

computation of the rebate amount as of this date reflects the value of the nonpurpose investments allocated to the issue at the end of the prior computation period. On July 1, 2004, City B sells those nonpurpose investments for \$3,925,000 and expends that amount for the governmental purpose of the issue.

(B) As of July 1, 2004, the future value of the rebate amount computed as of July 1, 1999, and of all other payments and receipts is:

| Date           | Receipts (payments) | FV (5.0000 percent) |
|----------------|---------------------|---------------------|
| 7/1/1999 ..... | \$1,158,694         | \$1,483,226         |
| 7/1/1999 ..... | (3,000,000)         | (3,840,254)         |
| 7/1/2000 ..... | (1,000)             | (1,218)             |
| 7/1/2001 ..... | (1,000)             | (1,160)             |
| 7/1/2002 ..... | (1,000)             | (1,104)             |
| 7/1/2003 ..... | (1,000)             | (1,051)             |
| 7/1/2004 ..... | (2,000)             | (2,000)             |
| 7/1/2004 ..... | 3,925,000           | 3,925,000           |
|                |                     | 1,561,439           |

(C) As of this computation date, the future value of the payment made on July 1, 1999, is \$1,334,904 and thus an additional rebate payment of \$226,535 is due.

(D) If the yield during the second computation period were, instead, 7.0000 percent, the rebate amount computed as of July 1, 1999, would be \$1,320,891. The future value of the payment made on July 1, 1999, would be \$1,471,007, and, therefore, City B would have overpaid the rebate amount by \$150,116.

(k) *Bona fide debt service fund exception.* Under section 148(f)(4)(A), the rebate requirement does not apply to amounts in certain bona fide debt service funds. An issue with an average annual debt service that is not in excess of \$2,500,000 may be treated as satisfying the \$100,000 limitation in section 148(f)(4)(A)(ii).

[T.D. 8476, 58 FR 33522, June 18, 1993; 58 FR 44452, Aug. 23, 1993, as amended by T.D. 8538, 59 FR 24042, May 10, 1994; T.D. 8476, 59 FR 24350, May 11, 1994; T.D. 8718, 62 FR 25507, May 9, 1997]

#### § 1.148-4 Yield on an issue of bonds.

(a) *In general.* The yield on an issue of bonds is used to apply investment yield restrictions under section 148(a) and to compute rebate liability under section 148(f). Yield is computed under the economic accrual method using any consistently applied compounding interval of not more than one year. A short first compounding interval and a short last compounding interval may be used. Yield is expressed as an annual per-

centage rate that is calculated to at least four decimal places (e.g., 5.2525 percent). Other reasonable, standard financial conventions, such as the 30 days per month/360 days per year convention, may be used in computing yield but must be consistently applied. The yield on an issue that would be a purpose investment (absent section 148(b)(3)(A)) is equal to the yield on the conduit financing issue that financed that purpose investment. The Commissioner may permit issuers of qualified mortgage bonds or qualified student loan bonds to use a single yield for two or more issues.

(b) *Computing yield on a fixed yield issue—(1) In general—(i) Yield on an issue.* The yield on a fixed yield issue is the discount rate that, when used in computing the present value as of the issue date of all unconditionally payable payments of principal, interest, and fees for qualified guarantees on the issue and amounts reasonably expected to be paid as fees for qualified guarantees on the issue, produces an amount equal to the present value, using the same discount rate, of the aggregate issue price of bonds of the issue as of the issue date. Further, payments include certain amounts properly allocable to a qualified hedge. Yield on a fixed yield issue is computed as of the issue date and is not affected by subsequent unexpected events, except to the extent provided in paragraphs (b)(4) and (h)(3) of this section.

(ii) *Yield on a bond.* Yield on a fixed yield bond is computed in the same manner as yield on a fixed yield issue.

(2) *Yield on certain fixed yield bonds subject to mandatory or contingent early redemption—(i) In general.* The yield on a fixed yield issue that includes a bond subject to mandatory early redemption or expected contingent redemption is computed by treating that bond as redeemed on its reasonably expected early redemption date for an amount equal to its value on that date. Reasonable expectations are determined on the issue date. A bond is subject to mandatory early redemption if it is unconditionally payable in full before its final maturity date. A bond is subject to a contingent redemption if it must be, or is reasonably expected to be, redeemed prior to final maturity upon

the occurrence of a contingency. A contingent redemption is taken into account only if the contingency is reasonably expected to occur, in which case the date of occurrence of the contingency must be reasonably estimated. For example, if bonds are reasonably expected to be redeemed early using excess revenues from general or special property taxes or benefit assessments or similar amounts, the reasonably expected redemption schedule is used to determine yield. For purposes of this paragraph (b)(2)(i), excess proceeds calls for issues for which the requirements of § 1.148-2(e) (2) or (3) are satisfied, calamity calls, and refundings do not cause a bond to be subject to early redemption. The value of a bond is determined under paragraph (e) of this section.

(ii) *Substantially identical bonds subject to mandatory early redemption.* If substantially identical bonds of an issue are subject to specified mandatory redemptions prior to final maturity (e.g., a mandatory sinking fund redemption requirement), yield on that issue is computed by treating those bonds as redeemed in accordance with the redemption schedule for an amount equal to their value. Generally, bonds are substantially identical if the stated interest rate, maturity, and payment dates are the same. In computing the yield on an issue containing bonds described in this paragraph (b)(2)(ii), each of those bonds must be treated as redeemed at its present value, unless the stated redemption price at maturity of the bond does not exceed the issue price of the bond by more than one-fourth of one percent multiplied by the product of the stated redemption price at maturity and the number of years to the weighted average maturity date of the substantially identical bonds, in which case each of those bonds must be treated as redeemed at its outstanding stated principal amount, plus accrued, unpaid interest. Weighted average maturity is determined by taking into account the mandatory redemption schedule.

(3) *Yield on certain fixed yield bonds subject to optional early redemption—(i) In general.* If a fixed yield bond is subject to optional early redemption and is described in paragraph (b)(3)(ii) of

this section, the yield on the issue containing the bond is computed by treating the bond as redeemed at its stated redemption price on the optional redemption date that would produce the lowest yield on the issue.

(ii) *Fixed yield bonds subject to special yield calculation rule.* A fixed yield bond is described in this paragraph (b)(3)(ii) only if it—

(A) Is subject to optional redemption within five years of the issue date, but only if the yield on the issue computed by assuming all bonds in the issue subject to redemption within 5 years of the issue date are redeemed at maturity is more than one-eighth of one percentage point higher than the yield on that issue computed by assuming all bonds subject to optional redemption within 5 years of the issue date are redeemed at the earliest date for their redemption;

(B) Is issued at an issue price that exceeds the stated redemption price at maturity by more than one-fourth of one percent multiplied by the product of the stated redemption price at maturity and the number of complete years to the first optional redemption date for the bond; or

(C) Bears interest at increasing interest rates (i.e., a *stepped coupon bond*).

(4) *Yield recomputed upon transfer of certain rights associated with the bond.* For purposes of § 1.148-3, as of the date of any transfer, waiver, modification, or similar transaction (collectively, a *transfer*) of any right that is part of the terms of a bond or is otherwise associated with a bond (e.g., a redemption right), in a transaction that is separate and apart from the original sale of the bond, the issue is treated as if it were retired and a new issue issued on the date of the transfer (*reissued*). The redemption price of the retired issue and the issue price of the new issue equal the aggregate values of all the bonds of the issue on the date of the transfer. In computing yield on the new issue, any amounts received by the issuer as consideration for the transfer are taken into account.

(5) *Special aggregation rule treating certain bonds as a single fixed yield bond.* Two variable yield bonds of an issue are treated in the aggregate as a single fixed yield bond if—

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(i) Aggregate treatment would result in the single bond being a fixed yield bond; and

(ii) The terms of the bonds do not contain any features that could distort the aggregate fixed yield from what the yield would be if a single fixed yield bond were issued. For example, if an issue contains a bond bearing interest at a floating rate and a related bond bearing interest at a rate equal to a fixed rate minus that floating rate, those two bonds are treated as a single fixed yield bond only if neither bond may be redeemed unless the other bond is also redeemed at the same time.

(6) *Examples.* The provisions of this paragraph (b) may be illustrated by the following examples.

*Example 1. No early call—(i) Facts.* On January 1, 1994, City A issues an issue consisting of four identical fixed yield bonds. The stated final maturity date of each bond is January 1, 2004, and no bond is subject to redemption before this date. Interest is payable on January 1 of each year at a rate of 6.0000 percent per year on the outstanding principal amount. The total stated principal amount of the bonds is \$20 million. The issue price of the bonds \$20,060,000.

(ii) *Computation.* The yield on the issue is computed by treating the bonds as retired at the stated maturity under the general rule of § 1.148-4(b)(1). The bonds are treated as redeemed for their stated redemption prices. The yield on the issue is 5.8731 percent per year compounded semiannually, computed as follows:

| Date     | Payments    | PV (5.8731 percent) |
|----------|-------------|---------------------|
| 1/1/1995 | \$1,200,000 | \$1,132,510         |
| 1/1/1996 | 1,200,000   | 1,068,816           |
| 1/1/1997 | 1,200,000   | 1,008,704           |
| 1/1/1998 | 1,200,000   | 951,973             |
| 1/1/1999 | 1,200,000   | 898,433             |
| 1/1/2000 | 1,200,000   | 847,903             |
| 1/1/2001 | 1,200,000   | 800,216             |
| 1/1/2002 | 1,200,000   | 755,210             |
| 1/1/2003 | 1,200,000   | 712,736             |
| 1/1/2004 | 21,200,000  | 11,883,498          |
|          |             | 20,060,000          |

*Example 2. Mandatory calls.* (i) *Facts.* The facts are the same as in *Example 1*. In this case, however, the bonds are subject to mandatory sinking fund redemption on January 1 of each year, beginning January 1, 2001. On each sinking fund redemption date, one of the bonds is chosen by lottery and is required to be redeemed at par plus accrued interest.

(ii) *Computation.* Because the bonds are subject to specified redemptions, yield on the issue is computed by treating the bonds

as redeemed in accordance with the redemption schedule under § 1.148-4(b)(2)(ii). Because the bonds are not sold at a discount, the bonds are treated as retired at their stated redemption prices. The yield on the issue is 5.8678 percent per year compounded semiannually, computed as follows:

| Date     | Payments    | PV (5.8678 percent) |
|----------|-------------|---------------------|
| 1/1/1995 | \$1,200,000 | \$1,132,569         |
| 1/1/1996 | 1,200,000   | 1,068,926           |
| 1/1/1997 | 1,200,000   | 1,008,860           |
| 1/1/1998 | 1,200,000   | 952,169             |
| 1/1/1999 | 1,200,000   | 898,664             |
| 1/1/2000 | 1,200,000   | 848,166             |
| 1/1/2001 | 6,200,000   | 4,135,942           |
| 1/1/2002 | 5,900,000   | 3,714,650           |
| 1/1/2003 | 5,600,000   | 3,327,647           |
| 1/1/2004 | 5,300,000   | 2,972,407           |
|          |             | \$20,060,000        |

*Example 3. Optional early call.* (i) *Facts.* On January 1, 1994, City C issues an issue consisting of three bonds. Each bond has a stated principal amount of \$10 million dollars and is issued for par. Bond X bears interest at 5 percent per year and matures on January 1, 1999. Bond Y bears interest at 6 percent per year and matures on January 1, 2002. Bond Z bears interest at 7 percent per year and matures on January 1, 2004. Bonds Y and Z are callable by the issuer at par plus accrued interest after December 31, 1998.

(ii) *Computation.* (A) The yield on the issue computed as if each bond is outstanding to its maturity is 6.0834 percent per year compounded semiannually, computed as follows:

| Date     | Payments    | PV (6.0834 percent) |
|----------|-------------|---------------------|
| 1/1/1995 | \$1,800,000 | \$1,695,299         |
| 1/1/1996 | 1,800,000   | 1,596,689           |
| 1/1/1997 | 1,800,000   | 1,503,814           |
| 1/1/1998 | 1,800,000   | 1,416,342           |
| 1/1/1999 | 11,800,000  | 8,744,830           |
| 1/1/2000 | 1,300,000   | 907,374             |
| 1/1/2001 | 1,300,000   | 854,595             |
| 1/1/2002 | 11,300,000  | 6,996,316           |
| 1/1/2003 | 700,000     | 408,190             |
| 1/1/2004 | 10,700,000  | 5,876,551           |
|          |             | 30,000,000          |

(B) The yield on the issue computed as if all bonds are called at the earliest date for redemption is 5.9126 percent per year compounded semiannually, computed as follows:

| Date     | Payments    | PV (5.9126 percent) |
|----------|-------------|---------------------|
| 1/1/1995 | \$1,800,000 | \$1,698,113         |
| 1/1/1996 | 1,800,000   | 1,601,994           |
| 1/1/1997 | 1,800,000   | 1,511,315           |
| 1/1/1998 | 1,800,000   | 1,425,769           |
| 1/1/1999 | 31,800,000  | 23,762,809          |
|          |             | 30,000,000          |

(C) Because the yield on the issue computed by assuming all bonds in the issue subject to redemption within 5 years of the issue date are redeemed at maturity is more than one-eighth of one percentage point higher than the yield on the issue computed by assuming all bonds subject to optional redemption within 5 years of the issue date are redeemed at the earliest date for their redemption, each bond is treated as redeemed on the date that would produce the lowest yield for the issue. The lowest yield on the issue would result from a redemption of all the bonds on January 1, 1999. Thus, the yield on the issue is 5.9126 percent per year compounded semiannually.

(c) *Computing yield on a variable yield issue*—(1) *In general.* The yield on a variable yield issue is computed separately for each computation period. The yield for each computation period is the discount rate that, when used in computing the present value as of the first day of the computation period of all the payments of principal and interest and fees for qualified guarantees that are attributable to the computation period, produces an amount equal to the present value, using the same discount rate, of the aggregate issue price (or deemed issue price, as determined in paragraph (c)(2)(iv) of this section) of the bonds of the issue as of the first day of the computation period. The yield on a variable yield bond is computed in the same manner as the yield on a variable yield issue. Except as provided in paragraph (c)(2) of this section, yield on any fixed yield bond in a variable yield issue is computed in the same manner as the yield on a fixed yield issue as provided in paragraph (b) of this section.

(2) *Payments on bonds included in yield for a computation period*—(i) *Payments in general.* The payments on a bond that are attributable to a computation period include any amounts actually paid during the period for principal on the bond. Payments also include any amounts paid during the current period both for interest accruing on the bond during the current period and for interest accruing during the prior period that was included in the deemed issue price of the bond as accrued unpaid interest at the start of the current period under this paragraph (c)(2). Further, payments include any amounts properly allocable to fees for a qualified guarantee of the bond for the period

and to any amounts properly allocable to a qualified hedge for the period.

(ii) *Payments at actual redemption.* If a bond is actually redeemed during a computation period, an amount equal to the greater of its value on the redemption date or the actual redemption price is a payment on the actual redemption date.

(iii) *Payments for bonds outstanding at end of computation period.* If a bond is outstanding at the end of a computation period, a payment equal to the bond's value is taken into account on the last day of that period.

(iv) *Issue price for bonds outstanding at beginning of next computation period.* A bond outstanding at the end of a computation period is treated as if it were immediately reissued on the next day for a deemed issue price equal to the value from the day before as determined under paragraph (c)(2)(iii) of this section.

(3) *Example.* The provisions of this paragraph (c) may be illustrated by the following example.

*Example.* On January 1, 1994, City A issues an issue of identical plain par bonds in an aggregate principal amount of \$1,000,000. The bonds pay interest at a variable rate on each June 1 throughout the term of the issue. The entire principal amount of the bonds plus accrued, unpaid interest is payable on the final maturity date of January 1, 2000. No bond year is selected. On June 1, 1994, 1995, 1996, 1997, and 1998, interest in the amounts of \$30,000, \$55,000, \$57,000, \$56,000, and \$45,000 is paid on the bonds. From June 1, 1998, to January 1, 1999, \$30,000 of interest accrues on the bonds. From January 1, 1999, to June 1, 1999, another \$35,000 of interest accrues. On June 1, 1999, the issuer actually pays \$65,000 of interest. On January 1, 2000, \$1,000,000 of principal and \$38,000 of accrued interest are paid. The payments for the computation period starting on the issue date and ending on January 1, 1999, include all annual interest payments paid from the issue date to June 1, 1998. Because the issue is outstanding on January 1, 1999, it is treated as redeemed on that date for amount equal to its value (\$1,000,000 plus accrued, unpaid interest of \$30,000 under paragraph (e)(1) of this section). Thus, \$1,030,000 is treated as paid on January 1, 1999. The issue is then treated as reissued on January 1, 1999, for \$1,030,000. The payments for the next computation period starting on January 1, 1999, and ending on January 1, 2000, include the interest actually paid on the bonds during that period (\$65,000 on June 1, 1999, plus \$38,000 paid on January 1,

2000). Because the issue was actually redeemed on January 1, 2000, an amount equal to its stated redemption price is also treated as paid on January 1, 2000.

(d) *Conversion from variable yield issue to fixed yield issue.* For purposes of determining yield under this section, as of the first day on which a variable yield issue would qualify as a fixed yield issue if it were newly issued on that date (a *conversion date*), that issue is treated as if it were reissued as a fixed yield issue on the conversion date. The redemption price of the variable yield issue and the issue price of the fixed yield issue equal the aggregate values of all the bonds on the conversion date. Thus, for example, for plain par bonds (e.g., tender bonds), the deemed issue price would be the outstanding principal amount, plus accrued unpaid interest. If the conversion date occurs on a date other than a computation date, the issuer may continue to treat the issue as a variable yield issue until the next computation date, at which time it must be treated as converted to a fixed yield issue.

(e) *Value of bonds—(1) Plain par bonds.* Except as otherwise provided, the value of a plain par bond is its outstanding stated principal amount, plus accrued unpaid interest. The value of a plain par bond that is actually redeemed or treated as redeemed is its stated redemption price on the redemption date, plus accrued, unpaid interest.

(2) *Other bonds.* The value of a bond other than a plain par bond on a date is its present value on that date. The present value of a bond is computed under the economic accrual method taking into account all the unconditionally payable payments of principal, interest, and fees for a qualified guarantee to be paid on or after that date and using the yield on the bond as the discount rate, except that for purposes of § 1.148-6(b)(2) (relating to the universal cap), these values may be determined by consistently using the yield on the issue of which the bonds are a part. To determine yield on fixed yield bonds, see paragraph (b)(1) of this section. The rules contained in paragraphs (b)(2) and (b)(3) of this section apply for this purpose. In the case of bonds described in paragraph (b)(2)(ii) of this section, the present value of those

bonds on any date is computed using the yield to the final maturity date of those bonds as the discount rate. In determining the present value of a variable yield bond under this paragraph (e)(2), the initial interest rate on the bond established by the interest index or other interest rate setting mechanism is used to determine the interest payments on that bond.

(f) *Qualified guarantees—(1) In general.* Fees properly allocable to payments for a qualified guarantee for an issue (as determined under paragraph (f)(6) of this section) are treated as additional interest on that issue under section 148. A guarantee is a qualified guarantee if it satisfies each of the requirements of paragraphs (f)(2) through (f)(4) of this section.

(2) *Interest savings.* As of the date the guarantee is obtained, the issuer must reasonably expect that the present value of the fees for the guarantee will be less than the present value of the expected interest savings on the issue as a result of the guarantee. For this purpose, present value is computed using the yield on the issue, determined with regard to guarantee payments, as the discount rate.

(3) *Guarantee in substance.* The arrangement must create a guarantee in substance. The arrangement must impose a secondary liability that unconditionally shifts substantially all of the credit risk for all or part of the payments, such as payments for principal and interest, redemption prices, or tender prices, on the guaranteed bonds. Reasonable procedural or administrative requirements of the guarantee do not cause the guarantee to be conditional. In the case of a guarantee against failure to remarket a qualified tender bond, commercially reasonable limitations based on credit risk, such as limitations on payment in the event of default by the primary obligor or the bankruptcy of a long-term credit guarantor, do not cause the guarantee to be conditional. The guarantee may be in any form. The guarantor may not be a co-obligor. Thus, the guarantor must not expect to make any payments other than under a direct-pay letter of credit or similar arrangement for which the guarantor will be reimbursed immediately. The guarantor and any

related parties together must not use more than 10 percent of the proceeds of the portion of the issue allocable to the guaranteed bonds.

(4) *Reasonable charge*—(i) *In general.* Fees for a guarantee must not exceed a reasonable, arm's-length charge for the transfer of credit risk. In complying with this requirement, the issuer may not rely on the representations of the guarantor.

(ii) *Fees for services other than transfer of credit risk must be separately stated.* A fee for a guarantee must not include any payment for any direct or indirect services other than the transfer of credit risk, unless the compensation for those other services is separately stated, reasonable, and excluded from the guarantee fee. Fees for the transfer of credit risk include fees for the guarantor's overhead and other costs relating to the transfer of credit risk. For example, a fee includes payment for services other than transfer of credit risk if—

(A) It includes payment for the cost of underwriting or remarketing bonds or for the cost of insurance for casualty to bond-financed property;

(B) It is refundable upon redemption of the guaranteed bond before the final maturity date and the amount of the refund would exceed the portion of the fee that had not been earned; or

(C) The requirements of § 1.148-2(e)(2) (relating to temporary periods for capital projects) are not satisfied, and the guarantor is not reasonably assured that the bonds will be repaid if the project to be financed is not completed.

(5) *Guarantee of purpose investments.* Except for guarantees of qualified mortgage loans and qualified student loans, a guarantee of payments on a purpose investment is a qualified guarantee of the issue if all payments on the purpose investment reasonably coincide with payments on the related bonds and the payments on the purpose investment are unconditionally payable no more than 6 months before the corresponding interest payment and 12 months before the corresponding principal payments on the bonds. This paragraph (f)(5) only applies if, in addition to satisfying the other requirements of this paragraph (f), the guarantee is, in substance, a guarantee of

the bonds allocable to that purpose investment and to no other bonds except for bonds that are equally and ratably secured by purpose investments of the same conduit borrower.

(6) *Allocation of qualified guarantee payments*—(i) *In general.* Payments for a qualified guarantee must be allocated to bonds and to computation periods in a manner that properly reflects the proportionate credit risk for which the guarantor is compensated. Proportionate credit risk for bonds that are not substantially identical may be determined using any reasonable, consistently applied method. For example, this risk may be based on the ratio of the total principal and interest paid and to be paid on a guaranteed bond to the total principal and interest paid and to be paid on all bonds of the guaranteed issue. An allocation method generally is not reasonable, for example, if a substantial portion of the fee is allocated to the construction portion of the issue and a correspondingly insubstantial portion is allocated to the later years covered by the guarantee. Reasonable letter of credit *set up* fees may be allocated ratably during the initial term of the letter of credit. Upon an early redemption of a variable yield bond, fees otherwise allocable to the period after the redemption are allocated to remaining outstanding bonds of the issue or, if none remain outstanding, to the period before the redemption.

(ii) *Safe harbor for allocation of qualified guarantee fees for variable yield issues.* An allocation of non-level payments for a qualified guarantee for variable yield bonds is treated as meeting the requirements of paragraph (f)(6)(i) of this section if, for each bond year for which the guarantee is in effect, an equal amount (or for any short bond year, a proportionate amount of the equal amount) is treated as paid as of the beginning of that bond year. The present value of the annual amounts must equal the fee for the guarantee allocated to that bond, with present value computed as of the first day the guarantee is in effect by using as the discount rate the yield on the variable yield bonds covered by the guarantee, determined without regard to any fee

allocated under this paragraph (f)(6)(ii).

(7) *Refund or reduction of guarantee payments.* If as a result of an investment of proceeds of a refunding issue in a refunding escrow, there will be a reduction in, or refund of, payments for a guarantee (*savings*), the savings must be treated as a reduction in the payments on the refunding issue.

(g) *Yield on certain mortgage revenue and student loan bonds.* For purposes of section 148 and this section, section 143(g)(2)(C)(ii) applies to the computation of yield on an issue of qualified mortgage bonds or qualified veterans' mortgage bonds. For purposes of applying section 148 and section 143(g) with respect to purpose investments allocable to a variable yield issue of qualified mortgage bonds, qualified veterans' mortgage bonds, or qualified student loan bonds that is reasonably expected as of the issue date to convert to a fixed yield issue, the yield may be computed over the term of the issue, and, if the yield is so computed, paragraph (d) of this section does not apply to the issue. As of any date, the yield over the term of the issue is based on—

(1) With respect to any bond of the issue that has not converted to a fixed and determinable yield on or before that date, the actual amounts paid or received to that date and the amounts that are reasonably expected (as of that date) to be paid or received with respect to that bond over the remaining term of the issue (taking into account prepayment assumptions under section 143(g)(2)(B)(iv), if applicable); and

(2) With respect to any bond of the issue that has converted to a fixed and determinable yield on or before that date, the actual amounts paid or received before that bond converted, if any, and the amount that was reasonably expected (on the date that bond converted) to be paid or received with respect to that bond over the remaining term of the issue (taking into account prepayment assumptions under section 143(g)(2)(B)(iv), if applicable).

(h) *Qualified hedging transactions—(1) In general.* Payments made or received by an issuer under a qualified hedge (as defined in paragraph (h)(2) of this section) relating to bonds of an issue are

taken into account (as provided in paragraph (h)(3) of this section) to determine the yield on the issue. Except as provided in paragraphs (h)(4) and (h)(5)(ii)(E) of this section, the bonds to which a qualified hedge relates are treated as variable yield bonds from the issue date of the bonds. This paragraph (h) applies solely for purposes of sections 143(g), 148, and 149(d).

(2) *Qualified hedge defined.* Except as provided in paragraph (h)(5) of this section, the term *qualified hedge* means a contract that satisfies each of the following requirements:

(i) *Hedge—(A) In general.* The contract is entered into primarily to modify the issuer's risk of interest rate changes with respect to a bond (a hedge). For example, the contract may be an interest rate swap, an interest rate cap, a futures contract, a forward contract, or an option.

(B) *Special rule for fixed rate issues.* If the contract modifies the issuer's risk of interest rate changes with respect to a bond that is part of an issue that, absent the contract, would be a fixed rate issue, the contract must be entered into—

(1) No later than 15 days after the issue date (or the deemed issue date under paragraph (d) of this section) of the issue; or

(2) No later than the expiration of a qualified hedge with respect to bonds of that issue that satisfies paragraph (h)(2)(i)(B)(1) of this section; or

(3) No later than the expiration of a qualified hedge with respect to bonds of that issue that satisfies either paragraph (h)(2)(i)(B)(2) of this section or this paragraph (h)(2)(i)(B)(3).

(C) *Contracts with certain acquisition payments.* If a hedge provider makes a single payment to the issuer (e.g., a payment for an off-market swap) in connection with the acquisition of a contract, the issuer may treat a portion of that contract as a hedge provided—

(1) The hedge provider's payment to the issuer and the issuer's payments under the contract in excess of those that it would make if the contract bore rates equal to the on-market rates for the contract (determined as of the date the parties enter into the contract) are

separately identified in a certification of the hedge provider; and

(2) The payments described in paragraph (h)(2)(i)(C)(I) of this section are not treated as payments on the hedge.

(ii) *No significant investment element—*

(A) *In general.* The contract does not contain a significant investment element. Except as provided in paragraph (h)(2)(ii)(B) of this section, a contract contains a significant investment element if a significant portion of any payment by one party relates to a conditional or unconditional obligation by the other party to make a payment on a different date. Examples of contracts that contain a significant investment element are a debt instrument held by the issuer; an interest rate swap requiring any payments other than periodic payments, within the meaning of § 1.446-3 (periodic payments) (e.g., a payment for an off-market swap or prepayment of part or all of one leg of a swap); and an interest rate cap requiring the issuer's premium for the cap to be paid in a single, up-front payment.

(B) *Special level payment rule for interest rate caps.* An interest rate cap does not contain a significant investment element if—

(1) All payments to the issuer by the hedge provider are periodic payments;

(2) The issuer makes payments for the cap at the same time as periodic payments by the hedge provider must be made if the specified index (within the meaning of § 1.446-3) of the cap is above the strike price of the cap; and

(3) Each payment by the issuer bears the same ratio to the notional principal amount (within the meaning of § 1.446-3) that is used to compute the hedge provider's payment, if any, on that date.

(iii) *Parties.* The contract is entered into between the issuer or the political subdivision on behalf of which the issuer issues the bonds (collectively referred to in this paragraph (h) as the *issuer*) and a provider that is not a related party (the *hedge provider*).

(iv) *Hedged bonds.* The contract covers, in whole or in part, all of one or more groups of substantially identical bonds in the issue (i.e., all of the bonds having the same interest rate, maturity, and terms). Thus, for example, a qualified hedge may include a hedge of

all or a pro rata portion of each interest payment on the variable rate bonds in an issue for the first 5 years following their issuance. For purposes of this paragraph (h), unless the context clearly requires otherwise, *hedged bonds* means the specific bonds or portions thereof covered by a hedge.

(v) *Interest based contract.* The contract is primarily interest based. A contract is not primarily interest based unless—

(A) The hedged bond, without regard to the contract, is either a fixed rate bond, a variable rate debt instrument within the meaning of § 1.1275-5 provided the rate is not based on an objective rate other than a qualified inverse floating rate or a qualified inflation rate, a tax-exempt obligation described in § 1.1275-4(d)(2), or an inflation-indexed debt instrument within the meaning of § 1.1275-7; and

(B) As a result of treating all payments on (and receipts from) the contract as additional payments on (and receipts from) the hedged bond, the resulting bond would be substantially similar to either a fixed rate bond, a variable rate debt instrument within the meaning of § 1.1275-5 provided the rate is not based on an objective rate other than a qualified inverse floating rate or a qualified inflation rate, a tax-exempt obligation described in § 1.1275-4(d)(2), or an inflation-indexed debt instrument within the meaning of § 1.1275-7. For this purpose, differences that would not prevent the resulting bond from being substantially similar to another type of bond include a difference between the index used to compute payments on the hedged bond and the index used to compute payments on the hedge where one index is substantially the same, but not identical to, the other; the difference resulting from the payment of a fixed premium for a cap (e.g., payments for a cap that are made in other than level installments); and the difference resulting from the allocation of a termination payment where the termination was not expected as of the date the contract was entered into.

(vi) *Payments closely correspond.* The payments received by the issuer from the hedge provider under the contract correspond closely in time to either the



specific payments being hedged on the hedged bonds or specific payments required to be made pursuant to the bond documents, regardless of the hedge, to a sinking fund, debt service fund, or similar fund maintained for the issue of which the hedged bond is a part.

(vii) *Source of payments.* Payments to the hedge provider are reasonably expected to be made from the same source of funds that, absent the hedge, would be reasonably expected to be used to pay principal and interest on the hedged bonds.

(viii) *Identification.* The contract must be identified by the actual issuer on its books and records maintained for the hedged bonds not later than 3 days after the date on which the issuer and the hedge provider enter into the contract. The identification must specify the hedge provider, the terms of the contract, and the hedged bonds. The identification must contain sufficient detail to establish that the requirements of this paragraph (h)(2) and, if applicable, paragraph (h)(4) of this section are satisfied. In addition, the existence of the hedge must be noted on the first form relating to the issue of which the hedged bonds are a part that is filed with the Internal Revenue Service on or after the date on which the contract is identified pursuant to this paragraph (h)(2)(viii).

(3) *Accounting for qualified hedges—(i) In general.* Except as otherwise provided in paragraph (h)(4) of this section, payments made or received by the issuer under a qualified hedge are treated as payments made or received, as appropriate, on the hedged bonds that are taken into account in determining the yield on those bonds. These payments are reasonably allocated to the hedged bonds in the period to which the payments relate, as determined under paragraph (h)(3)(iii) of this section. Payments made or received by the issuer include payments deemed made or received when a contract is terminated or deemed terminated under this paragraph (h)(3). Payments reasonably allocable to the modification of risk of interest rate changes and to the hedge provider's overhead under this paragraph (h) are included as payments made or received under a qualified hedge.

(ii) *Exclusions from hedge.* If any payment for services or other items under the contract is not expressly treated by paragraph (h)(3)(i) of this section as a payment under the qualified hedge, the payment is not a payment with respect to a qualified hedge.

(iii) *Timing and allocation of payments.* Except as provided in paragraphs (h)(3)(iv) and (h)(5) of this section, payments made or received by the issuer under a qualified hedge are taken into account in the same period in which those amounts would be treated as income or deductions under § 1.446-4 (without regard to § 1.446-4(a)(2)(iv)) and are adjusted as necessary to reflect the end of a computation period and the start of a new computation period.

(iv) *Termination payments—(A) Termination defined.* A termination of a qualified hedge includes any sale or other disposition of the hedge by the issuer or the acquisition by the issuer of an offsetting hedge. A deemed termination occurs when the hedged bonds are redeemed or when a hedge ceases to be a qualified hedge of the hedged bonds. In the case of an assignment by a hedge provider of its remaining rights and obligations under the hedge to a third party or a modification of the hedging contract, the assignment or modification is treated as a termination with respect to the issuer only if it results in a deemed exchange of the hedge and a realization event under section 1001 to the issuer.

(B) *General rule.* A payment made or received by an issuer to terminate a qualified hedge, including loss or gain realized or deemed realized, is treated as a payment made or received on the hedged bonds, as appropriate. The payment is reasonably allocated to the remaining periods originally covered by the terminated hedge in a manner that reflects the economic substance of the hedge.

(C) *Special rule for terminations when bonds are redeemed.* Except as otherwise provided in this paragraph (h)(3)(iv)(C) and in paragraph (h)(3)(iv)(D) of this section, when a qualified hedge is deemed terminated because the hedged bonds are redeemed, the fair market value of the qualified hedge on the redemption date is treated as a termination payment made or received on

that date. When hedged bonds are redeemed, any payment received by the issuer on termination of a hedge, including a termination payment or a deemed termination payment, reduces, but not below zero, the interest payments made by the issuer on the hedged bonds in the computation period ending on the termination date. The remainder of the payment, if any, is reasonably allocated over the bond years in the immediately preceding computation period or periods to the extent necessary to eliminate the excess.

(D) *Special rules for refundings.* To the extent that the hedged bonds are redeemed using the proceeds of a refunding issue, the termination payment is accounted for under paragraph (h)(3)(iv)(B) of this section by treating it as a payment on the refunding issue, rather than the hedged bonds. In addition, to the extent that the refunding issue is redeemed during the period to which the termination payment has been allocated to that issue, paragraph (h)(3)(iv)(C) of this section applies to the termination payment by treating it as a payment on the redeemed refunding issue.

(E) *Safe harbor for allocation of certain termination payments.* A payment to terminate a qualified hedge does not result in that hedge failing to satisfy the applicable provisions of paragraph (h)(3)(iv)(B) of this section if the payment is allocated in accordance with this paragraph (h)(3)(iv)(E). For an issue that is a variable yield issue after termination of a qualified hedge, an amount must be allocated to each date on which the hedge provider's payment, if any, would have been made had the hedge not been terminated. The amounts allocated to each date must bear the same ratio to the notional principal amount (within the meaning of § 1.446-3) that would have been used to compute the hedge provider's payment, if any, on that date, and the sum of the present values of those amounts must equal the present value of the termination payment. Present value is computed as of the day the qualified hedge is terminated, using the yield on the hedged bonds, determined without regard to the termination payment. The yield used for

this purpose is computed for the period beginning on the first date the qualified hedge is in effect and ending on the date the qualified hedge is terminated. On the other hand, for an issue that is a fixed yield issue after termination of a qualified hedge, the termination payment is taken into account as a single payment on the date it is paid.

(4) *Certain variable yield bonds treated as fixed yield bonds—(1) In general.* Except as otherwise provided in this paragraph (h)(4), if the issuer of variable yield bonds enters into a qualified hedge, the hedged bonds are treated as fixed yield bonds paying a fixed interest rate if:

(A) *Maturity.* The term of the hedge is equal to the entire period during which the hedged bonds bear interest at variable interest rates, and the issuer does not reasonably expect that the hedge will be terminated before the end of that period.

(B) *Payments closely correspond.* Payments to be received under the hedge correspond closely in time to the hedged portion of payments on the hedged bonds. Hedge payments received within 15 days of the related payments on the hedged bonds generally so correspond.

(C) *Aggregate payments fixed.* Taking into account all payments made and received under the hedge and all payments on the hedged bonds (i.e., after netting all payments), the issuer's aggregate payments are fixed and determinable as of a date not later than 15 days after the issue date of the hedged bonds. Payments on bonds are treated as fixed for purposes of this paragraph (h)(4)(i)(C) if payments on the bonds are based, in whole or in part, on one interest rate, payments on the hedge are based, in whole or in part, on a second interest rate that is substantially the same as, but not identical to, the first interest rate and payments on the bonds would be fixed if the two rates were identical. Rates are treated as substantially the same if they are reasonably expected to be substantially the same throughout the term of the hedge. For example, an objective 30-day tax-exempt variable rate index or other objective index may be substantially the same as an issuer's individual 30-day interest rate.

(ii) *Accounting.* Except as otherwise provided in this paragraph (h)(4)(ii), in determining yield on the hedged bonds, all the issuer's payments on the hedged bonds and all payments made and received on a hedge described in paragraph (h)(4)(i) of this section are taken into account. If payments on the bonds and payments on the hedge are based, in whole or in part, on variable interest rates that are substantially the same within the meaning of paragraph (h)(4)(i)(C) of this section (but not identical), yield on the issue is determined by treating the variable interest rates as identical. For example, if variable rate bonds bearing interest at a weekly rate equal to the rate necessary to re-market the bonds at par are hedged with an interest rate swap under which the issuer receives payments based on a short-term floating rate index that is substantially the same as, but not identical to, the weekly rate on the bonds, the interest payments on the bonds are treated as equal to the payments received by the issuer under the swap for purposes of computing the yield on the bonds.

(iii) *Effect of termination—(A) In general.* Except as otherwise provided in this paragraph (h)(4)(iii) and paragraph (h)(5) of this section, the issue of which the hedged bonds are a part is treated as if it were reissued as of the termination date of the qualified hedge covered by paragraph (h)(4)(i) of this section in determining yield on the hedged bonds for purposes of §1.148-3. The redemption price of the retired issue and the issue price of the new issue equal the aggregate values of all the bonds of the issue on the termination date. In computing the yield on the new issue for this purpose, any termination payment is accounted for under paragraph (h)(3)(iv) of this section, applied by treating the termination payment as made or received on the new issue under this paragraph (h)(4)(iii).

(B) *Effect of early termination.* Except as otherwise provided in this paragraph (h)(4)(iii), the general rules of paragraph (h)(4)(i) of this section do not apply in determining the yield on the hedged bonds for purposes of §1.148-3 if the hedge is terminated or deemed terminated within 5 years after the issue date of the issue of which the hedged

bonds are a part. Thus, the hedged bonds are treated as variable yield bonds for purposes of §1.148-3 from the issue date.

(C) *Certain terminations disregarded.* This paragraph (h)(4)(iii) does not apply to a termination if, based on the facts and circumstances (e.g., taking into account both the termination and any qualified hedge that immediately replaces the terminated hedge), there is no change in the yield.

(5) *Contracts entered into before issue date of hedged bond—(i) In general.* A contract does not fail to be a hedge under paragraph (h)(2)(i) of this section solely because it is entered into before the issue date of the hedged bond. However, that contract must be one to which either paragraph (h)(5)(ii) or (h)(5)(iii) of this section applies.

(ii) *Contracts expected to be closed substantially contemporaneously with the issue date of hedged bond—(A) Application.* This paragraph (h)(5)(ii) applies to a contract if, on the date the contract is identified, the issuer reasonably expects to terminate or otherwise close (terminate) the contract substantially contemporaneously with the issue date of the hedged bond.

(B) *Contract terminated.* If a contract to which this paragraph (h)(5)(ii) applies is terminated substantially contemporaneously with the issue date of the hedged bond, the amount paid or received, or deemed to be paid or received, by the issuer in connection with the issuance of the hedged bond to terminate the contract is treated as an adjustment to the issue price of the hedged bond and as an adjustment to the sale proceeds of the hedged bond for purposes of section 148. Amounts paid or received, or deemed to be paid or received, before the issue date of the hedged bond are treated as paid or received on the issue date in an amount equal to the future value of the payment or receipt on that date. For this purpose, future value is computed using yield on the hedged bond without taking into account amounts paid or received (or deemed paid or received) on the contract.

(C) *Contract not terminated.* If a contract to which this paragraph (h)(5)(ii) applies is not terminated substantially contemporaneously with the issue date

of the hedged bond, the contract is deemed terminated for its fair market value as of the issue date of the hedged bond. Once a contract has been deemed terminated pursuant to this paragraph (h)(5)(ii)(C), payments on and receipts from the contract are no longer taken into account under this paragraph (h) for purposes of determining yield on the hedged bond.

(D) *Relation to other requirements of a qualified hedge.* Payments made in connection with the issuance of a bond to terminate a contract to which this paragraph (h)(5)(ii) applies do not prevent the contract from satisfying the requirements of paragraph (h)(2)(vi) of this section.

(E) *Fixed yield treatment.* A bond that is hedged with a contract to which this paragraph (h)(5)(ii) applies does not fail to be a fixed yield bond if, taking into account payments on the contract and the payments to be made on the bond, the bond satisfies the definition of fixed yield bond. See also paragraph (h)(4) of this section.

(iii) *Contracts expected not to be closed substantially contemporaneously with the issue date of hedged bond—(A) Application.* This paragraph (h)(5)(iii) applies to a contract if, on the date the contract is identified, the issuer does not reasonably expect to terminate the contract substantially contemporaneously with the issue date of the hedge bond.

(B) *Contract terminated.* If a contract to which this paragraph (h)(5)(iii) applies is terminated in connection with the issuance of the hedged bond, the amount paid or received, or deemed to be paid or received, by the issuer to terminate the contract is treated as an adjustment to the issue price of the hedged bond and as an adjustment to the sale proceeds of the hedged bond for purposes of section 148.

(C) *Contract not terminated.* If a contract to which this paragraph (h)(5)(iii) applies is not terminated substantially contemporaneously with the issue date of the hedged bond, no payments with respect to the hedge made by the issuer before the issue date of the hedged bond are taken into account under this section.

(iv) *Identification.* The identification required under paragraph (h)(2)(viii) of

this section must specify the reasonably expected governmental purpose, issue price, maturity, and issue date of the hedged bond, the manner in which interest is reasonably expected to be computed, and whether paragraph (h)(5)(ii) or (h)(5)(iii) of this section applies to the contract. If an issuer identifies a contract under this paragraph (h)(5)(iv) that would be a qualified hedge with respect to the anticipated bond, but does not issue the anticipated bond on the identified issue date, the contract is taken into account as a qualified hedge of any bond of the issuer that is issued for the identified governmental purpose within a reasonable interval around the identified issue date of the anticipated bond.

(6) *Authority of the Commissioner.* The Commissioner, by publication of a revenue ruling or revenue procedure (see § 601.601(d)(2) of this chapter), may specify contracts that, although they do not meet the requirements of paragraph (h)(2) of this section, are qualified hedges or, although they do not meet the requirements of paragraph (h)(4) of this section, cause the hedged bonds to be treated as fixed yield bonds.

[T.D. 8476, 58 FR 33524, June 18, 1993; 58 FR 44452, Aug. 23, 1993, as amended by T.D. 8538, 59 FR 24042, May 10, 1994; T.D. 8718, 62 FR 25507, May 9, 1997; T.D. 8838, 64 FR 48547, Sept. 7, 1999]

#### § 1.148-5 Yield and valuation of investments.

(a) *In general.* This section provides rules for computing the yield and value of investments allocated to an issue for various purposes under section 148.

(b) *Yield on an investment—(1) In general.* Except as otherwise provided, the yield on an investment allocated to an issue is computed under the economic accrual method, using the same compounding interval and financial conventions used to compute the yield on the issue. The yield on an investment allocated to an issue is the discount rate that, when used in computing the present value as of the date the investment is first allocated to the issue of all unconditionally payable receipts from the investment, produces an amount equal to the present value