the computation.

Note 2: See Table 16. The Measured Pension Cost is the greater of zero or the Harmonized Pension Cost.

Note 3:There is no Assignable Cost Credit since the Harmonized Pension Cost is greater than zero.

(2) Assignable Cost Limitation:

(i) As required by 9904.412-50(c)(2)(ii), the contractor measures the assignable cost limitation amount. The pension cost assigned to the period cannot exceed the assignable cost limitation amount. Because the measured pension cost for Segment 1 was adjusted as required by 9904.412-50(b)(7)(ii), the assignable cost limitation for Segment 1 is based on the adjusted values for the actuarial accrued liability and normal cost, including expense load. The unadjusted values of the actuarial accrued liability and normal cost, including expense load, are used to measure the assignable cost limitation for Segment 2 through 7. See Table 18.

Table 18

CAS 412-50(c)(2)(ii) Assignable Cost Limitation

	Total Plan	Segment 1	Segments 2 - 7	Notes
	Note(1)			
Actuarial Accrued Liability		$ 2,194,000	$ 14,425,000	2
Normal Cost		93,000	853,600	3
Expense Load on Normal Cost		8,840	-	4
Total Liability for Period		$ 2,295,840	$ 15,278,600	
Actuarial Value of Plan Assets		(1,688,757)	(11,872,928)	5
(A) Assignable Cost Limitation Amount		$ 607,083	$ 3,405,672	6
(B) 412-50(c)(2)(i) Assigned Cost		$ 189,966	$ 1,321,456	7
(C) 412-50(c)(2)(ii) Assigned Cost	$ 1,511,422	$ 189,966	$ 1,321,456	8

Note 1: Because the assignable cost limitation is applied at the segment level when pension costs are separately calculated, no values are shown for the Total Plan.

Note 2: Because the criteria of 9904.412-50(b)(7)(i) and (ii) were met for Segment 1, the Actuarial Accrued Liability has been adjusted to equal the Minimum Actuarial Liability (Table 6). The unadjusted actuarial accrued liability is used for Segments 2 - 7 (Table 5).

Note 3: Because the criteria of 9904.412-50(b)(7)(i) and (ii) were met for Segment 1, the Normal Cost has been adjusted to equal the Minimum Normal Cost (Table 6). The unadjusted normal cost is used for Segments 2 - 7 (Table 5).

Note 4: Because the criteria of 9904.412-50(b)(7)(i) and (ii) were met for Segment 1, the Normal Cost is based on the Minimum Normal Cost which explicitly identifies the expected expenses as a separate component of normal cost (Table 6). For Segments 2 - 7, the expected expenses are implicitly recognized in the measurement of the normal cost (Table 5).

Note 5: See Table 4.

Note 6: The Assignable Cost Limitation cannot be less than $0.

Note 7: See Table 17.

Note 8: Lesser of lines (A) or (B).

(ii) As shown in Table 18, the contractor determines that the measured pension costs for Segment 1 and Segments 2 - 7 does not exceed the assignable cost limitation and are not limited.

(3) Measurement of Tax-Deductible Limitation:

(i) Finally, after limiting the measured pension cost in accordance with 9904.412-50(c)(2)(i) and (ii), the contractor checks to ensure that the total assigned pension cost will not exceed $14,047,197, which is the sum of the maximum tax-deductible contribution ($13,386,800) as determined in Table 9 plus the accumulated value of prepayment credits ($660,397) shown in Table 3. Since the tax-deductible contribution and prepayments are maintained for the plan as a whole, these values are allocated to segments based on the assignable pension cost after adjustment, if any, for the assignable cost limitation in accordance with 9904.413-50(c)(1)(ii). See Table 19.

Table 19

CAS 412-50(c)(2)(iii) Tax-Deductible Limitation

	Total Plan	Segment 1	Segments 2 - 7	Notes
Maximum Deductible Amount	$ 13,386,800	$ 1,682,546	$11,704,254	1, 2
Accumulated Prepayment Credits	660,397	83,003	577,394	3, 4
(A) 412-50(c)(2)(iii) Limitation	$ 14,047,197	$ 1,765,549	$12,281,648	
(B) 412-50(c)(2)(ii) Assigned Cost	$ 1,511,422	$ 189,966	$ 1,321,456	5
Assigned Pension Cost	$ 1,511,422	$ 189,966	$ 1,321,456	6

Note 1: Maximum Deductible Amount for the Total Plan is allocated to segments based on the 9904.412-50(c)(2)(ii) Assigned Cost in accordance with 9904.413-50(c)(1)(i) for purposes of this assignment limitation test.

Note 2: See Table 9.

Note 3: Accumulated Prepayment Credits for the Total Plan are allocated to segments based on the 9904.412-50(c)(2)(ii) Assigned Cost in accordance with 9904.413-50(c)(1)(i) for purposes of this assignment limitation test.

Note 4: See Table 3.

Note 5: See Table 18

Note 6: Lesser of lines (A) or (B).

(ii) The assignable pension cost of $1,511,422, measured after considering the assignable cost limitation, does not exceed the 9904.412-50(c)(2)(ii) limit of $14,047,197.

(d) Underfunded Segment - Allocation of Pension Cost. In 9904.412-60.1(c) the Harmony Corporation determined that the assigned pension cost for the period was $1,511,422, which is the total of the assigned pension cost of $189,966 for Segment 1 and $1,321,456 for Segments 2 through 7. See Table 19. The contractor determines the amount to be contributed to the funding agency and the allocation of the assigned cost as follows:

(1) Funding Decision:

(i) The contractor examines several different amounts to contribute to the plan. The contractor must contribute an amount equal to the assigned pension cost of $1,511,422 (Table 19) minus the accumulated value of prepayment credits of $660,397 (Table 3) for the assigned cost to be fully allocable. The minimum contribution amount that must be deposited is determined by segment is shown in Table 20.

Table 20

CAS Funding Requirement

	Total Plan	Segment 1	Segments 2 - 7	Notes
CAS Assigned Cost	$ 1,511,422	$ 189,966	$ 1,321,456	1
Accumulated Value of Prepayments	(660,397)	(83,003)	(577,394)	2, 3
CAS Assigned Cost to be Funded	$ 851,025	$ 106,963	$ 744,062	

Note 1: See Table 19.

Note 2: See Table 3.

Note 3: Accumulated Prepayment Credits for the Total Plan are allocated to segments based on the 9904.412-50(c)(2) Assigned Cost (Table 19) so that the prepayments are proportionally allocated to each segment's assigned pension cost.

(ii) To satisfy the minimum funding requirements of ERISA. The contractor must contribute an amount equal to the minimum required contribution minus any prefunding balances that are permitted to be applied under ERISA. If the pension plan's funding level is below certain ERISA thresholds, then the contractor may also consider including an additional contribution amount to improve the plan's funding level. In this case the plan is sufficiently funded and no additional contribution is needed. See Table 21.

Table 21

ERISA Funding Requirement		
	Total Plan	Notes
Gross Minimum Required Contribution	$ 1,591,925	1
ERISA Prefunding Credits	(500,000)	1
Net Minimum Required Contribution	$ 1,091,925	
Additional Voluntary Contribution	-	2
ERISA Minimum Deposit	$ 1,091,925	3

Note 1: See Table 8.

Note 2: the plan is sufficiently funded and no additional contribution is needed to avoid benefit restrictions.

Note 3: To satisfy ERISA's minimum funding contribution, at least $1,091,925 must be deposited.

(iii) And finally, the contractor's financial management policy for the pension plan is to deposit an amount equal to the cost as determined by the aggregate actuarial cost method so that the liability is liquated in even payments over the years of expected service of the active employees. In this case, the plan's actuary reports that the cost under the aggregate method is $1,254,000.

(iv) Table 22 shows the contractor's determination of the possible range of contributions.

Table 22

Contribution Range		
	Total Plan	Notes

CAS Assigned Cost to be Funded	$ 851,025	1
ERISA Minimum Required Deposit	$ 1,091,925	2
Aggregate Method Normal Cost	$ 1,254,000	3
Maximum Tax-Deductible Contribution	$ 13,386,800	4

Note 1: See Table 20.

Note 2: See Table 21

Note 3: Information taken directly from the actuarial valuation report prepared for funding policy purposes and supporting documentation.

Note 4: See Table 9.

(v) The contractor decides to contribute $1,091,925, which is the net ERISA minimum required contribution (MRC) after deducting any permissible prefunding balances. The contractor applies this required contribution amount toward the CAS assigned pension cost of $1,511,422 (Table 19) and then applies $419,497 ($1,511,422 - $1,091,925 (Table 21)) of the $660,397 (Table 3) accumulated value of prepayment credits to fully fund the CAS assigned pension cost for the period. The $1,091,925 is adjusted for interest and is deposited before the end of the year. The prepayment credit of $419,497 is applied as of the first day of the plan year. The funding of the assigned pension cost by segment is summarized in Table 23:

Table 23

Funding of CAS Assigned Cost

	Total Plan	Segment 1	Segments 2 - 7	Notes
CAS Assigned Cost	$ 1,511,422	$ 189,966	$ 1,321,456	1
ERISA Minimum Deposit	(1,091,925)	(137,241)	(954,684)	2
Remaining Cost to be Funded	$ 419,497	$ 52,725	$ 366,772	
Regular Prepayments Credit Applied	(419,497)	(52,725)	(366,772)	3
Remaining CAS Assigned Cost	$ -	$ -	$ -	
Contribution over Net MRC	-	-	-	4
Unfunded (Prepaid) Cost	$ -	$ -	$ -	5

Note 1: See Table 19.

Note 2: The Net Minimum Required Contribution is proportionally allocated to segments based on the Harmonized CAS Assigned Cost that must be funded to be allocable.

Note 3: Before the contractor expends any additional resources, CAS Assigned Cost is funded by application of any available prepayment credits. The prepayment credits are proportionally allocated to segments based on the Remaining Cost to be Funded that must be funded to be allocable in accordance with 9904.413-50(c)(1)(i).

Note 4: The contractor decided not to contribution any funds in excess of the ERISA minimum required contribution reduced by the prefunding balance, if any.

Note 5: When prepayment credits are used to fund the CAS assigned pension cost for the current period, the amount of prepayment credit used will be deducted from the accumulated value of prepayment credits and transferred to segments when the market value of assets are updated for the next valuation. The application of this prepayment credit will appear in the asset roll-up from 1/1/2016 to 1/1/2017.

(2) (i) Since the full $1,511,422 (Table 19) assigned cost is funded, the entire assigned cost can be allocated to intermediate and final cost objectives in accordance with 9904.412-50(d)(1). The pension benefit is determined as a function of salary, and therefore, the salary dollars of plan participants, *i.e.*, covered payroll, is used to allocate the assigned composite pension cost for Segment 2 through 7 (Table 19) among segments. Table 24 summarizes the allocation of assigned pension cost to segment.

Table 24

Funding of CAS Assigned Cost

	Covered Payroll	Segment Allocation Factor	Allocated Pension Cost	Notes
Direct Allocation (Segmented Cost)				
(A) Segment 1	$ 1,127,000	n/a	$ 189,966	2
Indirect Allocation (Composite Cost)		(Note 1)		
Segment 2	$ 810,000	0.099963	$ 132,097	3
Segment 3	1,621,000	0.200049	264,356	3
Segment 4	2,026,000	0.250031	330,405	3
Segment 5	1,158,000	0.142910	188,849	3
Segment 6	1,247,000	0.153894	203,364	3
Segment 7	1,241,000	0.153153	202,385	3
(B) Subtotal Segments 2 - 7	$ 8,103,000	1.000000	$ 1,321,456	2
Total Plan (A)+(B)	$ 9,230,000		$ 1,511,422	2

Note 1: Allocation factor for segment = segment's covered payroll divided by the total covered payroll for segments 2 though 7, subtotal (B).

Note 2: See Table 19.

Note 3: Pension cost for Segments 2 - 7, subtotal (B), multiplied by allocation factor for the individual segment.

(ii) Once allocated to segments, the assigned pension cost is allocated to intermediate and final cost objectives in accordance with the contractor's disclosed cost accounting practice.

(e) Overfunded Segment - Measurement of Pension Cost. Assume the same facts as shown in 9904.412-60.1(b), (c) and (d) for Harmony Corporation except that Segment 1 has an asset surplus, the accumulated value of prepayment credits is $0 and the January 1, 2016 Market Value of Assets is $16,055,092 for the total plan.

(1) Asset Values:

(i) Table 25 shows the market value of assets held by the Funding Agency.

Table 25

Funding Agency Balance as of January 1, 2016

	Total Plan	Segment 1	Segments 2 - 7	Accumulated Prepayment	Notes
Market Value at January 1, 2016	$16,055,092	$ 2,148,712	$13,906,380	$ -	1

Note 1: Information taken directly from the actuarial valuation report prepared for CAS 412 and 413 purposes and supporting documentation.

(ii) As before, the portion of the appreciation and depreciation that is deferred until future periods is subtracted from the market value of assets to determine the actuarial value of assets for CAS 412 and 413 purposes. The determination of the actuarial value of assets as of January 1, 2016 is summarized in Table 26.

Table 26

January 1, 2016 Actuarial Value of Assets

	Total Plan	Segment 1	Segments 2 - 7	Notes
	(Note 1)			
CAS 413 Actuarial Value of Assets				
Market Value at January 1, 2016		$ 2,148,712	$ 13,906,380	2
Total Deferred Appreciation		(5,700)	(35,200)	3
Unlimited Actuarial Value of Assets		$ 2,143,012	$ 13,871,180	
CAS 413 Asset Corridor				

80% of Market Value of Assets		$ 1,718,970	$ 11,125,104	
Market Value at January 1, 2016		$ 2,148,712	$ 13,906,380	2
120% of Market Value of Assets		$ 2,578,454	$ 16,687,656	
CAS Actuarial Value of Assets	$16,014,192	$ 2,143,012	$ 13,871,180	4

Note 1: Because the actuarial value of assets is determined at the segment level, no values are shown for the Total Plan except as a summation at the end of the computation.

Note 2: See Table 25.

Note 3: Information taken directly from the actuarial valuation report prepared for CAS 412 and 413 purposes and supporting documentation.

Note 4: CAS Actuarial Value of Assets cannot be less than 80% of Market Value of Assets or more than 120% of Market Value of Assets.

(2) ERISA Contribution Range:

(i) Funding Shortfall (Surplus): The contractor computes the funding shortfall (the unfunded actuarial liability for ERISA purposes), which in this case is an asset surplus, as shown in Table 27.

Table 27

PPA Funding Shortfall as of January 1, 2016

	Total Plan	Notes
Funding Target	$ 15,557,000	1
Actuarial Value of Assets for ERISA	(16,895,000)	2
Total Shortfall (Surplus)	$ (1,338,000)	

Note 1: See Table 6.

Note 2: Information taken directly from the actuarial valuation report prepared for ERISA purposes and supporting documentation.

(ii) Minimum Required Amount: Table 28 show the contractor computation of the minimum required amount (the unreduced minimum required contribution for ERISA purposes).

Table 28

Minimum Required Contribution		
	Total Plan	Notes
Target Normal Cost	$ 933,700	1
Expense Load on Target Normal Cost	82,000	1
Reduced by Asset Surplus	(1,338,000)	2
Shortfall Amortization Amount	n/a	
Minimum Required Contribution	$ -	3
Available Prefunding Balance	n/a	
ERISA Minimum Deposit	$ -	4

Note 1: See Table 6.

Note 2: See Table 27.

Note 3: The Minimum Required Contribution cannot be less than zero. The ERISA Minimum Required Contribution is the CAS 9904.412-50(b)(7)(iii)(C) "Minimum Required Amount."

Note 4: This is the minimum deposit the contractor must make to satisfy ERISA.

(iii) Maximum Tax-Deductible Contribution: Presuming the tax-deductible contribution rules have not changed since 2008, the contractor computes the maximum tax-deductible contribution as the sum of the funding target, target normal cost, the "cushion amount and the increase in the funding target for salary projections minus the actuarial value of assets determined for ERISA purposes. The contractor's computation is shown in Table 29.

Table 29

Tax-Deductible Maximum		
	Total Plan	Notes
Funding Target	$ 15,557,000	1
Target Normal Cost	933,700	1
Expense Load on Target Normal Cost	82,000	1
PPA Cushion (50% Funding Target)	7,778,500	
Projected Liability Increment	2,505,000	2
Liability for Deduction Limit	$ 26,856,200	
Actuarial Value of Assets for ERISA	(16,895,000)	3
Tax-Deductible Maximum	$ 9,961,200	

Note 1: See Table 6.

Note 2: Increase in Funding Target if salaries increases are projected.

Note 3: See Table 27.

(3) Initial Measurement of Assigned Pension Cost: The pension cost is initially measured on the actuarial accrued liability and normal cost, including any expense load, before any adjustments that might be required by 9904.412-50(b)(7)(ii).

(i) Measurement of the unfunded actuarial liability: The contractor measures the unfunded actuarial liability in order to compute any portions of unfunded actuarial liability to be amortized in accordance with 9904.412-50(a)(1) and 9904.412-50(a)(2). See Table 30.

Table 30

Initial Unfunded Actuarial Liability

	Total Plan	Segment 1	Segments 2 - 7	Notes
Actuarial Accrued Liability	$ 16,525,000	$ 2,100,000	$ 14,425,000	1
CAS Actuarial Value of Assets	(16,014,192)	(2,143,012)	(13,871,180)	2
Unfunded Actuarial Liability	$ 510,808	$ (43,012)	$ 553,820	

Note 1: See Table 5.

Note 2: See Table 26.

(ii) Measurement of pension cost: The new amortization installment(s) are added to the amortization installments remaining from prior years. The pension cost for the period is measured as the normal cost plus the sum of the amortization installments. Because the long-term interest assumption implicitly recognizes expected administrative expenses, there is no separately identified increment for administrative expenses added to the normal cost. See Table 31.

Table 31

Initial Measured Pension Cost

	Total Plan	Segment 1	Segments 2 - 7	Notes
Normal Cost	(Note 1)	$ 94,100	$ 853,600	2
Expense Load on Normal Cost		-	-	2
Net Amortization Installment		(4,800)	88,700	3
Measured Pension Cost	$ 1,031,600	$ 89,300	$ 942,300	

Note 1: Because the pension cost is measured at the segment level, no values are shown for the Total Plan except as a summation at the end of the computation..

Note 2: See Table 5.

Note 3: Net annual installment required to amortize the portions of unfunded actuarial liability, $(43,012), which is a surplus for Segment 1 and $553,820 for Segments 2 - 7, in accordance with 9904.412-50(a)(1).

(4) Harmonization Threshold Test:

(i) The pension cost measured for the period is only subject to the adjustments of 9904.412-50(b)(7) if the minimum required amount for the plan exceeds the pension cost, measured for the plan as a whole. See Table 32.

Table 32

Harmonization Threshold Test

	Total Plan	Notes
	(Note 1)	
CAS Measured Pension Cost	$ 1,031,600	2
ERISA Minimum Required Amount	$ -	3

Note 1: The ERISA Minimum Required Amount is measured for the Total Plan, therefore the Harmonization Threshold Test is performed for the plan as a whole.

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Note 2: See Table 31. CAS Measured Cost cannot be less than $0.

Note 3: See Table 28. The ERISA minimum required contribution unreduced for any prefunding balance.

(ii) In this case, the CAS measured cost is larger than the minimum required amount for all segments, and therefore the contractor does not need to determine whether the pension cost must be adjusted in accordance with 9904.412-50(b)(7). The contractor can proceed directly to checking the measured pension cost for assignability.

(f) Overfunded Segment - Assignment of Pension Cost. In 9904.412-60.1(e) the Harmony Corporation measured the total pension cost to be $1,031,600, which is the sum of the pension cost of $89,300 for Segment 1 and $942,300 for Segments 2 through 7. See Table 31. The contractor must now determine if any of the limitations of 9904.412-50(c)(2) apply.

(1) Zero Dollar Floor: The contractor compares the measured pension cost to a zero dollar floor as required by 9904.412-50(c)(2)(i) as shown in Table 33.

Table 33

CAS 412-50(c)(2)(i) Zero Dollar Floor				
	Total Plan	Segment 1	Segments 2 - 7	Notes
	(Note 1)			
Measured Pension Cost • $0		$ 89,300	$ 942,300	2
Assignable Cost Credit		$ -	$ -	3

Note 1: Because the provisions of CAS 412-50(2)(i) are applied at the segment level, no values are shown for the Total Plan except as a summation at the end of the computation.

Note 2: See Table 31. The Measured Pension Cost is the greater of zero or the Harmonized Pension Cost.

Note 3:There is no Assignable Cost Credit since the Harmonized Pension Cost is greater than zero.

(2) Assignable Cost Limitation:

(i) As required by 9904.412-50(c)(2)(ii), the contractor measures the assignable cost limitation amount. The pension cost assigned to the period cannot exceed the assignable cost limitation amount. Because the measured pension costs for Segment 1 and Segments 2 - 7 were not subject to adjustment pursuant to 9904.412-50(b)(7)(ii), the assignable cost limitation for Segment 1 and Segments 2 - 7 are based on the unadjusted values of the actuarial accrued liability and normal cost, including the implicit expense load. See Table 34.

Table 34

CAS 412-50(c)(2)(ii) Assignable Cost Limitation				
	Total Plan	Segment 1	Segments 2 - 7	Notes
	Note(1)			
Actuarial Accrued Liability		$ 2,100,000	$ 14,425,000	2, 3
Normal Cost		94,100	853,600	3, 4
Expense Load on Normal Cost		-	-	3, 5
Total Liability for Period		$ 2,194,100	$ 15,278,600	
Actuarial Value of Plan Assets		(2,143,012)	(13,871,180)	6
(A) Assignable Cost Limitation Amount		$ 51,088	$ 1,407,420	7
(B) 412-50(c)(2)(i) Assigned Cost		$ 89,300	$ 942,300	8

(C) 412-50(c)(2)(ii) Assigned Cost	$ 993,388	$ 51,088	$ 942,300	9

Note 1: Because the assignable cost limitation is applied at the segment level when pension costs are separately calculated, no values are shown for the Total Plan.

Note 2: Because the criteria of 9904.412-50(b)(7)(i) and (ii) were not met for Segment 1, the Actuarial Accrued Liability has not been adjusted.

Note 3: See Table 5.

Note 4: Because the criteria of 9904.412-50(b)(7)(i) and (ii) were not met for Segment 1, the Normal Cost has not been adjusted.

Note 5: Because the criteria of 9904.412-50(b)(7)(i) and (ii) were not met for Segment 1, the Normal Cost is based the long-term Normal Cost which implicitly identifies the expected expenses within the measurement of the normal cost.

Note 6: See Table 26.

Note 7: The Assignable Cost Limitation cannot be less than $0.

Note 8: See Table 33.

Note 9: Lesser of (A) or (B). Pension cost for Segment 1 is limited by the Assignable Cost Limitation.

(ii) As shown in Table 34, the contractor determines that the measured pension cost for Segment 1 exceeds the assignable cost limitation and therefore the pension cost for Segment 1 is limited. The measured pension cost for Segments 2 - 7 does not exceed the assignable cost limitation and is not limited.

(3) Measurement of Tax-Deductible Limitation:

(i) Finally, after limiting the measured pension cost in accordance with 9904.412-50(c)(2)(i) and (ii), the contractor checks to ensure that the assigned pension cost will not exceed the sum of the maximum tax-deductible contribution and the accumulated value of prepayments credits. Since the tax-deductible contribution and prepayments are maintained for the plan as a whole, these values are allocated to segments based on the assignable pension cost after adjustment, if any, for the assignable cost limitation in accordance with 9904.413-50(c)(1)(ii). See Table 35.

Table 35

CAS 412-50(c)(2)(iii) Tax-Deductible Limitation

	Total Plan	Segment 1	Segments 2 - 7	Notes
Maximum Deductible Amount	$ 9,961,200	$ 512,311	$ 9,449,389	1, 2
Accumulated Prepayment Credits	-	-	-	3, 4

(A) 412-50(c)(2)(iii) Limitation	$ 9,961,200	$ 512,311	$ 9,449,389	
(B) 412-50(c)(2)(ii) Assigned Cost	$ 993,388	$ 51,088	$ 942,300	5
Assigned Pension Cost	$ 993,388	$ 51,088	$ 942,300	6

Note 1: Maximum Deductible Amount for the Total Plan is allocated to segments based on (B) 9904.412-50(c)(2)(ii) Assigned Cost in accordance with 9904.413-50(c)(1)(i) for purposes of this assignment limitation test.

Note 2: See Table 29.

Note 3: Accumulated Prepayment Credits for the Total Plan are allocated to segments based on the 9904.412-50(c)(2)(ii) Assigned Cost in accordance with 9904.413-50(c)(1)(i) for purposes of this assignment limitation test.

Note 4: See Table 25.

Note 5: See Table 34.

Note 6: Lesser of lines (A) or (B).

(ii) The assignable pension cost of $993,388, measured after considering the assignable cost limitation, does not exceed $9,961,200, which is the sum of the tax-deductible maximum ($9,961,200) plus the accumulated value of prepayment credits ($0), and is therefore fully assignable to the period.

(g) Overfunded Segment - Allocation of Pension Cost. In 9904.412-60.1(f) the Harmony Corporation determined that the assigned pension cost for the period was $993,388, which is the total of the assigned pension cost of $51,088 for Segment 1 and $942,300 for Segments 2 through 7. (See Table 35.) The contractor must now determine the amount to be contributed to the funding agency and then the allocation of the assigned cost as follows:

(1) Funding Decision:

(i) The contractor examines several different amounts to contribute to the plan. The contractor must contribute an amount equal to the assigned pension cost minus the accumulated value of prepayment credits for the assigned cost to be fully allocable. See Table 36.

Table 36

CAS Funding Requirement				
	Total Plan	Segment 1	Segments 2 - 7	Notes

CAS Assigned Cost	$ 993,388	$ 51,088	$ 942,300	1
Accumulated Value of Prepayments	0	-	-	2, 3
CAS Assigned Cost to be Funded	$ 993,388	$ 51,088	$ 942,300	

Note 1: See Table 35.

Note 2: See Table 25.

Note 3: Accumulated Prepayment Credits for the Total Plan are allocated to segments based on the 9904.412-50(c)(2) Assigned Cost (Table 19) so that the prepayments are proportionally allocated to each segment's assigned pension cost.

(ii) To satisfy the minimum funding requirements of ERISA the contractor must also contribute an amount equal to the minimum required contribution minus any prefunding balances that are permitted to be applied under ERISA. If the plans funding level is below certain ERISA thresholds, then the contractor may also consider including an additional contribution amount to improve the plan's funding level. In this case the plan is sufficiently funded and no additional contribution is needed. See Table 37.

Table 37

ERISA Funding Requirement

	Total Plan	Notes
Gross Minimum Required Contribution	$ -	1
ERISA Prefunding Credits	n/a	1
Net Minimum Required Contribution	$ -	
Additional Voluntary Contribution	-	2
ERISA Minimum Deposit	$ -	3

Note 1: See Table 28.

Note 2: the plan is sufficiently funded and no additional contribution is needed to avoid benefit restrictions.

Note 2: No contribution is needed to satisfy ERISA's minimum funding contribution requirements.

(iii) And finally, the contractor's financial management policy for the pension plan is to deposit an amount equal to the cost as determined by the aggregate actuarial cost method so that the liability is liquated in even payments over the years of expected service of the active employees. In this case, the plan's actuary reports that the cost under the aggregate method is $799,000.

(iv) As shown in Table 38, the contractor determines that the possible range of contributions is:

Table 38

Contribution Range		
	Total Plan	Notes
CAS Assigned Cost to be Funded	$ 993,388	1
ERISA Minimum Required Deposit	$ 0	2
Aggregate Method Normal Cost	$ 799,000	3
Maximum Tax-Deductible Contribution	$ 9,961,200	4

Note 1: See Table 36.

Note 2: See Table 28.

Note 3: Information taken directly from the actuarial valuation report prepared for funding policy purposes and supporting documentation.

Note 4: See Table 29.

(v) In this case the contractor must deposit $993,388 to fully fund the assigned pension cost so that the full amount is allocable in accordance with 9904.412-50(d)(1). The contractor decides to fund $1,500,000 and build a prepayment credit/prefunding balance reserve that can be used to fund pension costs in future periods. See Table 39.

Table 39

Funding of CAS Assigned Cost				
	Total Plan	Segment 1	Segments 2 - 7	Notes
CAS Assigned Cost	$ 993,388	$ 51,088	$ 942,300	1
ERISA Minimum Deposit	-	0	0	2
Remaining Cost to be Funded	$ 993,388	$ 51,088	$ 942,300	
Regular Prepayments Credit Applied	-	-	-	3
Remaining CAS Assigned Cost	$ 993,388	$ 51,088	$ 942,300	
Contribution over Net MRC	(1,500,000)	(51,088)	(942,300)	4
Unfunded (Prepaid) Cost	$ (506,612)	$ -	$ -	5

Note 1: See Table 35.

Note 2: See Table 28. The Net Minimum Required Contribution is proportionally allocated to segments based on the Harmonized CAS Assigned Cost that must be funded to be allocable.

Note 3: Before the contractor expends any additional resources, CAS Assigned Cost is funded by application of any available prepayment credits. The prepayment credits are proportionally allocated to segments based on the Remaining Cost to be Funded that must be funded to be allocable in accordance with 9904.413-50(c)(1)(i).

Note 4: The contractor decided not to contribution any funds in excess of the ERISA minimum required contribution reduced by the prefunding balance, if any.

Note 5: When prepayment credits are used to fund the CAS assigned pension cost for the current period, the amount of prepayment credit used will be deducted from the accumulated value of prepayment credits and transferred to segments when the market value of assets are updated for the next valuation. The application of this prepayment credit will appear in the asset roll-up from 1/1/2016 to 1/1/2017.

(2) (i) Since the full $993,388 assigned cost is funded, the entire assigned cost can be allocated to intermediate and final cost objectives in accordance with 9904.412-50(d)(1). The allocation of assigned pension cost to segment is summarized in Table 40.

Table 40

Funding of CAS Assigned Cost

	Covered Payroll	Segment Allocation Factor	Allocated Pension Cost	Notes
Direct Allocation (Segmented Cost)				
(A) Segment 1	$ 1,127,000	n/a	$ 51,088	2
Indirect Allocation (Composite Cost)		(Note 1)		
Segment 2	$ 810,000	0.099963	$ 94,195	3
Segment 3	1,621,000	0.200049	188,506	3
Segment 4	2,026,000	0.250031	235,605	3
Segment 5	1,158,000	0.142910	134,664	3
Segment 6	1,247,000	0.153894	145,014	3
Segment 7	1,241,000	0.153153	144,316	3
(B) Subtotal Segments 2 - 7	$ 8,103,000	1.000000	$ 942,300	2
Total Plan (A)+(B)	$ 9,230,000		$ 993,388	2

Note 1: Allocation factor for segment = segment's covered payroll divided by the total covered payroll for segments 2 though 7, subtotal (B).

Table 40

Funding of CAS Assigned Cost				
	Covered Payroll	Segment Allocation Factor	Allocated Pension Cost	Notes

Note 2: See Table 36.

Note 3: Pension cost for Segments 2 - 7, subtotal (B), multiplied by allocation factor for the individual segment.

(ii) Once allocated to segments, the assigned pension cost is allocated to intermediate and final cost objectives in accordance with the contractors disclosed cost accounting practice.

(h) Actuarial Gain and Loss – Change in Liability Basis.

(1) Assume the same facts shown in 9904.412-60.1(b) for the Harmony Corporation for 2016. The contractor measured the pension cost for 2015 through 2017, in accordance with 9904.412 and 9904.413 before making any adjustments pursuant to 9904.412-50(b)(7) and compared the CAS measured costs to the minimum required amounts for the same period. This comparison is shown in Table 41.

Table 41

Harmonization Threshold Test				
	Total Plan 2015	Total Plan 2016	Total Plan 2017	Notes
CAS Measured Pension Cost	$ 1,426,033	$ 1,490,943	$ 1,496,497	1
ERISA Minimum Required Amount	$ 1,266,997	$ 1,591,925	$ 1,386,346	2

Note 1: See Table 11 for 2016. CAS Measured Cost cannot be less than $0.

Note 2: See Table 8 for 2016. The ERISA minimum required contribution unreduced for any prefunding balance.

(2) Table 42 shows the actuarial liabilities and normal costs, including any expense loads, for 2015 through 2017.

Table 42

Harmonization "Liability" Test

	Segment 1 2015	Segment 1 2016	Segment 1 2017	Notes
CAS Long-Term Liabilities				
Actuarial Accrued Liability (AAL)	$ 1,915,000	$ 2,100,000	$2,305,000	1
Normal Cost (NC)	89,600	94,100	103,200	1
Expense Load on Normal Cost	-	-	-	1, 2
Total Liability for Period	$ 2,004,600	$ 2,194,100	$2,408,200	
"Settlement Liabilities"				
Minimum Actuarial Liability (MAL)	$ 1,901,000	$ 2,194,000	$2,312,000	3
Minimum Normal Cost (MNC)	83,800	93,000	100,500	3
Expense Load on Normal Cost	8,300	8,840	9,300	3, 4
Total Liability for Period	$ 1,993,100	$ 2,295,840	$2,421,800	

Note 1: See Table 5 for 2016 values.

Note 2: Because the long-term interest assumption implicitly recognizes expected admin expense there is no explicit amount added to the long-term normal cost.

Note 3: See Table 6 for 2016 values.

Note 4: For settlement valuation purposes the contractors explicitly identifies the expected expenses as a separate component of normal cost.

(3) For 2015, the unadjusted pension cost measured in accordance with 9904.412 and 9904.413 equals or exceeds the minimum required amount and no adjustment to the actuarial accrued liability and normal cost is required by 9904.412-50(b)(7). For 2016, the minimum required amount does exceed the CAS measured pension cost and the contractor must perform the test required by 9904.412-50(b)(7)(i), and in this case the total settlement liability exceeds the total long-term liability for the period and the actuarial accrued liability and normal cost must be adjusted. This results in an adjusted actuarial accrued liability of $2,194,000, an adjusted normal cost of $93,000 and an adjusted expense load of $8,840. However, for 2017, although the total settlement liability exceeds the total long-term liability for the period, the actuarial accrued liability and normal cost are not adjusted because the unadjusted CAS pension cost equals or exceeds the minimum required amount. Table 43 shows the measurement of the unfunded actuarial liability for 2015 through 2017.

Table 43

Unfunded Actuarial Liability

	Segment 1 2015	Segment 1 2016	Segment 1 2017	Notes
Current Year Actuarial Liability Basis	AAL	MAL	AAL	

Actuarial Accrued Liability, Including Adjustment	$ 1,915,000	$ 2,194,000	$ 2,305,000	1
Actuarial Value of Assets	(1,500,000)	(1,688,757)	(1,894,486)	2
Unfunded Actuarial Liability (Actual)	$ 415,000	$ 505,243	$ 410,514	

Note 1: See Table 42.

Note 2: The 2016 actuarial value of assets is developed in Table 4.

(4) Except for changes in the value of the settlement interest rate used to measure the minimum actuarial liability and minimum normal cost, there were no changes to the pension plan's actuarial assumptions or actuarial cost methods during the period of 2015 through 2017. The contractor's actuary measured the expected unfunded actuarial liability and determined the actuarial gain or loss for 2016 and 2017 as shown in Table 44.

Table 44

Measurement of Actuarial Gain or Loss

	Segment 1 2015	Segment 1 2016	Segment 12017	Notes
Actual Unfunded Actuarial Liability	(Note 1)	$ 505,243	$ 410,514	2
Expected Unfunded Actuarial Liability		(381,455)	(448,209)	3
Actuarial Loss (Gain)		$ 123,788	$ (37,695)	

Note 1: The determination of the actuarial gain or loss that occurred during 2014 and measured on 2015 is outside the scope of this Illustration.

Note 2: See Table 43.

Note 3: Information taken directly from the actuarial valuation report prepared for CAS 412 and 413 purposes and supporting documentation.

(5) According to the actuarial valuation report, the 2016 actuarial loss of $123,788 includes a $94,000 actuarial loss ($2,194,000 - $2,100,000) (Table 42) due to a change from a long-term liability to a settlement liability basis, including the effect of any change in the value of the settlement interest rate. As required by 9904.412-50(a)(1)(v), the $94,000 loss due to the change in the liability basis will be amortized as part of the total actuarial loss of $123,788 over ten years in accordance with 9904.413-50(a)(1) and (2). Similarly, the next year's valuation report shows a 2017 actuarial gain of $37,695 includes a $7,000 actuarial gain ($2,305,000 - $2,312,000) due to a change from a settlement liability back to a long-term liability basis, which includes the effect of any change in the value of the settlement interest rate. As required by 9904.412-50(a)(1)(v), the $7,000 gain due the change in the liability basis will be amortized as part of the total $37,695 actuarial gain over ten years in accordance with 9904.413-50(a)(1) and (2).

9904.412-61 Interpretation. [Reserved]

9904.412-62 Exemption.

None for this Standard.

PH 9904.412-63 Effective date.

(a) This Standard is effective as of ***[DATE OF PUBLICATION OF FINAL RULE IN THE FEDERAL REGISTER]***.

(b) This Standard shall be followed by each contractor on or after the start of its next cost accounting period beginning after the receipt of a contract or subcontract to which this Standard is applicable **in accordance with paragraph (a) of this section. The date this version of the Standard is first applicable to a contractor's cost accounting period is the "Applicability Date of the Harmonization Rule" for purposes of this Standard.**

(c) Contractors with prior CAS-covered contracts with full coverage shall continue to follow the Standard in 9904.412 in effect prior to ***[DATE OF PUBLICATION OF FINAL RULE IN THE FEDERAL REGISTER]***, until this Standard, effective ***[DATE OF PUBLICATION OF FINAL RULE IN THE FEDERAL REGISTER]***, becomes applicable following receipt of a contract or subcontract to which this Standard applies.

9904.412-64 Transition Method.

To be acceptable, any method of transition from compliance with Standard 9904.412 in effect prior to March 30, 1995, to compliance with the Standard effective March 30, 1995, must follow the equitable principle that costs, which have been previously provided for, shall not be redundantly provided for under revised methods. Conversely, costs that have not previously been provided for must be provided for under the revised method. This transition subsection is not intended to qualify for purposes of assignment or allocation of pension costs which have previously been disallowed for reasons other than ERISA tax-deductibility limitations. The sum of all portions of unfunded actuarial liability identified pursuant to Standard 9904.412, effective March 30, 1995, including such portions of unfunded actuarial liability determined for transition purposes, is subject to the provisions of 9904.412-40(c) on requirements for assignment. The

method, or methods, employed to achieve an equitable transition shall be consistent with the provisions of Standard 9904.412, effective March 30, 1995, and shall be approved by the contracting officer. Examples and illustrations of such transition methods include, but are not limited to, the following:

(a) Reassignment of certain prior unfunded accruals.

(1) Any portion of pension cost for a qualified defined-benefit pension plan, assigned to a cost accounting period prior to March 30, 1995, which was not funded because such cost exceeded the maximum tax-deductible amount, determined in accordance with ERISA, shall be assigned to subsequent accounting periods, including an adjustment for interest, as an assignable cost deficit. However, such costs shall be assigned to periods on or after March 30, 1995, only to the extent that such costs have not previously been allocated as cost or price to contracts subject to this Standard.

(2) Alternatively, the transition method described in paragraph (d) of this subsection may be applied separately to costs subject to paragraph (a)(1) of this subsection.

(b) Reassignment of certain prior unallocated credits.

(1) Any portion of pension cost for a defined-benefit pension plan, assigned to a cost accounting period prior to March 30, 1995, which was not allocated as a cost or price credit to contracts subject to this Standard because such cost was less than zero, shall be assigned to subsequent accounting periods, including an adjustment for interest, as an assignable cost credit.

(2) Alternatively, the transition method described in paragraph (d) of this subsection may be applied separately to costs subject to paragraph (b)(1) of this subsection.

(c) Accounting for certain prior allocated unfunded accruals. Any portion of unfunded pension cost for a nonqualified defined-benefit pension plan, assigned to a cost accounting period prior to March 30, 1995, that was allocated as cost or price to contracts subject to this Standard, shall be recognized in subsequent accounting periods, including adjustments for imputed interest and benefit payments, as an accumulated value of permitted unfunded accruals.

(d) "Fresh start" alternative transition method. The transition methods of paragraphs (a)(1), (b)(1), and (c) of this subsection may be implemented using the so-called "fresh start" method whereby a portion of the unfunded actuarial liability of a defined-benefit pension plan, which occurs in the first cost accounting period after March 30, 1995, shall be treated in the same manner as an actuarial gain or loss. Such portion of unfunded actuarial liability shall exclude any portion of unfunded actuarial liability that must continue to be separately identified and maintained in accordance with 9904.412-50(a)(2), including interest adjustments. If the

contracting officer already has approved a different amortization period for the fresh start amortization, then such amortization period shall continue.

(e) Change to pay-as-you-go method. A change in accounting method subject to 9903.302 will have occurred whenever costs of a nonqualified defined-benefit pension plan have been accounted for on an accrual basis prior to March 30, 1995, and the contractor must change to the pay-as-you-go cost method because the plan does not meet the requirement of 9904.412-50(c)(3), either by election or otherwise. In such case, any portion of unfunded pension cost, assigned to a cost accounting period prior to March 30, 1995, that was allocated as cost or price to contracts subject to this Standard, shall be assigned to future accounting periods, including adjustments for imputed interest and benefit payments, as an accumulated value of permitted unfunded accruals. Costs computed under the pay-as-you-go cost method shall be charged against such accumulated value of permitted unfunded accruals before such costs may be allocated to contracts.

(f) Actuarial assumptions. The actuarial assumptions used to calculate assignable cost deficits, assignable cost credits, or accumulated values of permitted unfunded accruals for transition purposes shall be consistent with the long term assumptions used for valuation purposes for such prior periods unless the contracting officer has previously approved the use of other reasonable assumptions.

(g) Transition illustrations. Unless otherwise noted, paragraphs (g)(1) through (9) of this subsection address pension costs and transition amounts determined for the first cost accounting period beginning on or after the date this revised Standard becomes applicable to a contractor. For purposes of these illustrations an interest assumption of 7% is presumed to be in effect for all periods.

(1) For the cost accounting period immediately preceding the date this revised Standard becomes applicable to a contractor, Contractor S computed and assigned pension cost of $1 million for a qualified defined-benefit pension plan. The contractor made a contribution equal to the maximum tax-deductible amount of $800,000 for the period leaving $200,000 of assigned cost unfunded for the period. Except for this $200,000, no other assigned pension costs have ever been unfunded or otherwise disallowed. Using the transition method of paragraph (a)(1) of this subsection, the contractor shall establish an assignable cost deficit equal to $214,000 ($200,000 x 1.07), which is the prior unfunded assigned cost plus interest. If this assignable cost deficit amount, plus all other portions of unfunded actuarial liability identified in accordance with 9904.412-50(a)(1) and (2), equal the total unfunded actuarial liability, pension cost may be assigned to the current period.

(2) Assume that Contractor S in 9904.412-64(g)(1) priced the entire $1 million into firm fixed-price contracts. In this case, no assignable cost deficit amount may be established. In

addition, the $214,000 ($200,000 x 1.07) shall be separately identified and maintained in accordance with 9904.412-50(a)(2). If all portions of unfunded actuarial liability identified in accordance with 9904.412-50(a)(1) and (2), equal the total unfunded actuarial liability, pension cost may be assigned to the period.

(3) Assume the same facts as in 9904.412-64(g)(1), except Contractor S only funded and allocated $500,000. The $300,000 of assigned cost that was not funded, but could have been funded without exceeding the tax-deductible maximum, may not be recognized as an assignable cost deficit. Instead, the $300,000 must be separately identified and maintained in accordance with 9904.412-50(a)(2). If the $321,000 ($300,000 x 1.07) plus the $214,000 already identified as an assignable cost deficit plus all other portions of unfunded actuarial liability identified in accordance with 9904.412-50(a)(1) and (2), equal the total unfunded actuarial liability, pension cost may be assigned to the period.

(4) Assume that, for Contractor S in 9904.412-64(g)(3), the only portion of unfunded actuarial liability that must be identified under 9904.412-50(a)(2) is the $321,000. If Contractor S chooses to use the "fresh start" transition method, the $321,000 of unfunded assigned cost must be subtracted from the total unfunded actuarial liability in accordance with 9904.412-64~~63~~(d). The net amount of unfunded actuarial liability shall then be amortized over a period of fifteen years as an actuarial loss in accordance with 9904.412-50(a)(1)(v) and Cost Accounting Standard 9904.413.

(5) For the cost accounting period immediately preceding the date this revised Standard becomes applicable to a contractor, Contractor T computed and assigned pension cost of negative $400,000 for a qualified defined-benefit plan. Because the contractor could not withdraw assets from the trust fund, the contracting officer agreed that instead of allocating a current period credit to contracts, the negative costs would be carried forward, with interest, and offset against future pension costs allocated to the contract. Using the transition method of paragraph (b)(1) of this subsection, the contractor shall establish an assignable cost credit equal to $428,000 ($400,000 x 1.07). If this assignable cost credit amount, plus all other portions of unfunded actuarial liability identified in accordance with 9904.412-50(a)(1) and (2), equals the total unfunded actuarial liability, pension cost may be assigned to the period.

(6) Assume that in 9904.412-64(g)(5), following guidance issued by the contracting agency the contracting officer had deemed the cost for the prior period to be $0. In order to satisfy the requirements of 9904.412-40(c) and assign pension cost to the current period, Contractor S must account for the prior period negative accruals that have not been specifically identified. Following the transition method of paragraph (b)(1) of this subsection, the contractor shall identify $428,000 as an assignable cost credit.

(7) Assume the facts of 9904.412-64(g)(5), except Contractor S uses the "fresh start"

transition method. In addition, for the current period the plan is overfunded since the actuarial value of the assets is greater than the actuarial accrued liability. In this case, an actuarial gain equal to the negative unfunded actuarial liability; i.e., actuarial surplus, is recognized since there are no portions of unfunded actuarial liability that must be identified under 9904.412-50(a)(2).

(8) Since March 28, 1989 Contractor U has computed, assigned, and allocated pension costs for a nonqualified defined-benefit plan on an accrual basis. The value of these past accruals, increased for imputed interest at 7% and decreased for benefits paid by the contractor, is equal to $2 million as of the beginning of the current period. Contractor U elects to establish a "Rabbi trust" and the plan meets the other criteria at 9904.412-50(c)(3). Using the transition method of paragraph (c) of this subsection, Contractor U shall recognize the $2 million as the accumulated value of permitted unfunded accruals, which will then be included in the market value and actuarial value of the assets. Because the accumulated value of permitted unfunded accruals is exactly equal to the current period market value of the assets, 100% of benefits for the current period must be paid from sources other than the funding agency in accordance with 9904.412-50(d)(2)(ii).

(9) Assume that Contractor U in 9904.412-64(g)(8) establishes a funding agency, but elects to use the pay-as-you-go method for current and future pension costs. Furthermore, plan participants receive $500,000 in benefits on the last day of the current period. Using the transition method of paragraph (e) of this subsection to ensure prior costs are not redundantly provided for, the contractor shall establish assets; i.e., an accumulated value of permitted unfunded accruals, of $2 million. Since these assets are sufficient to provide for the current benefit payments, no pension costs can be allocated in this period. Furthermore, previously priced contracts subject to this Standard shall be adjusted in accordance with 9903.302. The accumulated value of permitted unfunded accruals shall be carried forward to the next period by adding $140,000 (7% x $2 million) of imputed interest, and subtracting the $500,000 of benefit payments made by the contractor. The accumulated value of permitted unfunded accruals for the next period equals $1,640,000 ($2 million + $140,000 - $500,000).

PH 9904.412-64.1 Transition Method for Pension Harmonization.

Contractors that were subject to this Standard prior to *[DATE OF PUBLICATION OF FINAL RULE IN THE FEDERAL REGISTER]* shall recognize the change in cost accounting method over the initial 5-year period of applicability, determined in accordance with 9904.412-63(c), as follows:

(a) Phase-in of the Minimum Actuarial Liability and Minimum Normal Cost Adjustments. The contractor shall recognize on a pro rata basis the actuarial accrued liability and normal cost adjustment amounts measured in accordance with 9904.412-50(b)(7)(i). The

actuarial accrued liability and normal cost adjustment amounts shall be multiplied by a percentage based on the year of applicability for this amendment. The percentages are as follows: 20% First Year, 40% Second Year, 60% Third Year, 80% Fourth Year, and 100% thereafter.

(b) Transition illustration. Assume that in the second year that this amendment is applicable, Contractor J in Illustration 9904.412-60(c)(1) again measures $18 million as the actuarial accrued liability, $20 million as the minimum actuarial liability, $4 million as the normal cost and $4.5 million as the minimum normal cost. Under 9904.412-64.1(a), the $2 million excess of the minimum actuarial liability over the actuarial accrued liability and the $0.5 million excess of the minimum normal cost over the normal cost are multiplied by 40%. The actuarial accrued liability is adjusted to $18.8 million ($18 million + [40% x $2 million]) and the normal cost is adjusted to $4.2 million ($4 million + [40% x $0.5 million]).