(g) *Minor portion.* Under section 148(e), a bond of an issue is not an arbitrage bond solely because of the investment in higher yielding investments of gross proceeds of the issue in an amount not exceeding the lesser of—

(1) 5 percent of the sale proceeds of the issue; or

(2) $100,000.

(h) *Certain waivers permitted.* On or before the issue date, an issuer may elect to waive the right to invest in higher yielding investments during any temporary period under paragraph (e) of this section or as part of a reasonably required reserve or replacement fund under paragraph (f) of this section. At any time, an issuer may waive the right to invest in higher yielding investments as part of a minor portion under paragraph (g) of this section.

[T.D. 8476, 58 FR 33520, 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]

§ 1.148–3 General arbitrage rebate rules.

(a) *In general.* Section 148(f) requires that certain earnings on nonpurpose investments allocable to the gross proceeds of an issue be paid to the United States to prevent the bonds in the issue from being arbitrage bonds. The arbitrage that must be rebated is based on the difference between the amount actually earned on nonpurpose investments and the amount that would have been earned if those investments had a yield equal to the yield on the issue.

(b) *Definition of rebate amount.* As of any date, the rebate amount for an issue is the excess of the future value, as of that date, of all receipts on nonpurpose investments over the future value, as of that date, of all payments on nonpurpose investments.

(c) *Computation of future value of a payment or receipt.* The future value of a payment or receipt at the end of any period is determined using the economic accrual method and equals the value of that payment or receipt when it is paid or received (or treated as paid or received), plus interest assumed to be earned and compounded over the period at a rate equal to the yield on the issue, using the same compounding interval and financial conventions used to compute that yield.

(d) *Payments and receipts*— (1) *Definition of payments.* For purposes of this section, payments are—

(i) Amounts actually or constructively paid to acquire a nonpurpose investment (or treated as paid to a commingled fund);

(ii) For a nonpurpose investment that is first allocated to an issue on a date after it is actually acquired (e.g., an investment that becomes allocable to transferred proceeds or to replacement proceeds) or that becomes subject to the rebate requirement on a date after it is actually acquired (e.g., an investment allocated to a reasonably required reserve or replacement fund for a construction issue at the end of the 2-year spending period), the value of that investment on that date;

(iii) For a nonpurpose investment that was allocated to an issue at the end of the preceding computation period, the value of that investment at the beginning of the computation period;

(iv) On the last day of each bond year during which there are amounts allocated to gross proceeds of an issue that are subject to the rebate requirement, and on the final maturity date, a computation credit of $1,000; and

(v) Yield reduction payments on nonpurpose investments made pursuant to §1.148–5(c).

(2) *Definition of receipts.* For purposes of this section, receipts are—

(i) Amounts actually or constructively received from a nonpurpose investment (including amounts treated as received from a commingled fund), such as earnings and return of principal;

(ii) For a nonpurpose investment that ceases to be allocated to an issue before its disposition or redemption date (e.g., an investment that becomes allocable to transferred proceeds of another issue or that ceases to be allocable to the issue pursuant to the universal cap under §1.148–6) or that ceases to be subject to the rebate requirement on a date earlier than its disposition or redemption date (e.g., an investment allocated to a fund initially subject to the rebate requirement but that subsequently qualifies

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as a bona fide debt service fund), the value of that nonpurpose investment on that date; and

(iii) For a nonpurpose investment that is held at the end of a computation period, the value of that investment at the end of that period.

(3) *Special rules for commingled funds.* Section 1.148–6(e) provides special rules to limit certain of the required determinations of payments and receipts for investments of a commingled fund.

(e) *Computation dates*—(1) *In general.* For a fixed yield issue, an issuer may treat any date as a computation date. For a variable yield issue, an issuer:

(i) May treat the last day of any bond year ending on or before the latest date on which the first rebate amount is required to be paid under paragraph (f) of this section (the *first required payment date*) as a computation date but may not change that treatment after the first payment date; and

(ii) After the first required payment date, must consistently treat either the end of each bond year or the end of each fifth bond year as computation dates and may not change these computation dates after the first required payment date.

(2) *Final computation date.* The date that an issue is discharged is the final computation date. For an issue retired within 3 years of the issue date, however, the final computation date need not occur before the end of 8 months after the issue date or during the period in which the issuer reasonably expects that any of the spending exceptions under §1.148–7 will apply to the issue.

(f) *Amount of required rebate installment payment*—(1) *Amount of interim rebate payments.* The first rebate installment payment must be made for a computation date that is not later than 5 years after the issue date. Subsequent rebate installment payments must be made for a computation date that is not later than 5 years after the previous computation date for which an installment payment was made. A rebate installment payment must be in an amount that, when added to the future value, as of the computation date, of previous rebate payments made for the issue, equals at least 90 percent of the rebate amount as of that date.

(2) *Amount of final rebate payment.* For the final computation date, a final rebate payment must be paid in an amount that, when added to the future value of previous rebate payments made for the issue, equals 100 percent of the rebate amount as of that date.

(3) *Future value of rebate payments.* The future value of a rebate payment is determined under paragraph (c) of this section. This value is computed by taking into account recoveries of overpayments.

(g) *Time and manner of payment.* Each rebate payment must be paid no later than 60 days after the computation date to which the payment relates. Any rebate payment paid within this 60-day period may be treated as paid on the computation date to which it relates. A rebate payment is paid when it is filed with the Internal Revenue Service at the place or places designated by the Commissioner. A payment must be accompanied by the form provided by the Commissioner for this purpose.

(h) *Penalty in lieu of loss of tax exemption*—(1) *In general.* The failure to pay the correct rebate amount when required will cause the bonds of the issue to be arbitrage bonds, unless the Commissioner determines that the failure was not caused by willful neglect and the issuer promptly pays a penalty to the United States. If no bond of the issue is a private activity bond (other than a qualified 501(c)(3) bond), the penalty equals 50 percent of the rebate amount not paid when required to be paid, plus interest on that amount. Otherwise, the penalty equals 100 percent of the rebate amount not paid when required to be paid, plus interest on that amount.

(2) *Interest on underpayments.* Interest accrues at the underpayment rate under section 6621, beginning on the date the correct rebate amount is due and ending on the date 10 days before it is paid.

(3) *Waivers of the penalty.* The penalty is automatically waived if the rebate amount that the issuer failed to pay plus interest is paid within 180 days after discovery of the failure, unless, the Commissioner determines that the failure was due to willful neglect, or the issue is under examination by the Commissioner at any time during the

period beginning on the date the failure first occurred and ending on the date 90 days after the receipt of the rebate amount. Generally, extensions of this 180-day period and waivers of the penalty in other cases will be granted by the Commissioner only in unusual circumstances. For purposes of this paragraph (h)(3), willful neglect does not include a failure that is attributable solely to the permissible retroactive selection of a short first bond year if the rebate amount that the issuer failed to pay is paid within 60 days of the selection of that bond year.

(4) *Application to alternative penalty under §1.148–7.* Paragraphs (h) (1), (2), and (3) of this section apply to failures to pay penalty payments under §1.148–7 (*alternative penalty amounts*) by substituting *alternative penalty amounts* for *rebate amount* and *the last day of each spending period* for *computation date.*

(i) *Recovery of overpayment of rebate—*(1) *In general.* An issuer may recover an overpayment for an issue of tax-exempt bonds by establishing to the satisfaction of the Commissioner that the overpayment occurred. An overpayment is the excess of the amount paid to the United States for an issue under section 148 over the sum of the rebate amount for the issue as of the most recent computation date and all amounts that are otherwise required to be paid under section 148 as of the date the recovery is requested.

(2) *Limitations on recovery.* (i) An overpayment may be recovered only to the extent that a recovery on the date that it is first requested would not result in an additional rebate amount if that date were treated as a computation date.

(ii) Except for overpayments of penalty in lieu of rebate under section 148(f)(4)(C)(vii) and §1.148–7(k), an overpayment of less than $5,000 may not be recovered before the final computation date.

(j) *Examples.* The provisions of this section may be illustrated by the following examples.

Example 1. Calculation and payment of rebate for a fixed yield issue. (i) *Facts.* On January 1, 1994, City *A* issues a fixed yield issue and invests all the sale proceeds of the issue ($49 million). There are no other gross proceeds. The issue has a yield of 7.0000 percent per

year compounded semiannually (computed on a 30 day month/360 day year basis). City *A* receives amounts from the investment and immediately expends them for the governmental purpose of the issue as follows:

Date	Amount
2/1/94	$3,000,000
5/1/94	5,000,000
1/1/95	5,000,000
9/1/95	20,000,000
3/1/96	22,000,000

(ii) *First computation date.* (A) City *A* chooses January 1, 1999, as its first computation date. This date is the latest date that may be used to compute the first required rebate installment payment. The rebate amount as of this date is computed by determining the future value of the receipts and the payments for the investment. The compounding interval is each 6-month (or shorter) period and the 30 day month/360 day year basis is used because these conventions were used to compute yield on the issue. The future value of these amounts, plus the computation credit, as of January 1, 1999, is:

Date	Receipts (payments)	FV (7.0000 percent)
1/1/94	($49,000,000)	($69,119,339)
2/1/94	3,000,000	4,207,602
5/1/94	5,000,000	6,893,079
1/1/95	5,000,000	6,584,045
1/1/95	(1,000)	(1,317)
9/1/95	20,000,000	25,155,464
1/1/96	(1,000)	1,229)
3/1/96	22,000,000	26,735,275
1/1/97	(1,000)	(1,148)
Rebate amount (1/01/99)	....	452,432

(B) City *A* pays 90 percent of the rebate amount ($407,189) to the United States within 60 days of January 1, 1999.

(iii) *Second computation date.* (A) On the next required computation date, January 1, 2004, the future value of the payments and receipts is:

Date	Receipts (payments)	FV (7.0000 percent)
1/1/99	$452,432	$638,200
Rebate amount (1/01/04)	....	638,200

(B) As of this computation date, the future value of the payment treated as made on January 1, 1999, is $574,380, which equals at least 90 percent of the rebate amount as of this computation date ($638,200 × 0.9), and thus no additional rebate payment is due as of this date.

(iv) *Final computation date.* (A) On January 1, 2009, City *A* redeems all the bonds, and thus this date is the final computation date. The future value of the receipts and payments as of this date is:

Date	Receipts (payments)	FV (7.0000 percent)
1/1/04	$638,200	$900,244
1/1/09	(1,000)	(1,000)
Rebate amount (1/01/09)	....	899,244

(B) As of this computation date, the future value of the payment made on January 1, 1999, is $810,220 and thus an additional rebate payment of $89,024 is due. This payment reflects the future value of the 10 percent unpaid portion, and thus would not be owed had the issuer paid the full rebate amount as of any prior computation date.

Example 2. Calculation and payment of rebate for a variable yield issue. (i) *Facts.* On July 1, 1994, City *B* issues a variable yield issue and invests all of the sale proceeds of the issue ($30 million). There are no other gross proceeds. As of July 1, 1999, there are nonpurpose investments allocated to the issue. Prior to July 1, 1999, City *B* receives amounts from nonpurpose investments and immediately expends them for the governmental purpose of the issue as follows:

Date	Amount
8/1/1994	$5,000,000
7/1/1995	8,000,000
12/1/1995	17,000,000
7/1/1999	650,000

(ii) *First computation date.* (A) City *B* treats the last day of the fifth bond year (July 1, 1999) as a computation date. The yield on the variable yield issue during the first computation period (the period beginning on the issue date and ending on the first computation date) is 6.0000 percent per year compounded semiannually. The value of the nonpurpose investments allocated to the issue as of July 1, 1999, is $3 million. The rebate amount as of July 1, 1999, is computed by determining the future value of the receipts and the payments for the nonpurpose investments. The compounding interval is each 6-month (or shorter) period and the 30 day month/360 day year basis is used because these conventions were used to compute yield on the issue. The future value of these amounts and of the computation date credits as of July 1, 1999, is:

Date	Receipts (payments)	FV (6.0000 percent)
7/1/1994	($30,000,000)	($40,317,491)
8/1/1994	5,000,000	6,686,560
7/1/1995	(1,000)	(1,267)
7/1/1995	8,000,000	10,134,161
12/1/1995	17,000,000	21,011,112
7/1/1996	(1,000)	(1,194)
7/1/1997	(1,000)	(1,126)
7/1/1998	(1,000)	(1,061)
7/1/1999	3,000,000	3,000,000
7/1/1999	650,000	650,000

Date	Receipts (payments)	FV (6.0000 percent)
7/1/1999	(1,000)	(1,000)
Rebate amount (7/01/ 1999)		1,158,694

(B) City *B* pays 90 percent of the rebate amount ($1,042,824.60) to the United States within 60 days of July 1, 1999.

(iii) *Next computation date.* (A) On July 1, 2004, City *B* redeems all of the bonds. Thus, the next computation date is July 1, 2004. On July 30, 1999, City *B* chose to compute rebate for periods following the first computation period by treating the end of each fifth bond year as a computation date. The yield during the second computation period is 5.0000 percent per year compounded semiannually. The 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).

§ 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 percentage 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

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