# State Support Document

*for the*

# Local Government Financial Test

*40 CFR Part 258*
*Subpart G*

*Prepared by:*

U.S. Environmental Protection Agency
Office of Solid Waste

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**Part 4: Beyond the Financial Test**

# Introduction

The recently-promulgated Subtitle D local government financial test and local government guarantee are new financial assurance mechanisms. They were developed by EPA specifically for use by local governments that own, operate, or benefit from municipal solid waste landfill facilities (MSWLFs) regulated under Subtitle D of RCRA. Because the test and guarantee are new to States as well, EPA has developed this document to assist States in implementing the test.

The document provides three types of assistance. First, it provides certain details and background information that States may find useful as they implement the particular conditions specified in EPA's test and guarantee. Second, it provides discussion that will help States adapt the local government financial test and guarantee to local conditions. Third, it provides introductory information on several types of mechanisms (e.g., self-implemented local government funds) that States can allow under the Subtitle D financial assurance regulations.

Approved States are allowed to modify the local government financial test provided that the resulting test is at least as stringent as EPA's test. States may wish to modify the test for a wide variety of reasons, including the following:

- The financial characteristics and management practices of local governments in the State may differ substantially from those in most other States.

- State requirements may make it difficult for local governments to comply with certain aspects of EPA's test. Alternatively, State requirements might make feasible the expansion of certain test requirements that would not be possible in other States.

- Some States may desire an even stronger local government test than EPA's as a matter of policy.

The document's primary objective, however, is to identify and discuss those aspects of the local government financial test where flexibility might be of considerable benefit to the States. This flexibility could mean selecting an alternate approach to EPA's, or conducting further research to lay groundwork for adopting additional financial indicators. Consequently, the document discusses issues and certain EPA positions, but is not designed to provide details on, for example, how to operationalize a financial test using State-prescribed accounting methods rather than generally accepted accounting principles.

## Issue 1. Defining One or More Local Government Owner, Operator, or Guarantor

***Question: For a given landfill, how does one determine which governmental entity should be subject to the local government financial test?***

It should be an easy matter to determine whether a landfill is owned or operated by some type of governmental entity. Counties, cities, towns, townships, parishes, public agencies, special districts, enterprise funds, certain joint ventures, and other governmental organizations will generally qualify either as a local government or as an operating unit of one or more local governments. With the exception of general purpose local governments (e.g., cities, counties, towns), however, it may be slightly more difficult to determine whether a particular governmental entity is the entity that should be using the local government financial test or providing a local government guarantee. If, for example, an enterprise fund owns and operates a municipal solid waste landfill (MSWLF), how should the enterprise fund use the local government financial test? Should it base the test on its own financial condition, or on that of the overseeing general purpose government? To help answer questions like these, the following discussion addresses the applicability of the test to various governmental organizations.

Due to the many types of government organizations that exist across the U.S., EPA elected not to define the term "local government" in its local government financial test. Therefore, State law will govern the term's definition. Nevertheless. EPA does not believe that it would be appropriate for all governmental units to use the local government financial test. Local governments that use the test, in addition to being MSWLF owners, operators, or guarantors, should be legally separate and fiscally independent entities (relative to higher governments), and should have clear responsibility for meeting their own financial commitments. General purpose governments (e.g., counties) can be expected to meet this criterion. Enterprise funds, on the other hand, will usually not meet this condition, as discussed nearby (see box).

Local governments using the test must also be able to meet other conditions of the test, including issuance of audited financial statements prepared in compliance with generally accepted accounting principles for governments (GAAP), including compliance with Statement Number 18 of the Government Accounting Standards Board.

### *ENTERPRISE FUNDS AND THE FINANCIAL TEST*

EPA is aware that many states are encouraging the use of enterprise funds for solid waste management purposes. The Government Accounting Standards Board (GASB), in Statement 18, also states that accounting for municipal solid waste landfills is best achieved using enterprise funds. In general, however, governmental enterprise funds are not legally separate and fiscally independent entities. Primary governments associated with enterprise funds can, on a unilateral basis, significantly alter the financial condition of the enterprise funds. *Only a primary government, therefore, and not its solid waste enterprise fund, is in a position to use the financial test to demonstrate appropriate financial condition and responsibility to ensure the completion of closure, post-closure care, and corrective action for known releases.*

It is also worth noting that the EPA rules allow the use of combinations of payment mechanisms. This provision may be particularly well-suited to a landfill that is operated as a joint-venture between two or more local governments. Each local government could use the local government financial test as the basis for a separate local government guarantee. The landfill could then demonstrate financial assurance using the combination of local government guarantees.

## Issue 2. Use of Generally Accepted Accounting Principles (GAAP)

***Question: How does EPA justify a GAAP accounting requirement for States that allow their local governments to use cash-basis accounting principles?***

EPA's local government financial test requires any entity taking the test to be in compliance with generally accepted accounting principles (GAAP) for local governments.[1] EPA's research indicated that this condition is necessary to ensure that the data used by local governments to take and pass the test are accurate, verifiable, and the same in meaning for different local governments. Commenters on the proposed local government financial test indicated that some States may require the use of non-GAAP accounting practices by local governments. These commenters indicated that, in particular, States may require the use of *cash-basis accounting*, which is a basis of accounting other than GAAP. (In contrast to GAAP, cash-basis accounting recognizes revenues and expenses only as they are actually received or paid out, respectively.)

In response to these comments, EPA sought to identify States where local governments would be unlikely to meet the financial test's GAAP requirement due to State regulations. The findings of this research include the following:

- EPA did not identify any States that specifically require the use of accounting principles other than GAAP, or that preclude the use of GAAP. At least 26 States require the use of GAAP for financial reporting purposes by some or all local governments:[2] Arizona, Colorado, Connecticut, Florida, Georgia, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Montana, Nevada, New York, North Carolina, Oklahoma, Rhode Island, South Dakota, Tennessee, Utah, Virginia, Washington, Wisconsin, and Wyoming.

[1] GAAP is issued in codified form by the Governmental Accounting Standards Board (GASB). *Codification of Governmental Accounting and Financial Reporting Standards as of June 30, 1993*, Governmental Accounting Standards Board, 1993.

[2] Of these 26 States, five allow local governments to use other accounting principles in limited instances.

- Local governments typically prepare financial reports in accordance with GAAP while using cash basis accounting for budgetary purposes. States frequently authorize the use of cash basis accounting for *budgetary purposes*. EPA did not identify any States that require the use of cash basis accounting for *financial reporting purposes* (such as in local government annual financial statements), however, nor did EPA identify any States where the use of cash basis accounting for budgetary purposes would preclude the use of GAAP for financial reporting purposes.

> ***NEBRASKA ACCOUNTING LAWS***
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> Many local governments in Nebraska prepare their financial reports in accordance with cash-basis accounting procedures and thus would not pass the financial test's GAAP compliance requirement. Nebraska law requires GAAP-based financial reporting for any political subdivision not specifically covered by other laws. Counties and municipalities are authorized to use either GAAP or cash-basis accounting for financial accounting and reporting. While many Nebraska counties and municipalities use cash-basis accounting, no laws prevent them from using GAAP. Thus, local governments interested in using the financial test to demonstrate financial assurance may elect to begin using GAAP in order to meet the test's requirements.

Thus, EPA does not believe that State accounting requirements are likely to interfere with the local government financial test and has retained the GAAP requirement in the test. Nevertheless, some States may find that a sizable number of local governments in the State use cash-basis accounting or some other non-GAAP method.[3] These States, assuming they have received Federal approval of their Subtitle D program, will have at least two options in implementing the local government financial test:

[3] EPA's research suggests that significantly less than 20 percent of cities and counties are likely to prepare annual financial statements using non-GAAP accounting.

*Option 1: Preserve the financial test's GAAP requirement as promulgated.*

Even local governments using non-GAAP accounting may choose to prepare financial data according to GAAP for purposes of their annual financial statements. This option would require no additional effort on the part of the State, but would require extra effort on the part of affected local governments. It would also ensure the integrity of the test by eliminating the problems that can arise with the use of non-GAAP accounting methods. For example, cash-basis accounting does not recognize expenditures until they are actually paid. This can cause a government's financial statements to report a total expenditures figure that is less than what would be reported if GAAP were used. This difference could allow a government to pass the test's financial ratios even though it might not pass had it met the GAAP requirement. Of course, local governments that choose not to prepare GAAP-based financial statements would be required to obtain an alternative type of financial assurance mechanism (e.g., trust fund, letter of credit).

*Option 2: Develop a modified but equally stringent requirement as appropriate for the particular State.*

Modifying the test is an option available only to States whose Subtitle D programs have been approved by EPA. Even in these States, the modified requirements must be "at least as stringent as" (i.e., at least as protective as) EPA's requirement. In States that are not yet approved, the test may be used only in the form specified by EPA, including the required use of GAAP when preparing data used in the test.

Depending on the particular circumstances in a given "approved State," it might be reasonable for the State to modify the local government financial test to allow use of other accounting methods. For example, if the number of governments that prepare financial statements using non-GAAP, State-mandated accounting is judged to be significant, the State may find it worthwhile to determine how the test can be modified to accommodate the method of accounting. However, EPA does <u>not</u> believe that the presence of a significant number of these governments would, in itself, justify a modification to the requirement. Rather, EPA believes that such a modification could require significant further analysis to ensure that the modified test would still adequately ensure that local government financial test data remain accurate, verifiable, and the same in meaning for different local governments in the State.

# Issue 3. Defining the Terms Used in the Local Government Financial Test

***Question: Where can I find specific definitions for the concepts used in the implementation of the financial test?***

This section provides recommended definitions for the key terms used in the local government financial test. Unless otherwise noted, all definitions are in accordance with generally accepted accounting principles for governments (GAAP), and draw upon data that must be included in local government financial statements and Comprehensive Annual Financial Reports (CAFRs).

Also included are definitions applicable to the one financial ratio (the Use of Borrowed Funds Ratio) that was included in the proposed test but not in the finalized test. The two definitions (for Capital Expenditures and for Long-Term Debt Issued) are provided here because EPA believes that some States may have adopted the ratio, at least on an interim basis, based on the proposed rule. Other States may wish to consider adding the ratio to the test, as discussed elsewhere in this document (see Issue 10).

In all, definitions are provided for seven terms:

- Capital Expenditures
- Cash and Current Investments
- Debt Service
- Long-Term Debt Issued
- Operating Deficit
- Total Revenues
- Total Expenditures

Many of the definitions may be harmlessly over-inclusive for a majority of governments. For example, the definition for Long Term Debt Issued specifically includes debt issued by a government's General Fund, Special Revenue Funds, Debt Service Fund, Capital Projects Funds, Enterprise Funds, and Internal Service Funds, even though several of these funds are unlikely to issue debt. The expansive definition is useful to catch unusual cases, but does not change the result for more typical cases.

**Capital Expenditures**

Capital Expenditures constitute the denominator of the Use of Borrowed Funds Ratio and refer to expenses incurred in the development and maintenance of a local government's capital stock. While the Use of Borrowed Funds Ratio is not included in the final rule, approved States could elect to incorporate the ratio into their financial test (see Issue 10). Capital Expenditures are the sum of:

- all capital outlays reported in the General Fund, Special Revenue Funds, Debt Service Fund, and Capital Projects Funds, as reported on the CAFR's Combined Statement of Revenues, Expenditures and Changes in Fund Balances/Equity;

plus

- all negative cash flows (i.e., all cash outflows) under "Cash Flows from Capital Financing Activities" for Enterprise Funds and Internal Service Funds, as reported on the CAFR's Combined Statement of Cash Flows.

**Cash and Current Investments**

Cash and Current Investments form the numerator of the final rule's liquidity ratio. The term is defined as the sum of "Cash," "Cash Equivalents" (e.g., bank deposits, very short-term debt securities, money market funds), and "Current Investments" (e.g., interest- or dividend-bearing securities that are expected to be held for less than one year), in the General Fund, Special Revenue Funds, Debt Service Fund, Enterprise Funds, and Internal Service Funds, as reported on the CAFR's Combined Balance Sheet. Note that cash, cash equivalents, and current investments are included in this definition even if they are (1) pooled, (2) with a fiscal agent, and/or (3) restricted, <u>provided that</u> the assets belong to the General Fund, Special Revenue Funds, Debt Service Fund, Enterprise Funds, and Internal Service Funds. Specifically excluded from this definition are accounts receivable, retirement assets, real property, fixed assets, and other non-current assets, as well as any assets (including cash) in Capital Projects Funds.

**Debt Service**

The financial test's Debt Service Ratio provides an indicator of a local government's ability to meet its financial obligations in a timely manner. The ratio divides a local government's annual debt service by its total expenditures. Debt service is the sum of:

- all amounts in any Debt Service category (includes bond principal, other debt principal, interest on bonds, interest on other debt) in the General Fund, Special Revenue

Funds, Debt Service Fund, and Capital Projects Funds, as reported on the CAFR's Combined Statement of Revenues, Expenditures and Changes in Fund Balances/ Equity;

plus

- all interest expense in Enterprise Funds and Internal Service Funds, as reported on the CAFR's Combined Statement of Revenues, Expenses and Changes in Retained Earnings/Fund Balances.

**Long-Term Debt Issued**

Long-Term Debt Issued is a component of the Use of Borrowed Funds Ratio. The definition is included here (despite the fact that the Use of Borrowed Funds Ratio is no longer a part of the financial test) for the benefit of any States that choose to include the ratio as a part of their test (see Issue 10). Long-Term Debt Issued is the sum of:

- all proceeds of long-term liabilities (e.g., general obligation bonds, revenue bonds, special assessment bonds, other bonds, certificates of participation) in the General Fund, Special Revenue Funds, Debt Service Fund, and Capital Projects Funds, as reported under "Other Financing Sources" on the CAFR's Combined Statement of Revenues, Expenditures and Changes in Fund Balances/Equity, except for proceeds of advance refunding bonds, tax-anticipation debt, and revenue-anticipation debt;

plus

- all proceeds of long-term liabilities in Enterprise Funds and Internal Service Funds, as reported under "Cash Flows from Non-Capital Financing Activities," "Cash Flows from Capital Financing Activities," and "Cash Flows from Investing Activities," on the CAFR's Combined Statement of Cash Flows. Excludes proceeds from liquidation of investments;

minus

- any portion of the above proceeds used exclusively to pay legal claims or judgments; and

- Sum of "Cash," "Cash Equivalents" (e.g., bank deposits, very short-term debt securities, money market funds), and "Current Investments" (e.g., interest- or dividend-bearing securities that are expected to be held for less than one year), in the Capital Projects Funds, as reported on the CAFR's Combined Balance Sheet.

(Subtraction of the last term, "cash, cash equivalents, current investments," prevents local governments from possibly failing the Use of Borrowed Funds Ratio inappropriately. Specifically, it prevents governments from being penalized for receiving debt proceeds in a given fiscal year, but not spending the proceeds in the same fiscal year.[4] The definition assumes that any unspent proceeds will be kept as cash, cash equivalents, and/or current investments within a government's Capital Projects Funds. For governments that have other cash, cash equivalents, or current investments in the Capital Projects Funds, in addition to the unspent debt proceeds, this definition may result in a more favorable Use of Borrowed Funds Ratio than is merited. These cases are of little concern if the "other" cash, cash equivalents, and current investments represent revenues contributed by the governments themselves, because such governments are likely to pass the ratio anyway.[5] If the "other" cash, cash equivalents, and current investments were contributed from sources outside of a local government (e.g., from Federal government grant programs), however, the government might pass the ratio in error. This type of error should be rare, however, and its occurrence would also depend on the financial condition of the particular government.)

**Operating Deficit**

Local governments that pass the bond rating and/or ratio component of the financial test also must demonstrate that they do not

[4] Even without the subtraction, whether a government would fail the Use of Borrowed Funds ratio due to unspent debt proceeds would depend on the precise amount of debt issued and the capital expenditures made during the fiscal year. A government could be at risk of failing the ratio if it receives debt proceeds just prior to the close of one fiscal year, but does not spend any of the proceeds until the new fiscal year. Under the Tax Reform Act of 1986, local governments may take up to six months to spend the proceeds of certain debt issuances before they are potentially subject to interest-rate arbitrage penalties.

[5] Governments that contribute current revenues to capital projects are very unlikely to divert debt proceeds from those same capital projects. Consequently, such governments are likely to pass the Use of Borrowed Funds Ratio.

consistently run operating deficits of greater than five percent. For this purpose, Operating Deficit can be defined as:

Total Expenditures minus Total Revenues

**Total Expenditures**

The term "Total Expenditures" is used in conjunction with the test's Liquidity and Debt Service Ratios, as well as the Operating Deficit limit. Total Expenditures equal the sum of the following six items:

(The following items are reported on the CAFR's Combined Statement of Revenues, Expenditures and Changes in Fund Balances/Equity)

(1) "Total Expenditures" of the General Fund
(2) "Total Expenditures" of Special Revenue Funds
(3) "Total Expenditures" of the Debt Service Fund

(The following items are reported on the CAFR's Combined Statement of Revenues, Expenses and Changes in Retained Earnings/Fund Balances)

(4) "Total Operating Expenses Before Depreciation" of Enterprise Funds
(5) If negative, "Total Non-Operating Revenues (Net)" of Enterprise Funds
(6) If negative, "Total Non-Operating Revenues (Net)" of Internal Service Funds

For most CAFRs, this definition will appropriately include "routine" capital outlays (e.g., outlays for police vehicles, copier equipment)[6] that are accounted for in the General Fund and which are not usually distinguishable from non-capital expenditures for the same function. This definition will appropriately exclude "non-routine" capital outlays, which are generally accounted for in Capital Projects Funds.

It would not be inappropriate for local governments to subtract out from this total any capital outlays that were included above, if they are specifically identifiable based on the CAFR's Combined Statement of Revenues, Expenditures and Changes in Fund Balances/Equity. This

[6] Conceptually, "routine" capital outlays would be any capital outlays that are funded on a "pay-as-you-go" basis. "Non-routine" capital outlays would be any capital outlays that are financed through the proceeds of debt.

adjustment is unlikely to apply to the large majority of local governments. For the relatively few governments (quantity uncertain) that identify capital outlays in the General Fund,[7] however, the adjustment would make their Total Expenditures equivalent in meaning to other governments.

**Total Revenues**

Total Revenues are used in the calculation of a local government's operating deficit and its costs to be assured by the financial test. The sum of the following seven items comprise the appropriate definition of Total Revenues for use with the financial test:

(The following items are reported on the CAFR's Combined Statement of Revenues, Expenditures and Changes in Fund Balances/Equity)

(1) "Total Revenues" of the General Fund
(2) "Total Revenues" of Special Revenue Funds
(3) "Total Revenues" of the Debt Service Fund
(4) "Total Revenues" of Capital Projects Funds

(The following items are reported on the CAFR's Combined Statement of Revenues, Expenses and Changes in Retained Earnings/Fund Balances)

(5) "Total Operating Revenues" of Enterprise Funds
(6) If positive, "Total Non-Operating Revenues (Net)" of Enterprise Funds
(7) If positive, "Total Non-Operating Revenues (Net)" of Internal Service Funds

[7] This practice, while unusual, is generally in accordance with GAAP. It is not in accordance with GAAP only in certain cases where the outlays are funded by capital grants from other governments or by shared revenue.

## Issue 4. Reviewing Qualified Opinions from the Independent Certified Public Accountant

***Question: What circumstances would warrant the review (and possible acceptance) of qualified opinions from an independent certified public accountant?***

To pass the local government financial test, a government must prepare its year-end financial statements in accordance with generally accepted accounting principles for governments (GAAP), and must demonstrate this fact by including in its financial test documentation a copy of the independent certified accountant's (or appropriate State agency's) opinion of the government's audited financial statements. The test specifically disqualifies a local government from using the test if the government receives an adverse opinion, disclaimer of opinion, or other qualified opinion, with the following exception:

> "However, the Director of an approved State may evaluate qualified opinions on a case-by-case basis and allow use of the financial test in cases where the Director deems the qualification insufficient to warrant disallowance of the test."

As a result of this language, the State Director of each approved State must, at a minimum, decide whether s/he will consider making the case-by-case evaluations of qualified opinions that are allowed by the test. If case-by-case evaluations are to be made, States will also have to assess other specific issues that may arise during the evaluations. The following discussion is intended to help States begin to make these decisions. It is not intended to provide exhaustive guidance on every type of accountant's opinion that may arise.

To start, it is worth noting that the State Director is in no way required to evaluate qualified opinions on a case-by-case basis, or on any other basis. EPA wished to preserve this option, however, to allow reasonable flexibility to States with the inclination and expertise to use it for the benefit of local governments in their States. In the absence of such evaluations, only unqualified opinions will be acceptable for purposes of the local government financial test.

Disallowing all qualified opinions has at least two advantages, however. First, because compliance with GAAP signifies a substantial degree of financial sophistication on the part of local governments, disallowing all qualified opinions would add greater assurance that governments using the test can appropriately manage the assured landfill costs. Second, disallowing all qualified opinions would eliminate the financial analysis and administrative burden associated with evaluating qualified opinions.

> *WHAT MIGHT AN INDEPENDENT AUDITOR SAY ABOUT LOCAL GOVERNMENT FINANCIAL STATEMENTS?*
>
> - ***Unqualified or "clean" opinions*** express no doubts. An unqualified opinion states that the government's financial condition is presented in accordance with generally accepted accounting principles for governments (GAAP). The vast majority of opinions are of this type, and are acceptable for purposes of the financial test.
>
> - ***Adverse opinions*** expresses the belief that financial statements are not presented fairly and in accordance with GAAP. Adverse opinions are unacceptable for purposes of the financial test.
>
> - ***Disclaimers of opinion*** state that the accountant does not express an opinion. Disclaimers are also unacceptable for purposes of the financial test.
>
> - ***Qualified opinions*** encompass all other opinions that are not unqualified.

If the State Director elects to evaluate qualified opinions on a case-by-case basis, s/he may wish to undertake the following steps:

- Require a written explanation from the owner/operator as to why the qualified opinion should not be grounds for disqualification.

- Review the financial statements and determine if the part of the statements giving rise to the qualified opinion has any bearing on the government's ability to pass the financial test.

The types of qualified opinions that might be encountered are virtually limitless. Two types of traditional qualifications may be most feasible to evaluate. The first one involves some matter such as an unresolved lawsuit, or a violation of a debt agreement with a creditor.

Although legal proceedings against governments are extremely uncommon, it is by no means routine for the accountant to qualify the opinion based on an unresolved lawsuit. It should be possible, by assuming a worst-case outcome for the government, to evaluate the potential effect of any resulting judgment on the local government's financial condition. If the government would not be able to pass the financial test based on the outcome, use of the financial test should be rejected.

Another type of qualified opinion that may be feasible to evaluate is the "except for" opinion. These opinions, which sometimes (but not always) include the words "except for," indicate that the financial statements fairly present the government's financial condition in accordance with GAAP *except for* certain items. It should be possible to determine whether the "excepted items" are relevant to the test. If they are not relevant to the data used in the test, it may make the opinion relatively more acceptable. If the items do affect figures used in the test (e.g., total revenues), then additional analysis would be necessary. Specifically, analysis would be needed to determine whether the government would be able to pass the test if its financial data were adjusted to correct the nonconformance with GAAP. If it would not pass the test based on the adjusted date, use of the financial test should be rejected.

As discussed above, care should be taken to accept qualified opinions only for governments that can clearly show they would still pass the financial test even if their financial statements were adjusted to correct for the accountant's qualification. In the absence of a clean opinion from the independent certified accountant, however, it will be up to the State Director to decide whether the government's argument should be trusted.

## Issue 5. Auditor's Special Report

*Question: What circumstances would warrant the review (and possible acceptance) of qualified opinions from an independent certified public accountant?Question: What is the auditor's special report and how must it be prepared?*

The local government financial test requires local governments to obtain a special report from an independent certified public accountant or State agency in order to ensure the accuracy of the financial test demonstration included in the letter from the chief financial officer (CFO). In the special report, the accountant or State agency must state that it has compared the data in the CFO letter to the data in the local government's audited financial statements for the most recently completed fiscal year, and found that the data used in the CFO letter were taken directly, or appropriately derived, from the audited financial statements.

The auditor's special report in the local government financial test must be conducted using an *agreed-upon procedures engagement.* Under an agreed-upon procedures engagement, the auditor simply carries out procedures specified by another party. The party that specifies the procedures takes responsibility for their adequacy and for the level of assurance the procedures provide. The success of a meaningful agreed-upon procedures engagement critically depends on both the specification of the particular procedures that the auditor must follow and the extent to which the parties involved have a clear understanding of these procedures.

In conducting an agreed-upon procedures engagement, the auditor does not express an opinion. Instead, the auditor states what procedures were performed, what the findings were, and leaves any judgments to the reader. For example, the auditor might compare two sets of numbers, and state that the auditor "found them to be in agreement."[8]

[8] In contrast, in a *review-level engagement*, the auditor always states findings in the form of negative assurance (e.g., "Nothing came to our attention to indicate..."). Accountants have been gradually phasing out the use of this type of engagement due to the confusion that users of reports may have with that level of assurance. Given this trend, EPA believes that use of the review-level engagement would not be appropriate for the local government financial test.

For purposes of the local government financial test, the special report should state that the auditor conducted the following agreed-upon procedures:

- Conducted a comparison between

  - the data and statements contained in the CFO letter

  and

  - the data and statements contained in the local government's audited financial statements for the most recently completed fiscal year.

- Found that the data and statements presented in the CFO letter were taken directly, or appropriately derived, from the corresponding data in the audited financial statements.

- Recomputed totals and percentages used in calculating the conditions of the test (optional).[9]

These procedures should apply to *all* data and statements contained in the CFO letter that the auditor is able to evaluate using the audited financial statements. Specifically, the procedures should apply to the following: (1) data used to calculate costs assured by the test (i.e., under 40 CFR 258.74(f)(4)); (2) data used to meet the test's ratio requirements (if applicable); (3) statements confirming that the local government did not operate at a deficit equal to five percent or more of total annual revenue in each of the past two years; (4) statements confirming that the financial statements were prepared in conformity with Generally Accepted Accounting Principles for governments; (5) statements confirming that the financial statements were audited by an independent certified public accountant or appropriate State agency; and (6) statements confirming that the local government's audited financial statements did not receive an adverse opinion, disclaimer of opinion, or other qualified opinion from the auditor or State agency.

[9] If the auditor does not recompute totals and percentages, the State should do so as part of its standard review of local government financial test filings.

## Issue 6. The Public Notice Component

***Question: How does a local government comply with the test's public notice component?***

The public notice component requires local governments using the test to place information on the amount and timing of anticipated closure, post-closure care, and corrective action costs into the local government's Comprehensive Annual Financial Report (CAFR) or budget. *As a consequence of the implementation of Government Accounting Standards Board Statement Number 18, local governments that prepare their financial statements in compliance with generally accepted accounting principles for governments (a separate test requirement, as discussed in Issue 2) will* ***automatically*** *comply with the test's public notice component as it applies to the costs of closure and post-closure care.*

The public notice component will *not* automatically be satisfied for the costs of corrective action, however. Local governments using the financial test to assure corrective action costs must ensure that the following information is referenced in the local government's CAFR or budget:[10]

- The nature and source of the regulatory requirement (e.g., state regulations);
- The amount of the liability reported on the local government's balance sheet as of the balance sheet date;
- The estimated costs remaining to be recognized on the balance sheet;
- The percentage of landfill capacity used to date; and
- The estimated remaining landfill life in years.

In the first year that a local government uses the financial test to assure costs at a particular landfill, it may be unable to include a reference in either the CAFR or budget for timing reasons. In this case,

[10] The option of referencing costs in the budget (as a budgeted line item) would be appropriate only for costs expected to be incurred in the period covered by the budget.

the government may satisfy the public notice component in the first year by placing a letter with the required information in the particular facility's operating record.

# Issue 7. Acceptability of Ratings on Different Types of Local Government Debt

*Question: Why did EPA base the bond rating component of the financial test solely on general obligation debt?*

For local government owners and operators with certain types of rated debt, the debt ratings can play an important or even decisive role in the local government financial test:

- Governments with any inadequate ratings (those less than investment grade) are automatically disqualified from using the financial test.
- Governments with investment grade ratings pass a significant portion of the financial component of the test.

In making these determinations, however, the test specifically accepts ratings only on certain types of local government debt, namely, "outstanding, rated, general obligation bonds that are not secured by insurance, a letter of credit, or another type of collateral or guarantee." Ratings on other types of debt, including revenue bonds, are not acceptable for purposes of the test regardless of the rating on such debt. Governments that do not have rated, unsecured, general obligation debt outstanding are not precluded from using the financial test, but must meet ratio requirements as a substitute for the bond rating requirement. The following discussion presents additional detail on the major types of debt issued by local governments, and on the implication of the debt type on ratings issued by debt rating services. The discussion is based primarily on materials published by Moody's and Standard & Poor's,[11] and is intended to assist States in understanding, implementing, and enforcing the bond rating provisions of the local government financial test.

Local governments issue numerous types of debt in their borrowing practices, including general obligation ("G.O.") bonds, revenue bonds, and many other types of debt. The biggest difference between the various types of debt is the kind of security being offered to investors regarding repayment. Because of such differences, rating

[11] An Issuer's Guide to the Rating Process, Moody's Investors Services, 1993; Municipal Finance Criteria, Standard & Poor's. 1994.

agencies apply different sets of evaluative criteria when rating different kinds of local government debt. Two primary distinctions, however, are of special interest for purposes of the local government financial test:

- Is the overall financial condition of the issuer the key factor in the rating process?

- If so, what is the time period over which the issuer's financial condition is evaluated?

The second distinction is the quicker one to address. The objective of every debt rating is to classify the credit risk associated with a given debt issue. In other words, rating agencies are trying to evaluate whether a particular bond is likely to be repaid. Consequently, the timeframe considered always encompasses the specific period for which the rated debt will be outstanding. Issuers of one-year notes, therefore, will be evaluated on a more short-term basis, while issuers of 20-year bonds will be examined on a longer-term basis.

For purposes of a financial test, this timing issue could be viewed in one of two ways. Long-term financial evaluations could be considered more useful than short-term evaluations because long-term assessments look for a broader array of potential problems. EPA's policy decisions regarding the corporate financial test have generally been consistent with this viewpoint.[12] An alternate position, however, could be to allow use of ratings on shorter-term securities given that the financial test is valid for only one year at a time. Because an alternative mechanism can be substituted for the financial test in any year, even a one-year time horizon may be sufficient.

The remainder of this section addresses the issue of whether, for different types of debt, the overall financial condition of the issuer is the key factor in the rating process. This is clearly the case for *general obligation bonds* and *general obligation notes*, which are tax-backed bonds pledging a local government's full faith and credit. It is usually not the case, however for the different types of *revenue bonds* and *structured financings* used by governments, even though the issuer's financial health may be one factor in the rating process.

[12] For example, EPA has not allowed use of ratings on short-term commercial paper to satisfy the bond rating requirement of the corporate financial test.

**Revenue Bonds**

*Revenue bonds* are repaid through specific user fees or dedicated taxes. Typically these revenues (e.g., tolls, tipping fees) are earned by the operation of the project financed by the debt issuance. The issuing government is usually under no obligation to contribute any revenues toward debt repayment except as specified by the bond. Therefore, as opposed to the government as a whole, the financial health of the particular project is frequently the focus of the credit evaluation process because bonds are less likely to be repaid if the project does not succeed. However, the bondholder's security interest in the revenue stream is also an important consideration. For example, if payment of debt service is the highest priority use of a project's revenue stream, the revenue bond rating may be relatively high even though project revenues may be less than anticipated.

Revenue bonds also encompass the following types of debt:

- *Solid waste project financings* are used to fund a single solid waste facility or project. *Solid waste system financings* are undertaken issued to fund the overall solid waste operations of a government's population. These debt issuances are a special form of revenue bonds, and involve the same considerations as revenue bonds.

- *Industrial development bonds (IDBs)* are issued by a government on behalf of one or more private businesses. Typically, the funds generated are used to create a loan pool for encouraging business development. Loans are made to businesses, and loan repayments provide the funds for debt service. IDB pools are given high ratings if the portfolio projects are large in number, diverse, and of reasonable quality.

**Structured Finance**

*Structured finance debt* is guaranteed by a third party credit or liquidity provider. Ratings are based primarily on the creditworthiness of the guarantor rather than the seller of the bonds. Categories of structured debt include the following:

- *Collateralized debt* is backed by some form of collateral to be used to cover obligations if the issuer defaults. Ratings may reflect the security provided by the collateral, rather than the financial condition of the issuer.

- *Defeased or refunded bonds* are bond issues for which money has been set aside for repayment, even though the debt may remain outstanding. The money that has been set aside to repay the obligations is the focus of the rating process. For example, as part of the rating process, rating agencies confirm that funds have been transferred to an escrow account, and then evaluate the escrow agreement governing the funds.

- *Insured bonds* are guaranteed by an insurance policy. Ratings are not based on an evaluation of the issuing local government, but rather on an evaluation of the applicable bond insurance company. Insured bonds are automatically assigned the rating (typically triple-A) applicable to the relevant insurer. Bond insurance companies, however, evaluate the financial condition of the issuers they insure and avoid issuing policies to governments that are not creditworthy. Consequently, the presence of bond insurance may indicate that the issuing local government is in sound financial condition. Ratings on insured bonds do not fluctuate, however, as the financial condition of the issuer changes. If an issuer's financial condition deteriorates, the rating on its insured bonds remains constant.

- *Letter of credit ("LOC") backed bonds* are guaranteed by a bank letter of credit to make debt service payments in the case of default, and are rated solely according to (1) the financial health of the bank issuing the letter of credit, and (2) the terms of the credit itself.

- *Variable-rate demand obligations (VRDOs)*, as their name suggests, are debt instruments that pay a variable interest rates. VRDO holders have the option of selling their holdings whenever the security's interest rate changes. VRDOs are backed by letters of credit or standby bond purchase agreements to ensure that debt service can be paid if the bondholders opt to sell back their investments.

- *Public credit enhancements* are a form of debt service support available to some local governments through their respective States. These enhancements vary in their strength, but ensure that participating governments receive at least a minimum rating (typically A or double-A). The legal strength of the enhancement and the State's ability and willingness to cover the issuer's obligations are the most important factors in the debt rating process. As of 1994, fifteen States offered minimum rating programs for their local governments, including the following:[13] California, Colorado, Georgia, Indiana, Kentucky, Michigan, Minnesota, New Jersey, New York, Pennsylvania, South Carolina, South Dakota, Texas, Virginia, and West Virginia. These enhancement programs vary in their strength, ranging from a State diversion of an issuer's State aid entitlement (e.g., funds for education, or revenues from motor vehicle license fees) to State insurance or guarantees which use State funds as collateral.

[13] Municipal Finance Criteria, Standard & Poor's, 1994, page 26.

## Issue 8. Acceptability of Ratings from Different Municipal Bond Rating Services

*Question: Did EPA consider allowing ratings from other municipal bond rating services to be used to pass the financial test?*

The local government financial test automatically disqualifies governments from using the test if they have any outstanding general obligation bonds rated less than investment grade. Governments with investment grade ratings, in contrast, pass a significant portion of the test's financial component. The test states the following threshold for making this classification:

> "...must have a current ration of Aaa, Aa, A, or Baa, as issued by Moody's, or AAA, AA, A, or BBB, as issued by Standard & Poor's....

Thus, the test recognizes only those bond ratings issued by the two largest bond rating services in the U.S. (Moody's and Standard & Poor's). To help approved States consider whether the test should recognize ratings issued by services other than Moody's and Standard & Poor's, the following discussion presents background information on major debt rating services.

EPA identified four organizations that issue credit evaluations on debt issued by local governments (i.e., municipal bond ratings):[14]

- Moody's Investors Service;
- Standard & Poor's;
- Fitch Investors Service; and
- Duff & Phelps Credit Rating Company.

In summary, EPA found that each of these four services assign their ratings in very similar fashions. Each relies on the same type of quantitative and qualitative criteria in assessing a local government's credit risk, including financial management practices (e.g., deficit spending, liquidity, debt management), debt burden, and the economic

[14] Although each of the four rating services also evaluates corporate bonds, this discussion addresses only the municipal bond rating practice of each service.

base (e.g., demographic trends, wealth and income of population).[15] Each conducts periodic reviews of rated entities, including review of annual financial reports, and monitors current events to determine potential impacts on outstanding ratings. Finally, each employs a straightforward rating system that could be used to support the local government financial test's bond rating criterion and "investment grade" threshold.

The primary difference between the four services may be their sizes. In terms of the number of bonds rated, Standard & Poor's and Moody's are significantly larger than are Fitch and Duff & Phelps. For example, Moody's maintains 40,000 ratings affecting 20,000 issuers, and claims to assign ratings to over 90 percent of all long-term municipal debt issued annually. Standard & Poor's rates approximately 13,000 issuers. In contrast, Fitch has approximately 5,000 ratings outstanding, and Duff & Phelps has approximately 700 ratings outstanding.[16] The size of the rating services is reflected in the level of name recognition that each has earned with the general public.

The remainder of this section describes the basic rating process and rating classification scheme used by each of the four rating services.

**Moody's Investors Service**

Moody's Investors Services (Moody's) is a subsidiary of publicly-owned Dun & Bradstreet Corporation. The public finance department of Moody's maintains 40,000 ratings on the short- and long-term obligations of approximately 20,000 issuers. Moody's claims to assign ratings to over 90 percent of all long-term municipal debt issued annually. Municipal debt is rated by request and for fees ranging from $3,000 to $125,000, depending on the type of bond. Ratings typically take two to four weeks to complete.

Moody's rates debt using the following rating categories: Aaa, Aa, A, Baa, Ba, B, Caa, Ca, and C. Ratings ranging from Aaa through Baa, inclusive, are intended to indicate investment grade status. Rating of Ba and below indicate that the rated debt is of speculative quality.

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[15] The precise methodologies used by each service rating service are considered proprietary. However, each rating service readily provides general information on the types of information that local governments must submit to obtain a rating, and the types of factors evaluated to determine a rating.

[16] Because a single government entity may have ratings on multiple bond issuances, the number of bond ratings maintained by a rating service will exceed the number of entities rated.

Regular rating reviews are an essential part of Moody's debt rating process. Reviews may be triggered by, for example, a sale of new debt by the issuer, by current events, or by the passage of time. Updated versions of any documents originally submitted to Moody's should be provided on an annual basis. In addition, Moody's typically contacts issuers to discuss any developments that may have an impact on a debt's rating. If updated information cannot be obtained, Moody's may withdraw its credit rating.

As a starting point in its credit evaluation, Moody's requires a standard set of materials from an issuer. Different forms of debt may require additional information pertinent to understanding the issue under review. Moody's notifies an issuer of any additional information needed to assign its credit rating. The standard set of documents is as follows:

- Preliminary official statement;
- Audits of annual financial reports for at least the last three fiscal years;
- Most recent budget for operations;
- Capital budget or other planning document;
- Bond counsel opinion addressing the debt's legal status; and
- All legal documents relating to the security for the debt.

Moody's reviews this information as well as data found in Moody's historical files and computerized public finance database. This database contains a wide range of demographic, financial, and labor market data about localities throughout the United States. Moody's compares the issuer's financial information to Moody's established medians of performance for a variety of financial, operating, and debt statistics. These data are updated annually.

Moody's often meets with the issuer to discuss issues related to the evaluation. This is most common for a company requesting its first rating from Moody's or in the event of significant changes in an issuer's underlying credit factors. Large or complex debt issues may also require meetings with the issuer.

After completing his/her analysis, the analyst turns the recommendation over to a senior staff member for review. The recommendation is then reviewed by a departmental rating committee. When a rating decision is reached, Moody's first informs the issuer before disseminating the rating to the public through a variety of electronic and print media. If the issuer is not satisfied with Moody's rating decision at any point in the rating process, the issuer may appeal the rating and provide additional information supporting its contention. The departmental rating committee will take this additional information under advisement in making a final determination of the debt issue's credit rating.

**Standard & Poor's**

Standard & Poor's (S&P) is a wholly-owned subsidiary of McGraw-Hill, Inc. Company literature states that "in matters of credit analysis and ratings, S&P operates entirely independent of McGraw-Hill." S&P provides published ratings and surveillance for approximately 13,000 municipal, national, and supranational entities. S&P also issues preliminary ratings for debt issues before they are publicly sold. These ratings differ from published ratings because they apply only on their date of issue. S&P can evaluate an issue's rating potential by providing credit opinions as well. S&P provides, upon request, ratings for virtually all types of issues, including both long- and short-term issues and general obligation and revenue bonds. Fees for municipal bond ratings range from $2,500 to $65,000.

S&P's rates debt using the following rating categories: AAA, AA, A, BBB, BB, B, CCC, CC, and C, CI, and D. Ratings ranging from AAA through BBB, inclusive, are intended to indicate investment grade status. Rating of Ba and below indicate that the rated debt is of speculative quality. Within each rating category, a plus or minus may also be used to further delineate the grade of the debt issuance.

All ratings are subject to an annual financial review of financial statements and questionnaires completed by the issuer. Comprehensive reviews, which also consider management and economic factors, are performed annually for any rating with an outlook other than stable, and as needed for other ratings based on the annual financial review. Comprehensive reviews occur at least every three years, and may also be performed in the event of disasters, restrictive legislative initiatives, or other events.

S&P's debt rating process begins with the debt issuer requesting a rating and submitting a rating form and necessary financial documentation. This information is reviewed along with material from S&P's library, internal files, and databases. Any unresolved questions or concerns are then addressed at a meeting with the issuer. After this meeting, an analyst prepares a rating profile for review by S&P's rating committee. The rating committee decides on the issue's rating and notifies the issuer. If the issuer concurs with the rating, it is released to the public. If there is a disagreement, however, the issuer may submit further information which the rating committee will take into account before assigning a final rating. The entire rating process takes about one month to complete, although this will vary depending on how familiar S&P is with the issuer.

S&P reviews a considerable amount of quantitative and qualitative information in determining an issuer's rating, including the following:

- Last three annual audit reports;
- Current budget document;
- Current capital improvement program;
- Official statements for new financing;
- Planning document;
- Zoning or land-use map;
- Cash flow statement, in case of interim borrowing;
- Statement of long- and short-term debt, with maturity dates;
- Indication of appropriate authority for debt issuance;
- Interest rate swap agreements;
- Statement concerning remaining borrowing capacity plus tax rate and levy capacity;
- Statement regarding sources and allocation of funds for project being financed;
- Description of project being financed;
- Source of any additional funds that may be required;
- Definition of security for the debt;
- Discussion of pending litigation that may affect issuer's fiscal condition; and
- Statement on status and funding of employee pension funds.

S&P reviews the issuer's accounting practices and notes any deviations from generally accepted accounting principles (GAAP). The issuer's property valuation and assessment procedures, along with the priority of the issue's tax status relative to other indebtedness, are also noted. Finally, S&P considers a local government's management structure and expertise, and the level of community support during the rating process.

Bond ratings remain in effect as long as current information is provided or until new debt is issued. Necessary information for annual financial reviews includes: annual financial reports and budgets; capital planning, zoning, or land use changes; changes in major taxpayers and Federal or State aid programs.

**Fitch Investors Service**

Fitch Investors Service (Fitch), a partnership, presently has approximately 5,000 ratings outstanding for uninsured issues (approximate value of $4 billion). All of these ratings have been provided at the request of the issuer for fees ranging from $1,000 to $750,000.

Fitch rates debt using the following rating categories: AAA, AA, A, BBB, BB, B, CCC, CC, C, CI, and D. Ratings ranging from AAA through BBB, inclusive, are intended to indicate investment grade status. Ratings of BB and below indicate that the rated debt is of speculative quality. Within each rating category, a plus or minus may also be used to further delineate the grade of the debt issuance.

Fitch's ratings are reviewed at least once each year to ensure that they remain accurate and updated. Many of Fitch's ratings are for frequent issuers (i.e., local governments that issue debt at least once per year). In these cases, Fitch reviews the entity's existing ratings during the process of assigning ratings for the new issue. The document review involved in updating a rating is very similar to that undertaken in assigning an initial rating, except that meetings with local government representatives are not likely to be required.

Fitch considers many financial and economic factors in issuing ratings, as well as the characteristics of the rated debt issue:

- Annual financial statements;
- Cash position and flexibility;
- Debt level relative to property tax base;
- Property tax rate relative to statutory limits;
- Provisions for contingencies;
- Diversity of major employers;
- Status of community infrastructure;
- Age and income level of residents;
- Demographic characteristics, including population trends;
- Financial condition of the State in which the community is located;
- Geographic issues (e.g., proximity to international borders).

Other issues of importance to Fitch include the capital plan, the security pledge for the debt issue, and the anticipated demand for the project (in the case of revenue bonds). Labor costs and general labor relations are reviewed, as is any pending litigation against the government. Finally, Fitch considers the local government's history in obtaining voter support for general obligation authorizations.

**Duff & Phelps Credit Rating Company**

Privately-owned Duff & Phelps Credit Rating Company (Duff & Phelps) launched its public finance group approximately one year ago. The company states that it operates independently of Duff & Phelps Investment Management, which was formerly its corporate parent. The group will rate virtually any municipal debt including short- or long-term general obligation bonds and revenue bonds. The group currently provides ratings for approximately 700 government bond issues. The large majority of these issues are industrial development bonds (IDBs), many of which are in the electric utility sector. Duff & Phelps has also rated Asset Guaranty Insurance Company (a bond insurer) and thus analyzes some one hundred bonds insured by that company. Duff & Phelps' bond rating process takes from one week to one month, depending on the complexity of the issue. Credit ratings are assigned only at the request of the issuer, and fees range from $3,000 to $50,000.

Duff & Phelps rates debt using the following rating categories: AAA, AA, A, BBB, BB, B, CCC, DD, and DP. Ratings ranging from AAA through BBB, inclusive, are intended to indicate investment grade status. Rating of BB and below indicate that the rated debt is of speculative quality. Within a rating category, a plus or minus may also be used to further delineate the grade of the debt issuance.

Bond ratings are updated at least annually. Utilities that produce financial statements more than once per year are updated more frequently. Rating updates do not involve the level of detail expended for an initial rating. Rather, the issue's financial statements are reviewed to ensure that the rating continues to reflect the issuer's financial condition.

Duff & Phelps' documentation requirements cover a wide range of financial information as well as more qualitative materials. In addition to a detailed description of the purpose of the project and the plan for its financing, Duff & Phelps requests the following information, as applicable:

- Preliminary offering statement;
- Final offering statement;
- Five years of financial statements;
- Current year budget for the issuer, guarantor, and/or obligator;
- Financial reports for all underlying corporate obligors;
- All legal opinions and authorizing ordinances;
- Collateral pledge agreement and/or security agreement;
- Engineering study and/or feasibility report;

- Guaranteed investment contract and/or investment agreement;
- Guaranty agreement;
- Letter of credit, liquidity, line of credit, or standby bond purchase agreements;
- Loan agreement/lease agreement;
- Trust indenture or resolution;
- Reimbursement and remarketing agreements;
- Tax regulatory agreement; and
- Underwriting agreement.

In conjunction with the review of this documentation, the Duff & Phelps Rating Committee may require a meeting with local government personnel to discuss further information not easily gleaned from the materials provided.

## Issue 9. Bond Insurance

*Question: Under what circumstances do insured bonds serve as credible indicators of financial strength?*

Over one third of the debt issued by local governments is insured by a bond insurance company. As originally proposed, the local government financial test would have accepted bond ratings on insured bonds. As promulgated, however, the test accepts bond ratings only on "outstanding, rated, general obligation bonds that are not secured by insurance, a letter of credit, or another type of collateral or guarantee." This change in policy is based partly on research conducted in response to comments received on the proposed test, and partly on heightened concerns about bond ratings given recent current events (e.g., in Orange County, California, and in Washington, D.C.). While EPA continues to believe that ratings on insured bonds are valid indicators of local government financial health at the time the bonds are issued, EPA now believes that ratings on insured bonds may not be appropriate to use in a self-implementing financial test. For States that wish to modify the financial test, however, the acceptance of ratings on insured bonds may be appropriate under certain conditions.

This section addresses three topics that States should consider before modifying the local government financial test to accept ratings on insured bonds. First, the section reviews how bond insurance works, and examines what its implications are for purposes of a local government financial test. Second, it considers how bond insurers are evaluated by bond rating agencies. Finally, it identifies and compares the major municipal bond insurance companies.

**Bond Insurance and its Implications for the Financial Test**

Bond rating agencies, such as Moody's, Standard & Poor's, Fitch, and Duff & Phelps, do assign ratings to insured debt issued by local governments. These ratings are not based on an evaluation of the issuing local government, however, but rather on an evaluation of the applicable bond insurance company. Insured bonds are automatically assigned the rating (typically triple-A) applicable to the relevant insurer. This fact, in the absence of further information, would render ratings on insured bonds meaningless for purposes of a local government financial test. EPA's research, however, found that bond insurance companies evaluate the financial condition of the issuers they insure, and that the insurance companies avoid issuing policies to governments that are not creditworthy. Consequently, the presence of bond insurance (and the triple-A rating that accompanies it) indicates that the issuing local government is in sound financial condition. In fact, almost all insured

*HOW BOND INSURANCE WORKS*

Bond insurance provides a guarantee of payment of principal and interest in accordance with a bond issue's original payment schedule. Insurance is purchased at the time of bond issuance and remains in effect for as long as the bonds are outstanding. Based on the insurance, bond rating agencies such as Moody's and Standard and Poor's automatically assign the insured bonds a rating (typically triple-A) identical to that of the insurance company providing the guarantee. Rating agencies do not directly consider the creditworthiness of the issuer when assigning ratings on insured bonds. (The issuer's creditworthiness is, however, the focus of the bond insurer's underwriting process, as described elsewhere in this section.)

Investors in insured bonds receive the added security of a third-party guarantee (i.e., from the insurance company) of repayment. The bond issuer benefits by receiving a rating that may be higher, along with interest costs that are lower, than the issuer would receive based on its own financial condition. Insured bonds also gain in marketability as a result of their reduced risk. Largely for these reasons, the use of municipal bond insurance has grown steadily over the past fifteen years. Over one-third of the municipal debt issued in 1994 was insured.

municipal debt would receive an investment grade rating (i.e., Baa/BBB or higher) without insurance. For example, approximately 99 percent of the debt issued by the three largest municipal bond insurance companies would, in the absence of insurance, be rated as investment grade.

Even though it is very likely that governments with insured bonds have the financial health needed to pass the financial test in the year in which the insurance was issued, EPA believes that ratings on insured bonds may not be appropriate to use in a self-implementing financial test. The reason for this is that ratings on insured bonds, in contrast to ratings on uninsured bonds, do not fluctuate as the financial condition of the issuer changes. Even if an issuer's financial condition deteriorates, the rating on its insured bonds remains constant. Without the signal provided by a changing bond rating, the self-implementing financial test promulgated by EPA would be unable to identify local governments that should no longer be allowed to use the test.[17]

[17] It is true that bond insurers monitor the financial condition of issuers for as long as insured bonds are outstanding. If this surveillance causes the insurer to believe that an issuer may be in jeopardy of defaulting on insured debt payments, the insurer may advise the issuer of ways to improve its financial condition and avoid default. For certain bond issuances, the insurer may have the right to intervene in the management of the issuer. In the case of general obligation debt, however, the ability

> ***Bond Insurance for Structured Financings***
>
> Bond insurance can be obtained for structured financings. Structured bonds are secured at least in part by some type of collateral (e.g., a letter of credit) or guarantee. The underwriting process that insurers use for this type of bond may assess only the security of the collateral, and not the financial condition of the issuer. Consequently, it would probably not be appropriate for purposes of the local government financial test to accept ratings on structured issues.

Approved States may not necessarily face this same constraint, however, and could modify the test to accept ratings on insured bonds if appropriate for governments in the State. For example, States may wish to allow use of ratings on insured bonds for the one year in which the insurance was obtained; this modification might assist local governments to pass the test on a short-term or stop-gap basis. More broadly, however, ratings on insured bonds could be permitted if the State has available some other indicator that can signal a government's financial decline. For example, States with financial reporting requirements for local governments may already monitor local government financial condition for other reasons. If so, a specified decline in a government's financial condition could be grounds for disallowing use of the test by the government. If insured bonds are allowed by the test in some context, it seems clear that their use should be limited to only those governments that do not have ratings on uninsured bonds; governments that have both insured and uninsured debt that is rated could be required to use the rating on the uninsured debt.

**How Bond Insurers are Evaluated by Bond Rating Agencies**

To earn and retain a triple-A rating, the top bond insurance companies must undergo regular and stringent evaluations by the bond rating agencies. Factors considered in rating bond insurers include the following:

- *Financial Condition.* Ratings agencies examine the insurer's financial performance, capitalization, and claims-paying abilities. Capital must be adequate to cover claims in the midst of a

to intervene is usually very limited.

significant economic downturn, such as the one experienced in the 1930s.[18]

- *Underwriting Methodology.* The underwriting process is expected to include a review of the issuer's financial statements and a meeting with representatives of the issuing government.

- *Current Portfolio of Bonds.* The rating agencies carefully evaluate the insurer's portfolio of bonds being insured to assess the percentage that would probably be of investment grade in the absence of the insurance. Significant levels of non-investment grade debt can result in the insurer's own rating being lowered.

- *Level of Surveillance.* Bond insurance companies should conduct ongoing surveillance of the issuers insured by the company. If, in the course of this surveillance of its policy holders, the bond insurer believes that the issuer is in jeopardy of defaulting on its debt payments, the insurer may meet with the issuer and provide advice on ways to improve the issuer's financial condition and avoid default. For certain bond issuances, the insurer may have the right to intervene in the management of the issuer. In the case of general obligation debt, however, the ability to intervene is usually very limited.[19]

Bond insurance policies typically require debt issuers to pay their premiums up front and in full. This provides bond insurance companies with a high level of investment capital. In order to ensure availability of funds for repayment, investment portfolios held by insurers are typically conservative.

[18] "Bond Insurance: Commentary, Analyses, Statistics," Standard & Poor's Credit Review, May 16, 1994, pp. 35-37.

[19] Telephone conversations with David Palmer, AMBAC, and Greg Diamond, MBIA, April 27, 1995.

## Major Bond Insurance Companies

Major bond insurers can be divided into two tiers based on market share. Three insurers account for ninety percent of the industry's business, and constitute the first tier:

- Municipal Bond Investors Assurance Corporation (MBIA);
- AMBAC Indemnity Corporation (AMBAC); and
- Financial Guaranty Insurance Company (FGIC).

Smaller, second tier, insurers include Capital Guaranty Corporation (CG), Financial Security Assurance, Inc. (FSA), College Construction Loan Insurance Association (Connie Lee), Capital Markets Assurance Corporation (CapMAC), and Asset Guaranty Insurance Company (AG). All of these firms carry triple-A ratings from at least one major bond rating agency. The specific ratings held by each of these companies can be found in the table below.[20]

**Comparison of Ratings Held By Major Bond Insurers**

| Ratings Held | Bond Insurance Companies | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | MBIA | AMBAC | FGIC | CG | FSA | Connie Lee | CapMAC | AG |
| S&P AAA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Moody's Aaa | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | |
| Fitch AAA | | ✓ | ✓ | | | | | |
| D&P AAA | | | | | | | ✓ | ✓ |

Source: 1994 Bond Insurance Company Comparison, Kemper Securities, Inc.

Nearly all of the debt issues insured by these companies would merit investment grade ratings even in the absence of any insurance. The following table presents statistics on the percentage of debt insured by each company that is believed to be investment grade:

[20] Two other bond insurance companies, Capital Reinsurance Company and Enhance Reinsurance Company, are not included because they provide reinsurance services rather than insuring new debt issues.

**Comparison of Insured Portfolios of Major Bond Insurers**

| | Bond Insurance Companies | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | MBIA | AMBAC | FGIC | CG | FSA | Connie Lee | CapMAC | AG |
| Percent of Portfolio That is Investment Grade | 98.7 | 99.3 | 99.2 | 96.5* | 98.4 | 98.9 | 100 | 84 |

Source: 1994 Bond Insurance Company Comparison, Kemper Securities, Inc.
* Literature from Capital Guaranty placed this figure at 99.7 percent.

The remainder of this section discusses the three "first tier" bond insurers in greater detail, as well as Capital Guaranty, which focuses primarily on municipal debt issues. Financial Security Assurance (which held 5.8 percent of the market in 1992) and Capital Markets Assurance Corporation (which held less than a one percent share in 1992) are not considered because of their focus on structured finance. College Construction Loan Insurance Association (one percent share in 1992) is not discussed because it focuses primarily on debt issued by colleges and universities. Asset Guaranty Insurance Company (less than one percent share in 1992) is predominantly a reinsurance company.

**Municipal Bond Investors Assurance Corporation (MBIA)**

Municipal Bond Investors Assurance Corporation (MBIA) holds triple-A ratings from both Moody's and Standard & Poor's. Over 98 percent of MBIA-insured bonds would earn investment-grade ratings (e.g., triple-B or better) in the absence of any insurance, according to Kemper Securities. A study conducted by Moody's found that 74 percent of MBIA's 27,000 insured issues would have been rated single-A or higher on their own merits. Strong performance on the ratings agencies' capital adequacy tests and a loss reserve of $34 million also helps maintain this rating status. MBIA's 1993 insured portfolio consists primarily of utilities and general obligation issues, 20.8 and 18.9 percent respectively. Health care issues come next at 13.5 percent of the portfolio, followed by asset-backed securities at 10.8 percent. The remainder of the portfolio is divided among corporate, special tax, COP/lease revenue, higher education, and other revenue issues.

MBIA has been the leading municipal bond insurer for the past twelve years. It held a 1993 market share of 41.1 percent. In 1993, MBIA earned $479 million in gross premiums, covering $49.8 billion in gross par written. Thirteen percent of all municipal debt issued in 1993 was insured by MBIA. The company is 87.6 percent publicly owned, with the remaining portion owned by three institutional investors.

MBIA's explicit underwriting criteria were not available. MBIA states, however, that each debt issue insured must be of investment grade quality, must support an essential project or vital community need, and must pass a comprehensive operating and financial analysis.

**AMBAC Indemnity Corporation (AMBAC)**

AMBAC, the municipal bond insurance industry's oldest member, holds triple-A ratings from Moody's, Standard & Poor's, and Fitch Investors Service. Over 99 percent of AMBAC-insured bonds would earn investment-grade ratings in the absence of any insurance. Seventy-seven percent of all issues insured by AMBAC would have received a stand-alone rating of single-A or higher.

AMBAC is publicly-owned, and has insured over 17,000 new issues. It holds a 22.9 percent market share, with $318 million in gross premiums written in 1993. Approximately one half of the company's insured portfolio consists of tax-backed bonds. Another quarter consists of utilities, and the remaining portion consists of health care and other revenue issues.

Debt issuers seeking insurance from AMBAC must submit the following information for review as part of the underwriting process:

- Preliminary official statement;
- Indenture;
- Resolution;
- Audited financial statements;
- Feasibility studies; and
- Any other applicable documents.

AMBAC also considers the issuer's financial position and credit history, any relevant administrative factors, and the long-term economic and financial outlook of the issuer. AMBAC's Credit Committee uses the results of this research (found in the underwriter's report) to make a decision regarding whether the debt issue should be insured and, if so, the premium rate that should be charged.

**Financial Guaranty Insurance Company (FGIC)**

Financial Guaranty Insurance Company (FGIC) holds triple-A ratings from Standard & Poor's, Moody's, and Fitch. Over 99 percent of FGIC-insured bonds would earn investment-grade ratings in the absence of any insurance. Sixty-eight percent of the gross par insured would, according to the company, be rated single-A or better in the absence of insurance. Insured debt issues are reviewed every one to four years, depending on the type of issue.

FGIC ranks third among bond insurers with 1993 gross bond premiums of $291 million and $27.9 billion in long-term bond par value. This represents 24.7 percent of the municipal bond insurance market. The company was formed in 1983 as a wholly owned subsidiary of General Electric Capital Corporation.

FGIC's underwriting criteria include close examinations of economic trends, debt and financial management, legal and administrative factors, and the adequacy of anticipated cash flows. Economic and demographic factors of importance include population, per capita income, unemployment rates, and general business activity in the community. FGIC also considers the local government's debt load, and questions the government regarding its plans for future capital expenditures. Underwriters also review the issue to ensure that its terms and conditions meet established legal parameters and account for the issuer's administrative climate. FGIC will not accept the risk involved with the moral obligation of a state, lease financing with abatement or construction risk, student loan program financings, or issues for health care facilities located in earthquake prone areas. This conservative approach has resulted in a loss ratio (losses incurred divided by earned premiums) of 8.6 percent for 1992.

**Capital Guaranty Corporation**

Capital Guaranty Corporation (Capital Guaranty) is one of the smaller municipal bond insurers, with only a two percent market share. In 1993, Capital Guaranty insured $2.1 billion of new issue municipal bonds and held claims-paying resources of $326 billion. The company is committed exclusively to municipal bond issues, however. It received a triple-A rating from Moody's in June 1993, to go along with its previously held triple-A rating from Standard & Poor's. Over 96 percent of Capital Guaranty-insured bonds would earn investment-grade ratings in the absence of any insurance.[21]

[21] Literature from Capital Guaranty placed this figure at 99.7 percent.

Capital Guaranty's insured portfolio is a diversified pool of municipal securities. General obligation issues are predominant, with 35.6 percent of the total. Special revenue bonds (20.1 percent) and utilities (17.6 percent) follow. The remainder of the portfolio consists of leases, health care financings, asset-backed securities, higher education bonds, and housing/structured issues. According to management at Capital Guaranty, specific underwriting criteria are very similar to the rating criteria employed by rating agencies.[22] Insured issuers are subject to ongoing surveillance, and are reviewed at least once a year.

Capital Guaranty holds the lowest capital charge (a risk-weighted percentage of average annual principal and interest) and risk to capital ratio (net exposure divided by qualified statutory capital) of any bond insurance company. In addition, Capital Guaranty maintains the industry's highest margin of safety, as measured by a ratio of resources for claims payments to losses incurred in a simulated depression test. These factors contributed to Capital Guaranty receiving the highest score of any insurer in a 1993 analysis by Kemper Securities Corp.

The company was incorporated in 1986 and is 83 percent publicly owned. The remaining 17 percent is held by three of the company's original five owners (Constellation Investments, Inc., SAFECO Corp., and Sibag Finance Corp.).

[22] Telephone conversation with Maury Cooper, Senior Vice President - Marketing, March 22, 1995.

## Issue 10. Financial Ratio Conditions

***Question: What additional financial ratios could be included in the test to enhance its strength as a predictor of financial health?***

The local government financial test specifies two financial ratios that governments using the test must meet if they do not have rated general obligation bonds. These ratios measure local government liquidity and debt service burden. Although EPA recognizes that other financial characteristics are also important to local government financial condition, it did not include other ratios in the test for a variety of reasons. Some of these reasons, however, may no longer apply for certain measures. For example, since EPA's development of the financial test, additional information has become available in the public finance literature that might indicate the usefulness of additional measures. Other reasons may not apply in individual States. For example, variation in a certain financial practices among governments in different States may preclude use of a measure or threshold on a national basis, even though the measure or threshold may be appropriate in many States.

States may find that other financial characteristics are of particular importance to local governments in their States. Because approved States are allowed to modify the local government financial test subject to certain restrictions (e.g., the resulting test must be at least as stringent as EPA's test), this section presents several financial characteristics and ratios that States may wish to consider adding to the local government financial test. The discussion addresses the following characteristics:

- Use of Borrowed Funds;
- Unreserved Fund Balance;
- Health of Pension System;
- Margin Available for Taxing, Spending, or Borrowing;

**Use of Borrowed Funds**

The Use of Borrowed Funds Ratio was included in the proposed local government financial test. EPA did not include the ratio in the final rule, however, for three reasons. First, many commenters on the proposed test were confused by the measure, which had been significantly mis-stated in the proposal. Second, the accounting definitions for the ratio's numerator and denominator were initially difficult to develop.[23] Third, EPA felt that another measure in the test (the operating deficit requirement) may capture some of the same information as the Use of Borrowed Funds Ratio.

Nevertheless, EPA believes that some States may find the ratio useful for evaluating local government financial practices in their States. The ratio addresses a government's financial health by examining its debt management practices. It is a common principle of public finance to match the "timing" of financing with the nature of expenditures. For example, it is generally considered most appropriate to pay for current operating costs from current revenue ("pay as you go" financing). In contrast, long-term debt may be appropriately used to finance projects with long-term benefits, such as construction of infrastructure or other capital stock. The Use of Borrowed Funds Ratio assesses the matching of sources and uses of borrowed funds to help evaluate a local government's debt management practices.

Private credit rating agencies also evaluate use of debt proceeds when establishing municipal credit ratings. For example, Standard & Poor's states that "long-term debt issued to finance daily operating expenditures, or to fund deficits, is viewed as a negative credit factor. While deficit financing may ease a financial crisis, it is not a cure for financial problems. These measures are stopgap, and only add to future financial burdens...."

The ratio requires the amount of a local government's long-term debt issued in the most recently-completed fiscal year divided by its capital expenditures for the same year to be less than or equal to 2.00:

*Long-Term Debt Issued / Capital Expenditures ≤ 2.00*

EPA selected a value of 2.00 as an appropriate threshold for this measure. Local governments pass the ratio unless their long-term debt issued in the current year is greater than or equal to twice the current year's capital expenditures, i.e., unless they use less than one-half of the proceeds of the debt issuances on capital expenditures. EPA based this threshold on a study that examined financial conditions of local

[23] EPA has now developed a specific definition for both the numerator and denominator of this ratio. These definitions are presented elsewhere in this document.

governments experiencing downgrading of their rated debt.[24] This study found that the average value for this ratio among downrated local governments was 2.31. In contrast, the average value for local governments that were not downgraded was virtually always less than 0.982 (values of less than 1.00 imply that local governments are funding only part of capital expenditures through long-term debt), and never exceeded 1.34. Local governments that fail this ratio and are forced to use debt proceeds for short-term purposes, such as meeting payrolls or other current operating expenses, may not be able to fund MSWLF closure, post-closure care, or corrective action without the use of another mechanism.

**Unreserved Fund Balance**

Fund balance is the difference between assets and liabilities in a governmental fund. For the general fund and other operating funds, fund balance is "the single most appropriate measure of the level of internal resources."[25] If a local government has a substantial fund balance, it typically has more flexibility and is better insulated from financial shocks associated with expenditure increases, revenue downturns, natural disasters, and other events.

Fund balance can be divided into two components: reserved fund balance and unreserved fund balance. Reserved fund balance is the portion of fund balance that, due to legal restrictions or the nature of particular assets, is not spendable or available for appropriation. Unreserved fund balance, on the other hand, is the portion that is available for spending or appropriation.[26] Of these two components, unreserved fund balance is more relevant to a local government's financial condition because it can be used to finance debt or any other obligations in the future. Thus, a local government with a strong

[24] EPA's research is discussed in more detail in "Background Document for Local Government Financial Test Proposed Under 40 CFR Part 258 Subpart G," U.S. Environmental Protection Agency, Office of Solid Waste, April 30, 1993.

[25] "The Relationship between Financial Reporting and the Measurement of Financial Condition," Robert Berne, Research Report, Governmental Accounting Standards Board, 1992.

[26] Unreserved fund balance can be "designated" to meet certain purposes. Such designations (or "earmarking"), although done on an official basis, do not render the resources unavailable for other purposes (i.e., the designated resources can still be appropriated and spent). Rather, the designation merely expresses an official preference to use the resources for a certain purpose.

unreserved fund balance can more easily avoid incurring added "costs" in the form of unnecessary borrowing and declining credit ratings.[27]

Adding an unreserved fund balance measure in the local government financial test could enhance the test by indicating the extent of a local government's financial "cushion." Several ratios involving unreserved fund balance have been considered in the public finance literature.[28] Based on these sources, EPA has determined that an appropriate ratio for a local government financial test would measure the fund balance of the general fund, as follows:

*Unreserved Fund Balance / Operating Expenditures* $\geq 0.05$

That is, the unreserved fund balance of the general fund must equal at least five percent of total operating expenditures of the general fund. EPA believes that this threshold will allow most local governments to pass while failing those with inadequate fund balance.

**Health of Pension System**

Pensions (along with other post-retirement benefits) represent a significant financial obligation held by local governments. Studies have found that crises in government pensions have often accompanied problems in broader governmental financial conditions.[29] Therefore, the financial health of a government's pension plans can serve as an important indicator of the local government's general financial condition. In particular, the extent of underfunding in a local government's pension system is an important financial factor because an underfunded pension system is likely to require higher future contributions than a system that is adequately funded. This, in turn, could impose a heavy burden on a local government with other long-term financial obligations, such as closure and post-closure care of a landfill.

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27. "An Elected Official's Guide to Fund Balance," Stephen J. Gauthier, Government Finance Officers Association, 1991.

28. For example, see: "The 10-Point Test of Financial Condition: Toward an Easy-to-Use Assessment Tool for Smaller Cities," Ken W. Brown, Government Finance Review, vol. 9, no. 6, December 1993; "An Elected Official's Guide to Fund Balance," Stephen J. Gauthier, Government Finance Officers Association, 1991; and "Proposed Financial Ratios for Use in Analysis of Municipal Annual Financial Reports," Karl M. Zehms, Government Accountants Journal, Fall 1991.

29. "The Relationship between Financial Reporting and the Measurement of Financial Condition," Robert Berne, Research Report, Governmental Accounting Standards Board, 1992; Bankruptcies, Defaults, And Other Local Government Financial Emergencies, Advisory Committee on Intergovernmental Relations, 1985.

One specific measure that is useful for assessing pension underfunding is the "Funded Ratio," which is the ratio of the current value of pension assets to the present value of pension benefits. A Funded Ratio of between zero and one indicates that a pension plan is partially funded, while a ratio of one or higher indicates that a plan is fully funded. Ideally, local governments using the test will have fully-funded pension systems. In this case, they would meet the following ratio:

*Pension System Assets / Pension System Liabilities* $\geq$ *1.0*

If this is threshold is considered to be overly conservative in a particular State, the State may also wish to consider adding a second ratio that would be applicable only to those governments that cannot meet the Funded Ratio. The "Pension Contribution Ratio" compares the amount of a government's pension payouts to its pension receipts for the most recently-completed fiscal year.

*Current Pension Benefits and Withdrawals / Current Pension Contributions and Receipts*

Governments with a Pension Contribution Ratio of 1.0 or higher are paying out at least as much on pension benefits as they take in. In other words, they are not in the current year making any contribution toward becoming a fully-funded pension system. Ratios of less than one on the Pension Contribution Ratio imply some net contribution toward making the system fully-funded. The lower the score on the ratio, the greater the relative contribution. EPA considered recommending a threshold of 50 percent for this ratio (i.e., $\leq$ 0.50), but believes that individual States are likely to be in a far better position to establish an appropriate threshold, based on the State's current economic condition and on the past financial practices of its local governments. States may also wish to revise the form of this second pension ratio, which does not indicate the magnitude of the pension contribution in absolute dollars or relative to the total unfunded liability.

**Margin Available for Taxing, Spending, or Borrowing**

In many States, local governments are subject to legal limitations on taxing and spending, to statutorily-mandated procedures for issuing bonds or otherwise incurring debt, and to legislatively-mandated designations of funds. For example, 41 States impose limits on local government property taxes (which account for the greatest portion of local government revenue after State aid). Limitations on debt are also common, with 43 States having constitutional or statutory limitations on the amount of debt local governments can incur. Such limitations range from 2 to 30 percent of locally assessed property value. Expenditure limitations are less common, although five States impose general expenditure limits on their local governments. Taken together, these constraints could limit the ability of local governments to raise funds for closure, post-closure care, and corrective action activities in a timely manner.

Local governments that are substantially below such State-specified limitations will have greater financial flexibility in the future than will governments that are already close to the limitations. Consequently, States may wish to consider developing measures of the marginal capacity of local governments to tax, borrow, or spend. Due to the variation in limitations of different States, however, it would be difficult for EPA to develop such measures.

## Issue 11. Anticipating Inflation

*Question: Should an adjustment for inflation be included in the calculation of the level of liabilities covered by the test?*

Some commenters on the proposed local government financial test suggested that owners and operators using a financial test should be required to pass the test for an amount greater than the amount of the current cost estimate for closure/post-closure care. These commenters felt that EPA should require a coverage ratio of, say 1.15, to apply to all costs that are to be assured using the test. For example, an entity with a $1,000,000 obligation at the end of its fiscal year would be permitted to use the financial test only if it could pass for $1,150,000. This 15 percent "safety margin" would guard against inflation and other factors that could increase the amounts assured in the coming year. The commenters felt that without this safety margin, the financial test looks back in time to a cost estimate that is likely to be out of date.

EPA did not modify the local government financial test based on these comments because the comments apply just as well to other financial assurance mechanisms as to the local government financial test. Under EPA's Subtitle D financial assurance requirements, owners and operators must demonstrate financial assurance in the amount of the most recent closure/post-closure cost estimate. This is true for the local government financial test, the corporate financial test, and other allowable mechanisms (e.g., letters of credit, surety bonds).

EPA recognizes, however, that States may view financial tests differently than they view other mechanisms that ensure some type of funding source or guarantee. For example, EPA is aware that not all States allow use of the corporate financial test by RCRA Subtitle C hazardous waste management facilities. EPA believes that the addition of a moderate "safety margin," such as that described above, may be a reasonable action for approved States that are apprehensive about using the test or that would prefer the addition of further safeguards.

States that consider modifying the local government financial test in this way will probably want to consider a similar modification to the corporate financial test, and possibly to the financial assurance requirements in general (i.e., regardless of the type of financial mechanism). EPA recommends that any "inflation margin" be limited to the amount of a single year's potential inflation because (1) cost estimates must be updated annually for the past year's inflation, and (2) owners and operators must repeat passage of financial tests each year.

## Issue 12. Timing of Annual Updates to the Financial Test

***Question: Can States set more stringent annual update deadlines than the 180-day deadline provided by the present test? Where would this be appropriate?***

The local government financial test requires owners and operators using the test to repeat passage of the test annually within 180 days of the close of the local government's fiscal year. Commenters on the proposed test, which had allowed only 90 days, pointed out that various States require local governments to obtain and/or submit audited financial statements within 180 days of the close of the fiscal year. In addition, the Government Finance Officers Association (GFOA) Certificate of Achievement Program does not require comprehensive annual financial reports to be submitted until six months after the end of the fiscal year. Based on these comments, EPA agreed that allowing less than 180 days for annual test updates would not be feasible for local governments in many States.

EPA encourages approved States, however, to require annual updates on a more expedited basis where possible. For example, several commenters on the proposed test noted that various States require local governments to obtain and/or submit audited financial statements within time periods ending *sooner than* 180 days of the close of the fiscal year. In particular, commenters reported periods of 120 days and 150 days as allowed in certain States. To the extent States can require updates to be completed on a more timely basis, the potential time in which a government will be out of compliance with financial assurance requirements (i.e., the time beginning when the government finds it no longer passes the test and ending when it obtains an alternative financial assurance mechanism) will also be reduced.

States may also wish to consider allowing updates for each of the local government financial test documents as they are likely to become available. Hence, the updated letter from the chief financial officer could be required within 90 days, the special report from the independent certified public accountant within 150 days, and the comprehensive annual financial report (CAFR) and the auditor's opinion within 180 days.

## Issue 13. Non-Default Conditions

***Question: How can States effectively expand the non-default provisions of the financial test?***

The local government financial test rule requires, as one of the threshold conditions of eligibility, that a local government cannot be "currently in default on any outstanding general obligation bonds." EPA found this requirement to be a meaningful eligibility criterion that enhances the assurance provided by the test, as well as relatively simple and straightforward for local governments to evaluate.

Several commenters on the proposed test recommended that this requirement be expanded to prohibit use of the test by governments that are currently in default on *any* current debts, including short-term notes, limited tax obligations, revenue bonds, capital leases, etc. EPA agrees that the assurance provided by the test could be increased by expanding the non-default provision to consider additional debts. In particular, default on any general obligation debt, including general obligation notes and tax obligations, signals the same problems as does a default on longer-term debt. Because these debt instruments are often short-term in nature, however, local government financial statements and comprehensive annual financial reports (CAFRs) do not always provide in-depth information (i.e., on specific debt issuances) on a routine basis. Nevertheless, a local government would probably discuss a default on these obligations in its CAFR, and the default would likely be reported in the financial press. Thus, while the non-default provision could become more difficult to implement if additional types of debt were considered, the added burden may not be severe in all cases.

EPA did not expand the non-default provision to consider additional debts (including non-bonded general obligation debts) due to concerns that an expanded provision might not be workable in a self-implementing test. Approved States may wish to expand the non-default provision if they are unconstrained by self-implementation issues or if they (or their local governments) have reporting mechanisms in place to readily evaluate compliance with an expanded non-default provision. To assist States in analyzing this issue, this section briefly describes the major categories of local government debt in terms of their relevance to an expanded non-default provision. The section concludes with a discussion of how difficult it is likely to be for local governments to determine whether they are currently in default on the various categories of debt.

**General Obligation Debt Other than General Obligation Bonds**

Short-Term Notes are debt securities with a maturity date generally less than one year. The note is usually a general obligation of the local government. Limited Tax Obligations are general obligation municipal bonds secured by a pledge of tax receipts from a specific revenue source, such as real estate property taxes. Also known as limited tax bonds, this type of instrument is a more limited version of the tax bond, which is secured by a pledge of all tax receipts of the local government. Revenue anticipation notes are a short-term debt security repayable from revenues that are expected in the future from sales, property, income, or other taxes. These instruments are usually general obligations of the local government. For bonded issuances with terms of more than one year, these debts would already be covered by the local government financial test's non-default provision. For short-term general obligation notes, tax obligations, and revenue anticipation debt, however, default could generate the same problems with "readily available" funds as EPA identified for long-term general obligation bonds.

**Revenue Bonds**

The principal and interest payments of revenue bonds are made from the revenues of a particular public facility or project built with the funds obtained from the bond issue. The bond is not a general obligation (i.e., is not backed by the full faith and credit) of the local government. Default on revenue bonds does not create a claim on other revenues of the local government. Instead, a pledge of revenues from a particular source is considered to create a lien on those revenues, currently and in the future, until the bond is repaid. A local government may not use income from any other source except the activity that the revenue bonds were issued to finance to pay off the revenue bonds, unless it has been given express statutory authority to do so. Thus, a default on revenue bonds is less likely to create additional claims on the general revenues of the local government, and therefore is less likely to impact the ready availability of the government's funds than default on general obligation bonds. Moreover, default on revenue bonds may not signal poor financial management of the government in general.

**Capital Leases**

A long-term lease of capital equipment may be treated as borrowing. If the lease is written for a period of 75 percent or more of the asset's life, and if ownership is transferred to the lessee at the end of the lease term, or the lessee may purchase the asset at fair market value, the lessee can obtain the tax benefits of ownership (amortization of the asset) during the lease period.

Default on a capital lease also would be unlikely to involve the entire financial situation of the local government. The capital lease default could resemble a default on a real estate transaction or on a secured interest in other property. It might indicate only that the local government had determined that the economic value to it of ownership of the capital good was less than the stream of payments necessary to complete the lease/purchase transaction. Presumably, the lessor would recover possession of the property from the local government. Default

***What is the purpose of the non-default requirement?***

The local government financial test is a set of financial criteria designed to measure a local government's ability to meet its obligations in a timely manner. A precondition of timeliness is that the local government's funds are "readily available" for closure, post-closure, or corrective action activities if necessary. Otherwise, those activities may be delayed, resulting in an increased likelihood of releases to the environment. EPA believes the non-default requirement potentially serves three purposes:

(1) It may indicate poor financial health and strength. Financial condition is virtually always an issue in cases of default, although there may be other contributing factors (e.g., willingness to pay). For this purpose, the non-default requirement acts in a manner similar to the test's financial ratios.

(2) It may indicate a propensity to default. Local governments that are currently in default may have (or be at risk of having) a propensity to default. In other words, governments that have already defaulted on a general obligation bond, and that are currently in default, might be more likely to default on landfill obligations. For this purpose, the non-default requirement serves as a measure of a government's commitment to honor its debts.

(3) It may indicate that local government funds are or may become restricted. The funds of local governments that are currently in default may not be readily available because they are already potentially subject to being secured and used to satisfy preexisting debts of the government. For this purpose, the non-default requirement assumes a government already in default is at sufficient risk of having its available funds secured (e.g., through legal proceedings) and used to cure the default that the government should not be allowed to use the financial test.

EPA believes that each of these purposes is useful to the test and provides a valid rationale for including the non-default provision. For example, the first two rationales are supported by the recent situation of the city of Washington, D.C. The city had defaulted on numerous obligations (although not yet on any general obligation bonds) and had indicated that further defaults were likely due to inadequate financial resources.* The third rationale is supported by several sources of information on municipal finance law.

* It is worth noting that Washington, D.C., would not have passed the proposed local government financial test because it had outstanding bonds rated below investment grade. The city may also have failed other test criteria.

on a capital lease, however, might lead to litigation that could impact the local government's ready access to funds.

**Contractual Claims, and Tort Judgments**

In addition to these common types of local government debt, however, it is also important to consider the debt represented by the local government's day-to-day obligations in *contractual claims* and *tort judgments*. Local governments may contract for a broad range of goods and services, and, like private companies, may have different practices with respect to paying off those obligations. Some local governments may generally pay quickly and in full; other local governments may pay more slowly or may not pay certain creditors. The creditors may seek to collect the debt through contract actions against the local government. Even payment of judgments on contract claims following adjudication, however, may be delayed. Similarly, local governments may be subject to a broad range of judgments in tort cases involving personal injuries, employment discrimination suits, and a number of other causes of action. Payment of tort judgments against local governments, which may in some cases involve large sums of money, sometimes may be delayed.

Although failure to pay contractual obligations, claims, and tort judgments can substantially impact the ready availability of funds, such situations will vary widely, and may depend on case-specific circumstances. In addition, while a default on some such obligations might be very serious, defaults on other obligations of this type (e.g., overdue payments resulting from lost invoices or minor clerical errors) might be of relatively little concern.

**Determining Default**

To evaluate how difficult it might be for governments to determine whether they pass the financial test's non-default requirement, EPA tried to determine whether standard financial reports prepared under generally accepted accounting principles (GAAP) are likely to provide information on defaults of different types of debt.[30] Of course, government officials that prepare the financial test documentation are likely to have access to other sources of information in addition to standard financial reports. However, because these sources typically vary depending on a government's particular organizational structure, it is difficult to evaluate the administrative burden associated with drawing on these other sources.

[30] A separate criterion in the test requires all local governments using the test to be in compliance with GAAP. In addition, a local government must draw on information in the GAAP-based financial reports to determine whether it meets other test requirements (e.g., the ratio requirements).

Under GAAP, long-term debt issuances of local governments generally are tracked and reported in the local government's accounts and annual financial reports. For example, local governments are expected to retain a general list of long-term liabilities (the general long-term debt account group, or GLTDAG) and to report the GLTDAG on their combined balance sheets. Only long-term debt expected to be repaid from the resources of the general government should be included on the GLTDAG. Notes to the general purpose financial statements are expected to describe all outstanding debt, including a description of type and maturity.[31] Accrued liabilities for claims and judgments, although not debt per se, also are included on the GLTDAG, to the extent that they would not "normally be liquidated with expendable available financial resources." Capital leases must also be addressed generally. Neither claims and judgments nor capital leases, however, are expected to be discussed in as much detail as are long-term bonds.

A local government would be expected to discuss a default on general obligation bonds or revenue bonds in its annual financial statement and comprehensive annual financial report (CAFR). Defaults on long-term bond issues could also be inferred from information provided in the financial statements and notes, and furthermore, would be widely reported in the financial press because bonds are typically rated and tracked by bond rating agencies and investors.[32] A local government would, however, probably not identify other types of default in its annual financial statement or CAFR.

[31] Government Finance Officers Association, *Governmental Accounting, Auditing and Financial Reporting*, 1994, pp. 113-116.

[32] One such example of a default involved revenue bonds issued by the Washington Public Power Supply System (WPPSS) for several planned nuclear generating facilities.

## Issue 14. Other State Mechanisms

*Question: What are examples of other State financial assurance mechanisms that EPA would allow to supplement or replace the current test?*

Due to the large number of municipal solid waste landfills owned and operated by local governments, EPA undertook a significant regulatory development effort to devise an efficient means for these governments to use to demonstrate financial assurance for closure, post-closure care, and corrective action for known releases. EPA's effort culminated with the promulgation of the local government financial test and local government guarantee. Along with the test and guarantee, however, EPA has conducted some research on other types of mechanisms that might be well-suited for use by local governments. This section provides introductory information on several such mechanisms that States might develop for use in their Subtitle D financial assurance programs. The use of such mechanisms, if they are designed properly, would be consistent with EPA's objective of providing as much flexibility as possible to States in overseeing the landfill facilities within their borders.

In addition to the mechanisms specifically described in EPA's Subtitle D regulations (trust funds, surety bonds, letters of credit, insurance, financial tests, and guarantees), States are also allowed to offer two additional means for MSWLF owners/operators, including local governments, to demonstrate financial assurance. If a local government is able to use either of these options, it will not have to pass the local government financial test or obtain a guarantee or other type of mechanism:

- *State Assumption of Responsibility.* 40 CFR 258.74(j) states that owners/operators will be in compliance with financial responsibility requirements if the State Director either assumes legal responsibility for compliance with closure, post-closure care, and/or corrective action, or assures that funds will be available from State sources to cover the requirements.

- *State-Approved Mechanisms.* 40 CFR 258.74(i) allows owners/operators to use other mechanisms that have been approved by the Director of an approved State.

The State Assumption of Responsibility is, essentially, a guarantee offered by the State. Unlike the local government guarantee and the corporate guarantee, however, a State guarantor is not required to pass any financial test. States might assume responsibility for closure, post-closure care, and/or corrective action for all MSWLFs in the State, for a particular subset of MSWLFs (e.g., local government-owned landfills), or for individual landfills on a case-by-case basis.

State-approved mechanisms could be developed by the State or by an owner or operator, but would have to be approved by the Director of an approved State. These mechanisms can take any form, provided the mechanisms meet the following criteria specified at 40 CFR 258.74(l):

- The amount of funds assured is sufficient to cover the costs of closure, post-closure care, and corrective action for known releases when needed;
- The assured funds will be available in a timely fashion when needed;
- The mechanism must ensure funds from the date the assurance is required until the owner/operator is released from the financial assurance requirements; and
- The financial assurance mechanisms must be legally valid, binding, and enforceable under State and Federal law.

The remainder of this section provides several examples of mechanisms that might be well-suited for use by States or local governments under the provisions of 40 CFR 258.75(i) and (j). It first discusses *State revolving funds* and *cost sharing programs*, which could be used to support a State assumption of responsibility. It then addresses *self-administered local government funds*, which might qualify as State-approved mechanisms. Also provided are several examples of similar programs which are currently in place in selected States (though not necessarily for financial assurance purposes).

The following discussion and examples are intended to provide a starting point for further analysis. Whether a particular mechanism would satisfy the necessary criteria would depend on how it was implemented in a particular State. The discussion is not intended to suggest that the cited examples are satisfactory in their current form.

**State Revolving Loan Funds**

State Revolving Loan Funds (SRFs) provide money that can be lent to a party (e.g., a local government) to finance a specified purpose, such as closure of a landfill. Once the loan is repaid, the "revolving" funds are recycled into a new loan issued to another party. For financial assurance purposes, a State might design an SRF to support its assumption of responsibility for landfills in the State. To be sufficient, initial SRF funding (which might come from a one-time appropriation from the State legislature) would have to reasonably allow the SRF to finance as many of the MSWLF obligations for which the State is responsible as is likely to occur at one time. (Having assumed responsibility, however, a State would be required to provide additional funding if the initial amount proved insufficient.)

***Maryland SRF***

The State of Maryland operates a State Revolving Loan Fund that is expected to provide as much as $84 million in low interest loans to fund various pollution control projects (including from nonpoint sources), *including landfill leachate treatment systems and landfill caps for closed landfills.* The program has provided over $260 million in loans to 37 local governments since 1990. It is funded through a federal capitalization grant and state matching funds, and leveraged through the use of revenue bonds. Interest rates are less than market rate for tax exempt issues, and vary depending on the median household income of the county in which the project is located.

Functionally, the SRF would issue guaranteed loans to local governments to pay for MSWLF closure, post-closure care, and/or corrective actions. The loan agreement would require borrowers to repay the loan with interest. Repaid funds would again be available for the financing other MSWLF obligations.

Cost sharing programs involve the pooling of contributions from multiple sources to pay off specified costs (e.g., closure and post-closure

*WISCONSIN - DUMP CLOSURE COST SHARING GRANT PROGRAM*

Wisconsin has implemented a $20 million program called the "Dump Closure Cost Sharing Grant Program." The program subsidizes the closure of publicly-owned landfills (excluding those owned by the State) that closed after January 1, 1988, in response to new landfill requirements. (Wisconsin estimated that about 900 of its smaller and less efficient landfills did not comply with the recent Subtitle D requirements.) Privately-owned landfills are not eligible for the program. The program is being funded entirely by the State of Wisconsin through 10 annual $2 million appropriations to the Department of Natural Resources. Consequently, total payments under the program may not exceed $2 million annually, unless unencumbered funds are available from a previous year.

**Cost Sharing Programs**

care) of participants. Funds for a program for landfills might be generated by diverting to the fund a small fraction of all collected tipping fees. The State could also make contributions to the fund, and could fund it entirely if doing so were in the interest of the State. Generally, by pooling contributions, the resulting landfill fund can more quickly be ready to pay for its first assured obligation.

For financial assurance purposes, a State might design a cost sharing program to pay for its assumption of responsibility for landfills in the State. Although participating landfills might ultimately provide most or all of the necessary funding, the State, having assumed responsibility, may have to provide substantial funds to the program on a temporary basis.

**Self Administered Funds for Local Governments**

Various types of funds that are self-administered by local governments might be appropriately used to demonstrate financial assurance if they are designed specifically for that purpose. Like the trust fund mechanism specified at 40 CFR 258.74(a), a self-administered fund would allow a local government to set monies aside in advance to pay for the assured obligations related to its landfill. Unlike the trust fund mechanism, however, a self-administered fund would not be managed by a third party trustee.

Local governments often self-administer fiduciary funds, including unemployment compensation funds, worker compensation funds, pension funds, endowments, land trusts, and tax collection accounts for other governments. Maintenance of these funds is

*NORTH CAROLINA - CAPITAL RESERVE FUND*

North Carolina financial assurance requirements include provisions for a self-administered "Capital Reserve Fund" for use by municipal solid waste landfills owned and operated by units of local government or public authorities. The capital reserve fund must be established by ordinance or resolution, and must be established consistent with specified auditing, budgeting and government accounting practices. The financial operations of the local government or public authority must be regulated and examined by a North Carolina state agency. Payments into the fund must be made annually over a specified pay-in period. The owner or operator may use the funds to pay for closure, post-closure care, corrective action, or to pay the debt service on financing arrangements for these activities. Copies of all relevant documentation must be placed in the facility's operating record, including the ordinance or resolution establishing the fund, a record of deposits into the fund, and justification for expenditures made from the fund.

consistent with normal government operations and accounting. Control and accounting are administered following common fiduciary standards and generally accepted accounting principles. Local governments operate on the basis of fund accounting, where certain individual governmental accounts are accounted for and reported separately. In particular, a special fund type, the trust and agency fund type, is intended specifically to manage and account for assets held in a fiduciary capacity (i.e., as a trustee or agent) for others.

To fund this type of mechanism, a local government would make one or more contributions into the self-administered fund, in an amount at least totalling the costs being assured by the mechanism. If funding is being provided gradually over time, a total pay-in period identical to that allowed for trust funds would (in general) be appropriate. 40 CFR 258.74(a) allows pay-in periods covering the term of the initial permit or the remaining life of the MSWLF, whichever is shorter, in the case of a closure or post-closure care, or over one-half of the estimated length of the corrective action program in the case of corrective action for known releases. The acceptability of longer pay-in periods would have to be considered within the overall context of a State's approved Subtitle D program and in consultation with EPA's program approval staff.

Funds contributed to the mechanism should be held as cash or readily marketable investment securities to ensure their availability to meet the assured obligation. Like the existing trust fund mechanism, a self-administered fund established by a local government should be governed by the terms of a written trust agreement, which should meet the conditions specified at 40 CFR 258.74(l). A copy of documentation relevant to the fund should be kept in the landfill's operating record.

**Minnesota's Dedicated Long-Term Care Trust Fund**

Minnesota's financial assurance requirements include provisions for a self-administered "dedicated long-term care trust fund" for use by solid waste facilities owned by a political subdivision. The fund must be created by a resolution of the government entity, and the resolution must conform to wording specified in the regulations. The fund would be established in the government's treasury to be used only for closure, post-closure care, or contingency actions. The resolution must identify a "name and title" of the trustee, and must state that this person and his/her successors in office shall be the fund's trustee. The trust fund must be funded through monthly payments in amounts determined by a specified regulatory formula. Disbursements from the fund are allowed only with the written permission of the commissioner of the Minnesota Pollution Control Agency (MPCA).

The funds remain in a local government's control at all times. Two factors, however, encourage the local government to comply with the regulations regarding the trust. First, reporting requirements associated with the trust require submission to MPCA of the following items on an annual basis:

- The government's financial statements for the most recent year. These financial statements must clearly report the status of the dedicated long-term care trust fund, and must also comply with other state statutes.
- An independent certified public accountant's report on the trust fund's conformity with the requirements.

Second, if the local government fails to comply with the trust fund requirements, it is required to obtain an alternative financial assurance mechanism. The local government is also required to obtain an alternative mechanism if it rescinds or changes the resolution (unless authorized by the MPCA commissioner) or does not respond on time to agency orders relating to permit or compliance documents addressing closure, post-closure care and maintenance, and/or corrective action.

### *GEORGIA - COST REIMBURSEMENT FEE*

The Georgia Comprehensive Solid Waste Management Act authorizes and requires city and county operators of municipal solid waste disposal facilities to charge a "cost reimbursement fee" upon each ton (or volume equivalent of a ton) of waste received at a facility. It appears that the intent of the fee is to encourage local governments to recognize, recover, and pay for some or all of the "true cost of providing solid waste management services."

- Governmental units established specifically to manage solid waste (the code refers specifically to special districts, authorities, and joint ventures between two or more cities and counties) are required to remit the cost recovery fee into a "restricted account established by the participating governments."

- Other local governments must pay a minimum of one dollar per ton (or volume equivalent of a ton) from the cost recovery fee to a "local restricted account" to be used for "solid waste management purposes only."

EPA did not identify in the code any further discussion regarding the operations of the "restricted accounts." It seems likely, however, that the accounts are self-administered by local governments with solid waste disposal facilities. It also seems likely that the "restricted" nature of the accounts is intended to be consistent with generally accepted accounting principles (GAAP) for governments. Under GAAP, "restricted assets" are monies or other resources that can be used only as specified by legal or contractual requirements. Restricted assets are identified separately on local government balance sheets.

## Issue 15. Discounting

*Question: May approved States allow owners and operators to discount the costs of closure, post-closure care, and corrective action for purposes of the local government financial test? If so, what issues do States need to consider?*

> **DISCOUNTING AND GASB 18**
>
> The Government Accounting Standards Board (GASB), in Statement No. 18 "Accounting for Municipal Solid Waste Landfill Closure and Post-Closure Costs," prohibits local governments from using discounting when reporting closure and post-closure costs on annual financial statements. Governments must instead report these costs based on the current cost of conducting the activities. Nevertheless, if allowed by an approved State (see accompanying discussion), local governments could comply with Statement No. 18 for purposes of their annual financial statements while preparing separate, discounted estimates for purposes of closure, post-closure care, and corrective action cost estimating requirements.

Subtitle D financial assurance mechanisms, including the local government financial test, are designed to ensure that all needed funding will be available whenever necessary, regardless of whether the time of need occurs when anticipated or as early as the present time should circumstances warrant it. The regulations do not explicitly describe discounting calculations, but instead require the amount of financial assurance to equal the total cost in current dollars of conducting all activities in the current year (regardless of when activities are scheduled). *By stating future costs in terms of current dollars, the regulations automatically discount the future costs of closure, post-closure care, and corrective action to the present using the rate of inflation as the discount rate.* Under 40 CFR 258.75, approved States may allow other forms of discounting, regardless of the type of financial assurance mechanism being used.

Before allowing a particular facility to discount its closure, post-closure, and/or corrective action costs, however, the State Director must determine that each of the following conditions has been met for the facility:

(1) *The cost estimates to be discounted are complete and accurate, and the owner or operator has submitted a statement from a Registered Professional Engineer so stating.* For cost estimates that are too low prior to discounting, discounting could exacerbate the shortfall. Consequently, discounting is inappropriate for cost estimates that may not be complete and accurate.

(2) *The closure date is certain and there are no foreseeable factors that will change the estimate of site life.* This condition is very important because discounting would result in financial assurance levels that are not adequate to pay for all assured obligations should they arise in the current year. For example, if a landfill owner/operator were to discount closure costs to reflect a closure that is expected to be ten years distant, then the resulting financial assurance would be inadequate to pay for the closure if closure occurred earlier. In other words, the mechanism might be sufficient to pay for a future closure, but not a present closure. This effect makes discounting inappropriate for financial assurance purposes for any obligation that could occur earlier than anticipated.

(3) *Cost estimates are adjusted annually to reflect both inflation and the number of years remaining in the life of the landfill.* Consistent with current regulations, the amount of assurance must be updated each year to reflect both inflation and the shorter discounting period remaining before the costs will be incurred. This is important because a government that is able to pass the financial test ten years prior to closure may be unable to pass the test several years later when the closure cost estimate is higher and reflects a shorter discounting period.

(4) *Owners and operators seeking to discount their cost estimates are in compliance with applicable and appropriate permit conditions.* Discounting would be allowed at the discretion of the State based on an owner or operator's compliance with applicable requirements.

If these conditions have been met and the amount and timing of a given obligation are known with absolute certainty (e.g., say that a landfill closure is known with certainty to be ten years distant), approved States may choose to allow discounting. States should also recognize, however, that the discounted financial assurance will prove adequate only if two additional conditions are realized:

- The State must immediately draw on the financial mechanism should the owner or operator fail to adequately adjust the mechanism each year as needed. Only by drawing on the mechanism and investing the proceeds can the State hope to gradually increase the fund's value from the discounted value to the current (i.e., undiscounted) cost of the obligation.

- Any funds withdrawn from the financial mechanism and invested must earn a sufficient total return each year to keep up with the discount rate.

The first condition should be evaluated further if a State elects to implement a discounting scheme because the added transaction cost associated with drawing on the financial test may nullify, in whole or in part, the cost savings that would otherwise result from discounting. The second condition addresses a more fundamental issue that can be empirically evaluated. For example, assume that a discount rate of 1.7 percent is selected. This rate equals the historical average real return (i.e., interest plus capital appreciation) on "risk-free" long-term U.S. government bonds[33] and may seem relatively low given that (1) higher interest rates are paid on corporate bonds, and (2) higher rates are used by firms for internal net present value calculations. Nevertheless, even a rate of 1.7 percent could hold significant risk for financial assurance purposes should the mechanism need to be drawn on prior to the need for funds.

Empirical data show that even a real discount rate as low as 1.7 percent carries substantial risk that the discounted funds may prove insufficient when needed. For example, consider two hypothetical cases involving discounting at a 1.7 percent rate. In both cases, a local government owner/operator using the local government financial test decides to sell the landfill prior to closure. As part of the sale, the local government fully funds a trust fund (invested in long-term U.S. government bonds) in the amount of the current discounted cost estimate, thereby fulfilling the new owner's obligation to fund closure and provide financial assurance. Tipping fees are sufficient to keep the landfill open until the planned year of closure. The only difference in the two cases is that in the first case the trust fund is funded one year prior to closure, while in the second case the trust fund is funded ten years prior to closure.

[33] *Stocks, Bonds, Bills and Inflation 1995 Yearbook: Market Results for 1926-1994,* Table 6-7, Ibbotson Associates, Chicago, IL, 1995.

Assuming that costs have been accurately predicted (both in amount and timing) and discounted at a 1.7 percent rate, each trust must grow at an average annual rate of 1.7 percent if it is ultimately to provide sufficient funding.

- Case 1: In the first example, only one year remains prior to closure, so the actual earnings of the trust for the next year must simply equal the long-term historical average of 1.7 percent. Based on data for the period 1926-1994, there is only a 49 percent chance that this will occur. It is more likely that the trust will earn less than necessary. Looking at the 51 percent of cases where returns were less than 1.7 percent, the average return was -5.48 percent. Of course, the actual shortfall could be even more significant. In fact, returns of -10 percent or less have occurred seven times since 1926, including the most recent data point of 1994. (The lowest return during this period was -15.46 percent.)

- Case 2: In the second example, ten years remain prior to closure, so the actual annual earnings of the trust over the next ten years must average 1.7 percent. Based on the ten year "rolling averages" for the period 1926-1994 (i.e., the average for 1926-1935, for 1927-1936, etc.), however, this is also unlikely to occur. In fact, despite reduced volatility in the ten year returns relative to the Case 1 annual returns, only 32 percent of the ten year periods saw annual returns average the necessary 1.7 percent or higher. Inadequate returns accrued in all other ten year periods, which averaged returns of –1.32 percent annually. (The poorest average annual return was -5.4 percent, for the ten year period ending in 1981.)

These examples show that in the short term (one year) or medium term (ten years), real investment returns will not always match even a conservative discount rate. Although the variation in investment risk should decline for longer investment periods (e.g., 30 years), it will always be true that investment returns for the last year (or last ten years) of long investment periods will be subject to the variation inherent in a one-year (or ten year) timeframe, as described above.

***Selecting a Discount Rate.*** If discounting is to be applied to closure, post-closure care, and/or corrective action cost estimates, selection of an appropriate discount rate becomes a central issue. At least three factors should be considered:

- *Real versus nominal rates.* Use of a real rate is appropriate assuming that cost estimates are stated in current dollars. 40 CFR 258.75 requires the use of real rates (i.e., net of inflation), consistent with the requirement that cost estimates be stated in current dollars.[34]

- *Type of monetary asset or security.* EPA agrees with the U.S. Securities and Exchange Commission (SEC) that an appropriate rate for discounting environmental liabilities should properly reflect a rate of return for monetary assets that are essentially *risk-free* (i.e., Treasury bills or bonds) and have *maturities comparable to that of the environmental liability*. For purposes of a financial test, "comparable maturity" could be viewed in one of two ways:

  - Long-term Treasury bonds could be considered to have maturities that are comparable to closure and post-closure care obligations that are 10, 20, or more years in the future.

  - Alternatively, short-term Treasury bills could be considered to have more comparable maturities given that financial assurance mechanisms may have to be drawn upon at any time (including the current year).

  Use of a shorter-term rate would be more environmentally conservative than would the use of longer-term rates, and is recommended by EPA.

- *Current versus average rates.* Although use of a *current rate* would be most accurate at the time the discount rate is selected, a current rate is likely to become inaccurate relatively quickly as rates change. If the financial assurance must be drawn upon (as discussed above) and the rates fall, then use of the aging "current" rate may lead to inadequate funding. An *average rate* can be more representative of rates over longer periods of time. Contemporary averages may consider data going back

[34] A nominal rate (which combines the real rate with a premium for anticipated inflation) would be appropriate if cost estimates were stated in future (i.e., inflated) dollars.

over some relatively recent time period (e.g., since 1950 or 1970). Historical averages consider as much data as possible.

A related issue involves the way in which an average is calculated. The *geometric mean* equals the constant annual return that would yield the total achieved return over the entire sample period. The *arithmetic mean* is a simple average of individual values and, while well-suited for measuring typical performance over a series of single periods, would overstate the likely total return over multiple future periods. Consequently, use of the geometric mean is preferable for discounting purposes, and its use would reduce (but not eliminate) some of the investment risk accompanying discounting for financial assurance purposes.

As the following exhibit illustrates, the choice of the time period can lead to markedly different discount rates.

**Real Rates of Return for Sample Time Periods**

| | U.S. Treasury Bills | Long-Term Government Bonds |
|---|---|---|
| **Current Rate (1994)** | 1.2% | -10.2% |
| **Recent Average (1975-1994)** | 1.8% | 3.8% |
| **Long-Term Average (1926-1994)** | 0.5% | 1.7% |

Source: Ibbotson Associates, Chicago. Stocks, Bonds, Bills and Inflation: 1995 Yearbook, Table 4-1 and Appendix C.

Averages are calculated as geometric means.